Chevron

Chevron

98 MAR 31 PM 3:41

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

Marketing – Sales West
Phone 510 842-9500

March 27, 1998

Ms. Pamela J. Evans
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

3961

Re: Chevron Service Station #9-3322
7225 Bancroft Avenue, Oakland, California 94605

Dear Ms. Evans:

Enclosed is the Well Installation Report that was prepared by our consultant Gettler-Ryan Inc., for the above noted site. This work was performed to evaluate whether the soil and groundwater beneath the site has been impacted by petroleum hydrocarbons.

Three borings were drilled to depths ranging from 31.5 feet to 36.5 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 depths ranging from approximately 18.5 feet to 25.5 feet below grade. However, after groundwater monitoring the water depth stabilized at 7.60 feet to 14.60 feet below grade with a direction of flow northwesterly.

The soil and water samples were analyzed for the TPH-g, BTEX and MtBE constituents. There was minimal impact from petroleum hydrocarbons in the nine soil samples taken from the three borings. All samples taken from well MW-3 were below method detection limits for all constituents. Benzene was detected in only one of the five remaining samples and only at a concentration of 0.053 ppm in well MW-1at 15 feet below grade. The highest TPH-g concentration was detected in well MW-1 at 23.0 ppm at 15 feet below grade.

All constituents were detected in all three monitoring wells with the highest benzene concentration detected in well MW-3, which is the downgradient well. Based on these results it appears that the extent of the petroleum hydrocarbon impacted groundwater has not been delineated, and further investigation may be warranted.

Therefore, Chevron believes it would be appropriate to install 2 to 3 additional groundwater monitoring wells downgradient of wells MW-1 and MW-3 to define the extent of the petroleum hydrocarbons in the groundwater. In addition, it is suggested that a water well survey be conducted within at least ½ mile from the site.

If you have any questions or comments to the suggested investigation call me at (510) 842-9136.

Sincerely,
CHEVRON PRODUCTS COMPANY

Philip R. Briggs
Site Assessment and Remediation Project Manager

Enclosure

Cc. Mr. Bill Scudder, Chevron

GETTLER-RYAN INC.

WELL INSTALLATION REPORT

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

Report No. 346433.01-2

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 J
Dublin, California 94568

Barbara Sieminski
Project Geologist
R.G. 6676

REGISTERED GEOLOGIST
BARBARA SIEMINSKI
No. 6676
STATE OF CALIFORNIA

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Senior Geologist
R.G. 5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

March 13, 1998

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GETTLER-RYAN INC.

WELL INSTALLATION REPORT

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

Report No. 346433.01-2

1.0 INTRODUCTION

This report summarizes the results of a well installation performed at Chevron Service Station #9-3322, located at 7225 Bancroft Avenue in Oakland, California. The work was performed at the request of Chevron Products Company (Chevron) to evaluate whether soil and groundwater beneath the subject site had been impacted by hydrocarbons. The scope of work included: obtaining the required well installation permit; installing three on-site groundwater monitoring wells (MW-1 through MW-3); collecting soil samples for chemical analysis; developing and sampling the wells; surveying wellhead elevations; arranging for Chevron's contractor to dispose of the waste materials; and preparing a report documenting the work. This work was originally proposed in Gettler-Ryan Inc. (GR) Report No. 6433.01-1, *Work Plan for Monitoring Well Installation*, dated November 7, 1997.

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.

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 21, 1998. A well installation permit (#98WR026) was obtained from the Alameda County Public Works Agency, and Underground Service Alert was notified prior to drilling at the site. A copy of the permit is included in Appendix B.

3.1 Drilling Activities

On January 22, 1998, a GR geologist observed Bay Area Exploration Services, Inc. (C57 #522125) install three on-site groundwater monitoring wells (MW-1 through MW-3) at the locations shown on Figure 2. Well borings were drilled to depths ranging from 31.5 to 36.5 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 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 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 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 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)comp. On February 5, 1998, 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 January 28, 1998, wells MW-1 through MW-3 were surveyed relative to mean sea level by Virgil Chavez, a California licensed land surveyor (#6323). A copy of the survey report is included in Appendix C, and the survey data are summarized in Table 1.

3.3 Well Development and Sampling

On February 8, 1998, groundwater monitoring wells MW-1 through MW-3 were developed by GR personnel using a vented surge block and hand-bailing. Depth to water was measured in the wells prior to well development. Upon completion of well development, groundwater samples were collected from the wells. 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 D.

3.4 Laboratory Analysis

Soil and groundwater samples were analyzed by Sequoia Analytical in Redwood City, California (ELAP #1210). Soil samples collected from the borings at 6, 11, and 15 or 16 feet bgs and groundwater samples were analyzed for TPHg, BTEX, and MTBE by Environmental Protection Agency (EPA) Methods 8015Mod/8020. 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-1 through MW-3 consisted of interbedded clay, silt and gravel. 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 11 to 13.5 feet bgs. Clayey gravel grading to gravel with sand was encountered beneath the clay layer and extended to the total depth of boring MW-2 (31.5 feet bgs) and to 33.5 feet bgs in borings MW-1 and MW-3. A 7.5-foot thick silt to sandy silt layer was encountered within clayey gravel in boring MW-3. The gravelly layer in borings MW-1 and MW-3 was underlain by sandy clay, which extended to the total depths of these borings (36.5 and 34.5 feet bgs, respectively). Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix B.

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). Based on the groundwater monitoring data collected on February 8, 1998, shallow groundwater beneath the site appears to flow to the northwest at an approximate gradient of 0.1 (Figure 2).

4.2 Soil Analytical Results

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.

The composite stockpile sample contained 120 ppm TPHg and 0.33 ppm benzene. Soil chemical analytical data are summarized in Table 2.

4.3 Groundwater Analytical Results

Petroleum hydrocarbons were detected in the groundwater samples collected from wells MW-1 through MW-3. TPHg concentrations ranged from 24,000 ppb to 130,000 ppb, and benzene concentrations ranged from 130 ppb to 12,000 ppb. MTBE was present in the groundwater samples collected from wells MW-2 and MW-3 at the concentrations of 2,300 ppb and 8,000 ppb, respectively. MTBE was not detected in the groundwater sample collected from well MW-1, however, the detection limit for this sample was increased to 250 ppb. Groundwater analytical data are summarized in Table 1.

5.0 CONCLUSIONS

- Soil in the vicinity of wells MW-1 and MW-2 has been slightly impacted by petroleum hydrocarbons.
- Shallow groundwater beneath the site has been impacted by petroleum hydrocarbons. The extent of hydrocarbon impacted groundwater 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., November 7, 1997, Work Plan for Monitoring Well Installation at Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Job No. 6433.01-1.

Gettler-Ryan Inc., January 21, 1998, Site Safety Plan for Chevron Service Station #9-3322, 7225 Bancroft Avenue, Oakland, California, Job No. 6433.01.

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

Sample ID	Depth (feet)	Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
			<----------ppm---------->					
MW1-6	6.0	01/22/98	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
MW1-11	11.0	01/22/98	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
MW1-15	15.0	01/22/98	23[1]	0.053	0.014	0.28	0.99	0.057
MW2-6	6.0	01/22/98	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
MW2-11	11.0	01/22/98	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	0.079
MW2-15	15.0	01/22/98	8.2[1]	<0.0050	0.022	0.012	0.065	0.40
MW3-6	6.0	01/22/98	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
MW3-11	11.0	01/22/98	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
MW3-16	16.0	01/22/98	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025
SP-(A-D)comp	—	01/22/98	120	0.33	0.29	1.0	6.0	—

EXPLANATION:

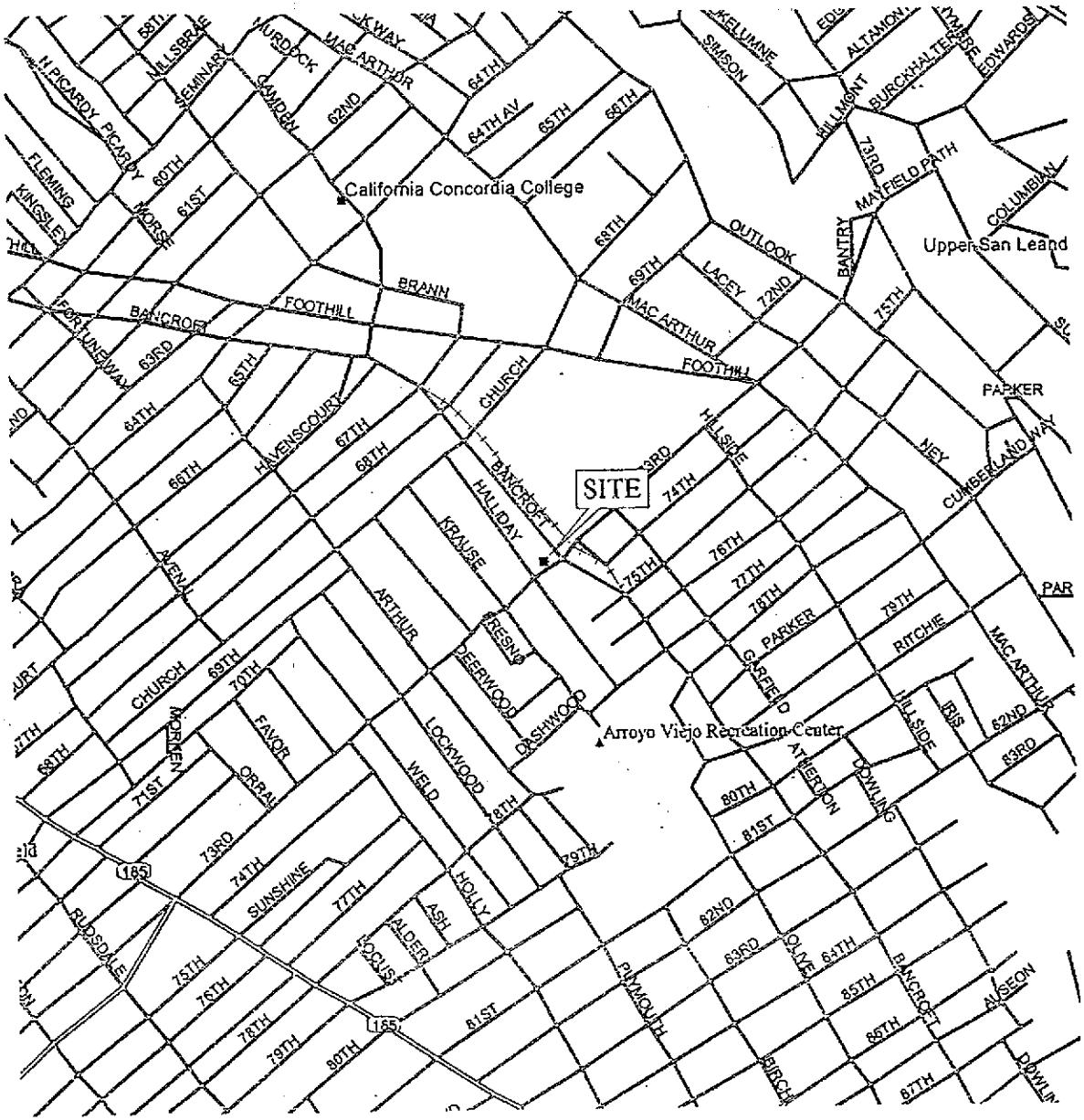
TPHg = Total Petroleum Hydrocarbons as gasoline
MTBE = Methyl tertiary-Butyl Ether
ppm = Parts per million
— = Not analyzed/not applicable
[1] = Laboratory reports chromatogram indicates weathered gasoline in C6-C12 range

ANALYTICAL METHODS:

TPHg = EPA Method 8015Mod
Benzene, toluene, ethylbenzene, xylenes, MTBE = EPA Method 8020

ANALYTICAL LABORATORY:

Sequoia Analytical (ELAP #1210)



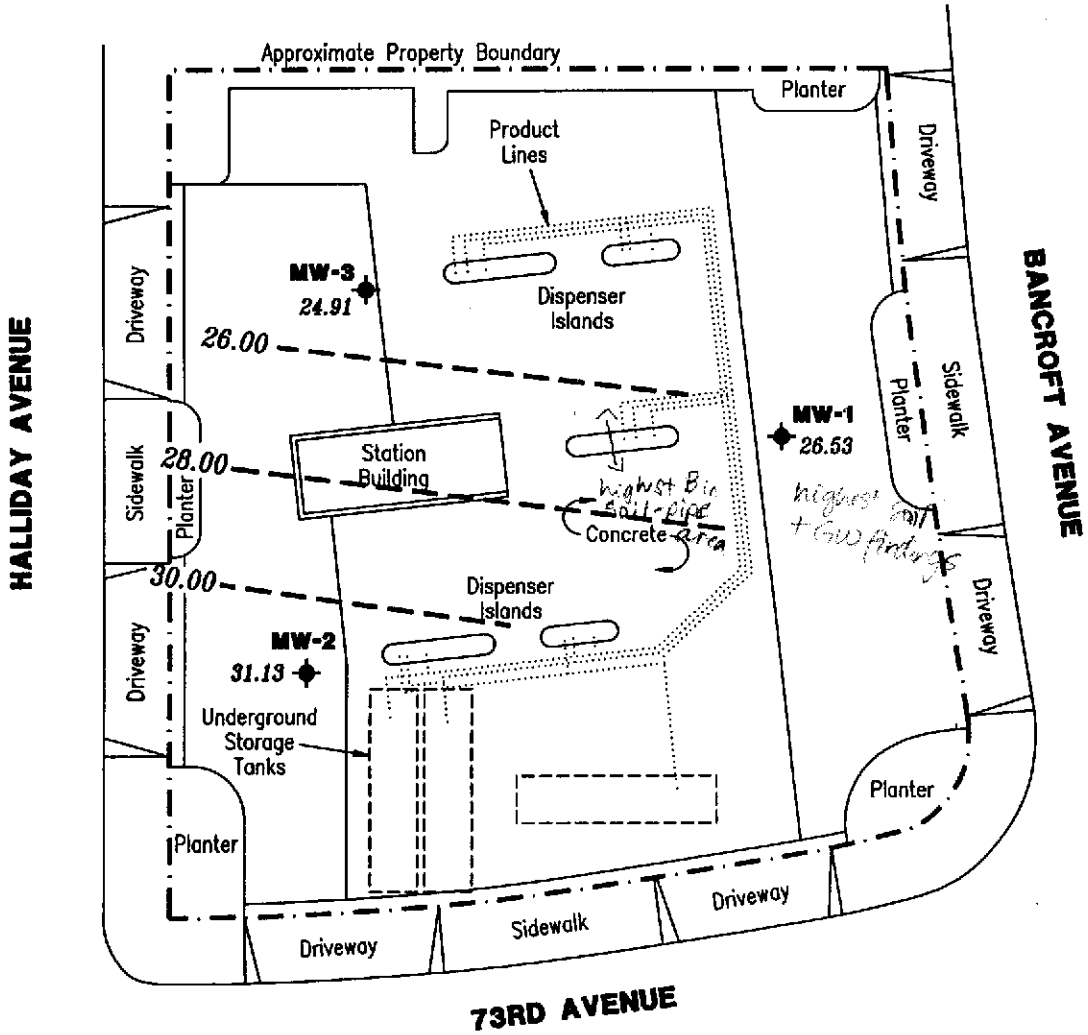
Source: Street Atlas USA, Delorme (1995).

FIGURE 1

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

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

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6433		11/97	



EXPLANATION:

- Groundwater Monitoring Well
- 31.13 Groundwater Elevation Measured In Feet Referenced To Mean Sea Level
- 30.00 Groundwater Elevation Contour, Dashed Where Inferred

Approximate Groundwater Flow Direction At A Gradient Of 0.1 Ft./Ft.

N

0 30

Scale in Feet

Source: Figure Modified From Drawing Provided By Chevron.

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

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

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
346433		03/98	

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

California Coordinates Source _____ ft. Accuracy ± ___ ft.
CN _____ ft. CCB _____ ft.
PN 39-3300-30-3

CLIENT
Name Chevron Products Co
Address P.O. Box 6004 Phone (510) 842-9136
City San Ramon Zip CA 94583

APPLICANT
Name Gettler-Ryan Inc
Contact Barbara Sieminski Fax (510) 551-7888
Address 6747 Sierra Ct, Ste J Phone (510) 551-7555
City Dublin Zip CA 94568

TYPE OF PROJECT

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

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other _____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☒ Hollow Stem
Cable	☐	Other	☐		

DRILLER'S LICENSE NO. C57 #522125

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum Depth 30 ft.
Casing Diameter 2 in. Number 2
Surface Seal Depth 10 ft.

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

ESTIMATED STARTING DATE 01/22/98
ESTIMATED COMPLETION DATE 01/22/98

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

APPLICANT'S SIGNATURE Barbara Sieminski DATE 01/15/98

FOR OFFICE USE

PERMIT NUMBER 98WR026
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 _____ DATE 1/16/98

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

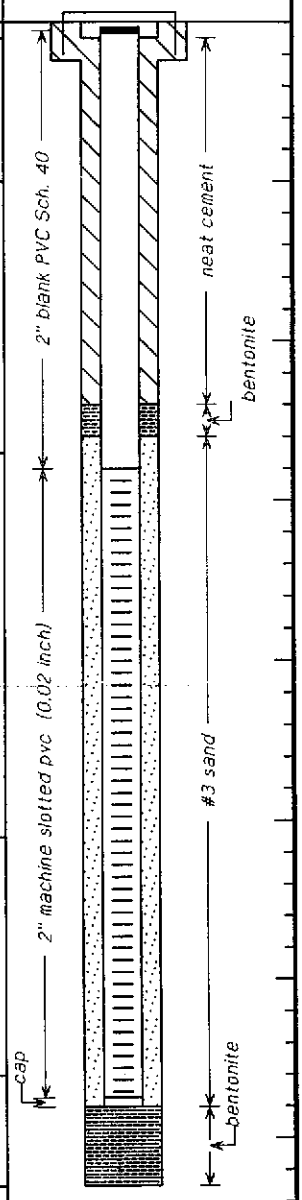
Gettler-Ryan, Inc.

Log of Boring MW-1

PROJECT: *Chevron Service Station #9-3322*	LOCATION: *7225 Bancroft Avenue, Oakland, CA*
G-R PROJECT NO.: *6433.01*	SURFACE ELEVATION: *40.41 feet MSL*
DATE STARTED: *01/22/98*	WL (ft. bgs): *25.5* DATE: *01/22/98* TIME: *10:40*
DATE FINISHED: *01/22/98*	WL (ft. bgs): *16.3* DATE: *01/22/98* TIME: *15:45*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *36.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
				CL	PAVEMENT - asphalt.
					CLAY (CL) - dark gray (10YR 4/1), moist, stiff, medium plasticity; 95% clay, 5% fine sand.
5	0	10	MW1-6	CL	SANDY CLAY (CL) - brown (10YR 5/3), damp, stiff, low plasticity; 70% clay, 30% fine sand.
10	18	19	MW1-11		Color changes to yellowish brown (10YR 5/4), up to 40% fine to coarse sand, trace subrounded fine gravel at 10 feet.
15	168	36	MW1-15	GC	CLAYEY GRAVEL WITH SAND (GC) - light olive brown (2.5Y 5/4) mottled greenish gray (5GY 4/1), moist, dense; 45% subangular to subrounded fine gravel, 35% fine to coarse sand, 20% clay.
20	68	36	MW1-21		Color changes to yellowish brown (10YR 5/6) at 20 feet. No water in the hole after waiting 10 minutes.
25	56	17	MW1-26	GW-GC	GRAVEL WITH SAND AND CLAY (GW-GC) - olive (5Y 5/3), saturated, medium dense; 50% subrounded to well rounded fine gravel, 30-35% fine to coarse sand, 10-15% clay.
30	7.7	22	MW1-31		
35	142	27	MW1-36	CL	SANDY CLAY (CL) - yellowish brown (10YR 5/6), moist, very stiff, low plasticity; 70% clay, 30% fine to medium sand.
40					(* = converted to equivalent standard penetration blows/ft.)

WELL DIAGRAM



JOB NUMBER: *6433.01*

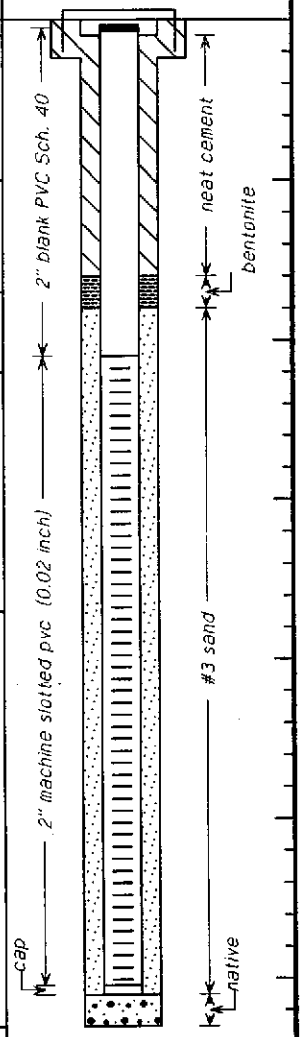
Gettler-Ryan, Inc.

Log of Boring MW-2

PROJECT: *Chevron Service Station #9-3322*	LOCATION: *7225 Bancroft Avenue, Oakland, CA*
G-R PROJECT NO. : *6433.01*	SURFACE ELEVATION: *38.73 feet MSL*
DATE STARTED: *01/22/98*	WL (ft. bgs): *18.5* DATE: *01/22/98* TIME: *14:55*
DATE FINISHED: *01/22/98*	WL (ft. bgs): *10.2* DATE: *01/22/98* TIME: *16:00*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *31.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
				CL	PAVEMENT - asphalt.
					CLAY (CL) - dark gray (10YR 4/1), moist, stiff, medium plasticity; 95% clay, 5% fine sand.
5	10.9	19	MW2-6	CL	CLAY WITH SAND (CL) - dark brown (10YR 4/3), damp, very stiff, low plasticity; 85% clay, 15% fine to medium sand.
				CL	SANDY CLAY (CL) - dark brown (10YR 4/3), damp, very stiff, low plasticity; 60% clay, 40% fine to coarse sand.
10	5.7	21	MW2-11	GC	CLAYEY GRAVEL WITH SAND (GC) - dark brown (10YR 4/3), moist, medium dense; 40% subrounded fine gravel, 30% fine to coarse sand, 30% clay.
15	64	14	MW2-15		Color changes to dark greenish gray (5GY 4/1) at 15 feet.
				GW	GRAVEL WITH SAND AND CLAY (GW) - dark greenish gray (5GY 4/1), saturated, medium dense; 50% subrounded to well rounded fine gravel, 40% fine to coarse sand, 10% clay.
20	94*	29	MW2-21		
25	79	36	MW2-26		Color changes to brown (10YR 5/3); becomes dense at 25 feet.
30	72	57	MW2-31		Becomes very dense at 30 feet.
35					
40					(* = converted to equivalent standard penetration blows/ft.)

WELL DIAGRAM



JOB NUMBER: *6433.01*

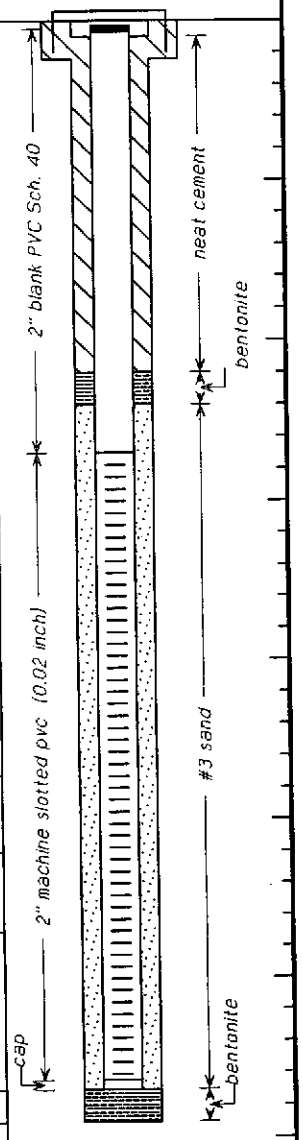
Gettler-Ryan, Inc.

Log of Boring MW-3

PROJECT: *Chevron Service Station #9-3322*	LOCATION: *7225 Bancroft Avenue, Oakland, CA*
G-R PROJECT NO. : *6433.01*	SURFACE ELEVATION: *39.51 feet MSL*
DATE STARTED: *01/22/98*	WL (ft. bgs): *23.6* DATE: *01/22/98* TIME: *13:05*
DATE FINISHED: *01/22/98*	WL (ft. bgs): *17.0* DATE: *01/22/98* TIME: *15:45*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *34.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *Barbara Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
				CL	PAVEMENT - asphalt. CLAY (CL) - dark gray (10YR 4/1), moist, stiff, medium plasticity; 95% clay, 5% fine sand.
5	0	14	MW3-6	CL	SANDY CLAY (CL) - dark brown (10YR 3/3), damp, stiff, low plasticity; 70% clay, 30% fine to coarse sand, trace subrounded fine gravel. Color changes to dark yellowish brown (10YR 4/6); sand decreasing to 10% at 10 feet.
10	0	16	MW3-11	CL	CLAY (CL) - olive (5Y 4/3), damp, very stiff, low plasticity; 70% clay, 30% silt, trace fine to coarse sand.
15	0	20	MW3-16	GC/SC	CLAYEY GRAVEL WITH SAND (GC) - light olive brown (2.5Y 5/4), moist, medium dense; 35% subrounded fine gravel, 35% fine to coarse sand, 30% clay.
20	0	15	MW3-20	ML	SILT (ML) - olive (5Y 5/4), moist, low plasticity, stiff; 100% silt.
25	0	11	MW3-25	ML	SANDY SILT (ML) - light olive brown (2.5Y 5/6), saturated, low plasticity, stiff; 70% silt, 30% fine sand.
	0	19	MW3-26	GC	Color changes to greenish gray (5GY 5/1) at 25.5 feet.
30	54	14	MW3-31	GW	CLAYEY GRAVEL WITH SAND (GC) - greenish gray (5GY 5/1), saturated, medium dense; 40% subrounded fine to coarse gravel, 35% fine to coarse sand, 25% clay.
	40	27	MW3-34	CL	GRAVEL WITH SAND (GW) - dark greenish gray (5GY 4/1), saturated, medium dense; 60% subrounded to well rounded fine to coarse gravel, 40% fine to coarse sand.
35					SANDY CLAY (CL) - yellowish brown (10YR 5/6), moist, very stiff, low plasticity; 70% clay, 30% fine to coarse sand.
40					(* = converted to equivalent standard penetration blows/ft.)

WELL DIAGRAM



JOB NUMBER: *6433.01*

Virgil Chavez Land Surveying
312 Georgia Street, Suite 200
Vallejo, California 94590
(707) 553-2476

February 3, 1998
Project No. 1604-03

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.

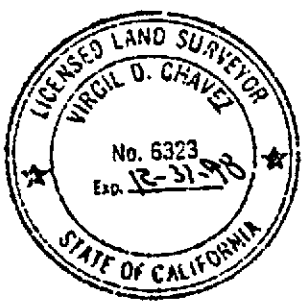
Dear Barbara:

This is to confirm that we have proceeded at your request to survey the monitoring wells at the above referenced location. Our findings are shown in the tables below. The survey was performed on January 28, 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 - 1	40.82′	40.41′
MW - 2	39.42′	38.73′
MW - 3	39.91′	39.51′

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 - 1	0+77.15	95.61(Rt.)
MW - 2	0+40.31	20.13(Rt.)
MW - 3	1+01.03	32.59(Rt.)
BSW Intx at 73rd Ave.	0+00.00	0.00
BSW Halliday Ave.	---	0.00



Sincerely,

Virgil D. Chavez

Virgil D. Chavez, PLS 6323

MONITORING WELL
OBSERVATION SUMMARY SHEET

CHEVRON #: 9-3322 G-R JOB #: 6433.01

LOCATION: 7225 Bancroft DATE: 2-8-98

CITY: Oakland CA TIME: Fi Cline

Well ID	Total Depth	Depth to Water	Product Thickness	TOB or TOC	Comments
MW-1	34'	13.88	ø	TOC	
MW-2	30.50	7.60	"	"	
MW-3	33.5	14.60	ø	"	

Comments:

Sampler: Assistant:

sumsheet11/96

WELL DEVELOPMENT FORM

(to be filled out in office) [GSI]

Client Chevron SS# ~~6733~~ 9332 Job# 6933.01

Name _____ Location 7225 Bancroft

Well# MW-3 Screened Interval _____ Depth _____

Aquifer Material Clayey to Sandy gravel. Installation Date _____

Drilling Method _____ Borehole Diameter 8"

Comments regarding well installation: 2" Casing

(to be filled out in the field) [G-R] Name F. Cline

Date 2-8-98 Development Method Surge & Purge

Total Depth 33.5 - Depth to liquid 14.60 = WaterColumn 19.9

Product thickness _____

19.90 (Water Column) × 0.17 (Diameter (in.)) ≈ 3.4 (Vol) × ~~0.0408~~ 10 case = 34 gal

Purge Start _____ Stop _____ Rate 2 gpm

Gallons	Time	Clarity	Temp.	pH	Conductivity
0	11:10	Clear	57.4	7.53	386
10	11:20	Muddy / Brown	61.2	6.93	450
18	11:24	" / "	62.4	6.25	698
26	11:28	Cloudy Brown	64.0	6.30	670
34	11:32	Cloudy Brown	63.9	6.28	680
42	11:36	Clear	64.0	6.30	685
50	1154	Clear	63.9	6.30	683

Total gallons removed 50 gals. Development stop time _____

Depth to liquid 15.83 at 1150 (time)

Odor of water None Water discharged to Tank

Comments: _____

Initial Total Depth 20'

Final Total Depth 33.5

WELL DEVELOPMENT FORM

(to be filled out in office) [GSI]

Client Chevron SS# ~~7433~~ 9332 Job# 6433.01

Name _____ Location 7225 Bancroft

Well# MW-2 Screened Interval _____ Depth _____

Aquifer Material Clayey to Sandy gravel Installation Date _____

Drilling Method _____ Borehole Diameter 8"

Comments regarding well installation: 2" Casing

(to be filled out in the field) [G-R] Name F. Cline

Date 2-8-96 Development Method Surge & Purge

Total Depth 30.5 - Depth to liquid 7.60 = WaterColumn 22.90

Product thickness _____

22.90 (Water Column) x 0.17 (Diameter (in.)) = 3.89 (Vol) x ~~0.0408~~ 10 case = 39 g

Purge Start _____ Stop _____ Rate 2 gpm

Gallons	Time	Clarity	Temp.	pH	Conductivity
0	1200	Clear	61.2	6.60	374
10	1208	Muddy Grey	62.9	6.62	426
18	1214	Muddy Grey	63.4	7.08	447
26	1218	Cloudy Grey	63.1	7.05	458
34	1222	Cloudy Grey	62.5	7.08	445
42	1226	Clearing	63.0	7.05	463
50	1230	Clear	62.8	7.20	460

Total gallons removed 50 gals Development stop time _____

Depth to liquid 8.95 at 1230 (time)

Odor of water None Water discharged to Tank

Comments _____

WELL DEVELOPMENT FORM

(to be filled out in office) [GSI]

Client Chevron SS#: ~~7433~~ 9322 Job#: 6433.01

Name _____ Location 7225 Bancroft

Well#: MW-1 Screened Interval _____ Depth _____

Aquifer Material Clayey to Sandy gravel. Installation Date _____

Drilling Method _____ Borehole Diameter 8"

Comments regarding well installation: 2" Casing

(to be filled out in the field) [G-R] Name F. Cline

Date 2-8-98 Development Method Surge & Purge

Total Depth 34' - Depth to liquid 13.88 = WaterColumn 20.12

Product thickness _____

~~20.12~~ (Water Column) × 0.17 (Diameter (in.)) = 3.4 (Vol) × ~~0.0408~~ 10 case = 34 gal

Purge Start _____ Stop _____ Rate 2 gpm

Gallons	Time	Clarity	Temp	pH	Conductivity
0	1235	Cloudy	~~68.6~~	7.03	985
12	1249	Muddy / Brown	64.9	7.45	1059
20	1254	Muddy Brown	64.4	7.70	1049
28	1258	Cloudy / Brown	63.2	7.68	880
36	1302	Cloudy Brown	63.0	7.70	912
44	1306	Cloudy Brown	63.1	7.72	920
52	1310	Cloudy / Brown	63.0	7.70	918

Total gallons removed 52gals Development stop time _____

Depth to liquid 15.20 at 1310 (time)

Odor of water None Water discharged to Tank

Comments: _____

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW1-6	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/02/98
Attention: Barbara Sieminski	Lab Number: 9801D82-01	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100
4-Bromofluorobenzene	60	140	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW1-11	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/03/98
Attention: Barbara Sieminski	Lab Number: 9801D82-02	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93
4-Bromofluorobenzene	60	140	83

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies
6747 Sierra Court Suite J
Dublin, CA 94568

Attention: Barbara Sieminski

Client Proj. ID: Chevron 9-3322, Oakland
Sample Descript: MW1-15
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9801D82-03

Sampled: 01/22/98
Received: 01/23/98
Extracted: 01/27/98
Analyzed: 02/03/98
Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP1

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	2.0	23
Methyl t-Butyl Ether	0.050	0.057
Benzene	0.010	0.053
Toluene	0.010	0.014
Ethyl Benzene	0.010	0.28
Xylenes (Total)	0.010	0.99
Chromatogram Pattern:		
Weathered Gas		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93
4-Bromofluorobenzene	60	140	55 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW2-6	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/02/98
Attention: Barbara Sieminski	Lab Number: 9801D82-04	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	87
4-Bromofluorobenzene	60	140	82

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW2-11	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/02/98
Attention: Barbara Sieminski	Lab Number: 9801D82-05	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	**0.025**	**0.079**
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92
4-Bromofluorobenzene	60	140	83

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW2-15	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/03/98
Attention: Barbara Sieminski	Lab Number: 9801D82-06	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP1

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1.0**	**8.2**
Methyl t-Butyl Ether	**0.025**	**0.40**
Benzene	0.0050	N.D.
Toluene	**0.0050**	**0.022**
Ethyl Benzene	**0.0050**	**0.012**
Xylenes (Total)	**0.0050**	**0.065**
Chromatogram Pattern:		
Weathered Gas		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	73
4-Bromofluorobenzene	60	140	82

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW3-6	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/02/98
Attention: Barbara Sieminski	Lab Number: 9801D82-07	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90
4-Bromofluorobenzene	60	140	81

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW3-11	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/02/98
Attention: Barbara Sieminski	Lab Number: 9801D82-08	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91
4-Bromofluorobenzene	60	140	80

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite J	Sample Descript: MW3-16	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/27/98
	Analysis Method: 8015Mod/8020	Analyzed: 02/02/98
Attention: Barbara Sieminski	Lab Number: 9801D82-09	Reported: 02/05/98

QC Batch Number: GC012798BTEXEXC
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	96
4-Bromofluorobenzene	60	140	92

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-3322, Oakland	
6747 Sierra Court, Ste J	Matrix:	Solid	
Dublin, CA 94568			
Attention: Barbara Sieminski	Work Order #:	9801D82 -01-09	Reported: Feb 9, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC012798BTEXEXC	GC012798BTEXEXC	GC012798BTEXEXC	GC012798BTEXEXC	GC012798BTEXEXC
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9801D8201	9801D8201	9801D8201	9801D8201	9801D8201
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/27/98	1/27/98	1/27/98	1/27/98	1/27/98
Analyzed Date:	1/28/98	1/28/98	1/28/98	1/28/98	1/28/98
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.18	0.18	0.19	0.59	1.1
MS % Recovery:	90	90	95	98	92
Dup. Result:	0.19	0.19	0.20	0.59	1.2
MSD % Recov.:	95	95	100	98	100
RPD:	5.4	5.4	5.1	0.0	8.7
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK012798	BLK012798	BLK012798	BLK012798	BLK012798
Prepared Date:	1/27/98	1/27/98	1/27/98	1/27/98	1/27/98
Analyzed Date:	1/28/98	1/28/98	1/28/98	1/28/98	1/28/98
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.19	0.19	0.20	0.59	1.2
LCS % Recov.:	95	95	100	98	100
MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130	70-130
Control Limits					

SEQUOIA ANALYTICAL

Mike Gregory
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.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

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

Client Proj. ID: Chevron 9-3322, Oakland
Lab Proj. ID: 9801D82

Received: 01/23/98
Reported: 02/05/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 13 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPGBMS: Sample #3 had low surrogate recovery due to dilution.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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 Ave, Oakland
Consultant Project Number 6433.01
Consultant Name Getler-Ryan Inc.
Address 6747 Sierra Ct, Ste J, Dublin, CA 94568
Project Contact (Name) Barbara Sieminski
(Phone) (510) 551-7555 (Fax Number) (510) 551-7888

Chevron Contact (Name) Phil Briggs
(Phone): (510) 842-9136
Laboratory Name Sequoia
Laboratory Release Number 9098256 ZZ02760
Samples Collected by (Name) Barbara Sieminski
Collection Date 01/22/98
Signature B Sieminski

Analyses To Be Performed 9801052

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	Lead (Yes or No)	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
MW1-6		1	S	D	9:45	1	Yes	X												
MW1-11		1			9:50	2		X												
MW1-15		1			10:05	3		X												
MW1-21		1			10:10															
MW1-25		1			10:25															
MW1-26		1			10:35															
MW1-31		1			10:50															
MW1-36		1			11:00															
MW2-6		1			14:15	4		X												
MW2-11		1			14:25	5		X												
MW2-15		1			14:30	6		X												
MW2-21		1			14:35															
MW2-26		1			15:00															
MW2-31		1	↓	↓	15:10		↓													

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Barbara Sieminski	G-R	01/23/98	Stacie Tan	SEQ.	1/23/98
Stacie Tan	SEQ	1/23/98	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					1/27/98

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

5 23 4 07

V-07

COC-3.DWG/03 91/HCH

Fax copy of Lab Report and COC to Chevron Contact. E-mail 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, Oakland
Consultant Project Number: 6433.01
Consultant Name: Getter-Ryan, Inc.
Address: 6747 Sierra Ct, Ste J, Dublin, CA 94568
Project Contact (Name): Barbara Sieminski
(Phone) (510) 551-7555 (Fax Number) (510) 551-7888

Chevron Contact (Name): Phil Briggs
(Phone) (510) 842-9136
Laboratory Name: Sequoia
Laboratory Release Number: 9098256 ZZ02760
Samples Collected by (Name): Barbara Sieminski
Collection Date: 01/22/98
Signature: Sieminski

Analyses To Be Performed 9801082

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)	BTEX + TPH GAS (8020 + 8015) / 4 TBE	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
MW3-6		1	S	D	12:30	7	Yes	X													
MW3-11		1			12:35	8		X													
MW3-16		1			12:40	9		X													
MW3-20		1			12:45																
MW3-25		1			12:55																
MW3-26		1			12:55																
MW3-31		1			13:10																
MW3-34		1	↓	↓	13:20		↓														

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Barbara Sieminski	G-R	01/23/98	Steve Ten	SEQ	1/23/98
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Steve Ten	SEQ	1/23/98			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					1/23/98 16:07

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

5 23 4 07

COC-3.DWG/03 91/MCH

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 01/22/98
6747 Sierra Court Suite G	Sample Descript: SP- (A-D)comp	Received: 01/23/98
Dublin, CA 94568	Matrix: SOLID	Extracted: 01/26/98
	Analysis Method: 8015Mod/8020	Analyzed: 01/26/98
Attention: Barbara Sieminski	Lab Number: 9801C84-01	Reported: 01/27/98

QC Batch Number: GC012398BTEXEXA
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**10**	**120**
Benzene	**0.050**	**0.33**
Toluene	**0.050**	**0.29**
Ethyl Benzene	**0.050**	**1.0**
Xylenes (Total)	**0.050**	**6.0**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	79
4-Bromofluorobenzene	60	140	13 Q

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Received: 01/23/98
6747 Sierra Court Suite G		
Dublin, CA 94568	Lab Proj. ID: 9801C84	Reported: 01/27/98
Attention: Barbara Sieminski		

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 4 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPHGBS: Sample had low surrogate recovery due to dilution.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Sequoia Analytical

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron 9-3322, Oakland
Matrix: Solid
Work Order #: 9801C84 -01
Reported: Jan 28, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC012398BTEXEXA	GC012398BTEXEXA	GC012398BTEXEXA	GC012398BTEXEXA	GC012398BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9801A8820	9801A8820	9801A8820	9801A8820	9801A8820
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	1/23/98	1/23/98	1/23/98	1/23/98	1/23/98
Analyzed Date:	1/23/98	1/23/98	1/23/98	1/23/98	1/23/98
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.20	0.20	0.21	0.62	1.2
MS % Recovery:	100	100	105	103	100
Dup. Result:	0.20	0.20	0.21	0.62	1.2
MSD % Recov.:	100	85	105	103	100
RPD:	0.0	0.0	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK012398	BLK012398	BLK012398	BLK012398	BLK012398
Prepared Date:	1/23/98	1/23/98	1/23/98	1/23/98	1/23/98
Analyzed Date:	1/23/98	1/23/98	1/23/98	1/23/98	1/23/98
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.16	0.16	0.17	0.49	1.0
LCS % Recov.:	80	80	85	82	83
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Mike Gregory
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.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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 Bankcroft Ave, Oakland
Consultant Project Number: 6433.01
Consultant Name: Getter-Ryan Inc.
Address: 6747 Sierra Ct, Ste J, Dublin, CA 94568
Project Contact (Name): Barbara Sieminski
(Phone) (510)551-7555 (Fax Number) (510)551-7888

Chevron Contact (Name): Phil Briggs
(Phone) (510)842-9136
Laboratory Name: Sequoia
Laboratory Release Number: 9098256 ZZ02760
Samples Collected by (Name): Barbara Sieminski
Collection Date: 01/22/98
Signature: B Sieminski

Analyses To Be Performed: 8010/8240

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)	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	1	S	G	16:00		Yes	X								
SP-B		1			16:02			X								Fax results
SP-C		1			16:04			X								to IWM
SP-D		1			16:06			X								& GR
Composite																

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Barbara Sieminski	G-R	01/23/98	STAS TA	SEQ	1/23/98
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
STAS TA	SEQ	1/23/98			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					1/23/98

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

JA 23 4 07

...DWG/03 91/MCH

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 02/08/98
6747 Sierra Court Suite J	Sample Descript: TB-LB	Received: 02/10/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/19/98
Attention: Barbara Sieminski	Lab Number: 9802502-01	Reported: 02/25/98

QC Batch Number: GC021998802007A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 02/08/98
6747 Sierra Court Suite J	Sample Descript: MW-3	Received: 02/10/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/19/98
Attention: Barbara Sieminski	Lab Number: 9802502-02	Reported: 02/25/98

QC Batch Number: GC021998802007A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**5000**	**94000**
Methyl t-Butyl Ether	**250**	**8000**
Benzene	**50**	**12000**
Toluene	**50**	**4400**
Ethyl Benzene	**50**	**2000**
Xylenes (Total)	**50**	**10000**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	100

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 02/08/98
6747 Sierra Court Suite J	Sample Descript: MW-2	Received: 02/10/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/19/98
Attention: Barbara Sieminski	Lab Number: 9802502-03	Reported: 02/25/98

QC Batch Number: GC021998802007A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**500**	**24000**
Methyl t-Butyl Ether	**25**	**2300**
Benzene	**5.0**	**130**
Toluene	**5.0**	**170**
Ethyl Benzene	**5.0**	**450**
Xylenes (Total)	**5.0**	**1900**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	126

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (650) 364-9600, FAX (650) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-3322, Oakland	Sampled: 02/08/98
6747 Sierra Court Suite J	Sample Descript: MW-1	Received: 02/10/98
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 02/20/98
Attention: Barbara Sieminski	Lab Number: 9802502-04	Reported: 02/25/98

QC Batch Number: GC022098802007A
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**5000**	**130000**
Methyl t-Butyl Ether	250	N.D.
Benzene	**50**	**9700**
Toluene	**50**	**8200**
Ethyl Benzene	**50**	**3200**
Xylenes (Total)	**50**	**15000**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	107

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

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Mike Gregory
Project Manager

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

Client Proj. ID: Chevron 9-3322, Oakland
Lab Proj. ID: 9802502

Received: 02/10/98
Reported: 02/25/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 8 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

TPGBMW: Sample 9802502-02 was diluted 100-fold.
Sample 9802502-03 was diluted 10-fold.
Sample 9802502-04 was diluted 100-fold.

SEQUOIA ANALYTICAL

Mike Gregory
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: 9-3322
Facility Address: 7225 Bancroft Oakland.
Consultant Project Number: 6433.01
Consultant Name: Geotrkr Ryan Inc
Address: 6747 Sierra Ct Suite J Dublin CA 94568
Project Contact (Name): Barbara Sieminski
(Phone): 510 551-7555 (Fax Number): 510 551-7888

Chevron Contact (Name): Phil Briggs
(Phone): 510-842-9136
Laboratory Name: SBC
Laboratory Release Number: 9098256 2202760
Samples Collected by (Name): F. Cline
Collection Date: 2-8-98
Signature:

Analyses To Be Performed 9802502

DO NOT BILL TB-LB Analysis

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)	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	1	2	W	TB	—	Ice	Y	X												
MW-3	2	3		G	1134			X												
MW-2	3				1236			X												
MW-1	4				1316			X												

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	GR	2-10-98 0745	D. Harding	GR	2/10/98
D. Harding	GR	2/10/98	[illegible]	Sequoia	2/10 10:00
[illegible]	Sequoia	2/10	Received For Laboratory By (Signature)		Date/Time 2/10/98 12:24

Turn Around Time (Circle Choice)
24 Hrs. 48 Hrs. 5 Days 10 Days As Contracted
E 10 12 24

COC-3.DWG/03 91/HCH

Sequoia Analytical

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste J
Dublin, CA 94568
Attention: Barbara Sieminski

Client Project ID: Chevron 9-3322, Oakland
Matrix: Liquid
Work Order #: 9802502-04

Reported: Mar 11, 1998

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC022098802007A	GC022098802007A	GC022098802007A	GC022098802007A	GC022098802007A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	S.L.	S.L.	S.L.	S.L.	S.L.
MS/MSD #:	98020648	98020648	98020648	98020648	-
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	-
Prepared Date:	2/19/98	2/19/98	2/19/98	2/19/98	-
Analyzed Date:	2/19/98	2/19/98	2/19/98	2/19/98	-
Instrument I.D.#:	GC7	GC7	GC7	GC7	-
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	-
Result:	17	17	18	55	-
MS % Recovery:	85	85	90	91	-
Dup. Result:	17	17	18	54	-
MSD % Recov.:	85	85	89	90	-
RPD:	0.0	0.0	1.7	1.8	-
RPD Limit:	0-25	0-25	0-25	0-25	-

LCS #:	LCS022098	LCS022098	LCS022098	LCS022098	LCS022098
Prepared Date:	2/20/98	2/20/98	2/20/98	2/20/98	2/20/98
Analyzed Date:	2/20/98	2/20/98	2/20/98	2/20/98	2/20/98
Instrument I.D.#:	GC7	GC7	GC7	GC7	GC7
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	500 µg/L
LCS Result:	18	18	19	58	478
LCS % Recov.:	90	90	95	96	96
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL
Elap #2142

Mike Gregory
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.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference