

ENVIRONMENTAL
PROTECTION

96 OCT -8 AM 8:45



Chevron

October 1, 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: Chevron Station # 9-5542, 7007 San Ramon Valley Rd., Dublin, CA
Attached Soil Boring and Well Installation Report (G-R, 8/29/96)

Dear Ms. Chu:

Please find attached a report dated August 29, 1996 that was prepared by Chevron's consultant, Gettler-Ryan, Inc. (G-R), to describe the results of their subsurface investigation that was performed at the subject site on June 12, 1996. The purpose of G-R's investigation was to obtain site specific soil data for Tier 2 modeling purposes and to define the downgradient extent of dissolved hydrocarbons in groundwater.

The investigation included the drilling and sampling of two soil borings near the subject site and the drilling and installation of one groundwater monitoring well downgradient from the site in Dublin Boulevard. Soil samples collected from the two soil borings were analyzed for the presence of TPHGas and BTEX constituents. None were detected. Soil samples were also collected and analyzed for fraction organic carbon, porosity, and bulk density. The results from these analyses were forwarded to another consultant to supplement a Tier 2 risk model.

Grab groundwater samples were collected from both soil borings and were analyzed for TPHGas and BTEX constituents. There were detections of each analyte measured in groundwater at boring B-3, located downgradient from the hydrocarbon source area onsite. The detected concentrations were consistent with historic groundwater data. There were no dissolved hydrocarbons detected in groundwater at soil boring B-4 or from monitoring well MW-10. Monitoring well MW-10 will be included in the existing monitoring and reporting program for the subject site. Based on the initial sampling results from well MW-10, it appears that the downgradient extent of the hydrocarbon plume is defined.

A report describing the results of a Tier 2 risk model for the subject site is forthcoming. 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

1/22 - Asked Brett for QWRs. He will send.
However, RBCA not yet completed

Attachment

cc: Mary Diamond, See's Candy, 3423 S. La Cienega Blvd., Los Angeles, CA 90016-4401
Kevin Graves, San Francisco Bay RWQCB, Oakland, CA (w/o attachment)
See's Real Estate, 210 El Camino Real, S. San Francisco, CA 94080 (w/o attachment)



GETTLER-RYAN INC.

ENVIRONMENTAL
PROTECTION
96 OCT -8 AM 8:46

SOIL BORING AND WELL INSTALLATION REPORT

at

Chevron Service Station #9-5542
7007 San Ramon Road
Dublin, California

Project No. 5290.01-2

Prepared for:

Mr. Brett Hunter
Chevron Products Company
P.O. Box 5004
San Ramon, California 94583

Prepared by:

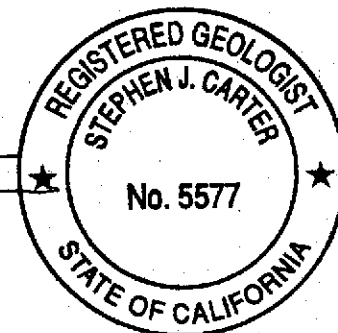
Gettler-Ryan Inc.
6747 Sierra Court, Suite J
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Barbara Sieminski

Barbara Sieminski
Project Geologist

Stephen J. Carter

Stephen J. Carter
Senior Geologist
R.G. 5577



August 29, 1996

TABLE OF CONTENTS

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

TABLES

Table 1: Analytical Results

FIGURES

Figure 1. Vicinity Map

Figure 2. Site Plan

APPENDICES

Appendix A: G-R Field Methods and Procedures

Appendix B: Well Installation Permits and Boring Logs

Appendix C: Well Development and Sampling Field Data Sheets

Appendix D: Laboratory Analytical Reports and Chain-of-Custody Records

EXECUTIVE SUMMARY

Gettler-Ryan Inc. (G-R) presents this report for a limited subsurface investigation at Chevron Service Station #9 - 5542 located at 7007 San Ramon Road in Dublin, California. ~~Two off-site soil borings (B-3 and B-4) were drilled and one groundwater monitoring well (MW-10) was installed~~ during this investigation.

Gravelly silt was encountered in borings B-3 and B-4 from beneath the ground surface to approximately 2 feet below ground surface (bgs). The gravelly silt was underlain by clay to sandy clay interbedded with clayey to silty sand layers to the total depth explored of 30 feet bgs. Soil samples were not collected from well boring MW-10 because this well was installed within 5 feet of previously drilled boring SB-3. ~~Groundwater was encountered between 21 to 24.5 feet bgs.~~

Porosity of soil from borings B-3 and B-4 ranged from 29.9% to 38.0%, bulk density of dry soil ranged from 1.65 grams per cubic centimeter (gm/cc) to 1.87 gm/cc, and bulk density of wet soil ranged from 2.03 gm/cc to 2.17 gm/cc.

Based on the analytical results from soil samples collected and analyzed during this investigation, it appears that the soil immediately north (near boring B-4) and east (near boring B-3) of the subject site has not been impacted by petroleum hydrocarbons.

Based on the analytical results from groundwater samples collected and analyzed during this investigation, it appears that the shallow groundwater immediately north of the subject site has not been impacted by petroleum hydrocarbons. However, the shallow groundwater immediately east of the site has been impacted by gasoline hydrocarbons at concentrations of 63,000 ppb TPHg and 5,600 ppb benzene. The lateral extent of hydrocarbon impacted groundwater east of the subject site has been delineated to nondetectable levels of TPHg and benzene in well MW-10.



GETTLER - RYAN INC.

SOIL BORING AND WELL INSTALLATION REPORT

at

Chevron Service Station #9-5542
7007 San Ramon Road
Dublin, California

Project No. 5290.01-2

1.0 INTRODUCTION

This report summarizes the results of a limited subsurface investigation performed at Chevron Station #9-5542, located at 7007 San Ramon Road, Dublin, California (Figure 1). The work was performed at the request of Chevron Products Company (Chevron) to further assess soil and groundwater conditions in the vicinity of the subject site. Field work was performed as described in G-R's *Work Plan for Limited Subsurface Investigation* dated March 26, 1996. This work plan was approved by the Alameda County Health Care Services Agency (ACHCSA). The scope of work included: drilling three off-site soil borings (B-3, B-4 and MW-10); installing groundwater monitoring well in boring MW-10; collecting soil and grab groundwater samples from borings B-3 and B-4 for chemical and physical analysis; developing and sampling the newly installed well MW-10; arranging for Chevron's contractor to dispose of the waste materials; and preparing a report documenting the work.

2.0 SITE DESCRIPTION

2.1 General

The subject site is an operating Chevron service station located on the northeastern corner of the intersection of San Ramon Road and Dublin Boulevard in Dublin, California (Figure 1). Aboveground site facilities consist of a station building and two product dispenser islands. Three gasoline underground storage tanks (USTs) are located in a common pit southeast of the dispenser islands. A former waste oil UST was situated east of the northernmost dispenser island. Locations of the wells and other pertinent site features are shown on Figure 2. Five soil borings (B-1, B-2, SB-1 through SB-3) were drilled, and nine groundwater monitoring wells (MW-1 through MW-9) and two vapor extraction wells (VW-1 and VW-2), were installed on- and off-site prior to this investigation. Groundwater monitoring and sampling at the site began in 1990.

2.2 Geology and Hydrogeology

The site is located in the San Ramon Valley, a down-dropped block within the Diablo Range bounded to the west by the Calaveras Fault and to the east by the Pleasanton Fault (California Department of Water Resources, Bulletin 118-2). Local topography is relatively flat at an elevation of approximately 360 feet above mean sea level. Soil in the vicinity is mapped as Holocene coarse-grained alluvium that consists of unconsolidated, moderately sorted sand and silt with coarse sand and gravel. The Holocene alluvium overlies late Pleistocene alluvium, which consists of weakly consolidated, poorly sorted, irregularly interbedded clay, silt, sand and gravel (E.J. Helley and others, 1979). The Calaveras Fault is situated approximately 0.1 mile to the west.

The site is situated within the Dublin Subbasin. Groundwater in this subbasin has been reported at depths ranging from 10 to 60 feet bgs (Alameda County Flood Control and Water Conservation District, 1991). Historical groundwater monitoring data from the site indicate that shallow groundwater is currently encountered at approximately 24 to 26 feet bgs and flows toward the east with a gradient of 0.007. ~~The nearest surface water in the site vicinity is Dublin Creek located approximately ¼-mile south of the site.~~

3.0 FIELD WORK

Field work was conducted in accordance with G-R's Field Methods and Procedures (Appendix A) and the Site Safety Plan dated June 11, 1996. A well installation permit was acquired from the Zone 7 Water Agency, a street encroachment permit was acquired from the City of Dublin Public Works Department (CDPWD), and Underground Service Alert was notified prior to drilling at the site. Copies of the permits are included in Appendix B.

3.1 Drilling Activities

On June 12, 1996, a G-R geologist observed Bay Area Exploration Services, Inc., (C57 #522125) drill three off-site borings (B-3, B-4 and MW-10) at the locations shown on Figure 2. The borings were drilled using 8-inch hollow-stem augers driven by a truck-mounted CME-55 drill rig. Borings B-3 and B-4 were drilled to 30 feet bgs and boring MW-10 was drilled to 35 feet bgs. Borings B-3 and B-4 were sampled continuously from 5 feet bgs to the total depths of the borings using a 5-foot core barrel sampler. However, no samples were recovered from 7 to 10 feet bgs in boring B-3, and from 6.5 to 10 feet bgs and 12.5 to 25 feet bgs in boring B-4. Therefore, a grab sample was collected from the drill cuttings from 18 feet in boring B-4 (sample B4-18), and a split spoon sampler was driven into the bottom of this boring to recover the lost sample from 20-25 foot interval (sample B4-24). Soil samples were not collected from boring MW-10 because this boring was located only 5 feet of boring SB-3. The G-R geologist prepared a log of borings B-3 and B-4 and screened the soil samples in the field for the presence of volatile organic compounds. Screening data are presented on the boring logs (Appendix B).

A groundwater monitoring well was constructed in boring MW-10. The well was constructed using two-inch diameter, 0.010-inch machine-slotted Schedule 40 PVC screen. Lonestar #2/12 graded sand was placed in the well across the entire screen interval and extended approximately 2 feet above the top of the screen. The well was then sealed with 1-foot of hydrated bentonite chips followed by neat cement. Well construction details are presented on the boring log in Appendix B.

Grab groundwater samples were collected from borings B-3 and B-4 for chemical analysis. After collection of the groundwater samples, these borings were backfilled to the ground surface with neat cement.

Drill cuttings were stockpiled on-site, placed on and covered with plastic sheeting. After completion of drilling, four samples for disposal characterization were collected from the stockpiled soil and submitted to the laboratory for compositing and analysis as sample SP-A,B,C,D(comp). On June 20, 1996, the soil stockpile was removed from the site and transported to the BFI Landfill in Livermore by Integrated Wastestream Management (IWM).

3.2 Well Development and Sampling

On June 20, 1996, groundwater monitoring well MW-10 was developed and sampled by G-R personnel. The well was developed using a vented surge block and hand-bailing. After completion of well development, the groundwater samples were collected from the well for laboratory analysis. The groundwater generated during well development and sampling was transported to McKittrick Waste Management by IWM. Copies of the Well Development and Sampling Field Data Sheets are included in Appendix C.

3.3 Wellhead Survey

Well MW-10 was not surveyed at this time. According to the CDPWD the street in the vicinity of the well will be repaved in the near future. After street repaving, the well box will be reset, and then the well will be surveyed relative to mean sea level by a California licensed land surveyor.

3.4 Laboratory Analysis

Soil and groundwater samples collected during this investigation were delivered under chain-of-custody to Sequoia Analytical in Redwood City, California (ELAP #1210). The groundwater samples, one unsaturated soil sample from each boring (B3-18 and B4-12) and the composite soil stockpile sample were analyzed for total petroleum hydrocarbons as gasoline (TPHg), and gasoline constituents benzene, toluene, ethylbenzene and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8015Mod/8020. The groundwater sample collected from well MW-10 was also analyzed for methyl t-butyl ether (MTBE) using EPA Method 8015Mod/8020. Selected soil samples collected from borings B-3 and B-4 were also analyzed for fraction organic carbon, dry and wet bulk

density and total porosity. Copies of the laboratory analytical reports and chain-of-custody records are included in Appendix D.

4.0 RESULTS

4.1 Subsurface Conditions

Gravelly silt was encountered in borings B-3 and B-4 immediately beneath the ground surface and extended to approximately 2 feet bgs. A clayey unit consisting predominantly of clay to sandy clay was encountered beneath the gravelly silt to the total depth explored of 30 feet bgs. Clayey to silty sand layers to approximately 5 feet thick were encountered within this clayey unit. These clayey to silty sand layers did not appear to be laterally continuous between borings B-3 and B-4. Groundwater was encountered between 21 to 24.5 feet bgs. Detailed descriptions of the subsurface materials encountered during drilling are presented on the boring logs in Appendix B.

4.2 Soil Analytical Results

Petroleum hydrocarbons were not detected in soil samples from 18 feet bgs in boring B-3 or 12 feet bgs in boring B-4. Organic carbon was less than 1% in all soil samples analyzed. Total porosity of these samples ranged from 29.9% to 38.0%. Bulk density of dry samples ranged from 1.65 grams per cubic centimeter (gm/cc) to 1.87 gm/cc, and bulk density of wet samples ranged from 2.03 gm/cc to 2.17 gm/cc.

The composite soil stockpile sample contained low concentrations of toluene (0.015 parts per million [ppm]), ethylbenzene (0.014 ppm) and total xylenes (0.084 ppm). TPHg and benzene were not detected in this sample. Soil chemical analytical data are summarized in Table 1.

4.3 Groundwater Analytical Results

Petroleum hydrocarbons were not detected in the groundwater samples collected from boring B-4 or well MW-10. The grab groundwater sample collected from boring B-3 contained 63,000 parts per billion (ppb) TPHg, 5,600 ppb benzene, 2,900 ppb ethylbenzene and 7,900 ppb total xylenes. Groundwater chemical analytical data are summarized in Table 1.

5.0 CONCLUSIONS

Based on the analytical results from soil samples collected and analyzed during this investigation, it appears that the soil immediately north (near boring B-4) or east (near boring B-3) of the subject site has not been impacted by petroleum hydrocarbons.

Based on the analytical results from groundwater samples collected and analyzed during this investigation, it appears that shallow groundwater immediately north of the subject site has not been impacted by petroleum hydrocarbons. However, shallow groundwater immediately east of the site has been impacted by gasoline hydrocarbons at concentrations of 63,000 ppb TPHg and 5,600 ppb benzene. The lateral extent of hydrocarbon impacted groundwater east of the subject site has been delineated to nondetectable levels of TPHg and benzene in well MW-10.

6.0 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: U.S. Geological Survey Professional Paper 943.

Gettler-Ryan Inc., March 26, 1996, Work Plan for Limited Subsurface Investigation at Chevron Service Station No. 9-5542, 7007 San Ramon Road, Dublin, California, Report No. 5290.01-1

Table 1. Analytical Results - Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California.

| Sample ID | Depth (ft) | Date | Analytic Method | TPHg | | | | | | Organic Carbon % | Bulk Density | | Porosity % |
|----------------------------|------------|----------|---------------------|--------|---------|---------|---------|---------|-----------|------------------|--------------|------|------------|
| | | | | B | T | E | X | MTBE | Dry gm/cc | | Wet gm/cc | | |
| Soil Samples | | | | | | | | | | | | | |
| B3-6 | 6 | 06/12/96 | 8015/8020/API RP-40 | -- | -- | -- | -- | -- | -- | <1.0 | 1.65 | 2.03 | 38.0 |
| B3-12 | 12 | 06/12/96 | 8015/8020/API RP-40 | -- | -- | -- | -- | -- | -- | <1.0 | 1.87 | 2.17 | 30.2 |
| B3-16 | 16 | 06/12/96 | 8015/8020/API RP-40 | -- | -- | -- | -- | -- | -- | <1.0 | 1.87 | 2.17 | 29.9 |
| B3-18 | 18 | 06/12/96 | 8015/8020/API RP-40 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | -- | <1.0 | 1.81 | 2.13 | 32.3 |
| B4-6 | 6 | 06/12/96 | 8015/8020/API RP-40 | -- | -- | -- | -- | -- | -- | <1.0 | 1.76 | 2.10 | 33.6 |
| B4-12 | 12 | 06/12/96 | 8015/8020/API RP-40 | <1.0 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | -- | <1.0 | 1.87 | 2.17 | 30.1 |
| B4-18 | 18 | 06/12/96 | 8015/8020/API RP-40 | -- | -- | -- | -- | -- | -- | <1.0 | -- | -- | -- |
| SP-(A-D) comp | -- | 06/12/96 | 8015/8020 | <1.0 | <0.0050 | 0.015 | 0.014 | 0.084 | -- | -- | -- | -- | -- |
| Groundwater Samples | | | | | | | | | | | | | |
| B3-W* | -- | 06/12/96 | 8015/8020 | 63,000 | 5,600 | 2,900 | 1,800 | 7,900 | -- | -- | -- | -- | -- |
| B4-W* | -- | 06/12/96 | 8015/8020 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | -- | -- | -- | -- | -- |
| MW-10 | -- | 06/20/96 | 8015/8020 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | -- | -- | -- | -- |
| TB-LB | -- | 06/20/96 | 8015/8020 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | -- | -- | -- | -- |

EXPLANATION:

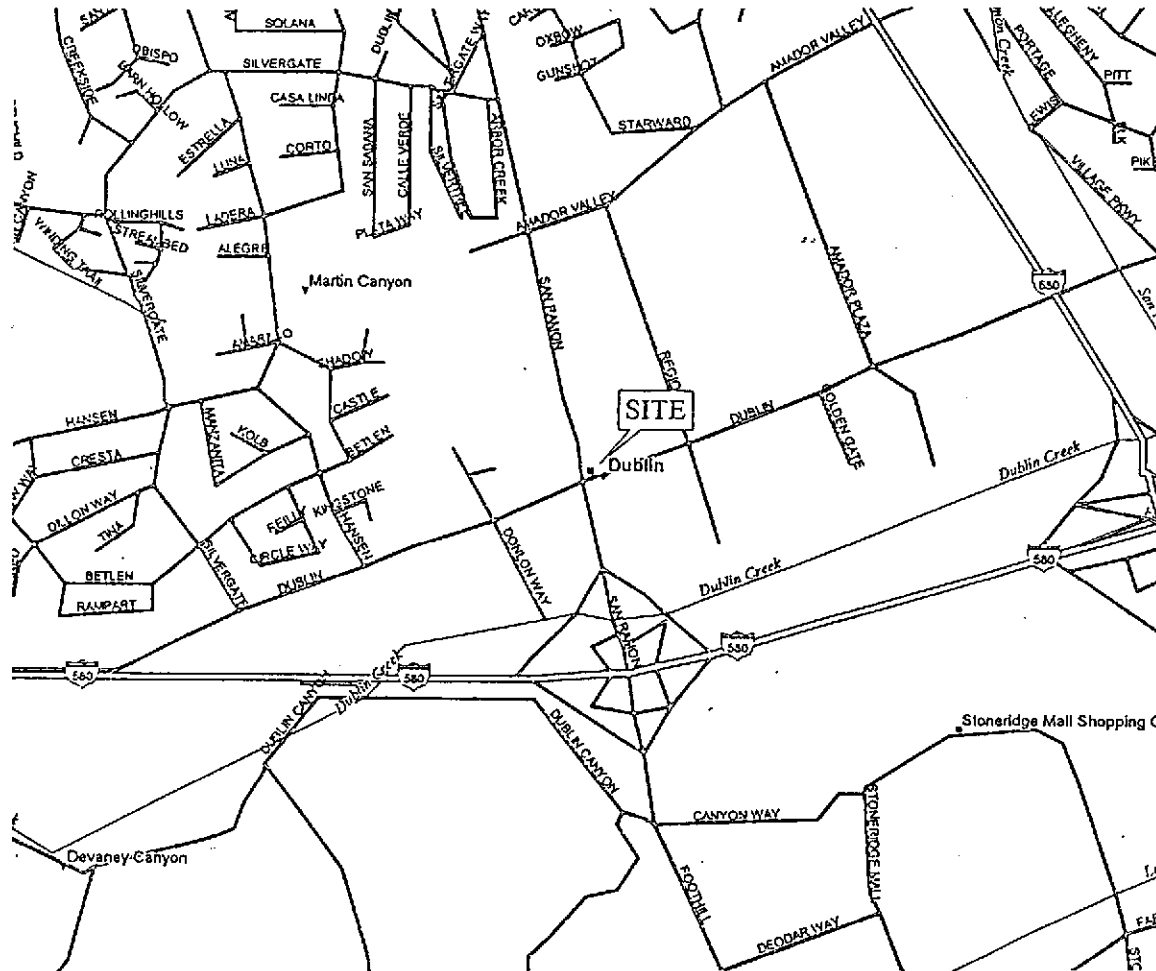
TPHg = Total Petroleum Hydrocarbons as gasoline
 B = Benzene
 T = Toluene
 E = Ethylbenzene
 X = Xylenes
 MTBE = Methyl t-Butyl Ether
 ppm = Parts per million
 gm/cc = Grams per cubic centimeter
 -- = Not analyzed/not applicable
 ppb = Parts per billion
 * = Grab groundwater sample collected from boring
 TB-LB = Trip blank sample

ANALYTICAL METHODS:

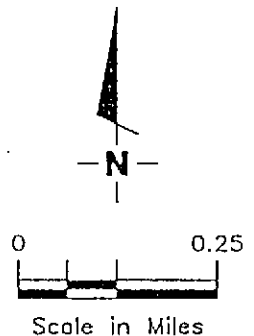
8015 = EPA Method 8015Mod for TPHg.
 8020 = EPA Method 8020 for BTEX and MTBE
 API RP-40 = API Recommended Practice for Core-Analysis Procedure, 1960.

ANALYTICAL LABORATORY:

Sequoia Analytical of Redwood City, California.



Source: Street Atlas USA, Delorme (1995).



Gettler - Ryan Inc.

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

VICINITY MAP
Chevron Service Station No. 9-5542
7007 San Ramon Road
Dublin, California

FIGURE

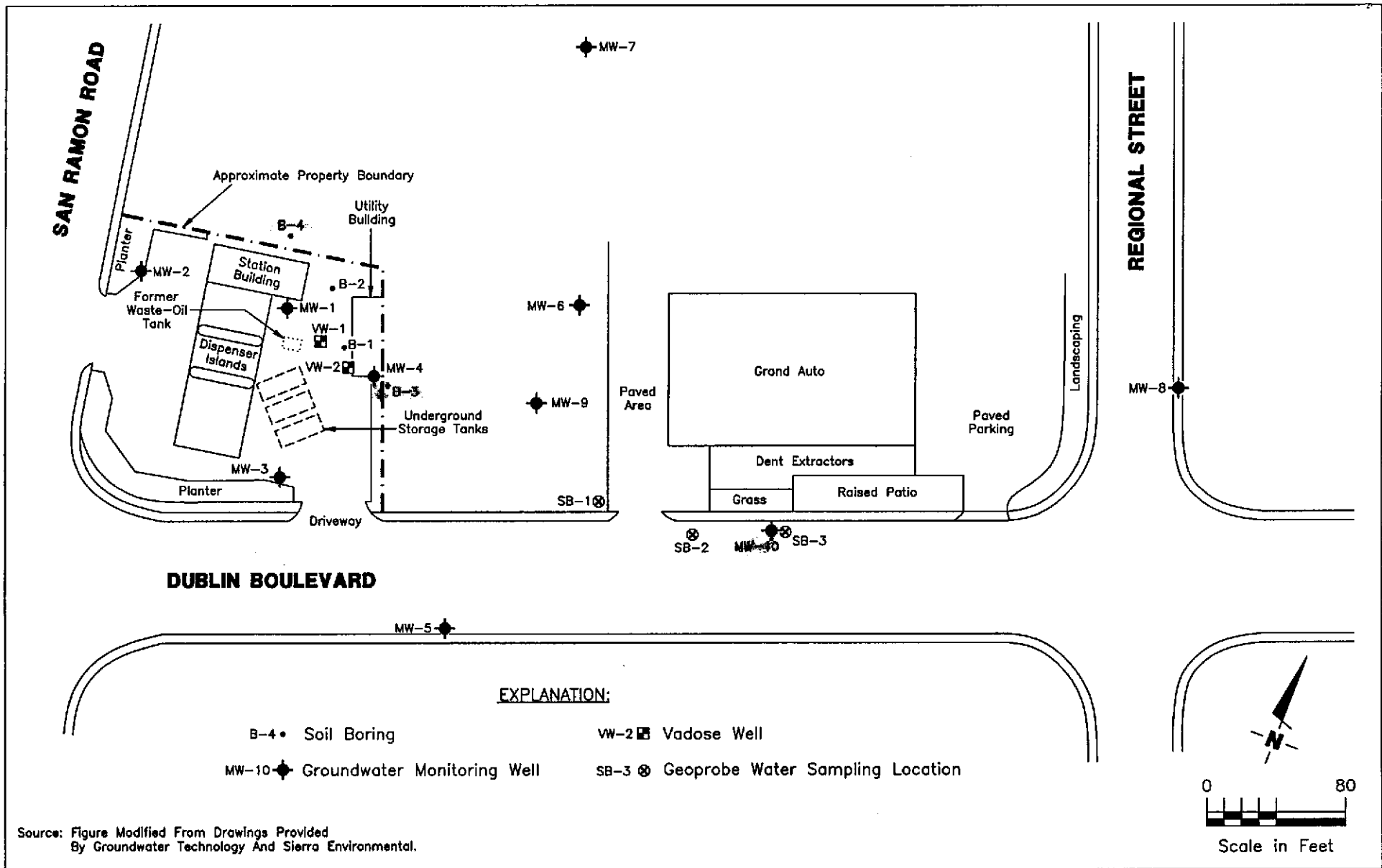
1

JOB NUMBER
5290

REVIEWED BY

DATE
3/96

REVISED DATE



Gettler - Ryan Inc.

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

SITE PLAN
Chevron Service Station No. 9-5542
7007 San Ramon Road
Dublin, California

FIGURE

2

JOB NUMBER
5290

REVIEWED BY
[Signature]

DATE
8/96

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 of these plans contents 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 photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Exploratory soil borings are drilled by a California-licensed well driller. A 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 exploratory soil boring with a split-barrel sampler or other appropriate sampling device fitted with clean brass or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soil is described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based on:

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

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing some soil from one of the sample tubes not retained for chemical analysis and immediately covering the end of the tube with a plastic cap. The PID probe is inserted into the headspace inside the tube through a hole in the plastic cap. Head-space screening results are recorded on the boring log.

Head-space screening procedures are performed and results recorded as reconnaissance data. 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 borings with Schedule 40 polyvinyl Chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen which generally extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular space adjacent to the entire screened interval. A bentonite transition seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

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

Storing and sampling of Drill Cuttings

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

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and then driving the stainless or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.

Wellhead Survey

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

Well Development

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

is recorded. Wells are then developed by alternately surging the well with the bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized.

Groundwater Monitoring and Sampling

Decontamination Procedures

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

Water-Level Measurements

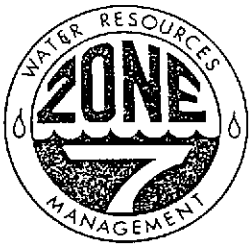
Prior to sampling each well, the static water level is measured using an electric sounder and/or calibrated portable oil-water interface probe. Both static water-level and separate-phase product thickness are measured to the nearest ± 0.01 foot. The presence of separate-phase product is confirmed using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

Sample Collection and Labeling

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

APPENDIX B

**WELL INSTALLATION PERMITS
AND BORING LOGS**



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

FOR OFFICE USE

LOCATION OF PROJECT CHEVRON STATION # 9-5542
7007 SAN RAMON ROAD
DUBLIN, CA

PERMIT NUMBER 96309
LOCATION NUMBER _____

CLIENT
Name CHEVRON USA PRODUCTS COMPANY
Address P.O. BOX 5004 Voice _____
City SAN RAMON Zip 94585

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name GEO-STRATEGIS
TODD DEL FRATE Fax (916) 631-1317
Address 3104 GOLD CAMP DR, #240 Voice (916) 631-1333
City RANCHO SACRAMENTO Zip 95670

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
Cathodic Protection _____
Water Supply _____
Monitoring _____
Geotechnical Investigation
General _____
Contamination _____
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 HOLLOW-STEM
Cable _____ Other _____

- D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.
E. WELL DESTRUCTION. See attached.

DRILLER'S LICENSE NO. C57 - 522125

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum _____
Casing Diameter 2 in. Depth 35 ft.
Surface Seal Depth 13 ft. Number 1

GEOTECHNICAL PROJECTS
Number of Borings 2 Maximum _____
Hole Diameter 2 in. Depth 25 ft.

ESTIMATED STARTING DATE 5-22-96
ESTIMATED COMPLETION DATE 5-22-96

Approved Wyman Hong Date 26 Apr 96
Wyman Hong

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

APPLICANT'S SIGNATURE Joel C. D. [Signature] Date 4-18-96

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

96-41

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>GETTLER - RYAN INC.</u> Address: <u>3164 GOLD CAMP DR. #240</u> <u>RANCHO CORDOVA 95670</u> Telephone <u>916) 631-1314</u> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Permit Fee:</td><td style="text-align: right;">\$ 90.-</td></tr> <tr><td>Plancheck Fee:</td><td style="text-align: right;">\$</td></tr> <tr><td>Resurfacing Surcharge:</td><td style="text-align: right;">\$</td></tr> <tr><td>Inspection Fees:</td><td style="text-align: right;">\$ 80.00</td></tr> <tr><td> </td><td style="text-align: right;">\$</td></tr> <tr><td> </td><td style="text-align: right;">\$</td></tr> <tr><td>Total Fees:</td><td style="text-align: right;">\$ 90.00</td></tr> <tr><td>Bond: Surety: \$ 2000⁰⁰ Cash:</td><td style="text-align: right;">\$</td></tr> </table> | Permit Fee: | \$ 90.- | Plancheck Fee: | \$ | Resurfacing Surcharge: | \$ | Inspection Fees: | \$ 80.00 | | \$ | | \$ | Total Fees: | \$ 90.00 | Bond: Surety: \$ 2000 ⁰⁰ Cash: | \$ |
| Permit Fee: | \$ 90.- | | | | | | | | | | | | | | | | |
| Plancheck Fee: | \$ | | | | | | | | | | | | | | | | |
| Resurfacing Surcharge: | \$ | | | | | | | | | | | | | | | | |
| Inspection Fees: | \$ 80.00 | | | | | | | | | | | | | | | | |
| | \$ | | | | | | | | | | | | | | | | |
| | \$ | | | | | | | | | | | | | | | | |
| Total Fees: | \$ 90.00 | | | | | | | | | | | | | | | | |
| Bond: Surety: \$ 2000 ⁰⁰ Cash: | \$ | | | | | | | | | | | | | | | | |

| | |
|------------------------|------------------|
| | |
| Completion Date: _____ | Inspector: _____ |

| 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 B-3

PROJECT: Chevron SS# 9-5542

LOCATION: 7007 San Ramon Road, Dublin, CA

G-R PROJECT NO.: 5290.01

SURFACE ELEVATION: feet MSL

DATE STARTED: 06/12/96

WL (ft. bgs): 23.3 DATE: 06/12/96 TIME: 14:30

DATE FINISHED: 06/12/96

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: 6 in. Hollow Stem Auger

TOTAL DEPTH: 30 Feet

DRILLING COMPANY: Bay Area Exploration, Inc.

GEOLOGIST: B. Sieminski

| DEPTH feet | PTD (ppm) | BLOWS/FT. * | SAMPLE NUMBER | SAMPLE INT. | GRAPHIC LOG | SOIL CLASS | GEOLOGIC DESCRIPTION | REMARKS |
|---------------|--------------|-------------|---------------|-------------|-------------|------------|---|---|
| | | | | | | ML | GRAVELLY SILT (ML) - brown (7.5YR 5/2), damp; 50% silt, 30% fine gravel, 20% fine to coarse sand. | Boring backfilled with neat cement with 2% bentonite. |
| 5 | 0 | | B3-6 | | | CL | CLAY WITH SAND (CL) - dark grayish brown (2.5Y 4/2), damp, low plasticity; 85% clay, 15% fine to coarse sand, trace fine gravel. | |
| 10 | 0 | | B3-10 | | | CL | SANDY CLAY (CL) - dark grayish brown (2.5Y 4/2), moist, low plasticity; 65% clay, 30% fine to coarse sand, 5% fine gravel. | |
| | | | B3-12 | | | | | |
| | | | B3-14 | | | | | |
| 15 | 0 | | B3-16 | | | SC | CLAYEY SAND (SC) - dark grayish brown (2.5Y 4/2), moist; 60% fine sand, 40% clay. | |
| | | | B3-18 | | | CL | CLAY WITH SAND (CL) - olive (5Y4/3) with white (5Y 8/1) and brown (10 YR 5/3) mottling, moist, low plasticity; 85% clay, 15% fine to coarse sand. | |
| 20 | 0 | | B3-20 | | | | | |
| | 320 | | B3-22 | | | | | |
| | 980 | | B3-24 | | | | ∇ Becomes saturated at 23.3 feet. | |
| 25 | 1050 | | B3-26 | | | SC | CLAYEY SAND (SC) - dark greenish gray (5GY 4/1), saturated; 60% fine sand, 40% clay; product odor. | |
| | 370 | | B3-28 | | | CL | SANDY CLAY (CL) - dark greenish gray (5GY 4/1), saturated, low plasticity; 60% fine to coarse sand, 40% clay, trace fine gravel; product odor. | |
| 30 | 760 | | B3-29.5 | | | | Color changes to olive (5Y 4/3) with white mottling (5Y 8/1), sand decreases to 30%, becomes moist. | |
| | | | | | | | Bottom of boring at 30 feet, 06/12/96. | |
| | | | | | | | (* = not applicable - sampling performed using 5-foot core barrel.) | |

Gettler-Ryan, Inc.

Log of Boring B-4

PROJECT: *Chevron SS# 9-5542*

LOCATION: *7007 San Ramon Road, Dublin, CA*

G-R PROJECT NO. : *5290.01*

SURFACE ELEVATION: *feet MSL*

DATE STARTED: *06/12/96*

WL (ft. bgs): *24.5* DATE: *06/12/96* TIME: *16:10*

DATE FINISHED: *06/12/96*

WL (ft. bgs): DATE: TIME:

DRILLING METHOD: *6 in. Hollow Stem Auger*

TOTAL DEPTH: *30 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 | | | B4-6 | | | ML | GRAVELLY SILT (ML) - grayish brown (10YR 5/2), damp, low plasticity; 50% silt, 30% fine gravel, 20% fine to coarse sand. | Boring backfilled with neat cement with 2% bentonite. |
| 5 | 0 | | B4-10 | | | CL | SANDY CLAY (CL) - dark grayish brown (2.5Y 4/2), damp, low plasticity; 70% clay, 30% fine to coarse sand. | |
| 10 | 0 | | B4-12 | | | SM | SILTY SAND WITH GRAVEL (SM) - light olive brown (2.5Y 5/4), damp; 50% fine to coarse sand, 30% silt, 20% fine gravel. | |
| 15 | 0 | | B4-18 | | | CL | CLAY (CL) - olive gray (5Y 4/2), moist, low plasticity; 90% clay, 10% fine sand; soil description based on sample B4-18 collected from drill cuttings. | |
| 20 | 0 | | B4-24 | | | CL | SANDY CLAY (CL) - dark greenish gray (5GY 4/1), moist, low to medium plasticity; 55-70% clay, 30-40% fine sand; 0-5% fine gravel; soil description based on sample B4-24 recovered using a split spoon sampler. | |
| 25 | 0 | | B4-26 | | | CL | Becomes saturated at 24.5 feet. | |
| 26 | 0 | | B4-27 | | | | | |
| 27 | 0 | | B4-28 | | | SC | | |
| 28 | 0 | | B4-28 | | | CL | CLAYEY SAND (SC) - light olive brown (2.5Y 5/4), saturated; 60% fine to coarse sand, 30% clay, 10% fine gravel. | |
| 30 | 0 | | B4-29.5 | | | CL | SANDY CLAY (CL) - olive brown (2.5Y 4/2), saturated, low plasticity; 50% clay, 40% fine to coarse sand, 10% fine gravel; color changes to olive gray (5Y 5/2) at 29 feet; sand increases to 50%, no gravel. | |
| 35 | | | | | | | Bottom of boring at 30 feet, 06/12/96. (* = not applicable - sampling performed using 5-foot core barrel.) | |

Gettler-Ryan, Inc.

Log of Boring MW-10

| | |
|---|--|
| PROJECT: <i>Chevron SS# 9-5542</i> | LOCATION: <i>7007 San Ramon Road, Dublin, CA</i> |
| G-R PROJECT NO.: <i>5290.01</i> | SURFACE ELEVATION: <i>feet MSL</i> |
| DATE STARTED: <i>06/12/96</i> | WL (ft. bgs): <i>21.0</i> DATE: <i>06/12/96</i> TIME: <i>12:50</i> |
| DATE FINISHED: <i>06/12/96</i> | WL (ft. bgs): DATE: TIME: |
| DRILLING METHOD: <i>8 in. Hollow Stem Auger</i> | TOTAL DEPTH: <i>35 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 |
|------------|-----------|-------------|---------------|-------------|-------------|------------|--|--------------|
| 5 | | | | | | | Boring MW-10 was not sampled because it was located approximately 5 feet from boring SB-3. | |
| 10 | | | | | | | | |
| 15 | | | | | | | | |
| 20 | | | | | | | | |
| 25 | | | | | | | | |
| 30 | | | | | | | | |
| 35 | | | | | | | Bottom of boring at 35 feet, 06/12/96. | |

APPENDIX C

**WELL DEVELOPMENT AND SAMPLING
FIELD DATA SHEETS**

DAILY SAMPLING REPORT

TIME BILLED: _____

SITE LOCATION: Chevron # 9-5542
7007 San Ramon Rd
Dublin

JOB #: 5290.01

DATE: 6-20-96

DESCRIPTION OF WORK PERFORMED:

Monitor _____
 Purge _____
 Sample _____
 Develop X

Clean Equipment _____
 Transfer Water X
 To System _____
 To Holding Tank X

Number of wells on site 4
 Number of wells off site 6
 Number of wells monitored only _____
 Number of wells sampled <40' 1
 Number of wells sampled >40' _____
 Total volume of purge water 31.2 gal

Sampling truck 30-06
 Purge water trailer Y (N)
 Full lane closure (Y) N
 Trailer arrow board truck Yes
 Cones 25
 Road signs 4

PURGING EQUIPMENT

Teflon Bailer _____
 3/8" Stack Pumps X
 1" Double Diaphragm _____
 Suction _____
 Grundfo's _____

SAMPLING EQUIPMENT

Teflon Bailer _____
 Disposable Bailer _____

SPECIAL EQUIPMENT

Turbidity Meter 1
 PO Meter _____
 P3D Meter (Gastech) _____

OTHER EQUIPMENT

Gloves 4 /pr
 Bailer Cord _____ /ft
 Well plugs size # _____ @ _____

COMMENTS

Developed & sampled new well MW-10

Sampled By: G. Sanchez

Date: 6-20-96

Assistant: D. Harding

Reviewed: _____

WELL DEVELOPMENT DATA

WB NO. 5290.01
 NAME G. Sanchez
 DATE 6.20-96

LOCATION Chevron #. 9-5542 MW-10
7007 San Ramon Rd Dublin

| TIME | WATER LEVEL | pH | TEMP | CONDUCTIVITY | PURGE | SURGE | AMOUNT REMOVED GALLONS | COMMENTS (odor, color, sediments, etc.) |
|------------|-------------|------|------|--------------|-------|-------|------------------------|---|
| art: 9:18 | | | | | | X | | * Surged for 15 min. |
| op: 9:48 | 21.85 | 6.74 | 18.2 | 1564 | X | | 2.4 | none, brown, clay/sandy |
| art: 9:50 | 22.20 | 6.70 | 18.3 | 1408 | X | | 4.8 | |
| op: 10:03 | 24.10 | 6.71 | 18.3 | 1322 | X | | 7.2 | |
| art: 10:05 | 25.0 | 6.68 | 18.5 | 1272 | X | | 9.6 | |
| op: 10:07 | 25.60 | 6.66 | 18.6 | 1228 | X | | 12.0 | |
| art: 10:09 | 25.81 | 6.66 | 18.5 | 1194 | X | | 14.4 | |
| op: 10:11 | 26.01 | 6.66 | 18.6 | 1195 | X | | 16.8 | |
| art: 10:13 | 26.11 | 6.69 | 18.4 | 1193 | X | | 19.2 | |
| op: 10:15 | 26.36 | 6.67 | 18.6 | 1180 | X | | 21.8 | none cloudy clay |

DTW BEFORE DEVELOPMENT 20.68 TOTAL DEPTH BEFORE DEVELOPMENT 34.9

DTW AFTER DEVELOPMENT 26.91 TOTAL DEPTH AFTER DEVELOPMENT 34.9

DEVELOPMENT METHOD → OVER
 SURGE Stainless Steel Bailers / Block
 PURGE Stainless Steel Bailers / Stack Pump
 INJECTION _____
 AMT. INJECTED _____

INITIAL WELL VOLUME:

$$\frac{34.9}{\text{TOTAL DEPTH INITIAL}} \times \frac{20.68}{\text{DTW (INITIAL)}} \times \left(\frac{.17}{\text{CONVERSION FACTOR}} \right) = \frac{2.4}{\text{(1 WELL VOL)}}$$

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

WELL DEVELOPMENT DATA

JOB NO. 5290.01
 NAME G. Sanchez
 DATE 6-20-94

LOCATION Chevron # 9.5542 MW-10
7007 San Ramon Rd Dublin

| TIME | WATER LEVEL | pH | TEMP | CONDUCTIVITY | PURGE | SURGE | AMOUNT REMOVED GALLONS | COMMENTS (odor, color, sediments, etc.) |
|--------------|-------------|------|------|--------------|-------|-------|------------------------|---|
| start: 10:17 | 26.39 | 6.64 | 18.7 | 1180 | X | | 24.0 | none, cloudy, none |
| top: 10:19 | 26.61 | 6.65 | 18.6 | 1163 | X | | 26.4 | ↓ |
| start: 10:21 | 26.72 | 6.65 | 18.4 | 1165 | x | | 28.8 | ↓ |
| top: 10:23 | 26.91 | 6.65 | 18.4 | 1165 | x | | 31.2 | ↓ |
| start: | | | | | | | | |
| top: | | | | | | | | |
| start: | | | | | | | | |
| top: | | | | | | | | |
| start: | | | | | | | | |
| top: | | | | | | | | |

DTW BEFORE DEVELOPMENT _____

TOTAL DEPTH BEFORE DEVELOPMENT _____

DEVELOPMENT METHOD

SURGE _____

DTW AFTER DEVELOPMENT _____

TOTAL DEPTH AFTER DEVELOPMENT _____

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

APPENDIX D

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



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

Client Proj. ID: Chevron 9-5542, Dublin

Lab Proj. ID: 9606885

Attention: Barbara Sieminski

Sampled: 06/12/96
Received: 06/14/96
Analyzed: see below

Reported: 06/25/96

LABORATORY ANALYSIS

| Analyte | Units | Date Analyzed | Detection Limit | Sample Results |
|---|-------|---------------|-----------------|------------------------------|
| Lab No: 9606885-01 Sample Desc : SOLID,B3-6 | | | | |
| Bulk Density | mg/L | 06/21/96 | 1.0 | Attached N.D. Attached |
| Fraction Organic Carbon | % | | | |
| Porosity | - | | | |
| Lab No: 9606885-02 Sample Desc : SOLID,B3-12 | | | | |
| Bulk Density | mg/L | 06/21/96 | 1.0 | Attached N.D. Attached |
| Fraction Organic Carbon | % | | | |
| Porosity | - | | | |
| Lab No: 9606885-03 Sample Desc : SOLID,B3-16 | | | | |
| Bulk Density | mg/L | 06/21/96 | 1.0 | Attached N.D. Attached |
| Fraction Organic Carbon | % | | | |
| Porosity | - | | | |
| Lab No: 9606885-04 Sample Desc : SOLID,B3-18 | | | | |
| Bulk Density | mg/L | 06/21/96 | 1.0 | Attached N.D. Attached |
| Fraction Organic Carbon | % | | | |
| Porosity | - | | | |
| Lab No: 9606885-06 Sample Desc : SOLID,B4-6 | | | | |
| Bulk Density | mg/L | 06/21/96 | 1.0 | Attached N.D. Attached |
| Fraction Organic Carbon | % | | | |
| Porosity | - | | | |

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

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager



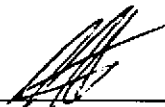
| | | |
|---|--|--|
| Gettler Ryan/Geostrategies 6747 Sierra Court Suite G Dublin, CA 94568 | Client Proj. ID: Chevron 9-5542, Dublin Lab Proj. ID: 9606885 | Sampled: 06/12/96 Received: 06/14/96 Analyzed: see below Reported: 06/25/96 |
| Attention: Barbara Sieminski | | |

LABORATORY ANALYSIS

| Analyte | Units | Date Analyzed | Detection Limit | Sample Results |
|---|----------------|---------------|-----------------|------------------------------|
| Lab No: 9606885-07 Sample Desc: SOLID,B4-12 | | | | |
| Bulk Density Fraction Organic Carbon Porosity | mg/L % - | 06/21/96 | 1.0 | Attached N.D. Attached |
| Lab No: 9606885-08 Sample Desc: SOLID,B4-18 | | | | |
| Fraction Organic Carbon | % | 06/21/96 | 1.0 | N.D. |

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

SEQUOIA ANALYTICAL - ELAP #1210



Mike Gregory
Project Manager



| | | |
|---|---|--|
| Gettler Ryan/Geostrategies 6747 Sierra Court Suite G Dublin, CA 94568 | Client Proj. ID: Chevron 9-5542, Dublin Sample Descript: B3-18 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9606885-04 | Sampled: 06/12/96 Received: 06/14/96 Extracted: 06/21/96 Analyzed: 06/21/96 Reported: 06/25/96 |
| Attention: Barbara Sieminski | | |

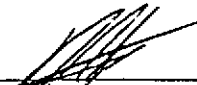
QC Batch Number: GC062196BTEXEXA
Instrument ID: GCHP 18

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 | 72 |

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 9-5542, Dublin Sample Descript: B3-W Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9606885-05 | Sampled: 06/12/96 Received: 06/14/96 Analyzed: 06/19/96 Reported: 06/25/96 |
| Attention: Barbara Sieminski | | |

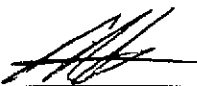
QC Batch Number: GC061996BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

| Analyte | Detection Limit ug/L | Sample Results ug/L |
|-----------------------|-------------------------|------------------------|
| TPPH as Gas | 50000 | 63000 |
| Benzene | 500 | 5600 |
| Toluene | 500 | 2900 |
| Ethyl Benzene | 500 | 1800 |
| Xylenes (Total) | 500 | 7900 |
| Chromatogram Pattern: | | GAS |
| Surrogates | Control Limits % | % Recovery |
| Trifluorotoluene | 70 130 | 96 |

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 9-5542, Dublin Sample Descript: B4-12 Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9606885-07 | Sampled: 06/12/96 Received: 06/14/96 Extracted: 06/21/96 Analyzed: 06/21/96 Reported: 06/25/96 |
| Attention: Barbara Sieminski | | |

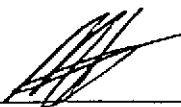
QC Batch Number: GC062196BTEXEXA
Instrument ID: GCHP 06

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 | 119 |

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 9-5542, Dublin Sample Descript: B4-W Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9606885-09 | Sampled: 06/12/96 Received: 06/14/96 Analyzed: 06/19/96 Reported: 06/25/96 |
| Attention: Barbara Sieminski | | |

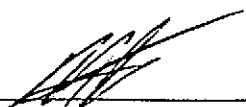
QC Batch Number: GC061996BTEX03A
Instrument ID: GCHP03

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 | 98 |

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
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

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

Client Proj. ID: Chevron 9-5542, Dublin

Received: 06/14/96

Lab Proj. ID: 9606885

Reported: 06/25/96

LABORATORY NARRATIVE

For sample: #5 (TPHGBW) the detection limit was raised by a factor of 1000

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager



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 Client Project ID: Chevron 9-5542, Dublin
 6747 Sierra Court, Ste J Matrix: Solid
 Dublin, CA 94568
 Attention: Barbara Sieminski Work Order #: 9606885 -04, 07 Reported: Jun 25, 1996

QUALITY CONTROL DATA REPORT

| Analyte: | Benzene | Toluene | Ethyl Benzene | Xylenes |
|----------------|-----------------|-----------------|-----------------|-----------------|
| QC Batch#: | GC062196BTEXEXA | GC062196BTEXEXA | GC062196BTEXEXA | GC062196BTEXEXA |
| 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 #: | 9606924-01 | 9606924-01 | 9606924-01 | 9606924-01 |
| Sample Conc.: | N.D. | 0.0062 | N.D. | 0.021 |
| Prepared Date: | 6/21/96 | 6/21/96 | 6/21/96 | 6/21/96 |
| Analyzed Date: | 6/21/96 | 6/21/96 | 6/21/96 | 6/21/96 |
| 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 | 0.18 | 0.16 | 0.53 |
| MS % Recovery: | 90 | 90 | 80 | 88 |
| Dup. Result: | 0.18 | 0.18 | 0.16 | 0.51 |
| MSD % Recov.: | 90 | 90 | 80 | 85 |
| RPD: | 0.0 | 0.0 | 0.0 | 3.8 |
| RPD Limit: | 0-25 | 0-25 | 0-25 | 0-25 |

| LCS #: | GBLK062196BS-A | GBLK062196BS-A | GBLK062196BS-A | GBLK062196BS-A |
|-------------------|----------------|----------------|----------------|----------------|
| Prepared Date: | 6/21/96 | 6/21/96 | 6/21/96 | 6/21/96 |
| Analyzed Date: | 6/21/96 | 6/21/96 | 6/21/96 | 6/21/96 |
| 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: | 0.18 | 0.18 | 0.17 | 0.53 |
| LCS % Recov.: | 90 | 90 | 85 | 88 |

| | | | | |
|----------------|--------|--------|--------|--------|
| MS/MSD | 60-140 | 60-140 | 60-140 | 60-140 |
| LCS | 70-130 | 70-130 | 70-130 | 70-130 |
| Control Limits | | | | |

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

9606885.GET <1>



Gettler Ryan/Geostrategies Client Project ID: Chevron 9-5542, Dublin
6747 Sierra Court, Ste J Matrix: Liquid
Dublin, CA 94568
Attention: Barbara Sieminski Work Order #: 9606885 -05, 09 Reported: Jun 25, 1996

QUALITY CONTROL DATA REPORT

| Analyte: | Benzene | Toluene | Ethyl Benzene | Xylenes |
|----------------|-----------------|-----------------|-----------------|-----------------|
| QC Batch#: | GC061996BTEX03A | GC061996BTEX03A | GC061996BTEX03A | GC061996BTEX03A |
| Analy. Method: | EPA 8020 | EPA 8020 | EPA 8020 | EPA 8020 |
| Prep. Method: | EPA 5030 | EPA 5030 | EPA 5030 | EPA 5030 |

| Analyt: | J. Woo | J. Woo | J. Woo | J. Woo |
|-------------------|--------------|--------------|--------------|--------------|
| MS/MSD #: | G9606338-03C | G9606338-03C | G9606338-03C | G9606338-03C |
| Sample Conc.: | N.D. | N.D. | N.D. | N.D. |
| Prepared Date: | 6/19/96 | 6/19/96 | 6/19/96 | 6/19/96 |
| Analyzed Date: | 6/19/96 | 6/19/96 | 6/19/96 | 6/19/96 |
| Instrument I.D.#: | GCHP3 | GCHP3 | GCHP3 | GCHP3 |
| Conc. Spiked: | 10 ug/L | 10 ug/L | 10 ug/L | 30 ug/L |
| Result: | 8.9 | 8.7 | 8.7 | 26 |
| MS % Recovery: | 89 | 87 | 87 | 87 |
| Dup. Result: | 8.8 | 8.5 | 8.4 | 25 |
| MSD % Recov.: | 88 | 85 | 84 | 83 |
| RPD: | 1.1 | 2.3 | 3.5 | 3.9 |
| RPD Limit: | 0-25 | 0-25 | 0-25 | 0-25 |

| LCS #: | GBLK061996A | GBLK061996A | GBLK061996A | GBLK061996A |
|-------------------|-------------|-------------|-------------|-------------|
| Prepared Date: | 6/19/96 | 6/19/96 | 6/19/96 | 6/19/96 |
| Analyzed Date: | 6/19/96 | 6/19/96 | 6/19/96 | 6/19/96 |
| Instrument I.D.#: | GCHP3 | GCHP3 | GCHP3 | GCHP3 |
| Conc. Spiked: | 10 ug/L | 10 ug/L | 10 ug/L | 30 ug/L |
| LCS Result: | 8.2 | 8.4 | 9.4 | 28 |
| LCS % Recov.: | 83 | 84 | 94 | 93 |

| | | | | |
|----------------|--------|--------|--------|--------|
| MS/MSD | 60-140 | 60-140 | 60-140 | 60-140 |
| LCS | 70-130 | 70-130 | 70-130 | 70-130 |
| Control Limits | | | | |

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

9606885.GET <2>



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

Client Project ID: Chevron 9-5542, Dublin
Matrix: Solid

Work Order #: 9606885 -01 - 04, 06-08

Reported: Jun 25, 1996

QUALITY CONTROL DATA REPORT

| | |
|-----------------------|----------------------------|
| Analyte: | Fraction Organic Carbon |
| QC Batch: | IN062196 |
| Analy. Method: | Walkley Black |
| Prep Method: | N.A. |

Analyst: J. Clark

**Duplicate
Sample #:** 9606885-01

Prepared Date: 6/21/96
Analyzed Date: 6/21/96
Instrument I.D.#: MANUAL

**Sample
Concentration:** N.D.

**Dup. Sample
Concentration:** N.D.

RPD: 0.0
RPD Limit: 0-30

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** RPD=Relative % Difference

9606885.GET <3>



ENVIRONMENTAL TESTING SERVICES

Mike Gregory
Sequoia Analytical
680 Chesapeake Dr.
Redwood City, CA 94063

July 8, 1996

Subject: Transmittal of Geotechnical Analysis Results
SA Project No. : 9606885
Core Lab File No.: 57111-96172

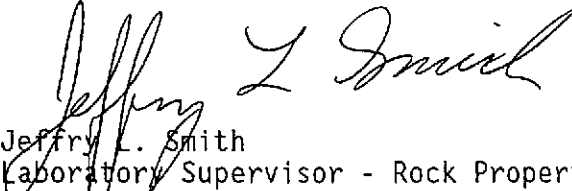
Dear Mr Gregory:

Six samples from project number 9606885 were submitted to our Bakersfield laboratory for geotechnical testing. Determinations of total porosity, and bulk density were requested. Accompanying this letter, please find the results of this study.

Total porosity and bulk density were determined and calculated as described in API RP-40, API Recommended Practice for Core-Analysis Procedure, 1960.

We appreciate this opportunity to be of service to you and to Sequoia Analytical, should you have any questions, or if we may be of further help in the future, please do not hesitate to contact us.

Very truly yours,


Jeffrey L. Smith
Laboratory Supervisor - Rock Properties

JLS:nw
1 original report: Addressee



CORE LABORATORIES

GEOTECHNICAL ANALYSIS RESULTS

**SEQUOIA ANALYTICAL
SA PROJECT NO. 9606885**

CL FILE 57111-096172

**PERFORMED BY:
CORE LABORATORIES
3430 UNICORN ROAD
BAKERSFIELD, CA 93308
(805) 392-8600**

**FINAL REPORT PRESENTED
JULY 8, 1996**



Sequoia Analytical
SA Project No. 9606885

CL File No. 57111-96172

Geotechnical Analysis Results

| Sample ID | Bulk Density | | Total Porosity % | Description |
|-----------|--------------|-----------|------------------|--------------------------------|
| | Dry gm/cc | Wet gm/cc | | |
| | | | | |
| B3-6 | 1.65 | 2.03 | 38.0 | Clay tan v silty |
| B3-12 | 1.87 | 2.17 | 30.2 | Clay tan vf-fgr sd v silty |
| B3-16 | 1.87 | 2.17 | 29.9 | Sand tan vf-fgr v silty v clay |
| B3-18 | 1.81 | 2.13 | 32.3 | Silt tan vfgr sd v clay |
| B4-6 | 1.76 | 2.10 | 33.6 | Clay tan vfgr sd v silty |
| B4-12 | 1.87 | 2.17 | 30.1 | Sand tan vf-gran v silty v cly |
| | | | | |

Total porosity and bulk densities were determined as described in API RP-40, API Recommended Practice for Core-Analysis Procedure, 1960.

| | | |
|--|---|---|
| Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591 | Chevron Facility Number <u>9-5542</u> Facility Address <u>7007 San Ramon Blvd, Dublin</u> Consultant Project Number <u>5290.01</u> Consultant Name <u>Gettler-Ryan</u> Address <u>6747 Sierra Ct, Ste J, Dublin 94568</u> Project Contact (Name) <u>Barbara Seminski</u> (Phone) <u>510-551-7555</u> (Fax Number) <u>551-7888</u> | Chevron Contact (Name) <u>Brett Hunter</u> (Phone) <u>(510) 842-8695</u> Laboratory Name <u>Sequoia</u> Laboratory Release Number <u>6942030</u> Samples Collected by (Name) <u>Barbara Seminski</u> Collection Date <u>06/12/96</u> Signature <u>[Signature]</u> |
|--|---|---|

| Sample Number | Lab Sample Number | Number of Containers | Matrix S = Soil W = Water A = Air C = Charcoal | Type C = Grab C = Composite D = Discrete | Time | Sample Preservation | Iod (Yes or No) | Analytes To Be Performed 9600885 | | | | | | | | | | | | 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) | Organic Carbon (Wafley Black Method) | Bulk Density | Porosity | | |
| B4-6 | | 1 | S | G | | | Yes | | | | | | | | | | | | | |
| B4-10 | | 1 | | | | | | | | | | | | | | | | | | hold |
| B4-12 | | 1 | | | | | | X | | | | | | | | | | | | |
| B4-18 | | 1 | | | | | | | | | | | | | | | | | | |
| B4-24 | | 1 | | | | | | | | | | | | | | | | | | |
| B4-26 | | 1 | | | | | | | | | | | | | | | | | | |
| B4-27 | | 1 | | | | | | | | | | | | | | | | | | hold |
| B4-28 | | 1 | | | | | | | | | | | | | | | | | | |
| B4-29.5 | | 1 | V | | | | | | | | | | | | | | | | | |
| B4-W | | 4 | W | V | | HC | | X | | | | | | | | | | | | 113 |

| | | | | | | |
|--|----------------------------|----------------------------------|--|--------------------------------|----------------------------------|---|
| Relinquished By (Signature) <u>Barbara Seminski</u> | Organization <u>G-R</u> | Date/Time <u>06/14/96</u> | Received By (Signature) <u>Michael K...</u> | Organization <u>Sequoia</u> | Date/Time <u>6-14-96 0945</u> | Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days <input checked="" type="radio"/> 10 Days As Contracted |
| Relinquished By (Signature) <u>Michael K...</u> | Organization | Date/Time <u>6-14-96 1135</u> | Received By (Signature) <u>[Signature]</u> | Organization <u>Sequoia</u> | Date/Time <u>6/14/96 1135</u> | |
| Relinquished By (Signature) | Organization | Date/Time | Received For Laboratory By (Signature) | | Date/Time | |

COC-3.DWG/03 81/104



| | | |
|---|--|--|
| Gettler Ryan/Geostrategies 6747 Sierra Court Suite G Dublin, CA 94568 | Client Proj. ID: Chevron 9-5542, Dublin Sample Descript: SP-A,B,C,D(comp) Matrix: SOLID Analysis Method: 8015Mod/8020 Lab Number: 9606799-01 | Sampled: 06/12/96 Received: 06/14/96 Extracted: 06/17/96 Analyzed: 06/17/96 Reported: 06/18/96 |
|---|--|--|

QC Batch Number: GC061796BTEXEXA
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 | 0.015 |
| Ethyl Benzene | 0.0050 | 0.014 |
| Xylenes (Total) | 0.0050 | 0.084 |
| 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 Client Project ID: Chevron 9-5542, Dublin
6747 Sierra Court, Ste J Matrix: Solid
Dublin, CA 94568
Attention: Barbara Sieminski Work Order #: 9606799 -01 Reported: Jun 18, 1996

QUALITY CONTROL DATA REPORT

| Analyte: | Benzene | Toluene | Ethyl Benzene | Xylenes |
|----------------|-----------------|-----------------|-----------------|-----------------|
| QC Batch#: | GC061796BTEXEXA | GC061796BTEXEXA | GC061796BTEXEXA | GC061796BTEXEXA |
| 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 #: | 9606445-05 | 9606445-05 | 9606445-05 | 9606445-05 |
| Sample Conc.: | N.D. | N.D. | N.D. | N.D. |
| Prepared Date: | 6/17/96 | 6/17/96 | 6/17/96 | 6/17/96 |
| Analyzed Date: | 6/17/96 | 6/17/96 | 6/17/96 | 6/17/96 |
| Instrument I.D.#: | GCHP6 | GCHP6 | GCHP6 | GCHP6 |
| 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 | 0.49 |
| MS % Recovery: | 80 | 80 | 80 | 82 |
| Dup. Result: | 0.16 | 0.16 | 0.17 | 0.50 |
| MSD % Recov.: | 80 | 80 | 85 | 83 |
| RPD: | 0.0 | 0.0 | 6.1 | 2.0 |
| RPD Limit: | 0-25 | 0-25 | 0-25 | 0-25 |

| LCS #: | GBLK061796BS-A | GBLK061796BS-A | GBLK061796BS-A | GBLK061796BS-A |
|-------------------|----------------|----------------|----------------|----------------|
| Prepared Date: | 6/17/96 | 6/17/96 | 6/17/96 | 6/17/96 |
| Analyzed Date: | 6/17/96 | 6/17/96 | 6/17/96 | 6/17/96 |
| Instrument I.D.#: | GCHP6 | GCHP6 | GCHP6 | GCHP6 |
| Conc. Spiked: | 0.20 mg/kg | 0.20 mg/kg | 0.20 mg/kg | 0.60 mg/kg |
| LCS Result: | 0.16 | 0.16 | 0.16 | 0.50 |
| LCS % Recov.: | 80 | 80 | 80 | 83 |

| | | | | |
|----------------|--------|--------|--------|--------|
| MS/MSD | 60-140 | 60-140 | 60-140 | 60-140 |
| LCS | 70-130 | 70-130 | 70-130 | 70-130 |
| Control Limits | | | | |

SEQUOIA ANALYTICAL


Mike Gregory
Project Manager

Please Note:

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

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

9606799.GET <1>

| | | |
|--|---|--|
| Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591 | Chevron Facility Number <u>9-5542</u> | Chevron Contact (Name) <u>Brett Hunter</u> |
| | Facility Address <u>7007 San Ramon Blvd, Dublin</u> | (Phone) <u>(510) 842-8695</u> |
| | Consultant Project Number <u>5290.01</u> | Laboratory Name <u>Sequoia</u> |
| | Consultant Name <u>Gettler-Ryan</u> | Laboratory Release Number <u>6942030</u> |
| Address <u>6747 Sierra Ct, Ste J, Dublin 94568</u> | Project Contact (Name) <u>Barbara Sieminski</u> | Samples Collected by (Name) <u>Barbara Sieminski</u> |
| Project Contact (Phone) <u>510-551-7555</u> | (Fax Number) <u>551-7888</u> | Collection Date <u>06/12/96</u> |
| | | Signature <u>BSieminski</u> |

| Sample Number | Lab Sample Number | Number of Containers | Matrix S = Soil W = Water C = Charcoal | Type G = Grab C = Composite D = Discrete | Time | Sample Preservation | Iced (Yes or No) | Analyses To Be Performed | | | | | | | | | | | Remarks | | | | |
|-------------------|-------------------|----------------------|---|---|------|---------------------|------------------|---------------------------------|-------------------|-----------------------|------------------------------|----------------------------|---------------------------|-----------------------------|--|--|--|--|---------|--|--|--|--|
| | | | | | | | | TPH Gas + BTEX volatiles (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) | | | | | | | | |
| 1 SP-A | | 1 | S | G | | | Yes | X | | | | | | | | | | | | | | | |
| 1 SP-B | | 1 | | | | | | X | | | | | | | | | | | | | | | |
| 2 SP-C | | 1 | | | | | | X | | | | | | | | | | | | | | | |
| 3 SP-D | | 1 | ↓ | ↓ | | | ↓ | X | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | |

9606779

DO NOT BILL TB-LB ANALYSIS

Fax results to IWM (Steve Shimane) (408) 942-1499

1135

COC-3.DWG 03.01/HCH

| | | | | | | |
|--|-------------------------|-------------------------------|--|-----------------------------|-------------------------------|---|
| Relinquished By (Signature) <u>Barbara Sieminski</u> | Organization <u>G-R</u> | Date/Time <u>06/14/96</u> | Received By (Signature) <u>Michael Klein</u> | Organization <u>Sequoia</u> | Date/Time <u>6-14-96 0945</u> | Turn Around Time (Circle Choice) 24 Hrs. <u>48 Hrs.</u> 5 Days 10 Days As Contracted |
| Relinquished By (Signature) <u>Michael Klein</u> | Organization | Date/Time <u>6-14-96 1135</u> | Received By (Signature) <u>[Signature]</u> | Organization <u>Sequoia</u> | Date/Time <u>6/14/96 1135</u> | |
| Relinquished By (Signature) | Organization | Date/Time | Received For Laboratory By (Signature) | | Date/Time | |



| | | |
|----------------------------|---|--------------------|
| Gettler Ryan/Geostrategies | Client Proj. ID: Chevron 9-5542, Dublin | Sampled: 06/20/96 |
| 6747 Sierra Court Suite G | Sample Descript: TB-LB | Received: 06/21/96 |
| Dublin, CA 94568 | Matrix: LIQUID | |
| Attention: Deanna Harding | Analysis Method: 8015Mod/8020 | Analyzed: 06/27/96 |
| | Lab Number: 9606C73-01 | Reported: 07/03/96 |

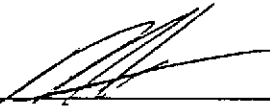
QC Batch Number: GC062796BTEX21B
Instrument ID: GCHP21

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: | | |
| Surrogates | Control Limits % | % Recovery |
| Trifluorotoluene | 70 130 | 103 |

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 9-5542, Dublin Sample Descript: MW-10 Matrix: LIQUID Analysis Method: 8015Mod/8020 Lab Number: 9606C73-02 | Sampled: 06/20/96 Received: 06/21/96 Analyzed: 06/27/96 Reported: 07/03/96 |
| Attention: Deanna Harding | | |


QC Batch Number: GC062796BTEX21B
Instrument ID: GCHP21

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| Trifluorotoluene | 70 130 | 104 |

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

SEQUOIA ANALYTICAL - ELAP #1210



Mike Gregory
Project Manager



Sequoia Analytical

680 Chesapeake Drive Redwood City, CA 94063 (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 Client Project ID: Chevron 9-5542, Dublin
 6747 Sierra Court, Ste J Matrix: Liquid
 Dublin, CA 94568
 Attention: Deanna Harding Work Order #: 9606C73 -01, -02 Reported: Jul 5, 1996

QUALITY CONTROL DATA REPORT

| Analyte: | Benzene | Toluene | Ethyl Benzene | Xylenes |
|----------------|-----------------|-----------------|-----------------|-----------------|
| QC Batch#: | GC062796BTEX21B | GC062796BTEX21B | GC062796BTEX21B | GC062796BTEX21B |
| 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 #: | G9606A04-01B | G9606A04-01B | G9606A04-01B | G9606A04-01B |
| Sample Conc.: | N.D. | N.D. | N.D. | N.D. |
| Prepared Date: | 6/27/96 | 6/27/96 | 6/27/96 | 6/27/96 |
| Analyzed Date: | 6/27/96 | 6/27/96 | 6/27/96 | 6/27/96 |
| Instrument I.D.#: | GCHP21 | GCHP21 | GCHP21 | GCHP21 |
| Conc. Spiked: | 10 ug/L | 10 ug/L | 10 ug/L | 30 ug/L |
| Result: | 10 | 9.9 | 10 | 30 |
| MS % Recovery: | 100 | 99 | 100 | 100 |
| Dup. Result: | 10 | 10 | 10 | 31 |
| MSD % Recov.: | 100 | 100 | 100 | 103 |
| RPD: | 0.0 | 1.0 | 0.0 | 3.3 |
| RPD Limit: | 0-25 | 0-25 | 0-25 | 0-25 |

| LCS #: | GBLK062796B | GBLK062796B | GBLK062796B | GBLK062796B |
|-------------------|-------------|-------------|-------------|-------------|
| Prepared Date: | 6/27/96 | 6/27/96 | 6/27/96 | 6/27/96 |
| Analyzed Date: | 6/27/96 | 6/27/96 | 6/27/96 | 6/27/96 |
| 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 | 33 |
| LCS % Recov.: | 110 | 110 | 110 | 110 |

| | | | | |
|----------------|--------|--------|--------|--------|
| MS/MSD | 60-140 | 60-140 | 60-140 | 60-140 |
| LCS | 70-130 | 70-130 | 70-130 | 70-130 |
| Control Limits | | | | |

SEQUOIA ANALYTICAL


 Mike Gregory
 Project Manager

Please Note:

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

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

9606C73.GET <1>

