Chevron

February 22, 1996

Chevron U.S.A. Products Company
6001 Bollinger Canyon Rd., Bldg. L
P.O. Box 5004
San Ramon, CA 94583-0804

Mark A. Miller
SAR Engineer
Phone No. 510 842-8134
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Phil Briggs
842-9196

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

Re: Chevron Service Station #9-1851
451 Hegenberger Road, Oakland, CA

Dear Mr. Chan:

Enclosed is the Preliminary Site Assessment dated December 29, 1995, prepared by our consultant Gettler-Ryan, Inc. for the above referenced site. Five soil borings were advanced and four were completed as ground water monitor wells (MW-1, MW-2, MW-3, and MW-4). This work was done to characterize subsurface soil and ground water conditions at the site.

Soil samples collected were submitted to Sequoia Analytical (SA) for analysis. Laboratory results indicate that low concentrations of TPH-G, BTEX, TPH-D, TOG, and Chloroform were detected in a sample collected from MW-2. Concentrations of these constituents were below method detection limits for all other samples.

Ground water samples collected were also submitted to SA for analysis. Laboratory results indicate that low concentrations of TPH-G, BTEX, TPH-D, and HVOC's were detected in a sample collected from MW-2. Concentrations of these constituents were below method detection limits for all other samples.

We will instruct our consultant to begin a quarterly monitoring and sampling program to verify dissolved hydrocarbon concentrations observed in ground water and ground water flow direction.

If you have any questions or comments, please feel free to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. S.A. Willer

Mr. Ben Shimek
451 Hegenberger Road
Oakland, CA 94621

GETTLER-RYAN INC.

PRELIMINARY SITE ASSESSMENT

for

Chevron Service Station #9-1851
451 Hegenberger Road
Oakland, California

Project No. 5145.01

Prepared for:

Chevron USA Products Company
P.O. Box 5004
San Ramon, California 94583

Prepared by:

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

Barbara Sieminski
Project Geologist

Stephen J. Carter
Senior Geologist
R.G. #5577

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

December 29, 1995

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EXECUTIVE SUMMARY

Gettler-Ryan Inc. (G-R) presents this report for the initial subsurface investigation at Chevron Service Station #9-1851 located at 451 Hegenberger Road in Oakland, California. Five soil borings were drilled at the site during this investigation and groundwater monitoring wells MW-1 through MW-4 were installed in four of these borings to assess the absence or presence of dissolved hydrocarbons in soil and groundwater and to evaluate the groundwater flow direction and gradient beneath the site.

Soil encountered beneath the site consists predominantly of clay with a thin (two to four feet thick) sandy layer from approximately three to seven feet below ground surface (bgs). Shallow groundwater was encountered at the site at depths of approximately 4.3 to 6 feet below ground surface (bgs). Based on groundwater monitoring data collected during this investigation, groundwater beneath the site flows toward the west at an approximate gradient of 0.01.

Based on the analytical results of soil and groundwater samples collected and analyzed during this investigation, it appears that soil and shallow groundwater at the site has been impacted by petroleum hydrocarbons only in the immediate downgradient (western) vicinity of the waste oil UST. The benzene concentration detected in the groundwater sample collected and analyzed from well MW-2 is above the current California Maximum Contaminant Level of 1.0 ppb.

PRELIMINARY SITE ASSESSMENT

for

Chevron Service Station #9-1851

451 Hegenberger Road

Oakland, California

Project No. 5145.01

1.0 INTRODUCTION

G-R is pleased to present this report documenting the results of the preliminary site assessment performed at the above-referenced location (Figure 1). This investigation was performed to assess subsurface conditions beneath the site. The scope of work included: drilling five on-site soil borings (SB-1 and MW-1 through MW-4) and installing groundwater monitoring wells in four of these borings; collecting soil samples from the borings for chemical analysis; developing wells MW-1 through MW-4; surveying wellhead elevations; monitoring and sampling wells MW-1 through MW-4; arranging for disposal of the waste materials; and preparing a report documenting the work.

2.0 SITE DESCRIPTION

2.1 General

Chevron Station 9-1851 is an operating service station located at the northeastern corner of the intersection of Hegenberger and Edgewater Roads in Oakland, California. Site topography is relatively flat at the elevation of approximately four feet above mean see level. Three gasoline USTs are located in the common pit in the southwestern portion of the site. A methanol UST is located immediately east of the station building and a waste oil UST is located immediately north of the station building. The locations of the USTs and other pertinent site features are shown on Figure 2. It is our understanding that no environmental work has been performed at this site prior to this investigation.

2.2 Geology and Hydrogeology

The subject site is located within the California Coast Ranges. The Coast Ranges have a Franciscan basement composed of graywackes, limestone, shale and radiolarian chert[1]. Locally, the site is generally underlain by silts and clays.

The nearest surface water is the San Leandro Creek, located approximately 1/4 mile west of the site. The San Leandro Bay is located approximately one mile northwest of the site. The direction of groundwater flow in the vicinity of the site is inferred to be toward west, based on the local topography and drainage pattern.

---

[1] Norris, Robert M. and Webb, Robert W., *Geology of California*, John Wiley and Sons, 537 pages.

3.0 FIELD WORK

Field work at the site was conducted in accordance with the G-R Field Methods and Procedures presented in Appendix A, and the Site Safety Plan (dated September 5, 1995). A well installation permit was acquired from the Zone 7 Water Agency prior to drilling at the site. A copy of the permit is included in Appendix B.

3.1 Drilling Activities

On October 11, 1995, G-R personnel observed and documented the drilling of five on-site soil borings (SB-1 and MW-1 through MW-4) by Bay Area Exploration Services, Inc., of Cordelia, California (C57 #522125). Boring locations are shown on Figure 2. Boring SB-1 was drilled to 6.5 feet bgs using a hand auger. Boring MW-1 was drilled to 15.5 feet bgs and borings MW-2 through MW-4 were drilled to 16.5 feet bgs using eight-inch hollow-stem augers driven by a truck-mounted CME-55 drill rig.

Soil samples were collected from the borings at a minimum of five-foot intervals. Soil samples were field screened during drilling for the presence of volatile organic compounds using an organic vapor meter (OVM). OVM readings are presented on the boring logs (Appendix C).

Groundwater monitoring wells were constructed in borings MW-1 through MW-4. The wells were constructed using two-inch diameter, 0.010-inch machine-slotted Schedule 40 PVC screen. A sand pack of #2/12 graded sand was placed across the entire screen interval, extending approximately 1/2 to 1 foot above the top of the screen. Each well was then sealed with 1/2 foot of hydrated bentonite chips followed by neat cement. Soil boring SB-1 was backfilled to ground surface with neat cement after collection of one soil sample at 5.5 feet bgs (just above groundwater). Graphic well construction details are presented on the boring logs in Appendix C.

Drill cuttings were stockpiled on-site, placed on and covered with plastic sheeting. After completion of well installation, four samples for disposal characterization were collected from the stockpiled soil and submitted to the laboratory for compositing and analysis as one sample SP-(A-D)comp. On October 19, 1995, the soil stockpile was removed from the site and transported to BFI Landfill in Livermore by Integrated Waste Management of Milpitas, California.

3.2 Well Development

On October 13, 1995, groundwater monitoring wells MW-1 through MW-4 were developed by G-R personnel using a vented surge block and hand-bailing. The groundwater evacuated during well development activities was transported to the Chevron Refinery in Richmond, California. Copies of Well Development Data Field Sheets are included in Appendix D.

3.3 Wellhead Survey

On November 22, 1995, wells MW-1 through MW-4 were surveyed relative to mean sea level by Virgil Chavez, licensed land surveyor (#6323) of Vallejo, California. The survey report is included in Appendix E and the survey data are summarized in Table 2.

3.4 Groundwater Sampling

On October 17, 1995, G-R personnel measured depth to groundwater levels in wells MW-1 through MW-4, checked the wells for the presence of separate-phase hydrocarbons, and purged and sampled the wells. Groundwater monitoring data are summarized in Table 2. Copies of Well Sampling Field Sheets are included in Appendix F.

3.5 Analytical Program

Soil and groundwater samples collected during this investigation were preserved as required and delivered under chain-of-custody to Sequoia Analytical of Redwood City, California (ELAP #1210). Groundwater samples and selected soil samples from borings were analyzed for total petroleum hydrocarbons as gasoline TPHg and gasoline constituents benzene, toluene, ethylbenzene and total xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8015Mod/8020. In addition soil and groundwater samples from MW-2 were analyzed for total petroleum hydrocarbons as diesel TPHd by EPA 8015Mod, oil and grease (O&G) using Standard Method 5520 E&F Mod. (soil) or 5520 B&FMod (water), and halogenated volatile organic compounds HVOCs using EPA Method 8010. Soil and groundwater samples collected from MW-3 were analyzed for volatile organic compounds (VOCs) using EPA Method 8240 and methanol and methyl ethyl ketone (MEK) using EPA 8015Mod. Soil stockpile sample SP-(A-D)comp was analyzed for TPHg and BTEX using methods described above. Copies of the laboratory analytical reports and chain-of-custody records are included in Appendix G. G-R is not responsible for laboratory omissions or errors.

4.0 RESULTS

4.1 Subsurface Conditions

Soil encountered in borings SB-1 and MW-1 through MW-4 consisted predominantly of clay. A sandy layer approximately two to four feet thick was encountered in all borings between three and seven feet bgs. This sandy layer appears to be laterally continuous across the site. Groundwater was encountered in borings MW-1 through MW-4 at depths of approximately 4.3 to 6 feet bgs. Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix C.

Separate phase hydrocarbons were not present in any of the site wells on October 17, 1995. Using groundwater monitoring data collected on October 17, 1995, G-R has prepared a potentiometric map for the site (Figure 2). Based on these data, shallow groundwater beneath the site appears to flow toward the west at an approximate gradient of 0.01.

4.2 Soil Analytical Results

TPHg and BTEX were not detected at laboratory method detection limits in the soil samples collected and analyzed from borings SB-1, MW-1, MW-3 and MW-4. VOCs, methanol and MEK were not detected in the soil samples collected from boring MW-3. **TPHg (8.4 parts per million [ppm]), ethylbenzene (0.0097 ppm), xylenes (0.025 ppm), TPHd (77 ppm), O&G (2,100 ppm) and chloroform (9.2 ppm) were detected in the soil sample collected and analyzed from boring MW-2 at 5.5 feet bgs.** Benzene, toluene and HVOCs other than chloroform were not detected at laboratory method detection limits in the soil sample from this boring. TPHg were not detected in the composite stockpile sample SP-(A-D)comp, however, benzene (0.044 ppm), toluene (0.064 ppm), ethylbenzene (0.015 ppm) and xylenes (0.058 ppm) were detected in this sample. Soil Chemical analytical data are presented in Table 1.

4.3 Groundwater Analytical Results

TPHd and BTEX were not detected at laboratory method detection limits in the groundwater samples collected from wells MW-1, MW-3 and MW-4. VOCs, methanol and MEK were not detected in the samples collected from well MW-3. The groundwater sample from well MW-2 did contain detectable concentrations of TPHg (170 ppb), benzene (3.5 ppb), ethylbenzene (1.0 ppb), xylenes (6.1 ppb), TPHd (1,600 ppb), 1,1-dichloroethane (1.7 ppb) and cis-1,2-dichloroethene (11 ppb). Toluene, O&G and HVOCs other than the two mentioned above were not detected at laboratory method detection limits in the samples collected from this well. Groundwater chemical analytical data are presented in Table 2.

5.0 CONCLUSIONS

Based on the analytical results of soil and groundwater samples collected and analyzed during this investigation, it appears that soil and shallow groundwater at the site has been impacted by petroleum hydrocarbons only in the immediate downgradient (western) vicinity of the waste oil UST. The benzene concentration detected in the groundwater sample collected and analyzed from well MW-2 is above the current California Maximum Contaminant Level of 1.0 ppb.

Table 1. Soil Analytical Results - Chevron Service Station #9-1851, 451 Hegenberger Road, Oakland, California

Sample ID	Depth (ft)	Date	Analytic Method	TPHg	B	T	E	X	O&G	TPHd	HVOCs	VOCs	Methanol	MEK
				<---				ppm						--->
SB1-5.5	5.5	10/12/95	8015/8020	<1	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---
MW1-4	4.0	10/12/95	0815/8020	<1	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---
MW2-5.5	5.5	10/12/95	8015/8020/ 8010/5520E&F	8.4	<0.005	<0.0050	0.0097	0.025	2,100	77	9.2*	---	---	---
MW3-5	5.0	10/12/95	8015/8020 8240	<1	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	ND	<1.0	<0.20
MW4-5	5.0	10/12/95	8015/8020	<1	<0.0050	<0.0050	<0.0050	<0.0050	---	---	---	---	---	---
SP-(A-D)comp	---	10/12/95	8015/8020	<1	0.044	0.064	0.015	0.058	---	---	---	---	---	---

EXPLANATION:

TPHg = Total Petroleum Hydrocarbons as gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
O&G = Oil and Grease
TPHd = Total Petroleum Hydrocarbons as diesel
HVOCs = Halogenated Volatile Organic Compounds
VOCs = Volatile Organic Compounds
MEK = Methyl ethyl ketone
ppm = Parts per million
--- = Not analyzed/not applicable
[1] = Sequoia indicates the chromatograph pattern is unidentified in the C9-C24 range.
* = Chloroform (other HVOCs were not detected)
ND = 38 compounds analyzed not detected

ANALYTICAL METHODS:

8015 = EPA Method 8015Mod for TPHg, TPHd, methanol and MEK.
8020 = EPA Method 8020 for BTEX
5520E&F = Standard Method 5520E&F for O&G
8010 = EPA Method for HVOCs
8240 = EPA Method for VOCs

ANALYTICAL LABORATORY:

Sequoia Analytical of Redwood City, California.

Sample Identification: MW1-4
- 4 — Sample depth
- 1 — Boring number
- MW — Soil sample from boring

Table 2. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-1851, 451 Hegenberger Road, Oakland, California

Well ID/ TOC (ft)	Date	DTW (ft)	GWE (msl)	Product Thickness*	Analytic Method	TPHg	B	T	E	X	O&G	TPHd	HVOCs	VOCs	Methanol	MEK
						<-------					ppb					------->
MW-1/ 2.61	10/17/95	4.12	-1.51	0	8015/8020	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---
MW-2/ 3.51	10/17/95	5.33	-1.81	0	8015/8020/ 8010/5520B&F	170	3.5	<0.50	1.0	6.1	<5,000	1,600[1]	1.7* 11**	---	---	---
MW-3/ 3.08	10/17/95	4.42	-1.34	0	8015/8020 8240	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	ND	<1000	<200
MW-4/ 3.48	10/17/95	5.08	-1.60	0	8015/8020	<125	<1.2	<1.2	<1.2	<1.2	---	---	---	---	---	---
TB	10/17/95	---	---	---	8015/8020	<50	<0.50	<0.50	<0.50	<0.50	---	---	---	---	---	---

EXPLANATION:

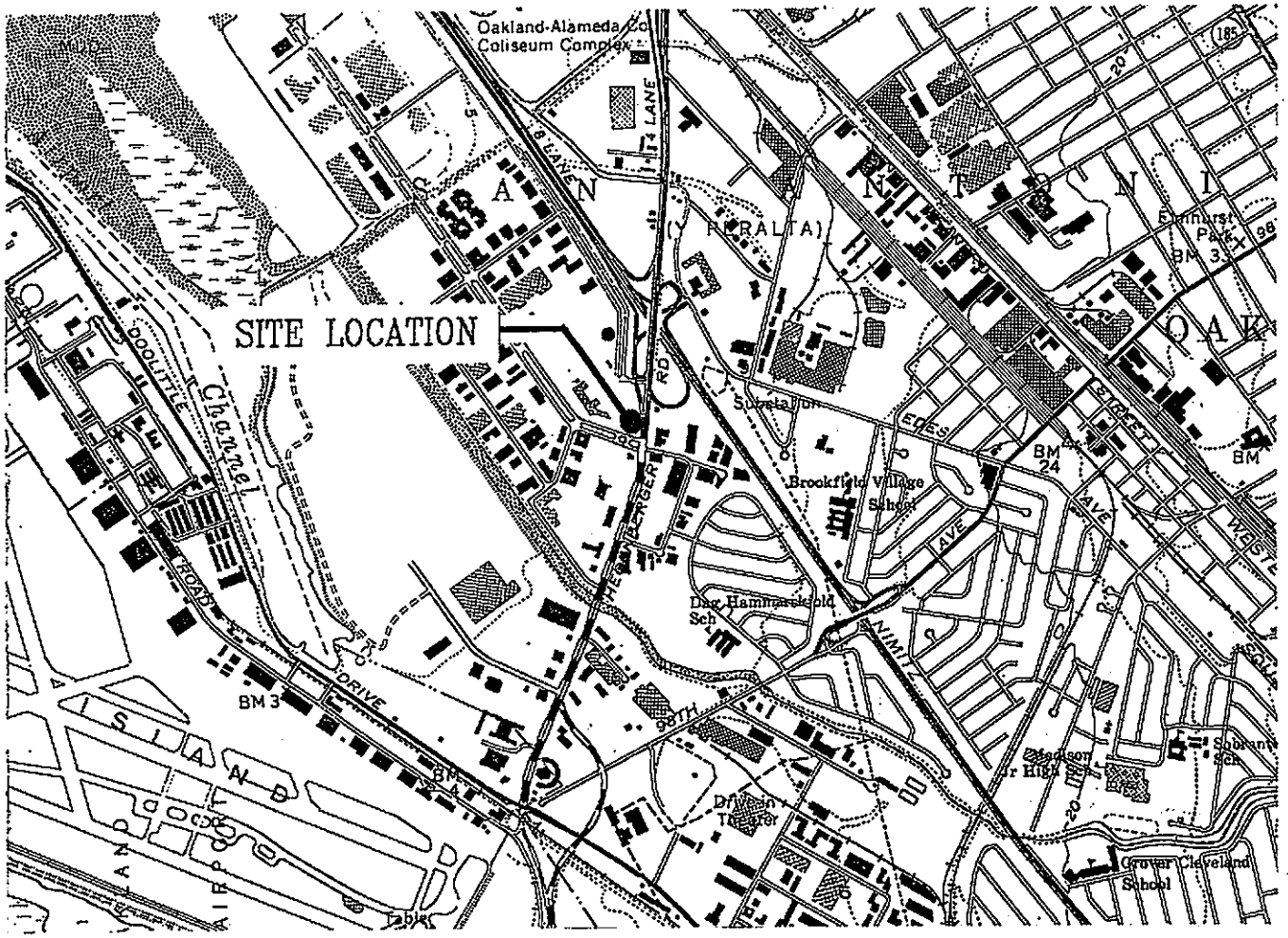
DTW = Depth to water
TOC = Top of casing elevation
GWE = Groundwater elevation
msl = Measurements referenced relative to mean sea level
TPHg = Total Petroleum Hydrocarbons as gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
O&G = Oil and Grease
TPHd = Total Petroleum Hydrocarbons as diesel
HVOCs = Halogenated Volatile Organic Compounds
VOCs = Volatile Organic Compounds
MEK = Methyl ethyl ketone
ppb = Parts per billion
--- = Not analyzed/not applicable
* = 1,1-Dichloroethane
**= cis-1,2-Dichloroethene
ND = 38 compounds analyzed not detected
[1] = Sequoia notes the chromatograph pattern is unidentified in the range of C9-C24.

ANALYTICAL METHODS:

8015 = EPA Method 8015Mod for TPHg, TPHd, methanol and MEK.
8020 = EPA Method 8020 for BTEX
5520B&F = Standard Method 5520B&F for O&G
8010 = EPA Method for HVOCs
8240 = EPA Method for VOCs

NOTES:

Top of casing elevations were surveyed by Virgil Chavez, PLS #6323, on November 22, 1995.



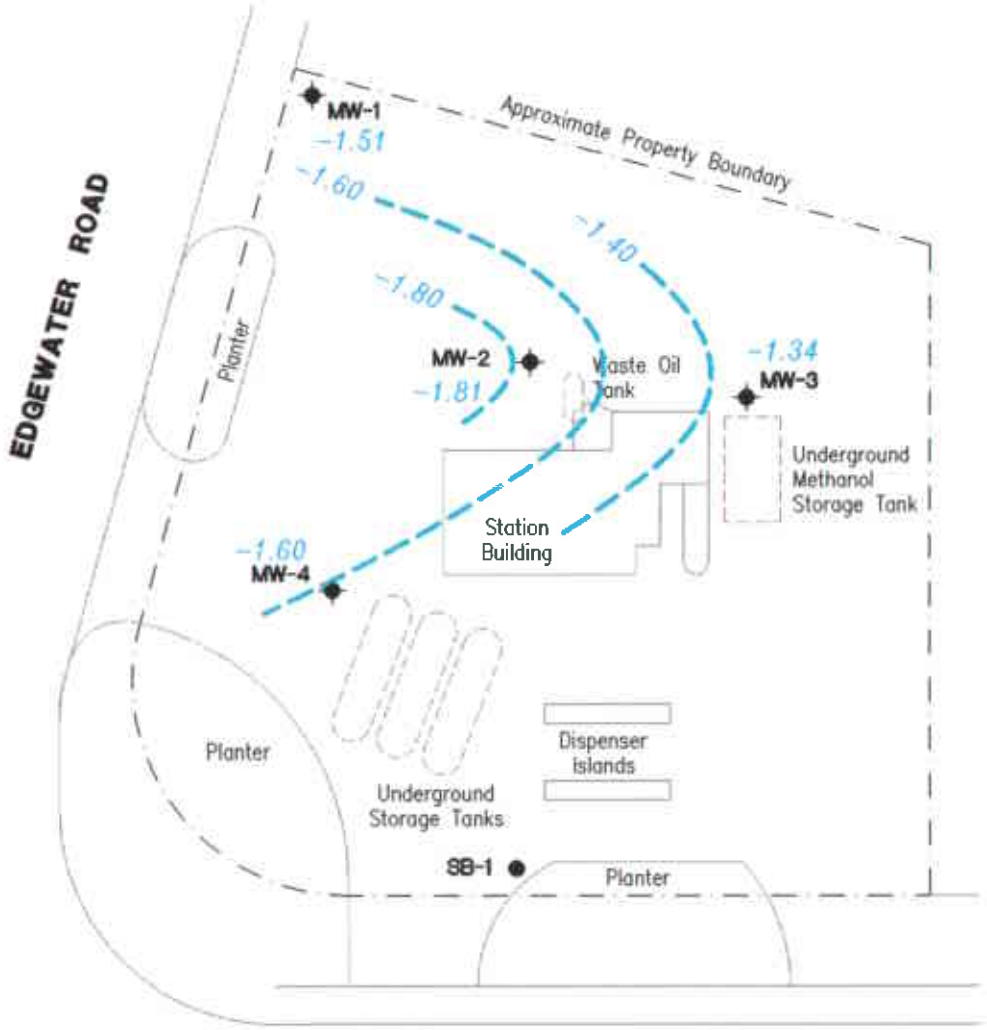
Gettler - Ryan Inc.

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

VICINITY MAP
Chevron Service Station No. 9-1851
451 Hegenberger Road
Oakland, California

FIGURE 1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
5145		September, 1995	



EXPLANATION

- Groundwater monitoring well
- Soil boring
- 99.99 — Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- 99.99 — Groundwater elevation contour, dashed where inferred.

Approximate groundwater flow direction at a gradient of 0.01 Ft./Ft.

N

0 40

Scale in Feet

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

POTENTIOMETRIC MAP
Chevron Service Station No. 9-1851
451 Hegenberger Road
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
5145.01		October 17, 1995	

APPENDIX A

G-R FIELD METHODS AND PROCEDURES

GETTLER - RYAN

FIELD METHODS AND PROCEDURES

Site Safety Plan

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

Collection of Soil Samples

Soil Borings are drilled by a California-licensed well driller. A G-R 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 soil boring with a split-barrel sampling device fitted with 2-inch-diameter, clean brass stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soils are described using the Unified Soil Classification System (ASTM2488-84) 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, capped, labeled, and placed in a cooler and maintained at 4 C for preservation. A chain-of-custody document is initiated in the field and accompanies the selected soil samples to analytical laboratory. Samples are selected for chemical analysis based on:

a. depth relative to underground storage tanks and existing surface
b. depth relative to known or suspected groundwater
c. presence or absence of contaminant 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

An OVM 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 soil from the tip of the sampling device sample or sample liner into a clean glass jar, and immediately covering the jar with aluminum foil secured under a ring-type threaded lid. After approximately twenty minutes, the foil is pierced and the atmosphere within the jar is tested using an OVM. Headspace screening results are recorded on the boring log. Head-space screening procedures are performed and results recorded as reconnaissance data. G-R does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory soil 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 extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

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

Measurement of Water Levels

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

Well Development and Sampling

The purpose of well development is to improve hydraulic communication between the well and the surrounding aquifer. Prior to development, each well is monitored for the presence of separate-phase hydrocarbons and the depth-to-water is recorded. Wells are then developed by alternately surging the well with a 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. Wells are monitored and sampled on a quarterly basis by Chevron's monitoring and sampling contractor.

APPENDIX B

WELL INSTALLATION PERMIT

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT
4/51 HEGENBERGER ROAD
OAKLAND, CA.

CLIENT
Name CHEVRON USA
Address PO BOX 5004 Voice 510/842-8134
City SAN RAMON Zip 94583

APPLICANT
Name GETTLER-RYAN
ATTN: ARGY LEYTON Fax 510/551-7888
Address 6747 SIERRA CT, #J Voice 510/551-7555
City DUBLIN Zip 94568

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	✓	Well Destruction	___
~~Test~~			

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ✓
Cable ___ Other ___

DRILLER'S LICENSE NO. C57 522125

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 30 ft.
Surface Seal Depth 5 ft. Number 4

SOIL BORING
~~GEOTECHNICAL~~ PROJECTS
Number of Borings 1 Maximum
Hole Diameter 8 in. Depth 25 ft.

ESTIMATED STARTING DATE 9/25/95
ESTIMATED COMPLETION DATE 9/27/95

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

APPLICANT'S SIGNATURE [signature] Date 9/5/95

FOR OFFICE USE

PERMIT NUMBER 95615
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 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 WELLS, INCLUDING PIEZOMETERS
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. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. 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.

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

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 20 Sep 95
Wyman Hong

91992

APPENDIX C

BORING LOGS

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

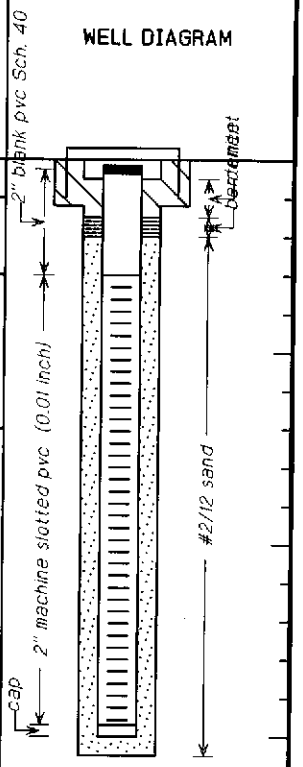
Gettler-Ryan, Inc.

Log of Boring MW-1

PROJECT: *Chevron SS# 9-1851*	LOCATION: *451 Hegenberger Road, Oakland, CA*
G-R PROJECT NO. : *5145.01*	SURFACE ELEVATION: *2.61 feet MSL*
DATE STARTED: *10/11/95*	WL (ft. bgs): *4.3* DATE: *10/11/95* TIME: *14:50*
DATE FINISHED: *10/12/95*	WL (ft. bgs): *4.3* DATE: *10/12/95* TIME: *10:40*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *15.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *B. Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
					PAVEMENT – 3 inches asphalt over baserock.
				CL	SILTY CLAY (CL) – dark greenish gray (5GY 4/1), damp, stiff, medium plasticity; 100% fines.
5	0	2	MW1-4	SW	SAND WITH GRAVEL (SW) – olive brown (2.5Y 4/4), moist, medium dense; 55% fine to coarse sand, 45% fine gravel. Saturated at 4.3 feet.
10	0	5	MW1-11	CH	CLAY (CH) – very dark gray (N3 3/0), saturated, medium stiff, high plasticity; 100% clay; roots.
15	0	10	MW1-15	CL	SILTY CLAY (CL) – light yellowish brown (10YR 6/4) mottled gray (N5/0), moist, stiff, medium plasticity; 95% fines, 5% fine sand.
					Bottom of boring at 15.5 feet, 10/12/95.
20					(* = converted to equivalent standard penetration blows/ft.)
25					
30					
35					

WELL DIAGRAM



JOB NUMBER: *5145.01*

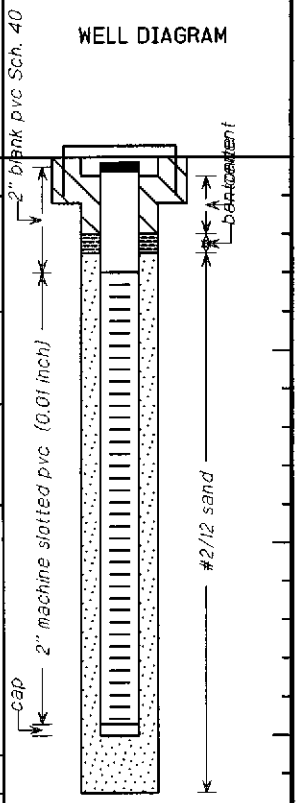
Gettler-Ryan, Inc.

Log of Boring MW-2

PROJECT: *Chevron SS# 9-1851*	LOCATION: *451 Hegenberger Road, Oakland, CA*
G-R PROJECT NO. : *5145.01*	SURFACE ELEVATION: *3.52 feet MSL*
DATE STARTED: *10/11/95*	WL (ft. bgs): *6.0* DATE: *10/11/95* TIME: *11:55*
DATE FINISHED: *10/12/95*	WL (ft. bgs): *6.8* DATE: *10/12/95* TIME: *11:30*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *16.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *B. Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
							PAVEMENT - 3 inches asphalt over baserock.
						ML	CLAYEY SILT WITH GRAVEL (ML) - brown (10YR 5/3), damp, stiff, low plasticity; 80% fines, 20% fine gravel.
5	41	2	MW2-5.5			SW	SAND WITH GRAVEL (SW) - dark gray (5Y 4/1), moist, dense; 50% fine to coarse sand, 45-50% subrounded to well rounded gravel up to 1 inch in diameter, 0-5% fines; hydrocarbon odor.
						CL	Gravel decreases to 35% at 5 feet. Saturated at 6 feet.
10	0	5	MW2-11			CH	CLAY (CL) - olive (5Y 5/3), saturated, soft, medium plasticity; 100% clay; hydrocarbon odor. CLAY (CH) - black (5Y 2.5/1), saturated, medium stiff, high plasticity ; 100% clay; roots.
15	0	5	MW2-16			CL	SILTY CLAY (CL) - dark greenish gray (5G 4/1) mottled dark gray (N 4/1), moist, medium stiff, medium plasticity; 100% fines.
							Bottom of boring at 16.5 feet, 10/11/95.
20							(* = converted to equivalent standard penetration blows/ft.)
25							
30							
35							

WELL DIAGRAM

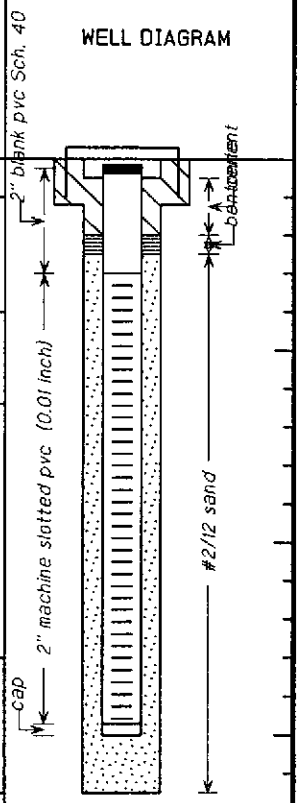


JOB NUMBER: *5145.01*

Gettler-Ryan, Inc.	Log of Boring MW-3
PROJECT: *Chevron SS# 9-1851*	LOCATION: *451 Hegenberger Road, Oakland, CA*
G-R PROJECT NO. : *5145.01*	SURFACE ELEVATION: *3.08 feet MSL*
DATE STARTED: *10/11/95*	WL (ft. bgs): *5.5* DATE: *10/11/95* TIME: *10:45*
DATE FINISHED: *10/11/95*	WL (ft. bgs): *5.1* DATE: *10/11/95* TIME: *11:25*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *16.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *B. Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
						CL	PAVEMENT – 3 inches asphalt over baserock. CLAY (CL) – olive (5Y 4/3) mottled yellowish brown (10YR 5/6), moist, medium stiff, medium plasticity; 100% clay.
5	0	2	MW3-5			SW	SAND WITH GRAVEL (SW) – olive gray (5Y 4/2), moist, very loose; 70% fine to coarse sand, 30% subrounded to well rounded gravel up to 1 inch in diameter.
						CH	Saturated at 5.5 feet. CLAY (OH) – dark gray (5Y 4/2), saturated, soft, high plasticity; 100% clay; roots.
10	0	2	MW3-11				
						CL	SILTY CLAY (CL) – olive (5G 5/3) mottled gray (5Y 5/1), moist to saturated, stiff, medium plasticity; 100% fines; rootholes.
15	0	9	MW3-16				
							Bottom of boring at 16.5 feet, 10/11/95.
20							(* = converted to equivalent standard penetration blows/ft.)
25							
30							
35							

WELL DIAGRAM



JOB NUMBER: *5145.01*

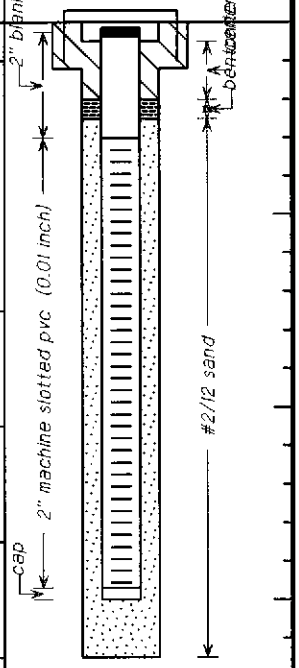
Gettler-Ryan, Inc.

Log of Boring MW-4

PROJECT: *Chevron SS# 9-1851*	LOCATION: *451 Hegenberger Road, Oakland, CA*
G-R PROJECT NO. : *5145.01*	SURFACE ELEVATION: *3.48 feet MSL*
DATE STARTED: *10/11/95*	WL (ft. bgs): *5.5* DATE: *10/11/95* TIME: *14:15*
DATE FINISHED: *10/11/95*	WL (ft. bgs): *5.5* DATE: *10/12/95* TIME: *10:15*
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *16.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *B. Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
					PAVEMENT - 3 inches asphalt over baserock.
				CL	SILTY CLAY (CL) - very dark gray (5y 3/1), moist, soft, medium plasticity; 100% fines.
5	0	2	MW4-5		▽ Saturated at 5.5 feet.
				SM	SILTY SAND (SM) - dark gray (2.5Y 4/1), saturated, very loose; 85% fine sand, 15% silt.
10	0	2	MW4-11	CH	CLAY (OH) - black (5Y 2.5/1), saturated, soft, high plasticity; 100% clay; roots.
				CL	SILTY CLAY (CL) - greenish gray (5G 5/1) mottled dark gray (N4/1), moist to saturated, medium stiff, medium plasticity; 100% fines.
15	0	7	MW4-16		
					Bottom of boring at 16.5 feet, 10/11/95.
20					(* = converted to equivalent standard penetration blows/ft.)
25					
30					
35					

WELL DIAGRAM



JOB NUMBER: *5145.01*

Gettler-Ryan, Inc.

Log of Boring SB-1

PROJECT: *Chevron SS# 9-1851*	LOCATION: *451 Hegenberger Road, Oakland, CA*
G-R PROJECT NO. : *5145.01*	SURFACE ELEVATION: *MSL*
DATE STARTED: *10/12/95*	WL (ft. bgs): *6.0* DATE: *10/12/95* TIME: *12:00*
DATE FINISHED: *10/12/95*	WL (ft. bgs): DATE: TIME:
DRILLING METHOD: *8 in. Hollow Stem Auger*	TOTAL DEPTH: *6.5 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *B. Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	REMARKS
0							PAVEMENT – 4 inches of asphalt over baserock	Boring backfilled with neat cement with 5% bentonite.
						CL	CLAY (CL) – olive (5Y 4/3), moist, stiff, medium plasticity; 100% clay ; roots.	
						CH	CLAY (CH) – black (5Y 2.5/1), moist, soft, high plasticity; 100% clay; roots.	
5	0	N/A	SB-5.5			CL/SC	▽ SILTY CLAY WITH LENSES OF CLAYEY SAND (CL/SC) – dark greenish gray (5 G 1/1), moist, soft, low plasticity; 80% clay, 20% fine sand.	
							Saturated at 6.2 feet.	
10							Bottom of boring at 6.5 feet, 10/12/95.	
15								
20								
25								
30								
35								

JOB NUMBER: *5145.01*

APPENDIX D

WELL DEVELOPMENT AND SAMPLING FIELD DATA SHEETS

WELL DEVELOPMENT DATA

JOB NO. 5145.01 LOCATION Chevron # 9-1857 MW-1

NAME Guadalupe Sanchez 451 Hegenberger Rd Oakland

DATE 10-13-95

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
Start: 1244						✓		* Surged for 15 min
Stop: 1305	4.39	7.1	79.2	4700	✓		2	grey none, grey, silty/sandy
Start: 1307	4.67	7.0	78.1	4400	✓		4	" " "
Stop: 1309	5.31	7.0	77.9	4300	✓		6	" " "
Start: 1311	5.78	6.9	76.8	5100	✓		8	" " "
Stop: 1313	6.10	6.9	74.5	5800	✓		10	" " "
Start: 1315	6.70	6.9	76.1	4900	✓		12	" " "
Stop: 1317	6.68	6.8	76.8	4500	✓		14	" " "
Start: 1319	7.01	6.8	77.1	4300	✓		16	" " "
Stop: 1322	7.10	6.8	77.0	4100	✓		18	" " "

DTW BEFORE DEVELOPMENT 4.19

TOTAL DEPTH BEFORE DEVELOPMENT 14.6

DTW AFTER DEVELOPMENT 7.10

TOTAL DEPTH AFTER DEVELOPMENT 14.7

INITIAL WELL VOLUME:

14.6 (TOTAL DEPTH INITIAL) − (4.19 DTW (INITIAL)) × (.17 CONVERSION FACTOR) = 1.8 (1 WELL VOL)

DEVELOPMENT METHOD

SURGE Block/Stainless Steel Bailer

PURGE Suction

INJECTION

AMT. INJECTED

CONVERSION FACTORS

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

WELL DEVELOPMENT DATA

OB NO. 5145.01

AME Guadalupe Sanches

ATE 10-13-95

LOCATION Chevron #9-1851 MW-2

451 Hegenberger Rd Oakland

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
art: 13:35						✓		* Surged for 15 min
t+f 13:58 op:	9.27	7.1	84.3	15400	✓		2	~~grey~~ none, grey, silty sandy
art: 14:01	13.15	7.0	76.6	14400	✓		4	" " " " * Well dewatered
t+f 1404 op Stop	14.89	6.9	76.0	14000	✓		6	" " " "
art: t+ op:								
art: t+ op								
art: op:								

DTW BEFORE DEVELOPMENT 5.49

TOTAL DEPTH BEFORE DEVELOPMENT 14.8

DTW AFTER DEVELOPMENT 14.89

TOTAL DEPTH AFTER DEVELOPMENT 15.0

ITIAL WELL VOLUME:

14.8 (TAL DEPTH INITIAL) — (5.49) (DTW (INITIAL)) x (.17) (CONVERSION FACTOR) = 1.6 (1 WELL VOL)

DEVELOPMENT METHOD

SURGE Block / Stainless Steel Bailer

PURGE Suction

INJECTION

AMT. INJECTED

CONVERSION FACTORS

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

WELL DEVELOPMENT DATA

JOB NO. 5145.01 LOCATION 457 Hegenberger Rd MW-3

NAME Guadalupe Sanchez Oakland

DATE 10-13-95

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
start: 14:20						✓		* Surged for 15 min
stop: 14:40	7.67	7.6	77.4	7500	✓		2	none, gray, silty/sandy
start: 14:42	10.13	7.3	76.5	6700	✓		4	" " " "
stop: 14:44	11.75	7.3	73.8	6300	✓		6	" " " "
start: 14:47	12.77	7.4	73.5	6100	✓		8	" " " "
stop: 14:50	14.59	7.5	73.8	5800	✓		10	" " " " * Well dewatered
start:								
stop:								
start:								
stop:								

DTW BEFORE DEVELOPMENT 4.39

TOTAL DEPTH BEFORE DEVELOPMENT 14.8

DTW AFTER DEVELOPMENT 14.59

TOTAL DEPTH AFTER DEVELOPMENT 14.8

INITIAL WELL VOLUME:

14.8 (TOTAL DEPTH INITIAL) − 4.39 (DTW (INITIAL)) × (.17) (CONVERSION FACTOR) = 1.8 (1 WELL VOL)

DEVELOPMENT METHOD

SURGE Block / Stainless Steel Bailer

PURGE Suction

INJECTION

AMT. INJECTED

CONVERSION FACTORS

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

WELL DEVELOPMENT DATA

JOB NO. 5145.01 LOCATION Chevron # 9-1857 MW-4

NAME Guadalupe Sanchez 451 Hegenberger Rd Oakland

DATE 10-13-95

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
art: 15:13						✓		* Surged for 15 min
~~start~~ op: 15:36	10.27	6.5	79.5	>19.90 mS	✓		2	~~gray~~ none, grey, silty/sandy
art: 15:39	12.92	6.9	74.5	>19.90 mS	✓		4	" " "
op 15:41	14.75	6.8	74.1	>19.90 mS	✓		6	" " " * well dewatered
art:								
op:								
art:								
op								
art:								
op:								

DTW BEFORE DEVELOPMENT 8.59

TOTAL DEPTH BEFORE DEVELOPMENT 15.2

DTW AFTER DEVELOPMENT 14.75

TOTAL DEPTH AFTER DEVELOPMENT 15.2

DEVELOPMENT METHOD

SURGE Block / Stainless Steel

PURGE Suction

INJECTION

AMT. INJECTED

INITIAL WELL VOLUME:

15. (TOTAL DEPTH INITIAL) — 8.59 (DTW (INITIAL)) x (.17) (CONVERSION FACTOR) = 1.1 (1 WELL VOL)

CONVERSION FACTORS

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

MONITORING WELL

OBSERVATION SUMMARY SHEET

COMPANY Chevron # 9-1851 JOB NO. 5145.01

LOCATION 451 Hegenberger Rd DATE 10-17-95

CITY Oakland TIME

WELL ID	TOTAL WELL DEPTH	DEPTH TO LIQUID	HYDROCARBON THICKNESS	MEASUREMENT POINT TOB or TOC	COMMENTS
MW-1	14.7	4.12	0	TOC	
MW-2	15.0	5.33			
MW-3	14.8	4.42			
MW-4	15.2	5.08			

Comments:

Sampler: G. Sanchez Assistant:

WELL SAMPLING FIELD DATA SHEET

SAMPLER: Guadalupe Sanchez | DATE: 10-17-95

ADDRESS: 451 Hegenberger Rd | JOB #: 5145.01

CITY: Oakland | SS#: 9-1851

Well ID: MW-1 | Well Condition: OK

Well Location Description: At SW corner of property ~ 20' from sidewalk on Edgewat

Well Diameter: 2 in | Hydrocarbon Thickness: ∅

Total Depth: 14.7 ft

Depth to Liquid: 4.12 ft

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

3 # of casing Volume: 10.58 x .17 x(VF) 1.8 #Estimated purge Volume: 5.4 gal.

Purge Equipment: Stack Pump | Sampling Equipment: Disposable Bailer

Did well dewater: No | If yes, Time: ___ | Volume: ___

Starting Time: 1258

Sampling Time: 1306

Purging Flow Rate: 2 gpm.

Time	pH	Conductivity	Temperature	Volume
1259	6.7	3300	75.7	2 gal
1300	6.7	3200	75.1	4
1301	6.8	3000	74.8	6
1306	6.8	3000	74.8	7

Weather Conditions: Sunny

Water Color: brown | Odor: none

Sediment Description: silty

LABORATORY INFORMATION

Sample ID	Container	Refrig	Preservative Type	Lab	Analysis
MW-1	3X40ml	Y	HCl	SEQ	Gas BTEX

Comments: ___

WELL SAMPLING FIELD DATA SHEET

SAMPLER: Guadalupe Sanchez | DATE: 10-17-95

ADDRESS: 451 Hegenberger Rd | JOB #: 5145.01

CITY: Oakland | SS#: 9-1851

Well ID: MW-2 | Well Condition: OK

Well Location Description: next to w/o tank - behind the building

Well Diameter: 2 in | Hydrocarbon Thickness: 0

Total Depth: 15.0 ft

Depth to Liquid: 5.33 ft

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

3 # of casing Volume: 9.67 x .17 x(VF) 1.6 #Estimated purge Volume: 4.9 gal.

Purge Equipment: Stack Pump | Sampling Equipment: Disposable Bailer

Did well dewater: NO | If yes, Time: ___ | Volume: ___

Starting Time: 1324 | Purging Flow Rate: 1.5 gpm.

Sampling Time: 1333

Time	pH	Conductivity	Temperature	Volume
1325	6.9	9000	77.2	1.5 gal
1326	7.0	9900	74.8	3.0
1327	7.1	11200	74.2	4.5
1333	7.1	11400	74.1	5.0

Weather Conditions: Sunny

Water Color: clear | Odor: none

Sediment Description: none

LABORATORY INFORMATION

Sample ID	Container	Refrig	Preservative Type	Lab	Analysis
MW-2	3X40ml	Y	HCl	SEQ	Gas BTEX
	3X40ml		HCl		8010
	2X1L		none		DIESEL
	1X1L		H_2SO_4		O&G

Comments: ___

WELL SAMPLING FIELD DATA SHEET

SAMPLER: Guadalupe Sanchez | DATE: 10-17-95

ADDRESS: 451 Hegenberger Rd | JOB #: 5145.01

CITY: Oakland | SS#: 9-1851

Well ID: MW-3 | Well Condition: OK

Well Location Description: ~~West~~ West corner of Methanol Tank Complex

Well Diameter: 2 in | Hydrocarbon Thickness: 0

Total Depth: 14.8 ft

Depth to Liquid: 4.42 ft

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

3 # of casing Volume: 10.38 x .17 x(VF) 1.8 #Estimated purge Volume: 5.3 gal.

Purge Equipment: Stack Pump | Sampling Equipment: Disposable Bailer

Did well dewater: No | If yes, Time: — | Volume:

Starting Time: 1400 | Purging Flow Rate: 1.5 gpm.

Sampling Time: 1410

Time	pH	Conductivity	Temperature	Volume
1401	6.9	3800	77.5	1.5 gal
1402	7.0	4100	77.9	3.0
1403	7.0	4000	78.1	4.5
1410	7.1	4000	78.0	5.5

Weather Conditions: Sunny

Water Color: clear | Odor: none

Sediment Description: none

LABORATORY INFORMATION

Sample ID	Container	Refrig	Preservative Type	Lab	Analysis
MW-3	3x40 ml	Y	HCl	SEQ	GAS BTEX
	2x40 ml	↓	HCl		8240 w/MEK
	3x40 ml	↓	none		Methanol
					~~Methane~~

Comments:

WELL SAMPLING FIELD DATA SHEET

SAMPLER: Guadalupe Sanchez | DATE: 10-17-95

ADDRESS: 451 Hegenberger Rd | JOB #: 5145.05

CITY: Oakland | SS#: 9-1851

Well ID: MW-4 | Well Condition: OK

Well Location Description: At SW corner of Tank complex ~ 20' from building

Well Diameter: 2 in | Hydrocarbon Thickness: 0

Total Depth: 15.2 ft

Depth to Liquid: 5.08 ft

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

3 # of casing Volume: 10.12 x .17 x(VF) 1.7 #Estimated purge Volume: 5.2 gal.

Purge Equipment: Stack Pump | Sampling Equipment: Disposable Bailer

Did well dewater: No | If yes, Time: ___ | Volume: ___

Starting Time: 1436

Sampling Time: 1445

Purging Flow Rate: 1.5 gpm.

Time	pH	Conductivity	Temperature	Volume
1437	7.0	5300	77.0	1.5 gal
1438	7.1	7100	75.4	3.0
1439	7.2	8200	75.1	5.0
1445	7.2	8400	75.0	5.5

Weather Conditions: sunny

Water Color: clear | Odor: none

Sediment Description: none

LABORATORY INFORMATION

Sample ID	Container	Refrig	Preservative Type	Lab	Analysis
MW-4	3X40ml	Y	HCl	SEQ	Gas BTEX

Comments: ___

APPENDIX E

WELLHEAD SURVEY REPORT

Virgil Chavez Land Surveying
1418 Lassen Street
Vallejo, California 94591
707.553.2476

November 27, 1995
Project No. 1104-28

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

Subject: Monitoring Well Survey
Chevron Service Sta. No. 9-1851
451 Hegenberger Road
Oakland, Ca.

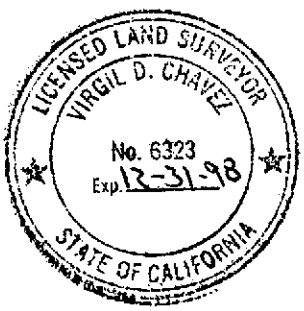
Dear Barbara:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was performed on November 22, 1995. Our findings are shown in the tables below. The benchmark used was the "O" in Oakland on an inlet in the westerly curb of Oakport Road, 150' southerly of the end of curve. Benchmark Elevation = 1.82 feet, USGS Datum.

Well No.	Rim Elevation	TOC Elevation
MW - 1	2.84'	2.61'
MW - 2	3.98'	3.52'
MW - 3	3.59'	3.08'
MW - 4	3.78'	3.48'

The table shown below is for top of casing locations. The back of an existing two foot redwood fence at the approximate easterly property line was used as the reference line.

Monitoring Well No.	Station	Offset
MW - 1	1+82.28	121.78' (Lt.)
MW - 2	1+40.54	94.71' (Lt.)
MW - 3	1+32.06	36.10' (Lt.)
MW - 4	0+93.27	121.74' (Lt.)
Back of curb	0+00	0.00'



Sincerely,

Virgil D. Chavez

Virgil D. Chavez, P.L.S. 6323
Virgil Chavez Land Surveying

APPENDIX F

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY RECORDS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 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
6747 Sierra Court Suite G
Dublin, CA 94568

Attention: Argy Leyton

Client Proj. ID: Chevron 9-1851, Oakland

Lab Proj. ID: 9510A05

Sampled: 10/12/95
Received: 10/13/95
Analyzed: see below

Reported: 11/27/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510A05-02				
Sample Desc : **SOLID,MW-2-5.5**				
TRPH (SM 5520 E&F Mod.)	**mg/Kg**	**10/19/95**	**50**	**2100**

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 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-3-5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/16/95
	Analysis Method: EPA 8240	Analyzed: 10/16/95
Attention: Argy Leyton	Lab Number: 9510A05-01	Reported: 11/27/95

QC Batch Number: MS1013958240EXA
Instrument ID: F3

Volatile Organics (EPA 8240)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acetone	500	N.D.
Benzene	100	N.D.
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
2-Butanone	500	N.D.
Carbon disulfide	100	N.D.
Carbon tetrachloride	100	N.D.
Chlorobenzene	100	N.D.
Chloroethane	100	N.D.
2-Chloroethyl vinyl ether	500	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Dibromochloromethane	100	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethene	100	N.D.
cis-1,2-Dichloroethene	100	N.D.
trans-1,2-Dichloroethene	100	N.D.
1,2-Dichloropropane	100	N.D.
cis-1,3-Dichloropropene	100	N.D.
trans-1,3-Dichloropropene	100	N.D.
Ethylbenzene	100	N.D.
2-Hexanone	500	N.D.
Methylene chloride	250	N.D.
4-Methyl-2-pentanone	500	N.D.
Styrene	100	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethene	100	N.D.
Toluene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
Trichloroethene	100	N.D.
Trichlorofluoromethane	100	N.D.
Vinyl acetate	250	N.D.
Vinyl chloride	100	N.D.

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-3-5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/16/95
	Analysis Method: EPA 8240	Analyzed: 10/16/95
Attention: Argy Leyton	Lab Number: 9510A05-01	Reported: 11/27/95

QC Batch Number: MS1013958240EXA
Instrument ID: F3

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Total Xylenes	100	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	70	121	96
Toluene-d8	81	117	98
4-Bromofluorobenzene	74	121	105

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

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-3-5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/19/95
	Analysis Method: EPA 8015 Mod	Analyzed: 10/19/95
Attention: Argy Leyton	Lab Number: 9510A05-01	Reported: 11/27/95

QC Batch Number: GC101995ISHSHSB
Instrument ID: GCV-01

Industrial Solvents

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Acetone	-	-
Acetonitrile	-	-
Benzene	-	-
iso-Butanol	-	-
n-Butanol	-	-
sec-Butanol	-	-
t-Butanol	-	-
Carbon tetrachloride	-	-
Chloroform	-	-
Cyclohexane	-	-
1,2-Dichloroethane	-	-
t-1,2-Dichloroethene	-	-
Ethanol	-	-
Ethyl acetate	-	-
Ethyl benzene	-	-
Ethyl ether	-	-
Freon 113	-	-
Hexane	-	-
Methanol	1.0	N.D.
Methyl ethyl ketone	0.20	N.D.
Methyl isobutyl ketone	-	-
Methylene chloride	-	-
iso-Octane	-	-
iso-Propanol	-	-
n-Propanol	-	-
n-Propyl benzene	-	-
Tetrachloroethylene	-	-
Tetrahydrofuran	-	-
1,1,1-Trichloroethane	-	-
Trichloroethylene	-	-
Toluene	-	-
m-Xylene	-	-
o-Xylene	-	-
p-Xylene	-	-

Surrogates	Control Limits %		% Recovery
Pentanol RTX 200	31	166	122
Pentanol DBWAX	49	166	121

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

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-3-5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/18/95
	Analysis Method: 8015Mod/8020	Analyzed: 10/18/95
Attention: Argy Leyton	Lab Number: 9510A05-01	Reported: 11/27/95

QC Batch Number: GC101895BTEXEXA
Instrument ID: GCHP06

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	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	76

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

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-2-5.5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/18/95
	Analysis Method: EPA 8010	Analyzed: 10/20/95
Attention: Argy Leyton	Lab Number: 9510A05-02	Reported: 11/27/95

QC Batch Number: GC1018958010EXA
Instrument ID: GCHP9

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Bromodichloromethane	5.0	N.D.
Bromoform	5.0	N.D.
Bromomethane	10	N.D.
Carbon Tetrachloride	5.0	N.D.
Chlorobenzene	5.0	N.D.
Chloroethane	10	N.D.
2-Chloroethylvinyl ether	10	N.D.
Chloroform	**5.0**	**9.2**
Chloromethane	10	N.D.
Dibromochloromethane	5.0	N.D.
1,2-Dichlorobenzene	5.0	N.D.
1,3-Dichlorobenzene	5.0	N.D.
1,4-Dichlorobenzene	5.0	N.D.
1,1-Dichloroethane	5.0	N.D.
1,2-Dichloroethane	5.0	N.D.
1,1-Dichloroethene	5.0	N.D.
cis-1,2-Dichloroethene	5.0	N.D.
trans-1,2-Dichloroethene	5.0	N.D.
1,2-Dichloropropane	5.0	N.D.
cis-1,3-Dichloropropene	5.0	N.D.
trans-1,3-Dichloropropene	5.0	N.D.
Methylene chloride	50	N.D.
1,1,2,2-Tetrachloroethane	5.0	N.D.
Tetrachloroethene	5.0	N.D.
1,1,1-Trichloroethane	5.0	N.D.
1,1,2-Trichloroethane	5.0	N.D.
Trichloroethene	5.0	N.D.
Trichlorofluoromethane	5.0	N.D.
Vinyl chloride	10	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	60	130	91

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-2-5.5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/18/95
	Analysis Method: 8015Mod/8020	Analyzed: 10/18/95
Attention: Argy Leyton	Lab Number: 9510A05-02	Reported: 11/27/95

QC Batch Number: GC101895BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1.0**	**8.4**
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	**0.0050**	**0.0097**
Xylenes (Total)	**0.0050**	**0.025**
Chromatogram Pattern:		
Weathered Gas		**C8-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

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

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-2-5.5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/16/95
	Analysis Method: EPA 8015 Mod	Analyzed: 10/18/95
Attention: Argy Leyton	Lab Number: 9510A05-02	Reported: 11/27/95

QC Batch Number: GC1014950HBPEXA
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TEPH as Diesel	**10**	**77**
Chromatogram Pattern:	**C9-C24**	**UNIDENTIF**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	Q

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-4-5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/18/95
	Analysis Method: 8015Mod/8020	Analyzed: 10/18/95
Attention: Argy Leyton	Lab Number: 9510A05-03	Reported: 11/27/95

QC Batch Number: GC101895BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	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	89

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: MW-1-4	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/18/95
	Analysis Method: 8015Mod/8020	Analyzed: 10/18/95
Attention: Argy Leyton	Lab Number: 9510A05-04	Reported: 11/27/95

QC Batch Number: GC101895BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	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

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 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: SB1-5.5	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/18/95
	Analysis Method: 8015Mod/8020	Analyzed: 10/18/95
Attention: Argy Leyton	Lab Number: 9510A05-05	Reported: 11/27/95

QC Batch Number: GC101895BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	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	86

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

SEQUOIA ANALYTICAL - ELAP #1210

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Project Manager

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Gettler Ryan/Geostrategies
6747 Sierra Court Suite G
Dublin, CA 94568
Attention: Argy Leyton

Client Proj. ID: Chevron 9-1851, Oakland
Lab Proj. ID: 9510A05

Received: 10/13/95
Reported: 11/27/95

LABORATORY NARRATIVE

DIESEL: Surrogate is diluted out.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, Oakland	
6747 Sierra Court, Ste J	Matrix:	Solid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510A05 -01 - 05	Reported: Oct 23, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC101895BTEXEXA	GC101895BTEXEXA	GC101895BTEXEXA	GC101895BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	9510709-27	9510709-27	9510709-27	9510709-27
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/18/95	10/18/95	10/18/95	10/18/95
Analyzed Date:	10/18/95	10/18/95	10/18/95	10/18/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
Result:	0.17	0.17	0.18	0.53
MS % Recovery:	85	85	90	88
Dup. Result:	0.17	0.17	0.18	0.52
MSD % Recov.:	85	85	85	87
RPD:	0.0	0.0	5.7	1.9
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				

MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140

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

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste J
Dublin, CA 94568
Attention: Argy Leyton

Client Project ID: Chevron 9-1851, Oakland
Matrix: Solid
Work Order #: 9510A05 -01

Reported: Oct 23, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Acetone	MIBK	Tetra Hydrofuran	1,1,1-TCA
QC Batch#:	GC101995ISHSHSB	GC101995ISHSHSB	GC101995ISHSHSB	GC101995ISHSHSB
Analy. Method:	ISHS	ISHS	ISHS	ISHS
Prep. Method:	HS	HS	HS	HS
Analyst:	T. Tran	T. Tran	T. Tran	T. Tran
MS/MSD #:	9510A05-01	9510A05-01	9510A05-01	9510A05-01
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/19/95	10/19/95	10/19/95	10/19/95
Analyzed Date:	10/19/95	10/19/95	10/19/95	10/19/95
Instrument I.D.#:	GCV1	GCV1	GCV1	GCV1
Conc. Spiked:	4.0 mg/kg	1.0 mg/kg	2.0 mg/kg	1.0 mg/kg
Result:	5.3	1.2	2.6	0.77
MS % Recovery:	133	120	130	77
Dup. Result:	5.0	1.1	2.5	0.70
MSD % Recov.:	125	110	125	70
RPD:	5.8	8.7	3.9	9.5
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	ISBLK101995/SPK	ISBLK101995/SPK	ISBLK101995/SPK	ISBLK101995/SPK
Prepared Date:	10/19/95	10/19/95	10/19/95	10/19/95
Analyzed Date:	10/19/95	10/19/95	10/19/95	10/19/95
Instrument I.D.#:	GCV1	GCV1	GCV1	GCV1
Conc. Spiked:	4.0 mg/kg	1.0 mg/kg	2.0 mg/kg	1.0 mg/kg
LCS Result:	4.2	1.0	2.1	0.93
LCS % Recov.:	105	100	105	93
MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150

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

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, Oakland	
6747 Sierra Court, Ste J	Matrix:	Solid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510A05 -01	Reported: Oct 23, 1995

QUALITY CONTROL DATA REPORT

Analyte:	TCE	p-Xylene
QC Batch#:	GC101995ISHSHSB	GC101995ISHSHSB
Analy. Method:	ISHS	ISHS
Prep. Method:	HS	HS
Analyst:	T. Tran	T. Tran
MS/MSD #:	9510A05-01	9510A05-01
Sample Conc.:	N.D.	N.D.
Prepared Date:	10/19/95	10/19/95
Analyzed Date:	10/19/95	10/19/95
Instrument I.D.#:	GCV1	GCV1
Conc. Spiked:	1.0 mg/kg	0.20 mg/kg
Result:	0.66	0.080
MS % Recovery:	66	40
Dup. Result:	0.60	0.080
MSD % Recov.:	60	40
RPD:	9.5	0.0
RPD Limit:	0-50	0-50

LCS #:	ISBLK101995/SPK	ISBLK101995/SPK
Prepared Date:	10/19/95	10/19/95
Analyzed Date:	10/19/95	10/19/95
Instrument I.D.#:	GCV1	GCV1
Conc. Spiked:	1.0 mg/kg	mg/kg
LCS Result:	0.97	0.20
LCS % Recov.:	97	100

MS/MSD LCS Control Limits	50-150	50-150

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, Oakland	
6747 Sierra Court, Ste J	Matrix:	Solid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510A05 -01	Reported: Oct 23, 1995

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS1013958240EXA	MS1013958240EXA	MS1013958240EXA	MS1013958240EXA	MS1013958240EXA
Analy. Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Prep. Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Analyst:	L. Duong	L. Duong	L. Duong	L. Duong	L. Duong
MS/MSD #:	9510889-01	9510889-01	9510889-01	9510889-01	9510889-01
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/13/95	10/13/95	10/13/95	10/13/95	10/13/95
Analyzed Date:	10/13/95	10/13/95	10/13/95	10/13/95	10/13/95
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	2500 ug/kg	2500 ug/kg	2500 ug/kg	2500 ug/kg	2500 ug/kg
Result:	1700	2100	2200	2200	2100
MS % Recovery:	68	84	88	88	84
Dup. Result:	1900	2200	2300	2400	2300
MSD % Recov.:	76	88	92	96	92
RPD:	11	4.6	4.4	8.7	9.1
RPD Limit:	0-50	0-50	0-50	0-50	0-50

LCS #:	
Prepared Date:	
Analyzed Date:	
Instrument I.D.#:	
Conc. Spiked:	
LCS Result:	
LCS % Recov.:	

MS/MSD LCS Control Limits	DL-234	71-157	37-151	47-150	37-160

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste J
Dublin, CA 94568
Attention: Argy Leyton

Client Project ID: Chevron 9-1851, Oakland
Matrix: Solid
Work Order #: 9510A05 -02

Reported: Oct 23, 1995

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
QC Batch#:	GC1018958010EXA	GC1018958010EXA	GC1018958010EXA
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Nelson	D. Nelson	D. Nelson
MS/MSD #:	9510B76-01	9510B76-01	9510B76-01
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	10/18/95	10/18/95	10/18/95
Analyzed Date:	10/19/95	10/19/95	10/19/95
Instrument I.D.#:	GCHP9	GCHP9	GCHP9
Conc. Spiked:	25 ug/kg	25 ug/kg	25 ug/kg
Result:	22	28	23
MS % Recovery:	88	112	92
Dup. Result:	19	36	34
MSD % Recov.:	76	144	136
RPD:	15	25	39
RPD Limit:	0-50	0-50	0-50

LCS #:	VBLK101895BS	VBLK101895BS	VBLK101895BS
Prepared Date:	10/18/95	10/18/95	10/18/95
Analyzed Date:	10/19/95	10/19/95	10/19/95
Instrument I.D.#:	GCHP9	GCHP9	GCHP9
Conc. Spiked:	25 ug/kg	25 ug/kg	25 ug/kg
LCS Result:	21	30	24
LCS % Recov.:	84	120	96

MS/MSD LCS Control Limits	28-167	35-146	38-150

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, Oakland	
6747 Sierra Court, Ste J	Matrix:	Solid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510A05 -02	Reported: Oct 23, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Pet. Hydrocarbons	Diesel
QC Batch#:	OP101695SM5520EXA	GC101495OHBPEXA
Analy. Method:	SM 5520 EF Mod	EPA 8015 M
Prep. Method:	EPA 3550	EPA 3550
Analyst:	C. Garde	B. Ali
MS/MSD #:	9510967-11	9510854-01
Sample Conc.:	N.D.	1.5
Prepared Date:	10/16/95	10/14/95
Analyzed Date:	10/17/95	10/15/95
Instrument I.D.#:	MANUAL	GCHP4A
Conc. Spiked:	500 mg/kg	25 mg/kg
Result:	570	23
MS % Recovery:	114	86
Dup. Result:	580	24
MSD % Recov.:	116	90
RPD:	1.7	1.1
RPD Limit:	0-50	0-50

LCS #:	BLK101695	BLK101495
Prepared Date:	10/16/95	10/14/95
Analyzed Date:	10/17/95	10/15/95
Instrument I.D.#:	MANUAL	GCHP4A
Conc. Spiked:	500 mg/kg	25 mg/kg
LCS Result:	440	24
LCS % Recov.:	88	96

MS/MSD	60-140	
LCS	70-110	38-122
Control Limits		

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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

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 9-1851
Facility Address 451 Hegenberger Rd, Oakland, CA
Consultant Project Number 5145.01
Consultant Name Gettler-Ryan
Address 6747 Sierra Ct, Suite J, Dublin, CA 94568
Project Contact (Name) Angy Leyton
(Phone) (510) 551-7555 (Fax Number) (510) 551-7888

Chevron Contact (Name) Mark Miller
(Phone) (510) 842-8134
Laboratory Name Sequoia
Laboratory Release Number 3741480
Samples Collected by (Name) Barbara Sieminski
Collection Date 10/11-12/95
Signature Barbara Sieminski

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	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)	Methanol	Ketone	Methane			Remarks
								Analyses To Be Performed													
MW3-5		1	S	G	10:40		Yes	X					X			X	X	X			1
MW3-11		1			10:50																HOLD
MW3-16		1			11:00																↓
MW2-5.5		1			11:50			X	X	X	X										2
MW2-11		1			12:00																HOLD
MW2-16		1			12:10																↓
MW4-5		1			14:10			X													3
MW4-11		1			14:20																HOLD
MW4-16		1			14:25																↓
MW1-4		1			14:50			X													4
MW1-11		1			10:40																HOLD
MW1-15		1	↓	↓	10:45		↓														↓
SB1-5.5		1	↓	↓	12:00		↓	X													5

9510 A05

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Barbara Sieminski	G-R	10/13/95 2:15	[signature]	Sequoia	10/13/95 2:26
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
[signature]	Sequoia	10/13/95 3:40			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Tony Mangubat		10/13/95 15:52

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

Sequoia Analytical

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, Oakland	Sampled: 10/12/95
6747 Sierra Court Suite G	Sample Descript: SP-(A-D)Comp	Received: 10/13/95
Dublin, CA 94568	Matrix: SOLID	Extracted: 10/16/95
	Analysis Method: 8015Mod/8020	Analyzed: 10/16/95
Attention: Argy Leyton	Lab Number: 9510979-01	Reported: 10/17/95

QC Batch Number: GC101695BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	**0.0050**	**0.044**
Toluene	**0.0050**	**0.064**
Ethyl Benzene	**0.0050**	**0.015**
Xylenes (Total)	**0.0050**	**0.058**
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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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, Oakland	
6747 Sierra Court, Ste J	Matrix:	Solid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510979 01	Reported: Oct 17, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC101695BTEXEXA	GC101695BTEXEXA	GC101695BTEXEXA	GC101695BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	951070906	951070906	951070906	951070906
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/16/95	10/16/95	10/16/95	10/16/95
Analyzed Date:	10/16/95	10/16/95	10/16/95	10/16/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.16	0.16	0.16	0.50
MS % Recovery:	80	80	80	83
Dup. Result:	0.16	0.16	0.16	0.49
MSD % Recov.:	80	80	80	82
RPD:	0.0	0.0	0.0	2.0
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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

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

Chain-of-Custody-Record

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Chevron Facility Number 9-1851
Facility Address 451 Hegenberger Rd, Oakland, CA
Consultant Project Number 5145.01
Consultant Name Gettler-Ryan
Address 6747 Sierra Ct, Suite J, Dublin, CA 94568
Project Contact (Name) Argy Leyton
(Phone) (510) 551-7555 (Fax Number) (510) 551-7888

Chevron Contact (Name) Mark Miller
(Phone) (510) 842-8134
Laboratory Name Sequoia
Laboratory Release Number 3741480
Samples Collected by (Name) Barbara Sieminski
Collection Date 10/12/95
Signature Barbara Sieminski

9510979

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 (composite)		1	S	G	12:15	01 A	Yes	X								Fax results to IWM Attn: Steve Shannon (408) 942-1499 Composite Sample
SP-B		1			12:17	B		X								
SP-C		1			12:19	C		X								
SP-D		1			12:21	D		X								

OCT 13 3

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Barbara Sieminski	G-R	10/13/95 2:25		Sequoia	10/13/95 2:25
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	Sequoia	10/13/95 3:40			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Tony Mendez		10/13/95 17:52

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

Sequoia Analytical

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

Attention: Argy Leyton

Client Proj. ID: Chevron 9-1851, 451 Hegenberg

Lab Proj. ID: 9510E35

Sampled: 10/17/95
Received: 10/19/95
Analyzed: see below

Reported: 11/27/95

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9510E35-03				
Sample Desc : **LIQUID,MW2**				
TRPH (SM 5520 B&F Mod)	mg/L	10/27/95	5.0	N.D.

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 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: TB	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/21/95
Attention: Argy Leyton	Lab Number: 9510E35-01	Reported: 11/27/95

QC Batch Number: GC102095BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	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	71

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 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW1	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/21/95
Attention: Argy Leyton	Lab Number: 9510E35-02	Reported: 11/27/95

QC Batch Number: GC102095BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	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	79

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 G
Dublin, CA 94568

Attention: Argy Leyton

Client Proj. ID: Chevron 9-1851, 451 Hegenberg
Sample Descript: MW2
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9510E35-03

Sampled: 10/17/95
Received: 10/19/95

Analyzed: 10/23/95
Reported: 11/27/95

QC Batch Number: GC102395BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50**	**170**
Benzene	**0.50**	**3.5**
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**1.0**
Xylenes (Total)	**0.50**	**6.1**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	74

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 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW2	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	Extracted: 10/23/95
	Analysis Method: EPA 8015 Mod	Analyzed: 10/25/95
Attention: Argy Leyton	Lab Number: 9510E35-03	Reported: 11/27/95

QC Batch Number: GC1023950HBPEXZ
Instrument ID: GCHP4A

Total Extractable Petroleum Hydrocarbons (TEPH)

Analyte	Detection Limit ug/L	Sample Results ug/L
TEPH as Diesel	**100**	**1600**
Chromatogram Pattern:	**C9-C24**	**UNIDENTIF**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	87

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 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW2	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: EPA 8010	Analyzed: 10/24/95
Attention: Argy Leyton	Lab Number: 9510E35-03	Reported: 11/27/95

QC Batch Number: GC102395801008A
Instrument ID: GCHP8

Halogenated Volatile Organics (EPA 8010)

Analyte	Detection Limit ug/L	Sample Results ug/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon Tetrachloride	0.50	N.D.
Chlorobenzene	0.50	N.D.
Chloroethane	1.0	N.D.
2-Chloroethylvinyl ether	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,1-Dichloroethane	**0.50**	**1.7**
1,2-Dichloroethane	0.50	N.D.
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	**0.50**	**11**
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	N.D.
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Surrogates	Control Limits %		% Recovery
1-Chloro-2-fluorobenzene	70	130	93

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

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW3	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/21/95
Attention: Argy Leyton	Lab Number: 9510E35-04	Reported: 11/27/95

QC Batch Number: GC102095BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	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	75

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW3	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 10/24/95
Attention: Argy Leyton	Lab Number: 9510E35-04	Reported: 11/27/95

QC Batch Number: MS1023958240H6A
Instrument ID: H6

Volatile Organics (EPA 8240)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	2.0	N.D.
1,1-Dichloroethane	2.0	N.D.
1,2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis-1,2-Dichloroethene	2.0	N.D.
trans-1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis-1,3-Dichloropropene	2.0	N.D.
trans-1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	5.0	N.D.
Vinyl chloride	2.0	N.D.

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW3	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 10/24/95
Attention: Argy Leyton	Lab Number: 9510E35-04	Reported: 11/27/95

QC Batch Number: MS1023958240H6A
Instrument ID: H6

Analyte	Detection Limit ug/L		Sample Results ug/L
Total Xylenes	2.0		N.D.
Surrogates	**Control Limits %**		**% Recovery**
1,2-Dichloroethane-d4	76	114	97
Toluene-d8	88	110	102
4-Bromofluorobenzene	86	115	100

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW3	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: EPA 8015 Mod	Analyzed: 10/23/95
Attention: Argy Leyton	Lab Number: 9510E35-04	Reported: 11/27/95

QC Batch Number: GC101995ISHSHSA
Instrument ID: GCV-01

Industrial Solvents

Analyte	Detection Limit mg/L	Sample Results mg/L
Acetone	-	-
Acetonitrile	-	-
Benzene	-	-
iso-Butanol	-	-
n-Butanol	-	-
sec-Butanol	-	-
t-Butanol	-	-
Carbon tetrachloride	-	-
Chloroform	-	-
Cyclohexane	-	-
1,2-Dichloroethane	-	-
t-1,2-Dichloroethene	-	-
Ethanol	-	-
Ethyl acetate	-	-
Ethyl benzene	-	-
Ethyl ether	-	-
Freon 113	-	-
Hexane	-	-
Methanol	1.0	N.D.
Methyl ethyl ketone	0.20	N.D.
Methyl isobutyl ketone	-	-
Methylene chloride	-	-
iso-Octane	-	-
iso-Propanol	-	-
n-Propanol	-	-
n-Propyl benzene	-	-
Tetrachloroethylene	-	-
Tetrahydrofuran	-	-
1,1,1-Trichloroethane	-	-
Trichloroethylene	-	-
Toluene	-	-
m-Xylene	-	-
o-Xylene	-	-
p-Xylene	-	-

Surrogates	Control Limits %		% Recovery
Pentanol RTX 200	55	157	102
Pentanol DBWAX	57	170	114

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies	Client Proj. ID: Chevron 9-1851, 451 Hegenberg	Sampled: 10/17/95
6747 Sierra Court Suite G	Sample Descript: MW4	Received: 10/19/95
Dublin, CA 94568	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 10/23/95
Attention: Argy Leyton	Lab Number: 9510E35-05	Reported: 11/27/95

QC Batch Number: GC102395BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	125	N.D.
Benzene	1.2	N.D.
Toluene	1.2	N.D.
Ethyl Benzene	1.2	N.D.
Xylenes (Total)	1.2	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	78

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

SEQUOIA ANALYTICAL - ELAP #1210

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Gettler Ryan/Geostrategies
6747 Sierra Court Suite G
Dublin, CA 94568
Attention: Argy Leyton

Client Proj. ID: Chevron 9-1851, 451 Hegenberg
Lab Proj. ID: 9510E35

Received: 10/19/95
Reported: 11/27/95

LABORATORY NARRATIVE

For sample:	the detection limit was raised by a factor of
#3 (TPHDW)	2
#5 (TPHGBW)	2.5

SEQUOIA ANALYTICAL

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, 451 Hegenberg	
6747 Sierra Court, Ste G	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510E35 -01, 02, 04	Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC102095BTEX21A	GC102095BTEX21A	GC102095BTEX21A	GC102095BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	9510A0602	9510A0602	9510A0602	9510A0602
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/20/95	10/20/95	10/20/95	10/20/95
Analyzed Date:	10/20/95	10/20/95	10/20/95	10/20/95
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	9.3	8.8	8.6	26
MS % Recovery:	93	88	86	87
Dup. Result:	9.2	8.9	8.9	27
MSD % Recov.:	92	89	89	90
RPD:	1.1	1.1	3.4	3.8
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				

MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

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

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste G
Dublin, CA 94568
Attention: Argy Leyton

Client Project ID: Chevron 9-1851, 451 Hegenberg
Matrix: Liquid
Work Order #: 9510E35- 03, 05

Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC102395BTEX02A	GC102395BTEX02A	GC102395BTEX02A	GC102395BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	B. Sullivan	B. Sullivan	B. Sullivan	B. Sullivan
MS/MSD #:	9510A0604	9510A0604	9510A0604	9510A0604
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/23/95	10/23/95	10/23/95	10/23/95
Analyzed Date:	10/23/95	10/23/95	10/23/95	10/23/95
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	7.8	7.6	7.6	23
MS % Recovery:	78	76	76	77
Dup. Result:	7.6	7.7	7.6	23
MSD % Recov.:	76	77	76	77
RPD:	2.6	1.3	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

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Project Manager

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, 451 Hegenberg	
6747 Sierra Court, Ste G	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510E35- 03	Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Petroleum Hydrocarbons
QC Batch#:	OP1020955520EXA
Analy. Method:	SM 5520BF MOD
Prep. Method:	SPE

Analyst:	C. Garde
MS/MSD #:	BLK102095
Sample Conc.:	N.D.
Prepared Date:	10/20/95
Analyzed Date:	10/20/95
Instrument I.D.#:	MANUAL
Conc. Spiked:	10 mg/L
Result:	9.1
MS % Recovery:	91
Dup. Result:	11
MSD % Recov.:	110
RPD:	19
RPD Limit:	0-50

LCS #:	
Prepared Date:	
Analyzed Date:	
Instrument I.D.#:	
Conc. Spiked:	
LCS Result:	
LCS % Recov.:	

MS/MSD LCS Control Limits	70-110

SEQUOIA ANALYTICAL

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Gettler Ryan/Geostrategies
6747 Sierra Court, Ste G
Dublin, CA 94568
Attention: Argy Leyton

Client Project ID: Chevron 9-1851, 451 Hegenberg
Matrix: Liquid
Work Order #: 9510E35- 03

Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
QC Batch#:	GC102395801008A	GC102395801008A	GC102395801008A
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	T. Costello	T. Costello	T. Costello
MS/MSD #:	951082101	951082101	951082101
Sample Conc.:	0.80	N.D.	N.D.
Prepared Date:	10/23/95	10/23/95	10/23/95
Analyzed Date:	10/23/95	10/23/95	10/23/95
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
Result:	28	23	24
MS % Recovery:	109	92	96
Dup. Result:	27	23	24
MSD % Recov.:	105	92	96
RPD:	3.6	0.0	0.0
RPD Limit:	0-50	0-50	0-50

LCS #:	BLK102395	BLK102395	BLK102395
Prepared Date:	10/23/95	10/23/95	10/23/95
Analyzed Date:	10/23/95	10/23/95	10/23/95
Instrument I.D.#:	GCHP8	GCHP8	GCHP8
Conc. Spiked:	25 µg/L	25 µg/L	25 µg/L
LCS Result:	27	23	25
LCS % Recov.:	108	92	100

MS/MSD LCS Control Limits	28-167	35-146	38-150

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

SEQUOIA ANALYTICAL

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Project Manager

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, 451 Hegenberg	
6747 Sierra Court, Ste G	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510E35- 03	Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC1023950HBPEXZ
Analy. Method:	EPA 8015M
Prep. Method:	EPA 3520
Analyst:	J. Minkel
MS/MSD #:	9510E3503
Sample Conc.:	1600
Prepared Date:	10/23/95
Analyzed Date:	10/24/95
Instrument I.D.#:	GCHP4A
Conc. Spiked:	1000 µg/L
Result:	3200
MS % Recovery:	160
Dup. Result:	2600
MSD % Recov.:	100
RPD:	21
RPD Limit:	0-50

LCS #:	BLK102395
Prepared Date:	10/23/95
Analyzed Date:	10/24/95
Instrument I.D.#:	GCHP5A
Conc. Spiked:	1000 µg/L
LCS Result:	1100
LCS % Recov.:	110

MS/MSD LCS Control Limits	38-122

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

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 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
6747 Sierra Court, Ste G
Dublin, CA 94568
Attention: Argy Leyton

Client Project ID: Chevron 9-1851, 451 Hegenberg
Matrix: Liquid
Work Order #: 9510E35- 04
Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Acetone	MIBK	Tetra Hydrofuran	1,1,1-TCA
QC Batch#:	GC101995ISHSHSA	GC101995ISHSHSA	GC101995ISHSHSA	GC101995ISHSHSA
Analy. Method:	ISHS	ISHS	ISHS	ISHS
Prep. Method:	HS	HS	HS	HS
Analyst:	T. Tran	T. Tran	T. Tran	T. Tran
MS/MSD #:	951023602	951023602	951023602	951023602
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	10/19/95	10/19/95	10/19/95	10/19/95
Analyzed Date:	10/19/95	10/19/95	10/19/95	10/19/95
Instrument I.D.#:	GCV1	GCV1	GCV1	GCV1
Conc. Spiked:	4.0 mg/L	1.0 mg/L	2.0 mg/L	1.0 mg/L
Result:	4.8	1.2	2.4	0.85
MS % Recovery:	120	120	120	85
Dup. Result:	4.7	1.2	2.5	0.96
MSD % Recov.:	118	120	125	96
RPD:	2.1	0.0	4.1	12
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:				
Prepared Date:				
Analyzed Date:				
Instrument I.D.#:				
Conc. Spiked:				
LCS Result:				
LCS % Recov.:				
MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150

SEQUOIA ANALYTICAL

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, 451 Hegenberg	
6747 Sierra Court, Ste G	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510E35- 04	Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	TCE	p-Xylene
QC Batch#:	GC101995ISHSHSA	GC101995ISHSHSA
Analy. Method:	ISHS	ISHS
Prep. Method:	HS	HS
Analyst:	T. Tran	T. Tran
MS/MSD #:	951023602	951023602
Sample Conc.:	N.D.	N.D.
Prepared Date:	10/19/95	10/19/95
Analyzed Date:	10/19/95	10/19/95
Instrument I.D.#:	GCV1	GCV1
Conc. Spiked:	1.0 mg/L	0.20 mg/L
Result:	0.89	0.18
MS % Recovery:	89	90
Dup. Result:	0.99	0.19
MSD % Recov.:	99	95
RPD:	11	5.4
RPD Limit:	0-50	0-50

LCS #:		
Prepared Date:		
Analyzed Date:		
Instrument I.D.#:		
Conc. Spiked:		
LCS Result:		
LCS % Recov.:		
MS/MSD LCS Control Limits	50-150	50-150

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Gettler Ryan/Geostrategies	Client Project ID:	Chevron 9-1851, 451 Hegenberg	
6747 Sierra Court, Ste G	Matrix:	Liquid	
Dublin, CA 94568			
Attention: Argy Leyton	Work Order #:	9510E35- 04	Reported: Nov 6, 1995

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS1023958240H6A	MS1023958240H6A	MS1023958240H6A	MS1023958240H6A	MS1023958240H6A
Analy. Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Prep. Method:	N.A.	N.A.	N.A.	N.A.	N.A.
Analyst:	L. Duong	L. Duong	L. Duong	L. Duong	L. Duong
MS/MSD #:	9510E3801	9510E3801	9510E3801	9510E3801	9510E3801
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	N.A.	N.A.	N.A.	N.A.	N.A.
Analyzed Date:	10/23/95	10/23/95	10/23/95	10/23/95	10/23/95
Instrument I.D.#:	H6	H6	H6	H6	H6
Conc. Spiked:	50 µg/L	50 µg/L	50 µg/L	50 µg/L	50 µg/L
Result:	50	50	50	53	50
MS % Recovery:	100	100	100	106	100
Dup. Result:	49	48	49	49	47
MSD % Recov.:	98	96	98	98	94
RPD:	2.0	4.1	2.0	7.8	6.2
RPD Limit:	0-50	0-50	0-50	0-50	0-50
LCS #:					
Prepared Date:					
Analyzed Date:					
Instrument I.D.#:					
Conc. Spiked:					
LCS Result:					
LCS % Recov.:					
MS/MSD LCS Control Limits	DL-234	71-157	37-151	47-150	37-160

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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: 9-1851
Facility Address: 451 Hegenberger Rd
Consultant Project Number: 5145.01
Consultant Name: Gettler-Ryan
Address: 6747 Sierra Ct, Ste J, Dublin 94568
Project Contact (Name): Argy Leyton / BARBARA SIEMINSKI
(Phone): 510 551-7555 (Fax Number): 510 551-7888

Chevron Contact (Name): Mark Miller
(Phone): (510) 842-8134
Laboratory Name: Sequoia
Laboratory Release Number: 37414 80
Samples Collected by (Name): Guadalupe Sanchez
Collection Date: 10-17-95
Signature: Guadalupe Sanchez

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) w/MEK	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)	Methanol				
TB-LB	1	2	W	G	—	HCl	Y													
MW-1	2	3			1306	HCl														
MW-2	3	9			1373	HCl/none H_2SO_4			✓	✓	✓									
MW-3	4	9			1410	HCl/none							✓			✓				
MW-4	5	3	↓	↓	1445	HCl	↓	↓												

DO NOT BILL TB-LB ANALYSIS

9510E35

Remarks: Analyze in order ↓

@ 1145

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Guadalupe Sanchez	G/R	10-17-95 1800		G/R	10-17-95
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	G/R			G/R	10/19 9:00
Relinquished By (Signature)	Organization	Date/Time	Received for Laboratory By (Signature)		Date/Time
		10/19 11:45			10/19/95 1145

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

10/18/95