Chevron

April 21, 1999

Chevron Products Company
6001 Bollinger Canyon Road
Building L, Room 1110
PO Box 6004
San Ramon, CA 94583-0904

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

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

Re: Chevron Service Station #9-3322
7225 Bancroft Avenue, Oakland, California

Dear Mr. Seery:

Enclosed is the Monitoring Well Installation Report, dated April 9, 1999 that was prepared by our consultant Gettler-Ryan Inc., for the above noted site. This work was performed to define the petroleum hydrocarbon plume downgradient of the dispenser islands.

Three borings were drilled to depths ranging from 31.5 feet to 32.0 feet below grade with soil samples collected approximately every five feet. Each boring was then converted into 2-inch diameter groundwater monitoring wells.

Groundwater was encountered in the borings at a depth of approximately 24 feet below grade, with the water depth stabilizing at depths of 14.5 feet to 20.6 feet below grade. After well development, the groundwater samples showed a depth varying from 13.17 feet to 18.80 feet below grade.

The soil and water samples were analyzed for the TPH-g, BTEX and MtBE constituents. The nine soil samples taken from the three borings were below method detection limits for all of the constituents. In addition, soil samples collected from boring MW-6, at 10.5 feet (unsaturated) and at 26 feet (saturated) were analyzed for bulk density, porosity and fraction organic carbon. These analytical results are noted under Table 2.

Constituents were detected in the groundwater samples collected from all three monitoring wells with **the highest benzene concentration detected in well MW-6. Based** on these results **it appears that the extent of the petroleum hydrocarbon impacted groundwater has not been delineated.**

To install additional wells immediately downgradient of the site in a northwesterly direction to further define the extent of the hydrocarbon plume does not appears to be a viable option. **There are residences closely built together with small yards and little setbacks, located within the area from the site's northwesterly property line and between Halliday Avenue and Bancroft Avenue to Church Street.** Therefore, it does not appear that access to install wells could occur in this area. A well or wells could be installed on Halliday Avenue, Church Street or Bancroft Avenue.

However, prior to installing any additional wells Chevron believes it would be appropriate to conduct a soil vapor study close to the northwesterly property line. Since hydrocarbon constituents were detected in the groundwater of monitoring wells MW-4, MW-5 and MW-6, there is a possibility of the migration of hydrocarbon vapors to the surface and the adjacent properties. It would be appropriate to know if this is occurring, although the well boring logs shows that the upper 5 to 7 feet of the soil is clay, which could mitigate the migration of vapors to the surface. Chevron requests your concurrence to this proposal.

While we are conducting the vapor study, Chevron also proposes to conduct a Risk Based Corrective Action (RBCA) plan for the site. We ask your concurrence in this proposal. While we are working on the RBCA and the vapor study, **Chevron will continue to gather groundwater-sampling information by conducting quarterly monitoring.** The next sampling event is scheduled in June.

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.

MONITORING WELL INSTALLATION REPORT

for
Chevron Service Station #9-3322
7225 Bancroft Avenue
Oakland, California

Report No. 346433.03-2

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
Project Geologist
R.G. 6676

Stephen J. Carter
Senior Geologist
R.G. 5577

April 9, 1999

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MONITORING WELL INSTALLATION REPORT

for

Chevron Service Station #9-3322
7225 Bancroft Avenue
Oakland, California

Report No. 346433.03-2

1.0 INTRODUCTION

This report summarizes the results of a well installation performed at Chevron Station #9-3322, located at 7225 Bancroft Avenue in Oakland, California. The work was performed by Gettler-Ryan Inc. (GR) at the request of Chevron Products Company (Chevron) to define the petroleum hydrocarbon plume downgradient of the dispenser islands at the subject site. The scope of work included: obtaining the required well installation permit; installing three on-site groundwater monitoring wells (MW-4 through MW-6); surveying wellhead elevations; developing and sampling the wells; collecting and submitting soil and groundwater samples for chemical and physical 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. 346433.03-1, *Work Plan for Monitoring Well Installation*, dated October 1, 1998, and *Addendum 1 to GR Report No. 346433.03-1* dated October 26, 1998, approved by the Alameda County Health Care Services Agency (ACHCSA) in their letter to Chevron dated October 29, 1998. **Well MW-6 could not be installed in the location proposed in the Addendum due to surface obstructions. Final well locations were approved by the ACHCSA prior to drilling activities.**

2.0 SITE DESCRIPTION

2.1 General

The subject site is an active service station located on the parcel bordered by Bancroft Avenue to the northeast, 73rd Avenue to the southeast and Halliday Avenue to the southwest in Oakland, California (Figure 1). Aboveground facilities consist of a station building and five dispenser islands. Three 10,000-gallon gasoline underground storage tanks (USTs) are located near the southeastern site boundary. Pertinent site features are shown on Figure 2.

2.2 Geology and Hydrogeology

The subject site is located on the East Bay Plain, approximately 2 miles southeast of San Leandro Bay. The site is a relatively flat, concrete and asphalt covered lot at an elevation of approximately 40 feet above mean sea level. As mapped by Helley and others (1979), soil in the site vicinity consists of Holocene coarse-grained alluvium consisting of unconsolidated moderately sorted permeable sand and silt with coarse

sand and gravel more abundant toward fan heads. The nearest surface water is Arrojo Viejo, which is located approximately ¼ mile south of the subject site.

2.3 Previous Environmental Work

In August 1996, GR removed the product piping at the site. Twelve soil samples were collected by Touchstone Developments (Touchstone) beneath the dispenser islands and product lines at depths ranging from 2 to 4 feet below ground surface (bgs). These samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene and xylenes (BTEX), methyl tertiary-butyl ether (MtBE), and total lead.

Five of the twelve soil samples contained TPHg at concentrations ranging from 6.0 parts per million (ppm) to 500 ppm. Benzene was detected in five soil samples at concentrations ranging from 0.011 ppm to 4.2 ppm. MTBE was detected in seven soil samples at concentrations ranging from 0.092 ppm to 1.1 ppm. Lead was detected in one soil sample at a concentration of 6.1 ppm. The highest hydrocarbon concentrations were detected beneath the center dispenser island.

On January 22, 1998, GR installed three on-site groundwater monitoring wells (MW-1 through MW-3) at the subject site. Soil encountered in borings MW-1 through MW-3 consisted of interbedded clay, silt and gravel. Groundwater was encountered in the borings at depths ranging from approximately 18.5 to 25.5 feet bgs and stabilized at depths ranging from 10.2 to 17 feet bgs (confined condition). TPHg were detected in the soil samples collected at 15 feet bgs from borings MW-1 and MW-2 at the concentrations of 23 ppm and 8.2 ppm, respectively. MtBE was detected in these samples at concentrations of 0.057 ppm and 0.40 ppm, respectively, and in the sample collected at 11 feet bgs from boring MW-2 at the concentration of 0.079 ppm. Benzene (0.053 ppm) was present only in the sample collected at 15 feet bgs from boring MW-1. The soil samples collected from borings MW-1 and MW-2 at depths of 6 and 11 feet bgs did not contain TPHg or benzene. TPHg, benzene or MtBE were not detected in any soil sample collected from boring MW-3.

Following installation, groundwater monitoring wells MW-1 through MW-3 were monitored and sampled quarterly. TPHg (up to 370,000 ppb), benzene (up to 19,000 ppb) and MTBE (up to 8,000 ppb) were detected in the groundwater samples collected from wells MW-1 through MW-3. The highest TPHg and benzene concentrations were detected in the groundwater samples collected from well MW-1. The highest MTBE concentrations were detected in the groundwater samples collected from well MW-3. The extent of hydrocarbon impacted groundwater has not been delineated. The groundwater monitoring data collected during 1998 indicated that shallow groundwater beneath the site flows to the northwest at an approximate gradient of 0.1.

On July 9, 1998, GR conducted a search of the Department of Water Resources files in Sacramento, California, for domestic or municipal supply wells located within ½-mile radius of the subject site. Domestic or municipal supply wells were not identified within the search area.

3.0 FIELD WORK

Field work was conducted in accordance with GR's Field Methods and Procedures (Appendix A) and the Site Safety Plan dated January 11, 1998. A well installation permit (#98WR500) was obtained from the Alameda County Public Works Agency, and Underground Service Alert was notified prior to drilling at the site. The copy of the permit and the State of California Well Completion Reports are included in Appendix B.

3.1 Drilling Activities

On January 22, 1999, a GR geologist observed Bay Area Exploration, Inc. (C57 #522125) install three on-site groundwater monitoring wells (MW-4 through MW-6) at the locations shown on Figure 2. Well borings MW-4 and MW-5 were drilled to 31.5 feet bgs and boring MW-6 was drilled to 32 feet bgs using 8-inch diameter hollow-stem augers driven by a truck-mounted CME-55 drill rig. Soil samples were collected approximately every 5 feet. The GR geologist prepared logs of each boring and screened the soil samples in the field for the presence of volatile organic compounds. Screening data are presented on the boring logs (Appendix B).

A groundwater monitoring well was constructed in each boring using 20 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 1 foot 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 B.

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 January 27, 1999, the drill cuttings were removed from the site and transported to the BFI Landfill in Livermore by Integrated Wastestream Management (IWM).

3.2 Well Development and Sampling

On February 2, 1999, groundwater monitoring wells MW-4 through MW-6 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 1, and copies of the GR Well Development and Sampling Field Data Sheets are included in Appendix C.

- Sampled same day as well development.!!

3.3 Wellhead Survey

On February 22, 1999, wells MW-4 through MW-6 were surveyed relative to mean sea level by Virgil Chavez, a California licensed land surveyor (#6323). Horizontal coordinates of the wells 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 1.

3.4 Laboratory Analysis

Soil and groundwater samples were analyzed by Sequoia Analytical in Walnut Creek, California (ELAP #1271). Nine soil samples collected from the borings and groundwater samples were analyzed for TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX), and MtBE by Environmental Protection Agency (EPA) Methods 8015/8020. **In addition, the soil samples collected from boring MW-6 at 10.5 (unsaturated sample) and at 26 feet bgs (saturated sample) were analyzed for bulk density, porosity and fraction organic carbon.** 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 E.

4.0 RESULTS

4.1 Subsurface Conditions

Soil encountered in borings MW-4 through MW-6 consisted predominantly of interbedded clays, silts, sands and gravels to the total depth explored of 32 feet bgs. Fine grained materials consisting of clay to sandy clay were encountered in all borings immediately beneath the ground surface and extended to the depths ranging from 12 to 16 feet bgs. Clayey gravel was encountered beneath the clay layer in all borings and extended to the depth of approximately 18 feet bgs. Clayey gravel was underlain by a 6-foot thick silt to sandy silt layer. **Coarser grain materials consisting of sand and gravel were encountered beneath the silt layer and extended to the total depths of the borings. Groundwater was encountered in this layer at a depth of approximately 24 feet bgs and stabilized at depths ranging from 14.5 to 20.6 feet bgs** (confined condition). These conditions appear similar to those encountered during the previous environmental investigation. Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix B. Groundwater elevations in wells MW-4 through MW-6 based on data collected on February 2, 1999, are shown on Figure 2.

Good !

4.2 Soil Analytical Results

Petroleum hydrocarbons were not detected in any soil sample collected and analyzed from borings MW-4 through MW-6. Laboratory analytical results for the unsaturated sample collected from boring MW-6 at 10.5 feet bgs indicated 0.068% fraction organic carbon, 1.75 gram per cubic centimeter (gm/cc) dry density, 2.08 gm/cc natural density, 2.64 gm/cc matrix density, and 33.8% porosity. The results for the saturated sample collected from boring MW-6 at 26 feet bgs indicated 0.046% fraction organic carbon, 1.77 gm/cc dry density, 2.08 gm/cc natural density, 2.59 gm/cc matrix density and 31.9% porosity.

The composite stockpile sample did not contain TPHg or BTEX. Soil chemical analytical data are summarized in Table 2.

4.3 Groundwater Analytical Results

Groundwater samples collected from wells MW-5 and MW-6 contained TPHg (14,000 ppb and 72 ppb, respectively) and benzene (5,600 ppb and 2.7 ppb, respectively). MtBE (11 ppb) was detected in the groundwater sample collected from well MW-5. MtBE was not detected in the groundwater sample collected from well MW-6, however, the detection limit for this sample was raised to 250 ppm. TPHg was not detected in the groundwater sample collected from well MW-4, however this sample contained low concentrations of benzene (0.52 ppb) and MtBE (6.0 ppb). Groundwater analytical data are summarized in Table 1.

5.0 CONCLUSIONS

Based on analytical results from soil samples collected and analyzed during this investigation, it appears that soil at the northwestern (downgradient) boundary of the subject site is not impacted by petroleum hydrocarbons.

Shallow groundwater at the northwestern boundary of the site has been impacted by TPHg (up to 14,000 ppb), benzene (up to 5,600 ppb) and MtBE (up to 11 ppb). **The highest hydrocarbon concentrations in groundwater are present in the vicinity of well MW-6.** The extent of hydrocarbon impacted groundwater downgradient of the subject site has not been delineated.

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., March 13, 1998, Well Installation Report for Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Report No. 346433.01-2.

Gettler-Ryan Inc., October 1, 1998, Work Plan for Monitoring Well Installation at Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Report No. 346433.03-1.

Gettler-Ryan Inc., October 26, 1998, Addendum 1 to GR Report No. 346433.03-1, Work Plan for Monitoring Well Installation.

Gettler-Ryan Inc., Janauary 11, 1999, Site Safety Plan for Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Job No. 346433.03.

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California.

Well ID/ TOC (feet)	Date	DTW (feet)	GWE (msl)	Product Thickness (feet)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE
					<----------ppb---------->					
MW-4/ 40.24	02/02/99	13.17	27.07	0	<50	0.52	<0.50	<0.50	<0.50	6.0
MW-5/ 40.37	02/02/99	18.80	21.57	0	72[1]	2.7	<0.50	<0.50	<0.50	11
MW-6/ 39.84	02/02/99	18.48	21.36	0	14,000	5,600	<50	150	160	<250
Trip Blank (TB-LB)	02/02/99	—	—	—	<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
msl = Measurements referenced relative to mean sea level
ppb = Parts per billion
— = Not analyzed/Not applicable
[1] = Laboratory report indicates unidentified hydrocarbons C6-C12

ANALYTICAL METHODS:

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

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP #1271)

NOTES:

Wells MW-4 through MW-6 were surveyed on February 22, 1999, by Virgil Chavez of Vallejo, California (PLS 6323).

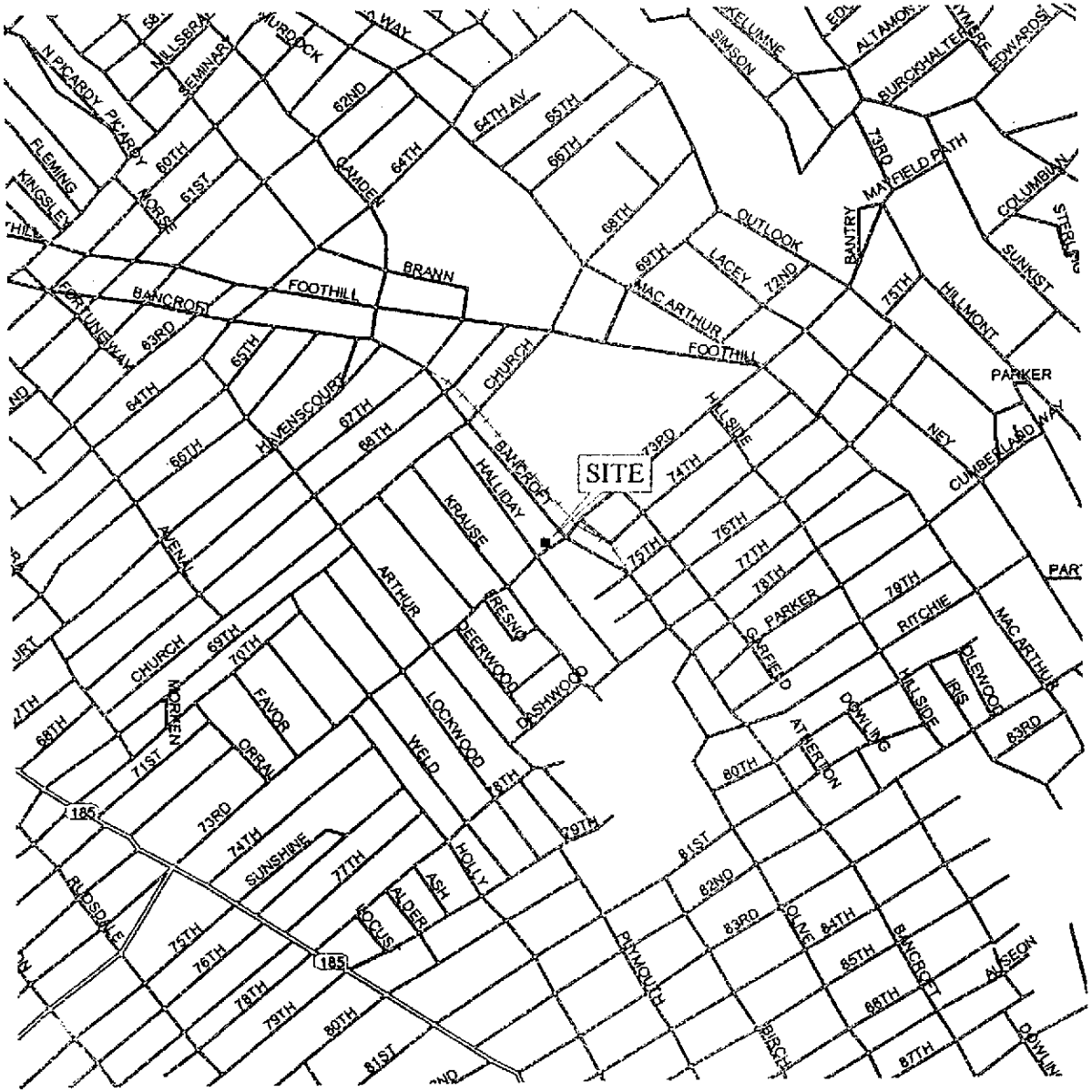
Table 2. Soil Analytical Results - Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California.

Sample ID	Depth (ft)	Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MtBE	Fraction Organic Carbon %	Bulk Density Dry gm/cc	Bulk Density Natural gm/cc	Matrix gm/cc	Porosity %%
			<----------ppm---------->										
MW4-11	11	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	---	---	—	---
MW4-15	15	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	---	---	---
MW4-20	20	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	---	---	---
MW5-11	11	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	---	---	---
MW5-16	16	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	---	---	---
MW5-21	21	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	---	---	---
MW6-10.5	10.5	01/22/99	---	---	---	---	---	—	0.068	1.75	2.08	2.64	33.8
MW6-11	11	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	---	---	---
MW6-16	16	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	—	—	---	---	---
MW6-21	21	01/22/99	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	0.046	1.77	2.08	2.59	31.9
SP (A-D)	---	01/22/99	<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 8015Mod/8020
Porosity, densities = Method API RP-40

ANALYTICAL LABORATORY:
Sequoia Analytical (ELAP #1271)



Source: Street Atlas USA, Delorme (1995).

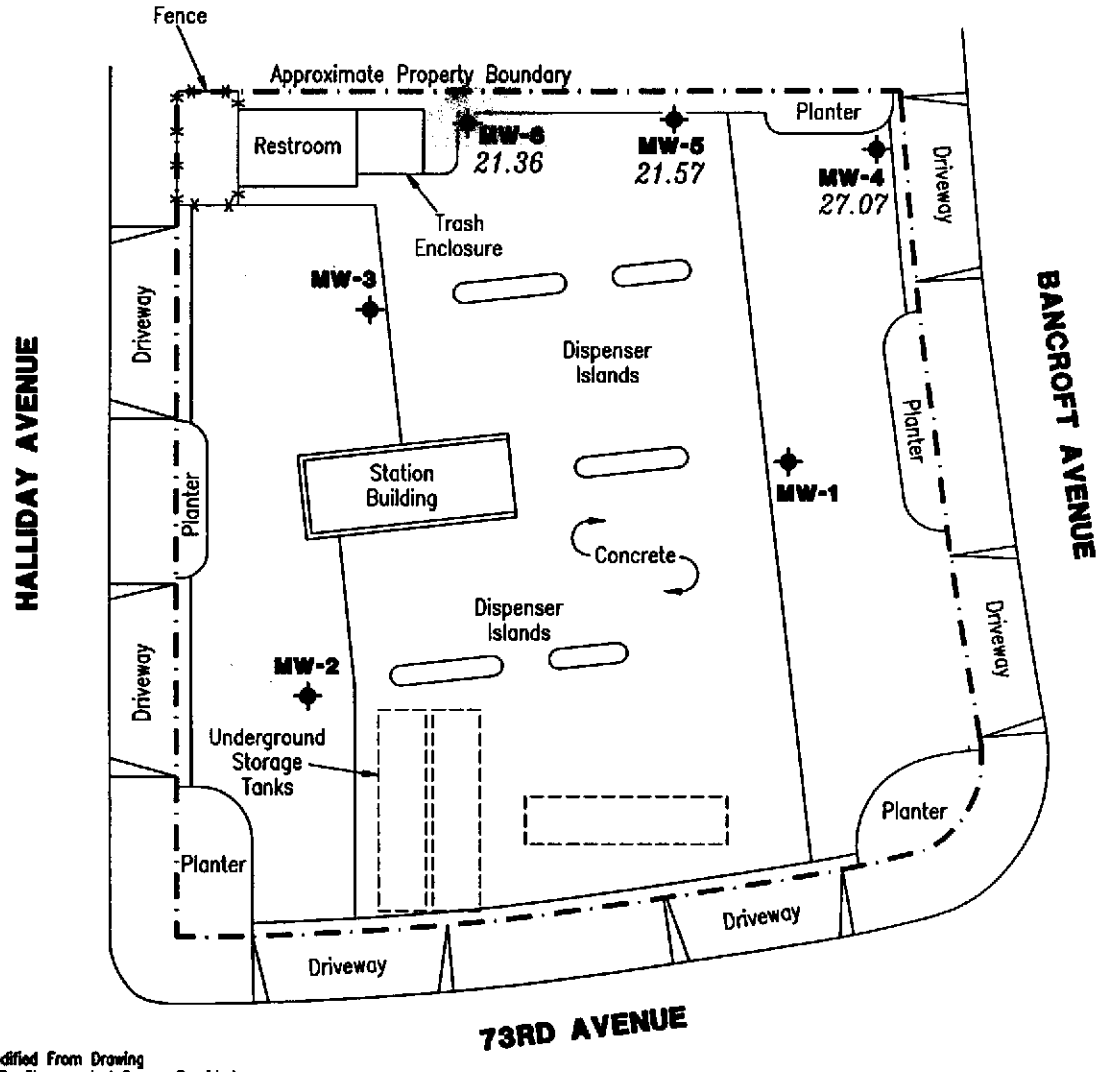
FIGURE 1

Gettler - Ryan Inc.

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

VICINITY MAP
Chevron Service Station No. 9-3322
7225 Bancroft Avenue
Oakland, California

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
346433		10/98	



EXPLANATION:

- Groundwater Monitoring Well
- 27.07 Groundwater Elevation In Feet Referenced Realtive To Mean Sea Level

N

0 30

Scale in Feet

Source: Figure Modified From Drawing Provided By Chevron And Survey Provided By Virgil Chavez Land Surveying.

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

GROUNDWATER ELEVATION MAP
Chevron Service Station No. 9-3322
7225 Bancroft Avenue
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
346433		February 2, 1999	

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 of these plans contents 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 (yd^3) 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

The composite stockpile sample did not contain TPHg or BTEX. Soil chemical analytical data are summarized in Table 2.

4.3 Groundwater Analytical Results

Groundwater samples collected from wells MW-5 and MW-6 contained TPHg (14,000 ppb and 72 ppb, respectively) and benzene (5,600 ppb and 2.7 ppb, respectively). MTBE (11 ppb) was detected in the groundwater sample collected from well MW-5. MTBE was not detected in the groundwater sample collected from well MW-6, however, the detection limit for this sample was increased to 250 ppm. TPHg was not detected in the groundwater sample collected from well MW-4, however this sample contained low concentrations of benzene (0.52 ppb) and MTBE (6.0 ppb). Groundwater analytical data are summarized in Table 1.

5.0 CONCLUSIONS

Based on analytical results from soil samples collected and analyzed during this investigation, it appears that soil at the northwestern (downgradient) boundary of the subject site is not impacted by petroleum hydrocarbons.

Shallow groundwater at the northwestern boundary of the site has been impacted by TPHg (up to 14,000 ppb), benzene (up to 5,600 ppb) and MTBE (up to 11 ppb). The highest hydrocarbon concentrations in groundwater are present in the vicinity of well MW-6. The extent of hydrocarbon impacted groundwater downgradient of the subject site has not been delineated.

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., March 13, 1998, Well Installation Report for Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Report No. 346433.01-2.

Gettler-Ryan Inc., October 1, 1998, Work Plan for Monitoring Well Installation at Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Report No. 346433.03-1.

Gettler-Ryan Inc., October 26, 1998, Addendum 1 to GR Report No. 346433.03-1, Work Plan for Monitoring Well Installation.

Gettler-Ryan Inc., Janauary 11, 1999, Site Safety Plan for Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Job No. 346433.03.

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 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Chevron Station #9-8322
7325 Bancroft Avenue
Oakland, Ca.

California Coordinates Source _____ ft. Accuracy ± ____ ft.
CCN _____ ft. CCE _____ ft.
APN _____

CLIENT
Name Chevron
Address P.O. Box 6004 Phone (925) 842-9136
City San Ramon, Ca. Zip 94583

APPLICANT
Name Gettler-Ryan Inc.
Address 3140 Gold Camp Dr. Ste 240, Suite Fax (916) 631-1317
City Rancho Cordova Phone (916) 681-1300
Zip 95670

TYPE OF PROJECT

Well Construction	X	Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring	X	Well Destruction	

PROPOSED WATER SUPPLY WELL USE

New Domestic		Replacement Domestic	
Municipal		Irrigation	
Industrial		Other _____	

DRILLING METHOD:

Mud Rotary		Air Rotary		Auger	X
Cable		Other			

DRILLER'S LICENSE NO. 522125

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 25 ft.
Surface Seal Depth 6.0 ft. Number 3 AK 1/9/98

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

ESTIMATED STARTING DATE 11/30/98
ESTIMATED COMPLETION DATE 11/30/98

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

APPLICANT'S SIGNATURE _____ DATE 11-2-98

FOR OFFICE USE

PERMIT NUMBER 98W0500
WELL NUMBER _____
APN _____

PERMIT CONDITIONS

Circled Permit Requirements Apply

(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 permitted 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.

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.

(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 20 feet.

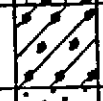
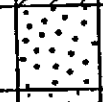
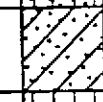
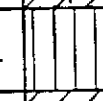
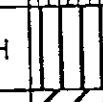
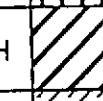
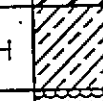
D. GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

E. CATHODIC
Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED A. Kan DATE 11/13

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 DIATOMACIOUS, 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

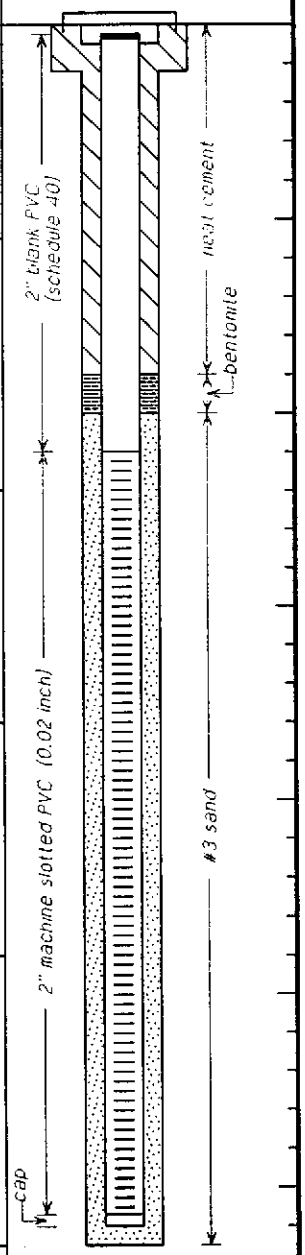
Gettler-Ryan, Inc.

Log of Boring MW-4

PROJECT: *Chevron SS 9-3322*	LOCATION: *7225 Bancroft Ave, Oakland, CA.*
GSI PROJECT NO. : *346433.02*	SURFACE ELEVATION: *40.24 ft. MSL*
DATE STARTED: *01/22/99*	WL (ft. bgs): *24.0* DATE: *01/22/99* TIME: *11:35*
DATE FINISHED: *01/22/99*	WL (ft. bgs): *14.5* DATE: *01/22/99* TIME: *14:25*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *31.5 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	SAMPLE NUMBER	BLOWS/FT. *	PID (ppm)	SOIL CLASS	GEOLOGIC DESCRIPTION
				CL	PAVEMENT - Asphalt. CLAY (CL) - very dark gray (5Y 3/1), moist, medium plasticity, stiff; 95% clay, 5% fine sand.
5	MW4-6	15	0	ML-CL	CLAYEY SILT WITH SAND (ML-CL) - yellowish brown (10YR 5/8), damp, low plasticity, very stiff; 45% silt, 35% clay, 20% fine to coarse sand.
10	MW4-11	16	0		Sand increses to 25-30%, trace fine gravel at 10 feet bgs.
				GC	CLAYEY GRAVEL WITH SAND (GC) - yellowish brown (10YR 5/8), damp, dense ; 60% subrounded to well rounded fine to coarse gravel, 20% clay, 20% fine to coarse sand.
15	MW4-15		0		
	MW4-16	30	0		
				ML	SANDY SILT (ML) - light yellowish brown (10YR 3/4), moist, low plasticity, stiff; 50% silt, 40% fine sand, 10% clay.
20	MW4-20		0		
	MW4-21	15	0		
				GW-GM	**GRAVEL WITH SAND AND SILT** (GW-GM) - yellowish brown (10YR 5/8), saturated, medium dense; 60% subrounded to well rounded fine to coarse gravel, 30% fine to coarse sand, 10% silt.
25	MW4-26	19	0		
30	MW4-31	26	0		
					Bottom of boring at 31.5 feet.
35					(* = converted to equivalent standard penetration blows/ft.)

WELL DIAGRAM



JOB NUMBER: *346433.02*

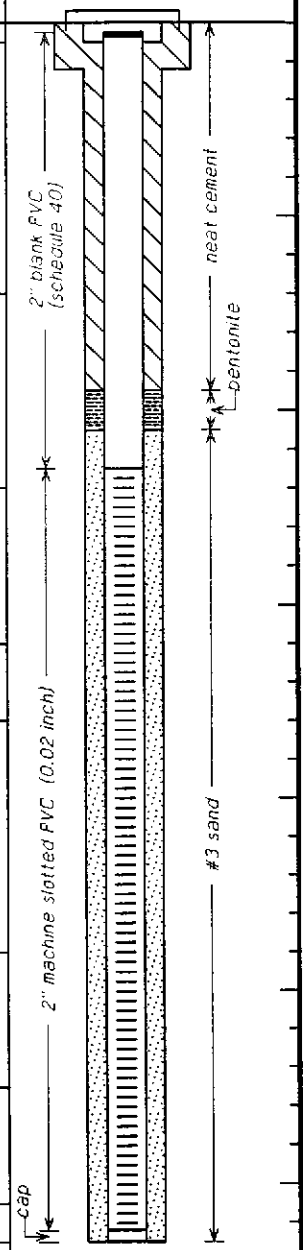
Gettler-Ryan, Inc.

Log of Boring MW-5

PROJECT: *Chevron SS 9-3322*	LOCATION: *7225 Bancroft Ave, Oakland, CA.*
GSI PROJECT NO.: *346433.02*	SURFACE ELEVATION: *40.37 ft. MSL*
DATE STARTED: *01/22/99*	WL (ft. bgs): *24.0* DATE: *01/22/99* TIME: *15:35*
DATE FINISHED: *01/22/99*	WL (ft. bgs): *20.6* DATE: *01/22/99* TIME: *16:15*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *31.5 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	SAMPLE NUMBER	BLOWS/FT. *	PID (ppm)	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							PAVEMENT - Concrete.
						CL	CLAY (CL) - very dark gray (5Y 3/1), moist, medium plasticity, stiff; 95% clay, 5% fine sand.
5	MW5-6	14	0				
						ML-CL	CLAYEY SILT WITH SAND (ML-CL) - dark yellowish brown (10YR 4/6), damp, low to medium plasticity, stiff; 40-50% silt, 35% clay, 15-25% fine to coarse sand.
10	MW5-11	13	0				
						CL	SANDY CLAY WITH GRAVEL (CL) - yellowish brown (10YR 5/8), damp, low plasticity, very stiff; 60% clay, 30% fine to coarse sand, 10% fine gravel.
15	MW5-16	18	0			GC	CLAYEY GRAVEL WITH SAND (GC) - yellowish brown (10YR 5/8), damp, dense : 50% subrounded to well rounded fine to coarse gravel, 35% clay, 15% fine to coarse sand.
						ML	SILT (ML) - light yellowish brown (10YR 3/4), damp, low plasticity, very stiff; 50% silt, 30% fine sand, 20% clay.
20	MW5-21	18	0				
						SW	**SAND WITH GRAVEL (SW)** - yellowish brown (10YR 5/4), saturated, medium dense; 80% fine to coarse sand, 15% well rounded fine gravel, 5% clay.
25	MW5-26	18	0				
						GW-GM	GRAVEL WITH SAND AND SILT (GW-GM) - light olive brown (2.5Y 5/4), saturated, medium dense; 60% subrounded to well rounded fine to coarse gravel, 30% fine to coarse sand, 10% silt.
30	MW5-31	20	0			SW	SAND (SW) - olive (5Y 5/3), saturated, medium dense; 90% fine to coarse sand, 10% well rounded fine gravel.
							Bottom of boring at 31.5 feet.
35							(* = converted to equivalent standard penetration blows/ft.)

WELL DIAGRAM



JOB NUMBER: *346433.02*

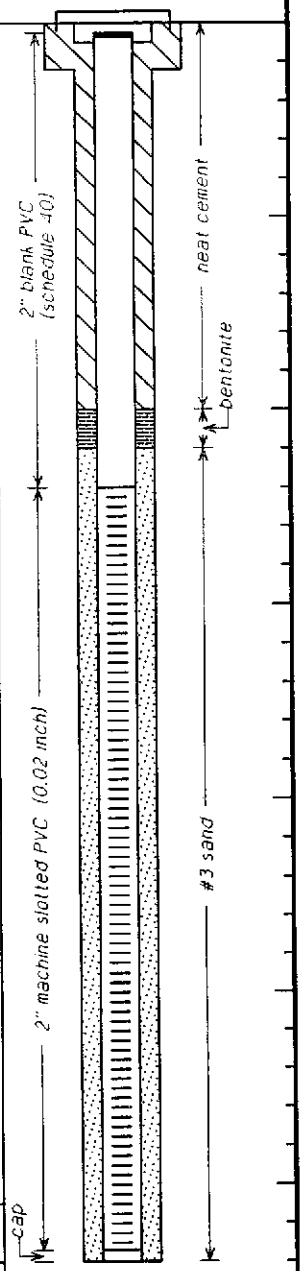
Gettler-Ryan, Inc.

Log of Boring MW-6

PROJECT: *Chevron SS 9-3322*	LOCATION: *7225 Bancroft Ave, Oakland, CA.*
GSI PROJECT NO. : *346433.02*	SURFACE ELEVATION: *39.84 ft. MSL*
DATE STARTED: *01/22/99*	WL (ft. bgs): *24.0* DATE: *01/22/99* TIME: *13:45*
DATE FINISHED: *01/22/99*	WL (ft. bgs): *20.6* DATE: *01/22/99* TIME: *16:10*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *32.0 Feet*
DRILLING COMPANY: *Bay Area Exploration Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	SAMPLE NUMBER	BLOWS/FT. *	PID (ppm)	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							PAVEMENT - Concrete.
						CL	CLAY (CL) - black (7.5YR 2/0), moist, medium plasticity, stiff; 95% clay, 5% fine sand.
5	MW6-6	10	0				
						ML-CL	SANDY SILT WITH CLAY (ML-CL) - dark yellowish brown (10YR 4/6), damp, low plasticity, very stiff; 40% silt, 30% clay, 30% fine to coarse sand, trace fine gravel.
10	MW6-10.5		0				
	MW6-11	18	0			GC	CLAYEY GRAVEL WITH SAND (GC) - light olive brown (2.5Y 5/4), damp, medium dense; 40% subrounded to well rounded fine gravel, 40% fine to coarse sand, 20% clay.
15	MW6-15.5		0				
	MW6-16	19	0			ML	SILT (ML) - light yellowish brown (10YR 3/4), damp, low plasticity, very stiff; 50% silt, 30% fine sand, 20% clay.
20	MW6-21	15	0				
						GW-GM	**GRAVEL WITH SAND AND SILT (GW-GM)** - light olive brown (2.5Y 5/4), saturated, medium dense; 50% subrounded to well rounded fine to coarse gravel, 40% fine to coarse sand, 10% silt.
25	MW6-26	22	0				
						SW	Gravel increses to 75%, sand decreases to 20%, silt decreaes to 5% at 30.5 feet bgs.
30	MW6-31.5	30	0				SAND (SW) - olive (5Y 5/3), saturated, dense; 95% fine to coarse sand, 5% well rounded fine gravel.
							Bottom of boring at 32.0 feet.
35							(* = converted to equivalent standard penetration blows/ft.)

WELL DIAGRAM



JOB NUMBER: *346433.02*

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

MONITORING WELL
OBSERVATION SUMMARY SHEET

CHEVRON #: 9-3322 G-R JOB #: 346433

LOCATION: 7225 Bancroft DATE: 2-2-99

CITY: Oakland CA TIME:

Well ID	Total Depth	Depth to Water	Product Thickness	TOB or TOC	Comments
MW-4	31	13.11	0	TOC	
MW-5	31.5	18.80			
MW-6	32.0	18.48			

Comments:

Sampler: Assistant:

sumsheet11/96

FIELD DATA SHEET

Client/ Facility: Chevron #9-3322 | Job#: 346433

Address: 7225 Bancroft | Date: 2-2-99

City: Oakland CA | Sampler: FML

Well ID: MW-4 | Well Condition: okay

Well Diameter: 2" in. | Hydrocarbon Thickness: ~~0~~ Ft. | Amount Bailed (product/water): ~~0~~ (gal.)

Total Depth: 31 ft.

Depth to Water: 13.17 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

17.83 X VF 0.17 = 3.0 X ~~4~~ (case volume) = Estimated Purge Volume: 3C (gal.)

Purge Equipment: Disposable Bailer; (Bailer); (Stack); ~~Suction~~; Grundfos; Other: _____

Sampling Equipment: (Disposable Bailer); Bailer; Pressure Bailer; Grab Sample; Other: _____

Starting Time: 1138 | Weather Conditions: clear cool

Sampling Time: 1230 | Water Color: Brown → clear | Odor: None

Purging Flow Rate: 1gpm gpm. | Sediment Description: Muddy → clear

Did well de-water? No | If yes; Time: _____ | Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °C	~~D.O.~~ (mg/L) Color	~~ORP~~ (mV) Clarity	~~Alkalinity~~ (ppm) Activity
1138	0	7.24	651	19.4	Brown	cloudy	Initial
1155	10	7.08	647	19.5	Brown	Muddy	surge/Bail
1205	15	7.17	637	19.3	Brown	Muddy	Pump @ 1gpm
1210	20	7.20	665	18.8	Brown	Cloudy	
1215	25	7.19	659	18.9	Brown	Muddy	
1220	30	7.19	649	18.8	cloudy	cloudy	
1225	35	7.19	651	18.8	clearing	clearing	
1230	40	7.18	650	18.8	clearing	clearing	sample

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-4	3x40ml VOA	Y	HCl	SE	TPH(G) BTXE MTBE

COMMENTS: _____

FIELD DATA SHEET

Client/ Facility: Chevron #9-3322 | Job#: 341633
Address: 7225 Bramcrote | Date: 2-2-99
City: Oakland CA | Sampler: FRE

Well ID: MW-5 | Well Condition: Okay
Well Diameter: 2" in. | Hydrocarbon Thickness: C Ft. | Amount Bailed (product/water): C (gal.)
Total Depth: 31.5 ft.
Depth to Water: 18.80 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

12.70 X VF 0.17 = 2.2 X 3 (case volume) = Estimated Purge Volume: 22 (gal.)

Purge Equipment: (Disposable Bailer) (Bailer) ~~Stack~~ Suction Grundfos Other: _____

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

Starting Time: 1035 | Weather Conditions: clear cool
Sampling Time: 1145 | Water Color: Brown → clear | Odor: None
Purging Flow Rate: 1 gpm. | Sediment Description: Muddy → cloudy
Did well de-water? No | If yes; Time: _____ Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °C	~~D.O. (mg/L)~~ Color	~~ORP (mV)~~ Clarity	~~Alkalinity (ppm)~~ Activity
1035	0	7.06	1338	16.3	Brown	cloudy	Surge
1105	10	7.05	1336	16.3	Brown	Muddy	Bail
1110	15	7.01	1174	18.6	Brown	cloudy	
1115	20	7.00	1035	18.7		"	
1120	25	7.00	~~1066~~ 1034	18.6		Muddy	
1125	30	6.95	~~1010~~ 1006	18.6		cloudy	
1130	35	6.94	~~1008~~ 1010	18.4			
1135	40	6.91	~~HC~~ 1008	18.5	Clearing		
1140	45	6.92	1010	18.5	clear		
1145	50	6.92	1008	18.4	Clear	Clear	Sample

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-5	3x40ml VOA	Y	HCl	SEQ	Gas BTXE

COMMENTS: _____

FIELD DATA SHEET

Client/ Facility: Chevron # 9-3322 | Job#: 346433
Address: 7225 Bancroft | Date: 2-2-99
City: Oakland CA | Sampler: FM

Well ID: MW-6 | Well Condition: okay
Well Diameter: 2 in. | Hydrocarbon Thickness: — Ft. | Amount Bailed (product/water): — (gal.)
Total Depth: 32' (31.5) ft.
Depth to Water: 18.48 ft.

Volume Factor (VF)	2" = 0.17	3" = 0.38	4" = 0.66
	6" = 1.50	12" = 5.80	

13.52 X VF 0.17 = 2.3 X 10 (case volume) = Estimated Purge Volume: 23 (gal.)

Purge Equipment: Disposable Bailer; (Bailer); (Stack); Suction; Grundfos; Other: _____

Sampling Equipment: (Disposable Bailer); Bailer; Pressure Bailer; Grab Sample; Other: _____

Starting Time: 950 | Weather Conditions: clear cool
Sampling Time: 1012 | Water Color: Brown → clear | Odor: None
Purging Flow Rate: 1 gpm. | Sediment Description: Muddy → clear
Did well de-water? No | If yes; Time: _____ | Volume: _____ (gal.)

Time	Volume (gal.)	pH	Conductivity µmhos/cm	Temperature °C	Color ~~D.O. (mg/L)~~	Clarity ~~ORP (mV)~~	Activity Alkalinity (ppm)
~~10~~ 950	0	6.73	2890	15.9	Brown	cloudy	Initial
1010	10	6.72	2050	16.7	~~Muddy~~ Brown	Muddy	Surge/Bail
1015	15	6.70	1955	18.5	Brown	Muddy	Pump @ 1gpm
1020	20	6.71	1966	18.5	Brown	↓	
1025	25	6.69	1916	18.4	Brown	↓	
1030	30	6.68	1739	18.4	Brown		
1035	35	6.65	1722	18.5	Brown → clear	Cloudy	
1040	40	6.67	1720	18.5	Clearing		
1045	45	6.67	1725	18.6	Clearing	clear	Sample

LABORATORY INFORMATION

SAMPLE ID	(#) - CONTAINER	REFRIG.	PRESERV. TYPE	LABORATORY	ANALYSES
MW-6	3 x 40ml VOA	Y	HCl	SBL	Gas BTEX MTBE

COMMENTS: _____

Virgil Chavez Land Surveying

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

February 25, 1999
Project No. 1604-03A

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

Subject: Monitoring Well Survey
Chevron SS # 9-3322
7225 Bancroft Avenue
Oakland, Ca.

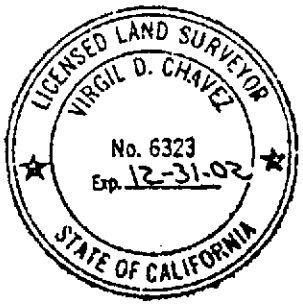
Dear Barbara:

This is to confirm that we have proceeded at your request to survey the new monitoring wells at the above referenced location. Our findings are shown in the tables below. The survey was performed on February 22, 1998. The benchmark for the survey is a **City of Oakland benchmark**, being a cut square in the top of curb in front of 7314 Halliday Ave. Measurement locations were marked at the approximate north side of top of box. The top of casings were shot at the notches on the northerly side of casings.
Benchmark Elev. = 39.55 MSL.

Well No.	Rim Elevation	TOC Elevation
MW - 4	40.44'	40.24'
MW - 5	40.66'	40.37'
MW - 6	40.22'	39.84'

The following table is for top of casing locations, using the back of sidewalk on Halliday Ave. as reference line.

Well No.	Station	Offset
MW - 4	1+22.91	108.74(Rt.)
MW - 5	1+27.64	77.26(Rt.)
MW - 6	1+27.09	45.22(Rt.)
BSW Intx at 73rd Ave.	0+00.00	0.00
BSW Halliday Ave.	---	0.00



Sincerely,

Virgil D. Chavez, PLS 6323

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler-Ryan - Dublin	Client Project ID:	Chevron #9-3322, Oakland	Sampled:	Jan 22, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Soil	Received:	Jan 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Feb 5, 1999
Attention: Barbara Sieminski	First Sample #:	901-1546		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 901-1546 MW4-11	Sample I.D. 901-1547 MW4-15	Sample I.D. 901-1548 MW4-20	Sample I.D. 901-1550 MW6-11	Sample I.D. 901-1551 MW6-16	Sample I.D. 901-1552 MW6-21
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MTBE	0.050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	1/27/99	1/27/99	1/27/99	1/27/99	1/27/99	1/27/99
Instrument Identification:	HP-4	HP-4	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	98	95	98	98	97	93

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	Client Project ID:	Chevron #9-3322, Oakland	Sampled: Jan 22, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Soil	Received: Jan 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Feb 5, 1999
Attention: Barbara Sieminski	First Sample #:	901-1554	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 901-1554 MW5-11	Sample I.D. 901-1555 MW5-16	Sample I.D. 901-1556 MW5-21
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.
Benzene	0.0050	N.D.	N.D.	N.D.
Toluene	0.0050	N.D.	N.D.	N.D.
Ethyl Benzene	0.0050	N.D.	N.D.	N.D.
Total Xylenes	0.0050	N.D.	N.D.	N.D.
MTBE	0.050	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0
Date Analyzed:	1/27/99	1/28/99	1/28/99
Instrument Identification:	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	108	87	86

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

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Gettler-Ryan - Dublin	Client Project ID:	Chevron #9-3322, Oakland	Sampled:	Jan 22, 1999
6747 Sierra Court, Suite J	Sample Descript:	Soil	Received:	Jan 25, 1999
Dublin, CA 94568	Analysis for:	Fraction Organic Carbon %		
Attention: Barbara Sieminski	First Sample #:	901-1549	Analyzed:	Feb 2, 1999
			Reported:	Feb 5, 1999

LABORATORY ANALYSIS FOR: Fraction Organic Carbon %

Sample Number	Sample Description	Detection Limit %	Sample Result %
901-1549	MW6-10.5	0.020	0.068
901-1553	MW6-26	0.020	0.046

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

SEQUOIA ANALYTICAL, #1210

Julianne Fegley
Project Manager

9011546.GET <3>

Sequoia Analytical

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

Client Project ID: Chevron #9-3322, Oakland
Matrix: Solid
QC Sample Group: 9011546-556

Reported: Feb 5, 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#:	9011370	9011370	9011370	9011370
Date Prepared:	1/27/99	1/27/99	1/27/99	1/27/99
Date Analyzed:	1/27/99	1/27/99	1/27/99	1/27/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	0.80 mg/kg	0.80 mg/kg	0.80 mg/kg	2.4 mg/kg
Matrix Spike % Recovery:	99	84	89	100
Matrix Spike Duplicate % Recovery:	95	81	85	96
Relative % Difference:	3.9	3.0	4.3	4.3
LCS Batch#:	4LCS012799	4LCS012799	4LCS012799	4LCS012799
Date Prepared:	1/27/99	1/27/99	1/27/99	1/27/99
Date Analyzed:	1/27/99	1/27/99	1/27/99	1/27/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	106	91	93	104
% Recovery Control Limits:	50-150	50-150	50-150	50-150

SEQUOIA ANALYTICAL, #1271

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

Client Project ID: Chevron #9-3322, Oakland
Matrix: Solid
QC Sample Group: 9011546-556

Reported: Feb 5, 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#:	9011769	9011769	9011769	9011769
Date Prepared:	1/28/99	1/28/99	1/28/99	1/28/99
Date Analyzed:	1/28/99	1/28/99	1/28/99	1/28/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	0.80 mg/kg	0.80 mg/kg	0.80 mg/kg	2.4 mg/kg
Matrix Spike % Recovery:	106	91	99	108
Matrix Spike Duplicate % Recovery:	108	93	98	108
Relative % Difference:	1.2	1.4	1.3	0.0
LCS Batch#:	4LCS012899	4LCS012899	4LCS012899	4LCS012899
Date Prepared:	1/28/99	1/28/99	1/28/99	1/28/99
Date Analyzed:	1/28/99	1/28/99	1/28/99	1/28/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	101	86	90	100
% Recovery Control Limits:	50-150	50-150	50-150	50-150

SEQUOIA ANALYTICAL, #1271

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

Client Project ID: Chevron #9-3322, Oakland
Matrix: Solid
QC Sample Group: 9011546-556
Reported: Feb 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Fraction Organic Carbon
Analy. Method:	WALK
Prep. Method:	N/A

Analyst:	K. Cesar
Duplicate Sample #:	9801D8001
Prepared Date:	2/2/99
Analyzed Date:	2/2/99
Instrument I.D.#:	Manual
Sample Concentration:	0.068 %
Dup. Sample Concentration:	0.068 %
RPD:	0.0
RPD Limit:	0-20

SEQUOIA ANALYTICAL, #1210

Julianne Fegley
Project Manager

** RPD=Relative % Difference

CORELAB

CORE LABORATORIES

March 15, 1999

Ms Julianne Fegley
Sequoia Analytical
404 Wiget Lane
Walnut Creek, CA 94598

Subject : Transmittal of Geotechnical Analysis Data
Gettler-Ryan, Inc.
Chevron #9-3322
SA Work order # 9901421
Core Lab File No. 57111-99021

Dear Ms Fegley:

Two soil samples were submitted to our Bakersfield laboratory in January for geotechnical analysis. Determinations of bulk density and total porosity were the requested analyses. In February, a report was issued that contained erroneous data. Thank you for calling our attention to this matter. Further investigation revealed that the data sheet issued with the original report was a "template" with only partial filling in of the proper results. The final data file with all of the correct values was in fact saved to disk and filed, however, apparently no printout of the finalized data made. I regret my oversight in issuing the report with the incorrect values, and can only apologize for any inconvenience it may have caused. Accompanying this letter please find the corrected results of the analysis.

I can assure you that this was an isolated incident and that additional checks will be instituted to insure against a recurrence. We do appreciate the opportunity to be of service to you and to Sequoia Analytical and hope that we may be of further service in the future.

Very truly yours,

Jeffry L. Smith
Laboratory Supervisor - Rock Properties

JLS:nw
1 original report, 1 cc report: Addressee

Core Laboratories, Inc.
3430 Unicorn Road, Bakersfield, California 93308, (805) 392-8600, Fax (805) 392-0824

CORE LAB

Sequoia Analytical

(Walnut Creek)

Gettler-Ryan, Inc.

Chevron 9-3322

C.L. File: 57111-99021

Work Order : 990142

Sample No.	SA Client ID	Sample Date	Sample Density			Total Porosity %	Description	Method
			Dry Bulk g/cc	Natural Bulk g/cc	Matrix g/cc			
9011549	MW6-10.5	22-Jan-99	1.75	2.08	2.64	33.8	Gray v clayey silt w/ vfgr sand	RP-40
9011553	MW6-26	22-Jan-99	1.77	2.08	2.59	31.9	Gray vf-vcgr sl silty sand w/gravel	RP-40

Sub-Chain Of Custody

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

Subcontracted To: Core Labs

Report To: Julianne Fegley

Turnaround Time: STD DAY

Due Date:

Date: 1/25/99

Work Order #: 9901421

Client: Gettler-Ryan, Inc.

Project: Chevron #9-3322

Method of Shipment: UPS

Sample No.	Client I.D.	Collect Date	Collect Time	Matrix	Number of Containers	Analysis
9011549	MW6-10.5	1/22/99		soil	1	Bulk Density
9011549	MW6-10.5	1/22/99		soil	1	Porosity
9011553	MW6-26	1/22/99		soil	1	Bulk Density
9011553	MW6-26	1/22/99		soil	1	Porosity

Notes:

Relinquished By: _____ Date: 1/25 Time: _____ Received By: _____ Date: _____ Time: _____

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: 9-3322
Facility Address: 7225 Bancroft Ave
Consultant Project Number: Oakland
Consultant Name: Gettler-Ryan Inc.
Address: 6747 Sierra Ct, Ste J, 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 9901421
Laboratory Release Number: 9144488
Samples Collected by (Name): Barbara Sieminski
Collection Date: 01/22/99
Signature: B Sieminski

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: BTEX + TPH GAS/MTBE (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)	Fraction Organic Carbon (Walkley-Black)	Bulk Density	Porosity			Remarks
MW4-6		1	S	D	10:35		Yes														
MW4-11		1			10:45			X													9011546
MW4-15		1			10:55			X													9011547
MW4-16		1			10:55																
MW4-20		1			11:05			X													9011548
MW4-21		1			11:05																
MW4-26		1			11:45																
MW4-31		1			11:55																
MW6-6		1			13:15																
MW6-10.5		1			13:20											X	X	X			9011549
MW6-11		1			13:20			X													9011550
MW6-15.5		1			13:30																
MW6-16		1			13:34			X													9011551
MW6-21		1			13:35			X													9011552

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Barbara Sieminski	G-R				11/25/99 1040
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
		1/25/99 1420			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					11/25/99

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

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: 9-3322
Facility Address: 7225 Bancroft Ave
Consultant Project Number: Oakland
Consultant Name: Gettler-Ryan Inc.
Address: 6747 Sierra Ct, Ste J, 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 9901421
Laboratory Release Number: 9144488
Samples Collected by (Name): Barbara Sieminski
Collection Date: 01/22/99
Signature: B Sieminski

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS/MTBE (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)	Fraction Organic Carbon (Walkley Black)	Bulk Density	Porosity			Remarks
								Analyses To Be Performed													
MW6-26		1	S	D	13:45		Yes									X	X	X			9011553
MW6-31.5		1			13:50																
MW5-6		1			15:00																
MW5-11		1			15:10			X													9011554
MW5-16		1			15:20			X													9011555
MW5-21		1			15:25			X													9011556
MW5-26		1			15:35																
MW5-31		1	↓	↓	15:40		↓														

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
Barbara Sieminski	G-R			W.C. Seq	1/25/99 1040	24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
		1/25/99 1200				5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	10 Days
					1/25/1200	As Contracted

Sequoia Analytical

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Gettler-Ryan - Dublin	Client Project ID:	Chevron#9-3322, Oakland	Sampled:	Jan 22, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Soil	Received:	Jan 25, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Jan 27, 1999
Attention: Barbara Sieminski	First Sample #:	901-1535		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 901-1535 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:	1/26/99
Instrument Identification:	HP-4
Surrogate Recovery, %: (QC Limits = 40-140%)	85

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

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

Client Project ID: Chevron#9-3322, Oakland
Matrix: Solid
QC Sample Group: 901-1535

Reported: Jan 27, 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#:	9011535	9011535	9011535	9011535
Date Prepared:	1/26/99	1/26/99	1/26/99	1/26/99
Date Analyzed:	1/26/99	1/26/99	1/26/99	1/26/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	0.80 mg/kg	0.80 mg/kg	0.80 mg/kg	2.4 mg/kg
Matrix Spike % Recovery:	108	94	98	108
Matrix Spike Duplicate % Recovery:	109	96	100	108
Relative % Difference:	1.2	2.6	2.5	0.0
LCS Batch#:	4LCS012699	4LCS012699	4LCS012699	4LCS012699
Date Prepared:	1/26/99	1/26/99	1/26/99	1/26/99
Date Analyzed:	1/26/99	1/26/99	1/26/99	1/26/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
LCS % Recovery:	99	85	86	96
% Recovery Control Limits:	50-150	50-150	50-150	50-150

SEQUOIA ANALYTICAL, #1271

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.

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: 9-3322
Facility Address: 7225 Bancroft Ave
Consultant Project Number: Oakland
Consultant Name: Gettler-Ryan Inc.
Address: 6747 Sierra Ct, Ste J, 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: 01/22/99
Signature: B Sieminski 9901117

Sample Number	Lab Sample Number	Number of Containers	Matrix: S = Soil A = Air W = Water C = Charcoal	Type: G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: 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)					Remarks
SP-A		1	S	G	16:00		Yes	X								9011535	A-D			
SP-B		1	↓	↓	16:02		↓	X								~~9011536~~				Fax results
SP-C		1			16:04			X								9011537				to IWM
SP-D		1	↓	↓	16:06		↓	X								~~9011538~~	RW 11/25	99		(408)942-1499

composite

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Barbara Sieminski	G-R			W.C. Seq	11/25/99 1054
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
		1/25/99 1700			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					1/25/00

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (925) 988-9600, FAX (925) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100
1455 McDowell Blvd. North, Ste. D, Petaluma, CA 94954, (707) 792-1865, FAX (707) 792-0342

Gettler-Ryan - Dublin	Client Project ID:	Chevron #9-3322, Oakland	Sampled: Feb 2, 1999
6747 Sierra Court, Suite J	Sample Matrix:	Water	Received: Feb 5, 1999
Dublin, CA 94568	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Feb 11, 1999
Attention: Barbara Sieminski	First Sample #:	902-0632	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 902-0632 TB-LB	Sample I.D. 902-0634 MW-6	Sample I.D. 902-0635 MW-5	Sample I.D. 902-0636 MW-4
Purgeable Hydrocarbons	50	N.D.	14,000	72	N.D.
Benzene	0.50	N.D.	5,600	2.7	0.52
Toluene	0.50	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	150	N.D.	N.D.
Total Xylenes	0.50	N.D.	160	N.D.	N.D.
MTBE	2.5	N.D.	N.D.	11	6.0
Chromatogram Pattern:		--	Gasoline	Unidentified Hydrocarbons C6 - C12	--

Quality Control Data

Report Limit Multiplication Factor:	1.0	100	1.0	1.0
Date Analyzed:	2/10/99	2/10/99	2/10/99	2/10/99
Instrument Identification:	HP-9	HP-9	HP-9	HP-9
Surrogate Recovery, %: (QC Limits = 70-130%)	94	97	102	104

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 #9-3322, Oakland
Matrix: Liquid
QC Sample Group: 9020632-636

Reported: Feb 11, 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#:	9020348	9020348	9020348	9020348
Date Prepared:	2/10/99	2/10/99	2/10/99	2/10/99
Date Analyzed:	2/10/99	2/10/99	2/10/99	2/10/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	105	110	110	107
Matrix Spike Duplicate % Recovery:	100	105	105	103
Relative % Difference:	4.9	4.7	4.7	3.2
LCS Batch#:	9LCS021099	9LCS021099	9LCS021099	9LCS021099
Date Prepared:	2/10/99	2/10/99	2/10/99	2/10/99
Date Analyzed:	2/10/99	2/10/99	2/10/99	2/10/99
Instrument I.D.#:	HP-9	HP-9	HP-9	HP-9
LCS % Recovery:	100	105	105	105
% Recovery Control Limits:	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL, #1271

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.

Fax copy of Lab Report and COC to Chevron Contact: ☐ 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: 9-3322
Facility Address: 7225 Bancroft Oakland CA
Consultant Project Number: 34/6433.01
Consultant Name: Certified Ryan Inc
Address: 6747 Sierra Ct Suite J Dublin CA
Project Contact (Name): Barbara Sieminski
Ext 188 (Phone) 925-551-7555 (Fax Number) 925 551-7888

Chevron Contact (Name): Phil Briggs
(Phone):
Laboratory Name: SEQ
Laboratory Release Number: 9902146
Samples Collected by (Name): Frank Cline
Collection Date: 2-2-99
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: BTEX + TPH GAS (8020 + 8015) MTBE	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)					Remarks
TB-LB		2	W	TB		HCl	Y	X											9020632	AB
MW-6		3		G	1045			X											9020634	A-C
MW-5		3			1145			X											9020635	
MW-4		3			1230			X											9020636	
																			~~9020637~~ AA	2/5/99

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	CRL	2/4/99 0800	D. Harding	GR	02/4/99
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
D. Harding	GR	2/4/99		WC. Seq	2/4/99 020
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
		2/4/99 1230			2/5/99 12:30

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

COC-3.DWG/03 91/MCH