



June 20, 1996

Ms. Eva Chu
Alameda County Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

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

Marketing – Northwest Region
Phone 510 842 9500

Re: Former Chevron Station # 9-2582, 7240 Dublin Blvd., Dublin, CA
Attached Well Installation Report (Gettler-Ryan, 5/7/96)

Dear Ms. Chu:

Attached you will find, a report dated May 7, 1996, that was prepared by Chevron's consultant, Gettler-Ryan, Inc. (Gettler-Ryan) which describes the drilling, installation, and sampling of two groundwater monitoring wells located downgradient from the subject site. The drilling, soil sampling, and well installation occurred during February, 1996. The wells were gauged, surveyed, and sampled in March and were gauged again, during April.

Soil samples collected from each well during February were analyzed for the presence of TPHGas, BTEX constituents, and MTBE. None of these contaminants were detected in soil at either well location. The measured direction of groundwater flow during April was variable. The flow direction was inconsistent with previous measurements and will be verified during the next scheduled monitoring event. The groundwater samples collected during March were analyzed for TPHGas, BTEX, and MTBE. None of these analytes were present at either well.

Both wells were included in the existing monitoring program for the subject site. The next sampling will occur later this month. Results of that event will be included in a forthcoming report.

If you have any questions or comments, I can be reached at (510) 842-8695.

Sincerely,

Brett L. Hunter
Environmental Engineer
Site Assessment and Remediation

Attachment

cc: Janet Clinton (for Parkway Three), 2425 Webb Avenue, Suite 200, Alameda, CA 94501
Rich Hiatt, San Francisco Bay RWQCB, Oakland, CA (w/o attachment)
Bette Owen, Chevron Products Company, San Ramon, CA (w/o attachment)

96 JUN 24 PM 3:16
ENVIRONMENTAL
PROTECTION



GETTLER-RYAN INC.

WELL INSTALLATION REPORT

for

Former Chevron Service Station #9-2582
7240 Dublin Boulevard
Dublin, California

Project No. 5274.01

Prepared for:

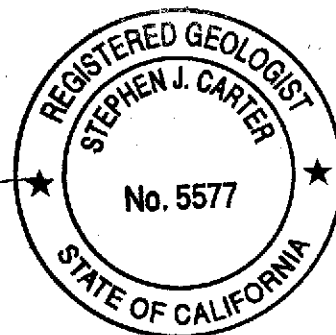
Chevron USA Products Company
P.O. Box 5004
San Ramon, California 94583

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



May 7, 1996

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EXECUTIVE SUMMARY

Gettler-Ryan Inc. (G-R) presents this report for the installation two groundwater monitoring wells at former Chevron Service Station #9-2582 located at 7240 Dublin Boulevard in Dublin, California. Two off-site soil borings were drilled at the subject site during this investigation and groundwater monitoring wells MW-4 and MW-5 were installed in these borings to further assess soil and groundwater condition near the site.

Soil encountered in borings MW-4 and MW-5 consisted of clay to sandy clay with clayey sand lenses to the total depth explored of 21.5 feet below ground surface (bgs). Groundwater was encountered in borings MW-4 and MW-5 at depths of approximately 11.5 and 17 feet bgs and stabilized at depths of 10.4 and 9.7 feet bgs. Based on groundwater monitoring data collected during this investigation, groundwater beneath the site appears to flow toward the south 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 the soil and groundwater northwest of the subject site in the vicinity of wells MW-4 and MW-5 has not been impacted by petroleum hydrocarbons.

Pleistocene alluvium, which consists of weakly consolidated, poorly sorted, irregularly interbedded clay, silt, sand and gravel, and older sedimentary deposits. Previous subsurface investigation data indicated that the site is underlain by clays and silts. The **Calaveras Fault is situated approximately ½-mile west of the site.**

The Livermore Valley groundwater basin is divided into several subbasins (California Department of Water Resources, 1974). The subject site is located within the **Dublin subbasin**. The groundwater in this subbasin has been reported to be at depths ranging from 10 to 60 feet bgs (Alameda County Flood Control and Water Conservation District, 1991). Surface water in the site vicinity include a **drainage canal situated immediately to the southwest of the subject site** and Dublin Creek located approximately ¼-mile south of the site. Historical groundwater monitoring data from the site indicate that the groundwater flow beneath the site is to the northwest.

3.0 SITE HISTORY

The following site history was obtained from Chevron project files supplied to G-R.

In February 1989, three underground storage tanks (USTs) were removed from the site. Blaine Tech Services, Inc. (Blaine) of San Jose, California, collected soil and groundwater samples during the UST removal. Analytical results indicated that hydrocarbons were present in soil and groundwater beneath the site.

In March 1989, Western Geologic Resources (WGR) supervised the excavation of approximately 180 cubic yards (cy) of pea gravel (WGR, April 1989). Approximately 2,850 gallons of hydrocarbon-impacted groundwater were pumped out of the excavation. Soil and groundwater removed from the site were disposed of at appropriate disposal facilities.

In May 1989, an additional excavation was performed by WGR (WGR, August 1989). Approximately 100 cy of hydrocarbon-impacted soil was excavated from the site. On May 23, 1989, representatives from WGR and Chevron met with Gil Wistar of the Alameda County Health Care Services Agency to discuss the implementation of a soil vapor extraction system in the vicinity of the pump islands. The installation of a soil-vapor system was approved, the excavation process was terminated, the 100 cy of soil previously removed by WGR was disposed of at an appropriate landfill, and the excavated area was backfilled with pea gravel in June 1989. WGR staff coordinated the installation of underground piping for a future soil-vapor extraction system. The piping was installed near the pump islands and in the underground storage tank backfill.

In August 1989, three on-site groundwater monitoring wells (EA-1, EA-2 and EA-3) were installed at the site and groundwater samples were collected from these wells and analyzed (WGR, October 1989). Hydrocarbons as gasoline and aromatic hydrocarbons were not detected in any of the monitoring wells. However, groundwater

4.2 Well Development

On February 28, 1996, groundwater monitoring wells MW-4 and MW-5 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. A copy of the Well Development Data Field Sheet is included in Appendix C.

4.3 Groundwater Sampling

On March 1, 1996, G-R personnel measured depth to groundwater levels in newly installed wells MW-4 and MW-5, checked the wells for the presence of separate-phase hydrocarbons (SPH), and purged and sampled these wells. On April 2, 1996, depth to water levels were measured in all site wells by G-R personnel. Groundwater monitoring data collected on March 1 and April 2, 1996, are summarized in Table 1. Copies of G-R Well Monitoring and Sampling Field Sheets are included in Appendix C.

4.4 Wellhead Survey

On March 13, 1996, wells MW-4 and MW-5 were surveyed relative to mean sea level by Virgil Chavez, licensed land surveyor (#6323) of Vallejo, California. The survey report is included in Appendix D and the survey data are summarized in Table 1.

4.5 Laboratory Analysis

Soil and groundwater samples collected during this investigation were delivered under chain-of-custody to Sequoia Analytical of Redwood City, California (ELAP #1210). The groundwater samples and one soil sample from each boring were analyzed for total petroleum hydrocarbons as gasoline (TPHg), gasoline constituents benzene, toluene, ethylbenzene and xylenes (BTEX) and methyl t-butyl ether (MTBE) by Environmental Protection Agency (EPA) Method 8015Mod/8020. 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 E.

5.0 RESULTS

5.1 Subsurface Condition

Soil encountered in borings MW-4 and MW-5 consisted of clay to sandy clay with clayey sand lenses to the total depth explored of 21.5 feet bgs. Groundwater was encountered in borings MW-4 and MW-5 at depths of approximately 11.5 and 17 feet bgs and stabilized at depths of 10.4 and 9.7 feet bgs, respectively. Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix B.

SPH were not present in wells MW-4 and MW-5 on March 1, 1996, or in any site well on April 2, 1996. G-R prepared a potentiometric map for the site (Figure 2) using groundwater monitoring data collected on April 2, 1996. Based on these data, shallow groundwater beneath the site appears to flow toward the south at an approximate gradient of 0.01.

5.2 Soil Analytical Results

Petroleum hydrocarbons were not detected in the soil samples collected from off-site borings MW-4 and MW-5 at 9.5 feet bgs (just above groundwater) or in the composite stockpile sample SP-(A-D)comp. Soil chemical analytical data are summarized in Table 1.

5.3 Groundwater Analytical Results

Petroleum hydrocarbons were not detected in the groundwater samples from wells MW-4 and MW-5. Groundwater chemical analytical data are summarized in Table 2.

6.0 CONCLUSIONS

Based on the analytical results of soil and groundwater samples collected and analyzed during this investigation, it appears that soil and groundwater northwest of the subject site in the vicinity of wells MW-4 and MW-5 has not been impacted by petroleum hydrocarbons.

7.0 REFERENCES

Alameda County Flood Control and Water Conservation District, Zone 7, January 16, 1991, *Fall 1990 Groundwater Level Report*.

California Department of Water Resources, 1974, *Evaluation of Groundwater Resources: Livermore and Sunol Valleys*; Bulletin No. 118-2, Appendix A.

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

Western Geologic Resources, April 12, 1989, Consultant's Report on Soil Excavation Activities, Former Chevron Service Station #9-2582, 7420 Dublin Boulevard, Dublin, California, April 12, 1989.

Western Geologic Resources, August 1989, Consultant's Report on Soil Excavation Activities, Former Chevron Service Station #9-2582, 7420 Dublin Boulevard, Dublin, California.

Western Geologic Resources, October 30, 1989, Consultant's Report on Well Installation Activities, Former Chevron Service Station #9-2582, 7420 Dublin Boulevard, Dublin, California.

Western Geologic Resources, July 17, 1990, Consultant's Report on Vadose Zone Characterization, Former Chevron Service Station #9-2582, 7420 Dublin Boulevard, Dublin, California.

Table 1. Water Level Data and Groundwater Analytical Results - Chevron Service Station #9-2582, 7240 Dublin Boulevard, Dublin, California

Well ID	TOC (ft)	Date	DTW (ft)	GWE (msl)	Product Thickness (ft)	Analytic Method	-----ppb----->					
							TPHg	B	T	E	X	MTBE
EA-1	331.03	04/02/96	9.68	321.35	0	--	--	--	--	--	--	--
EA-2	330.21	04/02/96	7.68	322.53	0	--	--	--	--	--	--	--
EA-3	331.30	04/02/96	9.18	322.12	0	--	--	--	--	--	--	--
MW-1	333.56	04/02/96	12.48	321.08	0	--	--	--	--	--	--	--
MW-2	329.18	04/02/96	8.22	320.96	0	--	--	--	--	--	--	--
MW-3	332.73	04/02/96	11.41	321.32	0	--	--	--	--	--	--	--
MW-4	332.64	03/01/96	9.90	322.74	0	8015/8020	<50	<0.50	<0.50	<0.50	<0.50	<2.5
		04/02/96	9.77	322.87	0	--	--	--	--	--	--	--
MW-5	333.20	03/01/96	10.62	322.58	0	8015/8020	<50	<0.50	<0.50	<0.50	<0.50	<2.5
		04/02/96	10.14	323.06	0	--	--	--	--	--	--	--
TB	-	03/01/96	-	-	-	8015/8020	<50	<0.50	<0.50	<0.50	<0.50	<2.5

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
 MTBE - Methyl t-Butyl Ether
 ppb - Parts per billion
 -- - Not applicable

ANALYTICAL METHODS:

8015 - EPA Method 8015Mod for TPHg and MTBE.
 8020 - EPA Method 8020 for BTEX

NOTES:

TOC elevations for wells EA-1 through EA-3 and MW-1 through MW-3 were obtained from Blaine Tech Services Inc. of San Jose, California.

Top of casing elevations of wells MW-4 and MW-5 were surveyed by Virgil Chavez of Vallejo, California (PLS #6323), on March 13, 1996.

Table 2. Soil Analytical Results - Chevron Service Station #9-2582, 7240 Dublin Boulevard, Dublin, California

Sample ID	Depth (ft)	Date	Analytic Method	TPHg	B	T	E	X	MTBE
				<-----ppm----->					
MW4-9.5	9.5	02/22/96	8015/8020	< 1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.025
MW5-9.5	9.5	02/22/96	8015/8020	< 1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.025
SP-(A-D)comp	—	02/22/96	8015/8020	< 1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	—

EXPLANATION:

- TPHg - Total Petroleum Hydrocarbons as gasoline
- B - Benzene
- T - Toluene
- E - Ethylbenzene
- X - Xylenes
- MTBE - Methyl t-Butyl Ether
- ppm - Parts per million
- - Not analyzed/not applicable

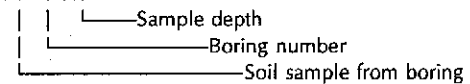
ANALYTICAL METHODS:

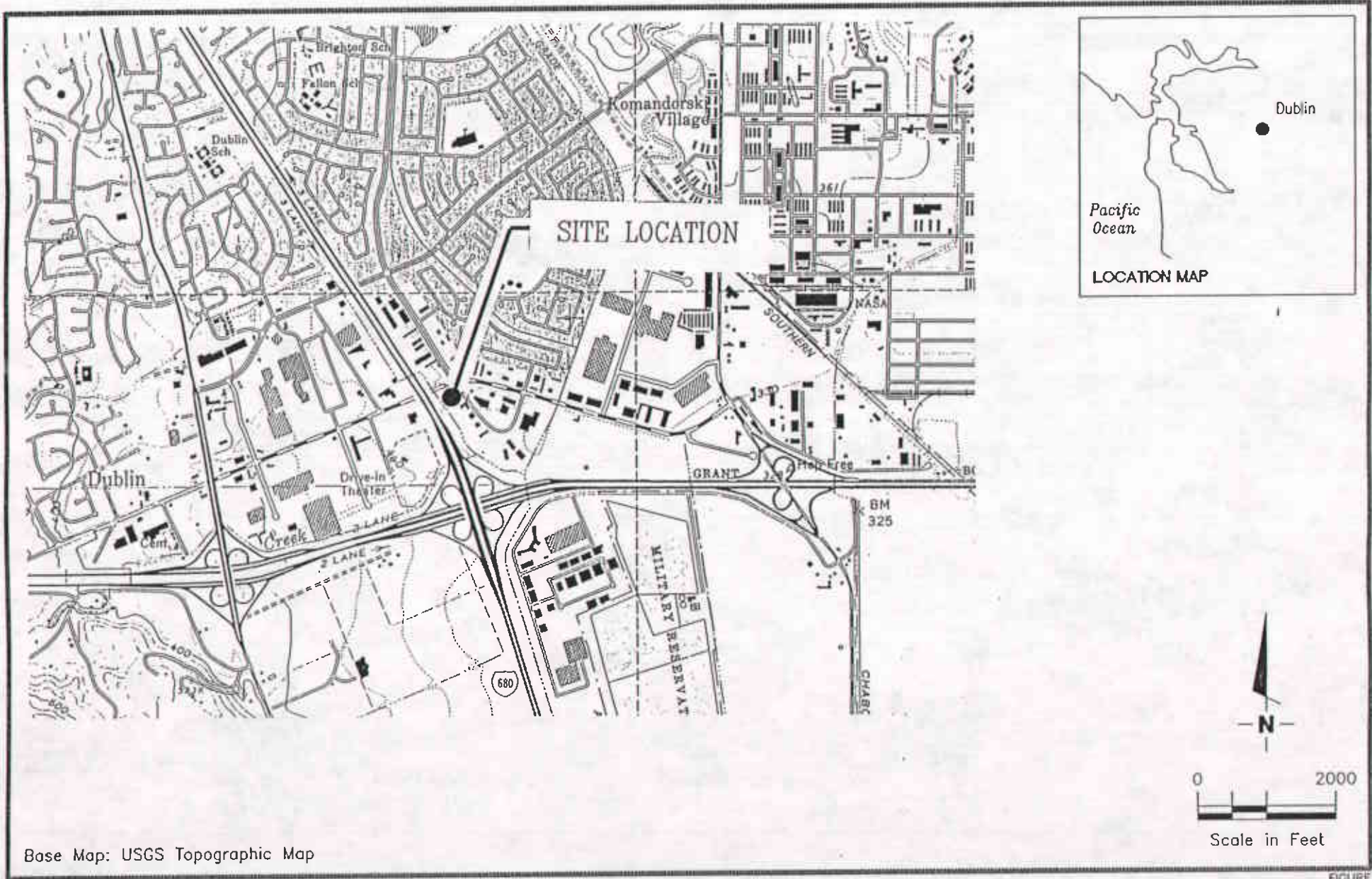
- 8015 - EPA Method 8015Mod for TPHg and MTBE.
- 8020 - EPA Method 8020 for BTEX

ANALYTICAL LABORATORY:

Sequoia Analytical of Redwood City, California.

Sample Identification: MW5-9.5





Base Map: USGS Topographic Map



Gettler - Ryan Inc.

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

VICINITY MAP

Former Chevron Service Station No. 9-2582
 7240 Dublin Boulevard
 Dublin, California

FIGURE

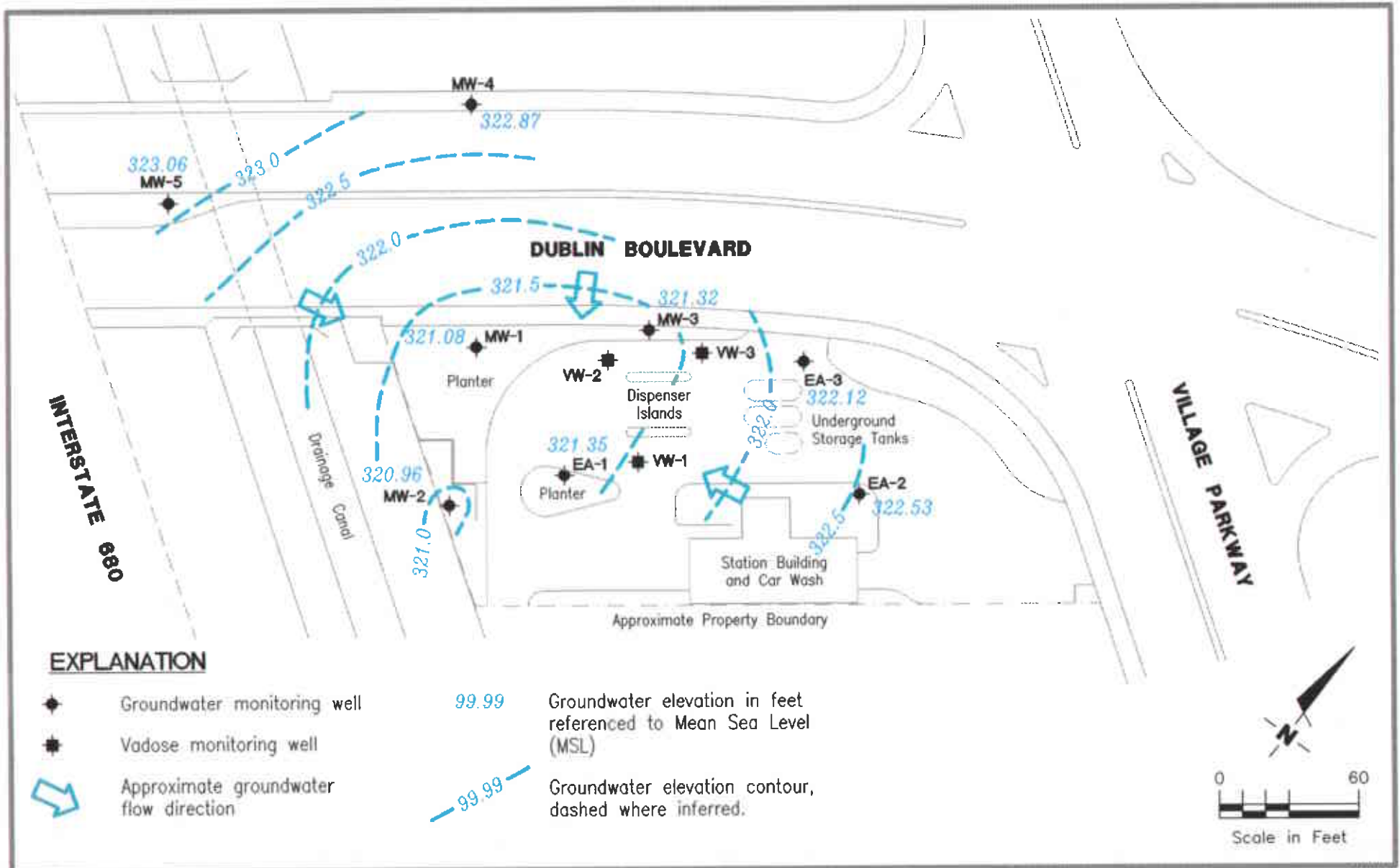
1

JOB NUMBER
 5274

REVIEWED BY

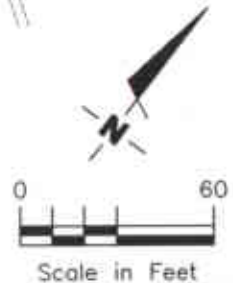
DATE
 October, 1995

REVISED DATE



EXPLANATION

- ◆ Groundwater monitoring well 99.99 Groundwater elevation in feet referenced to Mean Sea Level (MSL)
- ◆ Vadose monitoring well
- Approximate groundwater flow direction
- 99.99 — Groundwater elevation contour, dashed where inferred.



Gettler - Ryan Inc.

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

POTENTIOMETRIC MAP

Former Chevron Service Station No. 9-2582
7240 Dublin Boulevard
Dublin, California

FIGURE

2

JOB NUMBER
5274.01

REVIEWED BY

[Signature]

DATE
April 2, 1996

REVISED DATE

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 unintentional introduction of materials into the well.

Measurement of Water Levels

The top of the newly installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL). 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, ENCROACHMENT PERMIT
AND BORING LOGS**



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94583

VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Former Chevron SS #9-2582
7420 Dublin Boulevard/Village Parkway
Dublin, CA

PERMIT NUMBER 95699
LOCATION NUMBER _____

CLIENT
Name Chevron USA Products Company
Address P.O. Box 5004 Voice _____
City San Ramon, CA Zip 94583

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name Gettler-Ryan Inc.
Argy Leyton Fax (510) 551-7888
Address 6747 Sierra Court Voice (510) 551-7555
City Dublin, CA Zip 94568

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.

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

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.

PROPOSED WATER SUPPLY WELL USE
Domestic Industrial Other
Municipal Irrigation

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.

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

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

DRILLER'S LICENSE NO. 057 522125

E. WELL DESTRUCTION. See attached.

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum 18 ft.
Casing Diameter 2 in. Depth 2
Surface Seal Depth _____ ft. Number

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

ESTIMATED STARTING DATE October 30, 1995
ESTIMATED COMPLETION DATE October 31, 1995

Approved Wyman Hong Date 20 Oct 95
Wyman Hong

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

APPLICANT'S [Signature] Date 10/6/95

CITY OF DUBLIN
PUBLIC WORKS DEPARTMENT
100 Civic Plaza
Dublin, California 94568
(510) 833-6630

96-04

ENCROACHMENT PERMIT

PERMIT TO DO WORK IN ACCORDANCE WITH CITY OF DUBLIN MUNICIPAL CODE CHAPTER 7.04 AND ANY SPECIAL REQUIREMENTS SHOWN OR LISTED HEREIN.

Applicant/Permittee: Name: <u>CHEVRON U.S.A.</u> Address: <u>P. O. Box 5004</u> <u>SAN RAMON, CA 94583</u> Telephone: <u>(510) 842-9500</u>	Permit Fee: \$ <u>10.00</u> Plancheck Fee: \$ Resurfacing Surcharge: \$ Inspection Fees: \$ <u>80.00</u> \$ \$ Total Fees: \$ <u>90.00</u> Bond: Surety: <u>\$ 4000</u> Cash: \$4,000.00 Total Paid: \$ <u>90.00</u> Receipt No. <u>5756, 5757</u>
--	---

PLEASE READ THIS PERMIT CAREFULLY. KEEP IT AT THE WORK SITE. TO ARRANGE FOR INSPECTION, PHONE 833-6630 AT LEAST 48 HOURS BEFORE YOU START WORK.

JOB LOCATION: 7240 Dublin Boulevard, Dublin, California

DESCRIPTION OF WORK: (Attach 2 copies of plans. Attach additional pages if needed.)

Two groundwater monitoring wells in Dublin Boulevard

Length of Excavation (2) 2 inch Width (2) 2 inch Depth 25 ft.

U. S. A. IDENTIFICATION NUMBER (if applicable) _____

ATTENTION IS DIRECTED TO THE GENERAL PROVISIONS PRINTED ON THE REVERSE SIDE OF THIS PERMIT AND TO THE FOLLOWING SPECIAL REQUIREMENTS:

1. Permittee shall provide and keep current a valid California Driver's License.

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

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

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

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

Gettler-Ryan, Inc.

Log of Boring MW-4

PROJECT: Chevron SS# 9-2582

LOCATION: 7240 Dublin Boulevard, Dublin, CA

G-R PROJECT NO.: 5274.01

SURFACE ELEVATION: 332.64 feet MSL

DATE STARTED: 02/22/96

WL (ft. bgs): 11.5 DATE: 02/22/96 TIME: 14:40

DATE FINISHED: 02/22/96

WL (ft. bgs): 10.4 DATE: 02/22/96 TIME: 15:20

DRILLING METHOD: 8 in. Hollow Stem Auger

TOTAL DEPTH: 21.5 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	WELL DIAGRAM
							PAVEMENT - concrete over sand.	<p>The well diagram shows a vertical cross-section of the boring. At the top is a cap. Below it is a 2-inch machine slotted PVC pipe (0.01 inch diameter) extending 40 feet. The casing is surrounded by cement. Below the casing is a layer of #2/12 sand, which is also surrounded by bentonite. The bottom of the casing is at 21.5 feet depth.</p>
5	0	8	MW4-6			CL	CLAY (CL) - black (10YR 2/1), damp, stiff, medium plasticity; 100% clay.	
						CL	CLAY (CL) - very dark grayish brown (10YR 3/2), mottled strong brown (7.5YR 3/4), moist, stiff, low plasticity; 95% clay, 5% fine sand.	
						CL/SC	SANDY CLAY WITH LENSES OF CLAYEY SAND (CL/SC) - very dark gray (5Y 3/1), moist, stiff, low plasticity; 70% clay, 30% fine sand.	
10	0	12	MW4-9.5			CH	CLAY (CH) - black (N/0) mottled gray (N 5/0), moist, stiff, high plasticity; 95-100% clay, 0-5% carbonate nodules.	
15	0	11	MW4-16			CL	SANDY CLAY (CL) - dark gray (10YR 4/1) mottled light brownish gray (10 YR 6/1), saturated, stiff, low plasticity; 70% clay, 30% fine to coarse sand consisting of carbonate grains.	
20	0	10	MW4-21			CL	CLAY (CL) - dark gray (5Y 4/1) mottled olive (5Y 4/3), damp to moist, stiff, medium plasticity; 95% clay, 5% fine sand.	
							Bottom of boring at 21.5 feet, 02/22/96.	
30							(* = converted to equivalent standard penetration blows/ft.)	

Gettler-Ryan, Inc.

Log of Boring MW-5

PROJECT: <i>Chevron SS# 9-2582</i>	LOCATION: <i>7240 Dublin Boulevard, Dublin, CA</i>
G-R PROJECT NO. : <i>5274.01</i>	SURFACE ELEVATION: <i>333.20 feet MSL</i>
DATE STARTED: <i>02/22/96</i>	WL (ft. bgs): <i>17.0</i> DATE: <i>02/22/96</i> TIME: <i>11:10</i>
DATE FINISHED: <i>02/22/96</i>	WL (ft. bgs): <i>9.7</i> DATE: <i>02/22/96</i> TIME: <i>12:30</i>
DRILLING METHOD: <i>8 in. Hollow Stem Auger</i>	TOTAL DEPTH: <i>21.5 Feet</i>
DRILLING COMPANY: <i>Bay Area Exploration, Inc.</i>	GEOLOGIST: <i>B. Sieminski</i>

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	WELL DIAGRAM
							PAVEMENT - clay bricks over sand, asphalt and baserock.	
5	0	8	MW5-6			CL	CLAY (CL) - black (10YR 2/1), damp, stiff, medium plasticity; 100% clay.	
	0	6	MW5-8			CL/SC	SANDY CLAY WITH GRAVEL AND LENSES OF CLAYEY SAND (CL/SC) - dark gray (10YR 4/1), moist, stiff, low plasticity; 60% clay, 30% fine sand, 10% fine gravel.	
	0	10	MW5-9.5			CH	CLAY (CH) - black (10YR 2/1), moist, stiff, high plasticity; 100% clay.	
10						CL	With carbonate nodules.	
	0	11	MW5-14			CL	CLAY WITH SAND (CL) - very dark gray (5Y 3/1), moist, stiff, medium plasticity; 85% clay, 15% fine to coarse sand consisting of carbonate grains.	
15	0	12	MW5-16			CL	With olive (5Y 4/3) mottling. Sand increases to 25%, no olive mottling, low plasticity.	
						CL/SC	CLAYEY SAND WITH LENSES OF SANDY CLAY (CL/SC) - dark gray (5Y 4/1) mottled olive (5Y 4/3), saturated, medium dense; 50% fine sand, 50% clay; soft drilling at 17-18 feet.	
20	0	13	MW5-21			CL	CLAY (CL) - dark gray (5Y 4/1) mottled olive (5Y 4/3), moist, stiff, medium plasticity; 90% clay, 10% fine sand; carbonate nodules.	
25							Bottom of boring at 21.5 feet, 02/22/96.	
30							(* = converted to equivalent standard penetration blows/ft.)	
35								

APPENDIX C

**WELL DEVELOPMENT, MONITORING AND SAMPLING
FIELD DATA SHEETS**

WELL DEVELOPMENT DATA

OB NO. 5274.01
 NAME Guadalupe Sanchez
 DATE 2/28/92

LOCATION Churn # 9-2582 MW-4
7240 Dublin Blvd Dublin

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
Start: 1443	9.28					*		* Surged for 15 min
top: 1503	11.34	7.12	16.8	4350	X		2	none, brown, sand, clay
Start: 1506	13.46	7.03	18.8	4270	X		4	" " "
top: 1507	15.49	6.98	17.8	4250	X		6	" light brown "
Start: 1508	17.53	6.89	18.3	3910	X		8	" " "
top: 1509	19.60	6.85	18.2	3850	X		10	** Dewatered
Start: 1524	13.52	6.87	18.7	3790	X		12	none, brown, sand, clay
top: 1525	15.66	6.88	18.9	3730	X		14	" light brown "
Start: 1526	17.49	6.88	19.2	3720	X		16	" " "
top: 1527	19.57	6.88	19.3	3720	X		18	** Dewatered

DTW BEFORE DEVELOPMENT 9.28 TOTAL DEPTH BEFORE DEVELOPMENT 19.9

DTW AFTER DEVELOPMENT 19.61 TOTAL DEPTH AFTER DEVELOPMENT 19.9

INITIAL WELL VOLUME:

$$\frac{\text{TOTAL DEPTH INITIAL}}{\text{DTW (INITIAL)}} \times \left(\frac{.17}{\text{CONVERSION FACTOR}} \right) = \frac{1.8}{(1 \text{ WELL VOL})}$$

DEVELOPMENT METHOD → over

SURGE block

PURGE Stainless Steel Bailor / Stack Pump

INJECTION _____

AMT. INJECTED _____

CONVERSION FACTORS

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

WELL DEVELOPMENT DATA

JOB NO. 5274.01
 NAME Guadalupe Sanchez
 DATE 2/28/96

LOCATION Chevron # 9-2582 MW-4
7240 Dublin Blvd, Dublin

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
start: 15:42	13.63	6.83	19.4	3630	X		20	none, light brown, cloudy
stop: 15:43	15.58	6.85	19.4	3620	X		22	" " "
start: 15:44	17.72	6.87	19.3	3620	X		24	" " "
stop: 15:45	19.61	6.89	19.3	3620	X		26	" " " Well dewatered
start:								
stop:								
start:								
stop:								
start:								
stop:								

DTW BEFORE DEVELOPMENT _____ TOTAL DEPTH BEFORE DEVELOPMENT _____

DTW AFTER DEVELOPMENT _____ TOTAL DEPTH AFTER DEVELOPMENT _____

INITIAL WELL VOLUME:

$$\frac{\text{TOTAL DEPTH INITIAL}}{\text{DTW (INITIAL)}} \times \left(\frac{\text{CONVERSION FACTOR}}{\text{CONVERSION FACTOR}} \right) = \text{(1 WELL VOL)}$$

DEVELOPMENT METHOD

SURGE _____
 PURGE _____
 INJECTION _____
 AMT. INJECTED _____

CONVERSION FACTORS

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

WELL DEVELOPMENT DATA

OB NO. 5274:01
 NAME Guadalupe Sanchez
 DATE 2/28/96

LOCATION Chevron #9-2582 MW-5
7240 Dublin Blvd Dublin

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
Start: 1340	9.95				*	X		* Surged for 15 min
top: 1359	10.06	7.42	18.1	2510	X		2.0	none, brown sand/clay
Start: 1403	10.26	7.39	18.0	2320	X		4	" " "
top: 1404	10.56	7.20	18.3	2080	X		6	" " "
Start: 1405	10.91	7.19	18.4	1870	X		8	" " "
top: 1406	11.24	7.19	18.4	1822	X		10	" " "
Start: 1407	11.54	7.18	18.5	1848	X		12	" light brown "
top: 1408	11.96	7.16	18.4	1811	X		14	" " "
Start: 1409	12.33	7.16	18.4	1796	X		16	" " "
top: 1410	12.64	7.16	18.4	1788	X		18	" " "

DTW BEFORE DEVELOPMENT 9.95
 DTW AFTER DEVELOPMENT 15.02

TOTAL DEPTH BEFORE DEVELOPMENT 20.8
 TOTAL DEPTH AFTER DEVELOPMENT 20.8

DEVELOPMENT METHOD → over
 SURGE block
 PURGE Stainless Steel Dailer / Stack Pump
 INJECTION _____
 AMT. INJECTED _____

INITIAL WELL VOLUME: 9.95 20.8 - 9.95 x (.17) = 1.8
 (DTW INITIAL) (CONVERSION FACTOR) (1 WELL VOL)

- CONVERSION FACTORS
 2" = 0.17
 3" = 0.38
 4" = 0.66
 6" = 1.50

WELL DEVELOPMENT DATA

JOB NO. 5274.01
 NAME Guadalupe Sanchez
 DATE 2/28/96

LOCATION Chevron #1-2582 MW-5

TIME	WATER LEVEL	pH	TEMP	CONDUCTIVITY	PURGE	SURGE	AMOUNT REMOVED GALLONS	COMMENTS (odor, color, sediments, etc.)
start: 1411	12.99	7.12	18.2	1771	X		20	none, light brown, sand, clay
stop: 1412	13.37	7.18	17.8	1910	X		22	" " " "
start: 1413	13.77	7.21	18.1	1897	X		24	" " cloudy
stop: 1414	14.02	7.20	17.8	1840	X		26	" " "
start: 1415	14.42	7.20	17.6	1830	X		28	" " "
stop: 1416	14.79	7.20	17.8	1822	X		30	" " "
start: 1417	15.02	7.21	17.7	1817	X		32	" " "
stop:								
start:								
stop:								

DTW BEFORE DEVELOPMENT _____

TOTAL DEPTH BEFORE DEVELOPMENT _____

DEVELOPMENT METHOD

DTW AFTER DEVELOPMENT _____

TOTAL DEPTH AFTER DEVELOPMENT _____

SURGE _____

PURGE _____

INJECTION _____

INITIAL WELL VOLUME:

AMT. INJECTED _____

$$\frac{\text{TOTAL DEPTH INITIAL}}{\text{DTW (INITIAL)}} \times \left(\frac{\text{CONVERSION FACTOR}}{\text{CONVERSION FACTOR}} \right) = \text{(1 WELL VOL)}$$

CONVERSION FACTORS

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

MONITORING WELL
OBSERVATION SUMMARY SHEET

COMPANY Chevron # 9-2582 JOB NO. 5274.01
 LOCATION 7240 Dublin Blvd DATE 3-1-96
 CITY Dublin TIME _____

WELL ID	TOTAL WELL DEPTH	DEPTH TO LIQUID	HYDROCARBON THICKNESS	MEASUREMENT	COMMENTS
				POINT TOB or TOC	
<u>MW-4</u>	<u>19.9</u>	<u>9.90</u>	<u>⊖</u>	<u>TOC</u>	
<u>MW-5</u>	<u>20.8</u>	<u>10.62</u>	<u>⊖</u>	<u>TOC</u>	

Comments: _____

Sampler: G. Sanchez Assistant: _____



WELL SAMPLING FIELD DATA SHEET

SAMPLER Guadalupe Sanchez DATE 3-1-96
 ADDRESS 7240 Dublin Blvd JOB # 5274-01
 CITY Dublin SS# 9-25 82

Well ID MW-4 Well Condition OK
 Well Location Description _____

Well Diameter 2 in Hydrocarbon Thickness 0

Total Depth 19.9 ft

Depth to Liquid 9.90 ft

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

3 # of casing Volume 10.00 x .17 x(VF) 1.7 #Estimated 5.1 gal. purge Volume

Purge Equipment Stack Pump Sampling Equipment Disposable Bailer

Did well dewater NO If yes, Time _____ Volume _____

Starting Time 815 Purging Flow Rate 2 gpm.

Sampling Time 824

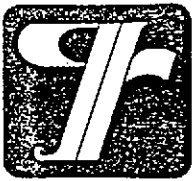
Time	pH	Conductivity	Temperature	Volume
<u>816</u>	<u>6.98</u>	<u>3610</u>	<u>17.2</u>	<u>2</u> <u>gal</u>
<u>817</u>	<u>6.96</u>	<u>3600</u>	<u>17.7</u>	<u>4</u>
<u>819</u>	<u>6.94</u>	<u>3580</u>	<u>18.0</u>	<u>6</u>
<u>824</u>	<u>6.94</u>	<u>3580</u>	<u>18.0</u>	<u>7</u>

Weather Conditions pt cloudy
 Water Color: light brown Odor: none
 Sediment Description none

LABORATORY INFORMATION

Sample ID	Container	Refrig	Preservative Type	Lab	Analysis
<u>MW-4</u>	<u>3x4oz</u>	<u>Y</u>	<u>HCL</u>	<u>SEQ</u>	<u>Gen BTEX w/mn</u>

Comments _____



WELL SAMPLING FIELD DATA SHEET

SAMPLER Guadalupe Sanchez DATE 3-1-96
 ADDRESS 7240 Dublin Blvd JOB # 5274.01
 CITY Dublin SS# 9-25 82

Well ID MW-5 Well Condition OK

Well Location Description _____

Well Diameter 2 in Hydrocarbon Thickness 0

Total Depth 20.8 ft

Depth to Liquid 10.62 ft

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

3 # of casing Volume 10.83 x .17 x(VF) 1.7 #Estimated 5.5 gal. purge Volume

Purge Equipment Stack Pump Sampling Equipment Disposable Bailer

Did well dewater NO If yes, Time _____ Volume _____

Starting Time 7:48 Purging Flow Rate 2 gpm.

Sampling Time 7:56

Time	pH	Conductivity	Temperature	Volume
<u>7:49</u>	<u>7.27</u>	<u>2270</u>	<u>15.9</u>	<u>2</u> <u>gal</u>
<u>7:50</u>	<u>7.23</u>	<u>2030</u>	<u>17.6</u>	<u>4</u>
<u>7:51</u>	<u>7.20</u>	<u>1970</u>	<u>17.8</u>	<u>6</u>
<u>7:56</u>	<u>7.21</u>	<u>1967</u>	<u>17.8</u>	<u>7</u>

Weather Conditions part cloudy

Water Color: light brown Odor: none

Sediment Description none

LABORATORY INFORMATION

Sample ID	Container	Refrig	Preservative Type	Lab	Analysis
<u>MW-5</u>	<u>3X4oz</u>	<u>Y</u>	<u>HCL</u>	<u>SEQ</u>	<u>Gas BTEX w/MSDE</u>

Comments _____

MONITORING WELL
OBSERVATION SUMMARY SHEET

COMPANY Chevron # 9-2582 JOB NO. 5274.01
 LOCATION 7240 Dublin Blvd DATE 4-2-96
 CITY Dublin TIME _____

WELL ID	TOTAL WELL DEPTH	DEPTH TO LIQUID	HYDROCARBON THICKNESS	MEASUREMENT	COMMENTS
				POINT TOB or TOC	
<u>EA-1</u>	<u>38.5</u>	<u>9.68</u>	<u>0</u>	<u>TOC</u>	
<u>EA-2</u>	<u>39.3</u>	<u>7.68</u>			
<u>EA-3</u>	<u>34.9</u>	<u>9.18</u>			
<u>MW-1</u>	<u>25.5</u>	<u>12.48</u>			
<u>MW-2</u>	<u>20.1</u>	<u>8.22</u>			
<u>MW-3</u>	<u>25.5</u>	<u>11.41</u>			
<u>MW-4</u>		<u>9.77</u>			
<u>MW-5</u>		<u>10.14</u>	✓	✓	

Comments:

Sampler: G. Sanchez Assistant: _____

APPENDIX D

WELLHEAD SURVEY REPORT

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

March 20, 1996
Project No. 1104-34

Barbara Sieminski
GeoStrategies, Inc.
6747 Sierra Ct., Suite G
Dublin, Ca. 94568

RECEIVED

MAR 21 1996

Subject: Monitoring Well Survey
Former Chevron Sta. # 9-2582
7240 Dublin Blvd.
Dublin, Ca.

GETTLER-RYAN INC.
GENERAL CONTRACTORS

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 March 13, 1996. Our findings are shown in the table below. The benchmark for the survey was Alameda County benchmark "DUB-680", being a chiseled "T" in the top of curb, above a catch basin on the northerly side of Dublin Blvd., 121.5 feet westerly of the centerline of I-680, approximately 43 feet northerly of the old centerline of Dublin Blvd.
Benchmark Elev. = 331.60 feet, USGS datum.

Well No.	Rim Elevation	TOC Elevation
MW-1	334.06'	333.76'
MW-3	333.32'	332.90'
MW-4	332.99'	332.64'
MW-5	333.48'	333.20'

Measurements taken at approximate north side of top of box, top of casings were marked at location of measurements.

Sincerely,



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

APPENDIX E

**LABORATORY ANALYTICAL REPORTS
AND CHAIN-OF-CUSTODY RECORDS**



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

Client Proj. ID: Chevron 9-2582, Dublin
Sample Descript: MW-4-9.5
Matrix: SOLID
Analysis Method: 8015Mod/8020
Lab Number: 9602F14-01

Sampled: 02/21/96
Received: 02/21/96
Extracted: 02/27/96
Analyzed: 02/28/96
Reported: 03/18/96

Attention: Barbara Sieminski

QC Batch Number: GC022796BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		N.D.
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	91

RECEIVED

MAR 19 1996

GETTLER-RYAN INC.
GENERAL CONTRACTORS

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

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager



Gettler Ryan/Geostrategies 6747 Sierra Court Suite G Dublin, CA 94568	Client Proj. ID: Chevron 9-2582, Dublin Sample Descript: MW-5-9.5 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9602F14-02	Sampled: 02/21/96 Received: 02/21/96 Extracted: 02/27/96 Analyzed: 02/28/96 Reported: 03/18/96
Attention: Barbara Sieminski		
QC Batch Number: GC022796BTEXEXA Instrument ID: GCHP18		


Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	92

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

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager



Sequoia Analytical

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
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(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

Gettler Ryan/Geostrategies 6747 Sierra Court, Ste J Dublin, CA 94568 Attention: Barbara Sieminski	Client Project ID: Chevron 9-2582, Dublin Matrix: Solid Work Order #: 9602F14 -01 -02	Reported: Feb 28, 1996
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QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC022796BTEXEXB	GC022796BTEXEXB	GC022796BTEXEXB	GC022796BTEXEXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	E. Cunanan	E. Cunanan	E. Cunanan	E. Cunanan
MS/MSD #:	9602C89-07	9602C89-07	9602C89-07	9602C89-07
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/27/96	2/27/96	2/27/96	2/27/96
Analyzed Date:	2/27/96	2/27/96	2/27/96	2/27/96
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	0.18	0.18	0.55
MS% Recovery:	85	90	90	92
Dup. Result:	0.17	0.17	0.18	0.53
MSD % Recov.:	85	85	90	88
RPD:	0.0	5.7	0.0	3.7
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	GBLK022796BS-A	GBLK022796BS-A	BLK022796BS-A	GBLK022796BS-A
Prepared Date:	2/27/96	2/27/96	2/27/96	2/27/96
Analyzed Date:	2/27/96	2/27/96	2/27/96	2/27/96
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
LCS Result:	0.20	0.20	0.20	0.60
LCS % Recov.:	100	100	100	100

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

9602F14.GET <1>



Sequoia
Analytical

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FAX (916) 921-0100

RECEIVED

FEB 29 1996

Gettler Ryan/Geostrategies 6747 Sierra Court Suite G Dublin, CA 94568	Client Proj. ID: Chevron 9-2582 Sample Descript: SP-(A-D) comp Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9602F06-01	Gettler-Ryan, Inc. GENERAL CONTRACTORS Dublin, CA 94568	Sampled: 02/22/96 Received: 02/23/96 Extracted: 02/26/96 Analyzed: 02/26/96 Reported: 02/27/96
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QC Batch Number: GC022696BTEXEXA
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	88

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager



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

Client Project ID: Chevron 9-2582, Dublin
Matrix: Solid

Work Order #: 9602F06 -01

Reported: Feb 28, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC022696BTEXEXA	GC022696BTEXEXA	GC022696BTEXEXA	GC022696BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Maralit	A. Maralit	A. Maralit	A. Maralit
MS/MSD #:	9602E84-05	9602E84-05	9602E84-05	9602E84-05
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	2/26/96	2/26/96	2/26/96	2/26/96
Analyzed Date:	2/26/96	2/26/96	2/26/96	2/26/96
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
Result:	0.18	0.19	0.19	0.57
MS % Recovery:	90	95	95	95
Dup. Result:	0.19	0.19	0.19	0.58
MSD % Recov.:	95	95	95	97
RPD:	5.4	0.0	0.0	1.7
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	GBLK022696BS-A	GBLK022696BS-A	BLK022696BS-A	GBLK022696BS-A
Prepared Date:	2/26/96	2/26/96	2/26/96	2/26/96
Analyzed Date:	2/26/96	2/26/96	2/26/96	2/26/96
Instrument I.D.#:	GCHP18	GCHP18	GCHP18	GCHP18
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
LCS Result:	0.20	0.20	0.20	0.59
LCS % Recov.:	100	100	100	98

MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150
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Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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

9602F06.GET <1>

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

Chevron Facility Number 9-2582
Facility Address 7240 Dublin Blvd, Dublin
Consultant Project Number 5274.01
Consultant Name Gettler-Ryan
Address 6747 Sierra Ct, Ste J, Dublin 94568
Project Contact (Name) Barbara Sieminski
(Phone) 551-7555 (Fax Number) 551-7888

Chevron Contact (Name) Brett Hunter
(Phone) (510) 842-8695
Laboratory Name Sequoia
Laboratory Release Number 1539970
Samples Collected by (Name) Barbara Sieminski
Collection Date 02/22/96
Signature B. 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)	Analyses To Be Performed										Remarks			
								TPH Gas + BTEX (8016)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)						
SP-A	01 A	1	S	G	16:07		Yes	X													
SP-B	1 B	1			16:09		Yes	X													
SP-C	1 C	1			16:11		Yes	X													
SP-D	1 D	1	W	D	16:13		Yes	X													

DO NOT BILL TB-LB ANALYSIS!

9602F06

Remarks

Relinquished By (Signature) <u>Barbara Sieminski</u>	Organization <u>G-R</u>	Date/Time <u>02/22/96 16:50</u>	Received By (Signature) <u>Deanna Hardin</u>	Organization <u>G-R</u>	Date/Time <u>2/22/96 18:50</u>	Turn Around Time (Circle Choice) 24 Hrs. <u>48 Hrs.</u> 5 Days 10 Days As Contracted
Relinquished By (Signature) <u>D. Hardin</u>	Organization <u>G-R</u>	Date/Time <u>7/23/96</u>	Received By (Signature) <u>Michael Klein</u>	Organization <u>Sequoia</u>	Date/Time <u>2-23-96 (60c)</u>	
Relinquished By (Signature) <u>Michael Klein</u>	Organization	Date/Time <u>2-23-96 16:55</u>	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>02/23/96 18:05</u>	

COC-3.DWG/03 81/HCH



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

RECEIVED

MAR 11 1996

GETTLER-RYAN INC.

Gettler Ryan/Geostrategies 6747 Sierra Court Suite G Dublin, CA 94568	Client Proj. ID: Chevron 9-2582, Dublin Sample Descript: TB-LB Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9603138-01	GENERAL CO Sampled: 03/01/96 Received: 03/01/96 Analyzed: 03/06/96 Reported: 03/07/96
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QC Batch Number: GC030696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	77

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager



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

Client Proj. ID: Chevron 9-2582, Dublin
Sample Descript: MW-5
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9603138-02

Sampled: 03/01/96
Received: 03/01/96
Analyzed: 03/06/96
Reported: 03/07/96

Attention: Deanna Harding


QC Batch Number: GC030696BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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



Gettler Ryan/Geostrategies 6747 Sierra Court Suite G Dublin, CA 94568	Client Proj. ID: Chevron 9-2582, Dublin Sample Descript: MW-4 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9603138-03	Sampled: 03/01/96 Received: 03/01/96 Analyzed: 03/06/96 Reported: 03/07/96
Attention: Deanna Harding		
QC Batch Number: GC030696BTEX21A		
Instrument ID: GCHP21		

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

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

Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	73

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

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager



Gettler Ryan/Geostrategies
6747 Sierra Court, Ste J
Dublin, CA 94568
Attention: Deanna Harding

Client Project ID: Chevron 9-2582, Dublin
Matrix: Liquid

Work Order #: 9603138 -01 - 03

Reported: Mar 8, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC030696BTEX21A	GC030696BTEX21A	GC030696BTEX21A	GC030696BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	G9602J35-01B	G9602J35-01B	G9602J35-01B	G9602J35-01B
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	3/6/96	3/6/96	3/6/96	3/6/96
Analyzed Date:	3/6/96	3/6/96	3/6/96	3/6/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	9.5	8.5	8.1	24
MS % Recovery:	95	85	81	80
Dup. Result:	8.2	7.6	9.0	28
MSD % Recov.:	82	76	90	93
RPD:	15	11	11	15
RPD Limit:	0-50	0-50	0-50	0-50

LCS #:	GBLK030696B	GBLK030696B	GBLK030696B	GBLK030696B
Prepared Date:	3/6/96	3/6/96	3/6/96	3/6/96
Analyzed Date:	3/6/96	3/6/96	3/6/96	3/6/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	11	11	11	32
LCS % Recov.:	110	110	110	107

MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130
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Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

(Signature)
Mike Gregory
Project Manager

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

