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TO: Mr. Thomas Bauhs

Chevron Products Company

P.O. Box 6004

San Ramon, CA 95627

DATE:

September 7, 2001

PROJ. #:

DG90290C.4C02

SUBJECT: Chevron Service Station #9-0290

1802 Webster Street

Alameda, California

FROM:

Geoffrey D. Risse Staff Geologist Gettler-Ryan Inc. 3140 Gold Camp Drive, Suite 170 Rancho Cordova, California 95670

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LIMITED SUBSURFACE INVESTIGATION REPORT

at Chevron Service Station No. 9-0290 1802 Webster Street Alameda, California

Delta Project No. DG90290C.4C02

Prepared for:

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Prepared by:

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DG90290C.4C02

At
Chevron Service Station No. 9-0290
1802 Webster Street
Alameda, California

Delta Report No. 90290C.4C02

INTRODUCTION

This report presents the results of a limited subsurface investigation performed by Delta Environmental Consultants Inc. network associate Gettler-Ryan Inc. (GR) at the above referenced site. The work was performed at the request of Alameda County Environmental Health Services (ACEHS) in a letter dated August 1, 2000. The scope of work performed during this investigation was originally proposed in GR report #345280.02-1, Workplan for a Limited Subsurface Investigation, dated February 1, 2001. The purpose of this work is to delineate the extent of the plume to the north of the site and to evaluate if utility trenches in the site vicinity are acting as preferential pathways for hydrocarbon migration. The scope of work performed included: updating the site safety plan; obtaining drilling permits from the Alameda County Public Works Agency (ACPWA) and encroachment permits from the California Department of Transportation (Caltrans) and the City of Alameda; hand augering eleven soil borings; collecting soil samples and grab groundwater samples from the soil borings; performing a well survey; analyzing selected soil and groundwater samples; and preparing a report documenting the work performed.

SITE DESCRIPTION

The subject site is an operating service station located at the northeastern corner of the intersection of Webster Street and Buena Vista Avenue in Alameda, California (Figure 1). Site topography is flat at the elevation of approximately 12 feet above mean sea level. Four 10,000 gallon gasoline underground storage tanks (USTs) are located in a common pit in the southwestern portion of the site. A waste oil UST is located south of the station building. Two former waste oil USTs were located near the southeastern corner of the gasoline UST pit. Pertinent site features are shown on Figure 3.

The site vicinity is used for residential, commercial, and transportation purposes. The subject site is bounded to the east by an apartment complex, to the north by a Jack In The Box restaurant, to the west by Webster Street, and to the south by Buena Vista Avenue. One of the residential buildings at the apartment complex is situated immediately southeast of the subject service station building. Another building is situated approximately 50 feet northeast of the northern site boundary. Single family houses and a 76 service station are located southeast and south of the site, respectively, across Buena Vista

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Avenue. Commercial buildings (auto repair shop, Better Buy Liqueur Store, Fred's Wrenchhouse, KFC restaurant) and parking lots are located northwest, west, and southwest of the site, across Webster Street. The subject site vicinity is shown on Figure 3.

PREVIOUS ENVIRONMENTAL WORK

A hydrocarbon leak (approximately 50 gallons of gasoline) was documented at the subject site in 1981. Six groundwater monitoring wells (B-1 through B-6) were installed at the site in January 1982 by Kleinfelder & Associates to evaluate the extent of hydrocarbon impact to groundwater. Groundwater was encountered at a depth ranging from 3.5 to 4.5 feet below ground surface (bgs). No soil or groundwater samples were collected for laboratory analysis however, groundwater samples were analyzed for volatile hydrocarbons using a combustible gas meter. Hydrocarbons vapor concentrations were detected in wells B-1 through B-4 at concentrations ranging from 100 to >1,000 parts per million (ppm). The 10,000 gallon regular gasoline UST was removed from service after a hole was found near the tank fill pipe.

In 1928, the UST system was replaced. A gauge stick hole was observed in the bottom of the regular gasoline UST. Samples were not collected. New gasoline, diesel and two waste oil USTs were installed. Two backfill monitoring wells (A-1 and A-2) were installed at the time of UST replacement. Monitoring well B-2 was destroyed to accommodate the new UST installation.

On September 19, 1991, approximately 1,400 gallons of diesel were accidentally pumped into tank backfill well A-1 during UST testing activities. Product removal commenced immediately. Approximately 1,600 gallons of separate-phase hydrocarbon (SPH) were removed from well A-1. Additional 346 gallons of SPH were removed during a SPH recovery program conducted by Pacific Environmental Group Inc. from September 1991 through July 1992. Laboratory analysis of the free product suggested that waste-oil must also have been inadvertently disposed of into well A-1. A groundwater sampling program was initiated in September 1991.

In March 1993, one additional on-site groundwater monitoring well (B-8) and two off-site wells (B-7 and B-9) were installed by GTI to delineate the lateral extent of hydrocarbon impacted soil and groundwater at the site. Groundwater was encountered in borings B-7 through B-9 at 5 feet bgs. Soil samples collected from the boring at 5 feet bgs did not contain Total Petroleum Hydrocarbons as gasoline (TPHg) Total Petroleum Hydrocarbons as diesel (TPHd), or benzene, toluene, ethylbenzene, or xylenes (BTEX).

In April and May 1994, Touchstone Development collected samples during the removal of one 1,000 gallon waste oil UST, one 350 gallon waste oil UST, and fuel product lines. Hydrocarbons were detected in soil beneath the 1,000 gallon waste oil UST (up to 440 ppm TPHg, 410 ppm TPHd, and 77 ppm Total Oil and Grease [TOG]), beneath the 350 gallon waste oil UST (1,200 TPHg, 580 ppm TPHd, 580 ppm TOG and 0.64 ppm benzene), and beneath the product lines (up to 4,900 ppm TPHg, and 4.6 ppm benzene).

Volatile organic compounds (VOCs) or semivolatile organic compounds (SVOCs) were not detected in the samples collected from the waste oil UST excavation with the exception of trichloroethylene (0.017 ppm). Approximately 700 cubic yards of soil was excavated from the waste oil UST pits and from



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beneath product lines and removed from the site. Monitoring wells A-2, B-3, and B-4 were destroyed during UST removal activities.

In March 1995, four additional on-site groundwater monitoring wells (B-10 through B-13) were installed at the site by GR to further assess the extent of hydrocarbons within the subsurface. Groundwater was encountered at approximately 7 feet bgs in borings B-10, B-12, and B-13 and at 1 foot bgs in boring B-11. TPHg were detected in the soil samples collected from boring B-10 through B-12 at concentrations ranging from 69ppm to 1,900 ppm, and were not detected in the soil sample from boring B-13. TPHd (1.1 ppm to 330 ppm) were detected in samples collected from all borings. Benzene (0.78 ppm) was detected in the soil sample collected from boring B-10, and was reported as not detected in samples collected from borings B-11 and B-12. Methyl-tert butyl ether (MtBE) was detected in the soil samples collected from borings B-11 (17 ppm) and B-12 (8.2 ppm).

Groundwater Monitoring and Sampling

Groundwater monitoring and sampling of site wells began in September 1991. Historical, depth to groundwater beneath the site has ranged from 2 to 8 feet bgs. Groundwater flowed to the southeast prior to January 1993. Recently, the flow direction has been fluctuating between northeast and northwest. The gradient has ranged from 0.005 to 0.02 foot per foot.

The groundwater sampling data indicates that groundwater beneath the site has been impacted by hydrocarbons at concentrations up to 40,000 parts per billion (ppb) of TPHg, 4,900 ppb of benzene, 88,000 ppb of MtBE, 22,000 ppb of TPHd, 8,000 ppb of TOG, and 68,400 ppb of motor oil. The highest dissolved hydrocarbon concentrations have been present in the vicinity of the dispenser islands. Hydrocarbons have not been detected in off-site wells except once (low concentrations).

SPH have been present in wells A-1 and A-2 (up to 1.58 feet just after the accidental diesel release), and on few occasions in wells B-3 and B-4 (up to 0.01 feet). SPH have been removed from the wells by bailing and use of absorbent pads.

Hydrocarbon concentrations in on-site wells have been decreasing, with the exception of well B-6. TPHg (655 ppb) was detected in this well in November 1998 after several quarters with nondetectable results. A TPHd concentration in this well has been increasing. Well B-6 also contains an elevated concentration of MtBE compared to nearest wells in the downgradient direction.

The May 1999 sampling data confirmed that groundwater beneath the site is not impacted by VOCs or SVOCs. Concentrations of metals in groundwater beneath the site were nondetectable (cadmium and lead), below maximum contaminant levels (MCLs) drinking water (zinc), or only slightly above MCLs (chromium and nickel).

WELL SURVEY

A review of Department of Water Resources (DWR) well logs and ACPWA Water Resources Section files was conducted to identify water supply wells within ½ mile of the site. Upon review of DWR well

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logs and ACPWA Water Resources Section files, 14 well locations were identified within ½ mile of the site, with 3 well locations identified outside the ½ mile search radius. Twelve of the fourteen well locations are monitoring wells located north and south of the subject site along Webster Street. The remaining two wells are irrigation supply wells located approximately 1,400 feet west (well locations 3 and 4) of the subject site. An additional irrigation supply well was located approximately 2,800 feet southwest (well location 5) of the subject site, outside the ½ mile radius. The results of the well survey are depicted on Figure 2 and tabulated in Table 1.

FIELD ACTIVITIES

To delineate the extent of the plume to the north of the site and evaluate if the utility trenches act as preferential pathway for plume migration, GR hand augered eight off-site and three on-site soil borings. Field work was performed in accordance with GR's Site Safety Plan dated May 4, 2001. GR Field Methods and Procedures are included in Appendix A. Copies of Caltrans encroachment permit no. 0401-6SV-0994, City of Alameda right-of-way permit No. EX01-0023, and Alameda County Public Works Agency drilling permit No.W01-175 are included in Appendix B. Underground Service Alert was notified prior to beginning site activities.

On May, 15 and 16, 2001, eleven soil auger boring were advanced (SB-1 through SB-11). Refusal, due to a concrete obstruction at 4 feet bgs, was encountered in borings SB-5, SB-7, SB-9, SB-10, and SB-11. Refusal, due to pea gravel at 4 feet bgs, was encountered in soil boring SB-3. Borings SB-3, SB-5, SB-7, and SB-9 through SB-11 were not completed to groundwater. On-site borings SB-1 and SB-2 were advanced to depths of approximately 9.5 feet and 10 feet bgs, respectively. Off-site borings SB-4, SB-6, and SB-8 were advanced to depths between 7 feet and 8 feet bgs. The boring were advanced using a 3 inch diameter hand auger. Soil samples were collected using a hand-driven sampling device. A GR geologist observed the drilling activities. Soil samples were collected from the borings at three and five feet for description and preparation of a log, and for possible chemical analysis. Grab groundwater samples were also collected from borings SB-1, SB-2, SB-4, SB-6, and SB-8. In addition, a soil sample (SB2-6) was collected and analyzed for soil geotechnical analysis. Boring logs are included in Appendix B. Locations of the soil borings are shown on Figure 3. Borings were backfilled with neat cement containing 5% bentonite powder to ground surface and completed per encroachment permit requirements

Soil cuttings generated during drilling activities were placed on and covered with plastic. Composite disposal confirmation sample COMP 1(A-D) was collected from the stockpiled soil cuttings. Stockpile sampling procedures are presented in Appendix A.

RESULTS OF THE SUBSURFACE INVESTIGATION

Soil encountered during this investigation consisted of sand with silt and silty sand. Sand with silt was encountered in soil boring SB-4, SB-6 and SB-8 to total depth explored. Silty sand was encountered in soil boring SB-1 and SB-2 to total depth explored. Detailed descriptions of the soil encountered during drilling are presented on the boring logs in Appendix B.

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CHEMICAL ANALYTICAL RESULTS

A total of five soil samples from the soil borings, five grab groundwater samples, and one composite soil sample from the stockpiled drill cuttings were submitted under chain-of-custody for chemical analysis. Analyses were performed by Sequoia Analytical (ELAP #1271 and #1624). Copies of the laboratory reports and chain-of-custody forms are included in Appendix C. Soil and groundwater chemical analytical data are summarized in Tables 2 and 3, respectively. Soil geotechnical analytical data is summarized in Table 4.

Chemical Analytical Procedures

The soil and groundwater samples were analyzed for TPHg by EPA Method 8015 modified, for TPHd by EPA Method 8015, and for BTEX and MtBE by EPA Method 8020. The composite stockpile soil sample was also analyzed for total lead by EPA Method 6010A. The geotechnical soil sample was analyzed for pH, total organic carbon, permeability, moisture content, porosity, natural density, dry density, matrix density, and particle size distribution.

Soil Analytical Results

Only MtBE (0.12 ppm) was detected in the soil sample collected from SB-8 at 5.5 feet bgs. TPHg was detected in four of the five soil samples analyzed at concentration ranging from 1.1 ppm (SB-2-6.5) to 81 ppm (SB-4-5.5). Only one soil sample SB-4-5.5 contained TPHd at a concentration of 2.4 ppm. Benzene was detected in soil samples SB-2-6.5 and SB-1-5 at concentrations of 0.0099 ppm and 0.023 ppm, respectively.

The composite stockpile sample COMP (A-D) contained TPHg, TPHd, benzene and total Pb at concentrations of 220 ppm, 73 ppm, 0.21 ppm and 5.5 ppm, respectively.

Groundwater Analytical Results

The grab groundwater sample collected from SB-8 did not contain TPHg, TPHd, or BTEX. TPHg was detected in four grab groundwater samples at concentrations ranging from 200 ppb (SB-6) to 910,000 ppb (SB-2). Concentrations of TPHd were detected in four grab groundwater samples collected ranging from 110 ppb (SB-6) to 5,600 ppb (SB-2). Benzene was detected in three grab groundwater samples at concentrations ranging from 0.51 ppb (SB-6) to 530 ppb (SB-2). Grab groundwater sample SB-6 and SB-8 contained MtBE at concentrations of 3,600 ppb and 4,300 ppb, respectively.

WASTE DISPOSAL

Soil cuttings generated during drilling activities were placed on and covered with plastic sheeting at the subject site and disposal confirmation sample SP-1(A-D) was collected (Table 1). Approximately 1 yard of soil cuttings was removed for disposal from the site by Integrated Wastestream Management (IWM).

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DISCUSSION

Results of this investigation are inconclusive to whether the utility trenches are acting as a preferential migration pathway. Only three of the eight borings (SB4, SB6, SB8) proposed along the utility trenches were completed. The remaining borings (SB5, SB7, and SB9 through SB11) could not be advanced into groundwater due to the presence of a concrete obstruction at approximately 4 feet bgs. The lateral extent of this concrete beneath the street suggests that it is a part of Webster Street, and additional attempts to hand auger in the street are also likely to encounter it. The extent of the dissolved plume to the north remains undefined. Additional delineation of the dissolved plume beneath Webster Street may not be possible.

According to DWR logs and ACPWA Water Resources section files, known wells nearest the site are monitoring wells. The well search identified only two irrigation supply wells within ½ of the site. These wells are located over 1,400 feet west of the site. These wells are not likely to be impacted by dissolved hydrocarbons from the site.

The TPHg result of 910,000 ppb in the grab groundwater sample SB-2 seems anomalous when compared to the TPHg concentrations in groundwater from boring SB-1 (1,000 ppb) and well B-1 (570 ppb, 8/13/01 monitoring event). GR recommends a soil boring be placed in the vicinity of boring SB-2 to confirm the TPHg concentration detected in grab groundwater sample SB-2. Since the dissolved plume remains undefined, GR recommends two groundwater monitoring wells be installed north and northwest of the site. GR additionally recommends that the site-specific physical data collected during this investigation be utilized to perform a Risk-Based Corrective Action analysis (RBCA).

Boing log identifies strong petroleum odors at 6-feet bys in both boing SB-1 and SB-2

TABLE 1 - WELL SEARCH DATA

Chevron Number 9-0290 1802 Webster Street, Alameda California Half Mile Radius Around Site

Map ID	Well Owner	Well Location	Well Use	Number of Wells On Site	State Well #	Year Installed	AVG Well Depth (feet)	AVG Well Diameter (inches)	AVG DTW (feet)
1	Alameda Real Estate GMW	1020 Atlantic Avenue	МО	3	NA	NA	18	2	5
2	Former Texaco Gasoline Station	1127 Lincoln Avenue	Mo/EXT	18	NA	NA	21	2 and 4	1 0
3	John Cavallo	462 Buena Vista	IRR	1	NA	NA	36	8	9
4	G.S. Stagnaro	Pacific and 5th Street	IRR	1	NA	NA	315	6	71
5	A.E. Bryant	447 Taylor Avenue	IRR	1	NA	NA	36	8	9
6	Fire Station # 2	635 Pacific Avenue	MO	2	NA	NA	18	2	0
7	General Service Administrative	620 Central Ave	MO	3	NA	NA	14	2	5
8	John Ferrar	1435 Webster Street	MO	3	NA	NA	24	2	0
9	Bank Of America	1528 Webster Street	MO -	- 5	NA	NA	20	2	7
10	Shell Oil Company	1601 Webster street	MO	1	NA	NA	20	4	16
11	Bernita Leskowski	1701 Webster Street	MO	3	NA	NA	19	2	8
12	BP Oil Co. Station Number 11104 M	1716 Webster Street	MO	3	NA	NA	17	2	9
13	Chevron	1802 Webster Street	МО	7	NA	NA	16	2	5
14	Dolan Foster Enterprise	1900 Webster Street	МО	4	NA	NA	18	4	0
15	Ms Jean Ratto Larkin	1916 Webster Street	МО	3	NA	NA	15	2	6
16	Alameda Housing Athority	1916 Webster Street	МО	2	NA	NA	11	2	5
17	College Of Alameda	Webster and Atlantic	МО	3	NA	NA	16	2	5

Explanation

Well location data supplied by the County of Alameda Public Works Agency

IND = Industrial Well

ABD = Abandoned Well

IRR = Irrigation Well

NA = Information Not Available

NA = Information Not Available

MO= Monitoring Well

TABLE 2 SOIL SAMPLE CHEMICAL ANALYTICAL DATA

Chevron No. 9-0290 1802 Webster Street Alameda, California

		Sample	, , , , , , , , , , , , , , , , , , , ,	,		Ethyl-	Total				Total
Sample No.	Sample Date	Depth (in feet)	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	benzene (ppm)	Xylenes (ppm)	MTBE ¹ (ppm)	MTBE ² (ppm)	TPHd (ppb)	Lead (ppm)
SB1-5	5/15/2001	5.0	6.7^{3}	0.023	0.028	0.035	0.11	< 0.504	NA	<1.0	NA
SB2-6.5	5/15/2001	6 .5	1.13	0.0099	0.0072	0.0075	0.015	0.084^{4}	<0.20 ⁷	<1.0	NA
SB4-5.5	5/16/2001	5.5	813	< 0.10	< 0.10	0.13	0.31	<1.04	NA	2.48	NA
SB6-5.5	5/16/2001	5.5	1.8	<0.0050	< 0.0050	< 0.0050	< 0.0050	<0.0504	NA	<1.0	NA
SB8-5.5	5/16/2001	5.5	<1.0	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.12^{4}	<0.20 ⁷	<1.0	NA
OMP 1 (A-D	5/16/2001	-	220 ⁵	0.21	0.34	0.46	0.97	NA	NA	73 ⁶	5.5

EXPLANATION:

ppb = parts per million

NA = Not Analyzed

¹= MTBE by EPA Method 8020

ANALYTICAL LABORATORY:

Sequoia Analytical Walnut Creek (ELAP #1271)

(see laboratory reports for detection limits)

ANALYTICAL METHOD:

TPHg = Total Petroleum Hydrocarbons as gasoline by EPA Method 8015 modified

TPHd = Total Petroleum Hydrocarbons as diesel by EPA Method 8015

Benzene, Toluene, Ethylbenzene and Total Xylenes by EPA method 8020

MtBE = Methyl tert-butyl ether by EPA Method 8020/8260

Total Lead by EPA Method 6010A

²= MTBE by EPA Method 8260, for confirmation of MTBE detected by EPA Method 8020.

³= Chromatogram Pattern: Gasoline C6-C12

⁴ = Continuing Calibration indicates that the quantitative results for this analyte includes a greater than 15% degree of uncertainty. The value as reported is within method acceptance.

⁵= Chromatogram pattern: Gasoline C6-C12 + unidentified hydrocarbon C6-C12.

⁶= Chromatogram Pattern: Unidentified Hydrocarbons <C16.

⁷= This sample was analyzed outside the EPA recommended holding time.

⁸ = Chromatogram Pattern: Gasoline C9-C40

TABLE 3 - GRAB GROUNDWATER SAMPLE CHEMICAL ANALYTICAL DATA

Chevron No. 9-0290 1802 Webster Street Alameda, California

Sample No.	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	MTBE ¹ (ppb)	MTBE ^b (ppb)	TPHd (ppb)
SB1	5/16/2001	1000 ³	<5.0	<5.0	5.3	<5.0	<25 ⁴	NA	940 ⁶
SB2	5/15/2001	910000 ⁵	530	940	2300	5100	<2500	NA	5600 ⁶
SB4	5/16/2001	5100 ³	23	10	18	11	35 ⁴	<2.07	330^{6}
SB6	5/16/2001	200^{3}	0.51	<0.50	< 0.50	< 0.50	3200 ⁴	3600 ⁵	110^{6}
SB8	5/16/2001	<50	< 0.50	< 0.50	< 0.50	< 0.50	3000^{4}	4300 ⁷	<62

Explanations:

ppb = parts per billion

NA = Not Analyzed

¹= MTBE by EPA Method 8020

Sequoia Analytical Walnut Creek (ELAP #1271)

(see laboratory reports for detection limits)

The value as reported is within method acceptance.

Analytical Methods:

TPHg = Total Petroleum Hydrocarbons as gasoline by EPA Method 8015 modified

TPHd = Total Petroleum Hydrocarbons as diesel by EPA Method 8015

Benzene, Toluene, Ethylbenzene and Total Xylenes by EPA method 8020

MtBE = Methyl tert-butyl ether by EPA Method 8020/8260

Analytical Laboratory

²= MTBE by EPA Method 8260, for confirmation of MTBE detected by EPA Method 8020.

³ = Chromatogram Pattern: Gasoline C6-C12

⁴ = Continuing Calibration indicates that the quantitative results for this analyte includes a greater than 15% degree of uncertainty.

⁵= Chromatogram pattern: Gasoline C6-C12 + unidentified hydrocarbon C6-C12.

⁶= Chromatogram Pattern: Unidentified Hydrocarbons <C16.

⁷= This sample was analyzed outside the EPA recommended holding time.

TABLE 4 - SOIL GEOTECHNICAL ANALYTICAL RESULTS

Chevron No. 9-0290 1802 Webster Street Alameda, California

Sample ID	Sample Date	Depth (feet)	Moisture Content (%)	Moisture Content (%Pore Volume)	рН	Total Organic Carbon (ppm)	Intrinsic Permeability (md)	Intrinsic Permeability (cm/sec)	Intrinsic Permeability (cm ²)	Permeability to Air (md)
SB2-6	5/15/01	6	18.0	99.7	8.04	3,100	620	5.32E-04	5.43E-09	798
Sample ID	Sample Date	Depth (feet)	Permeability to Air (cm/sec)	Permeability to Air (cm ²)	Porosity (%Bulk Volume)	Dry Density (g/cc)	Natural Density (g/cc)	Matrix Density (g/cc)	Median Grain Size (mm)	Description
SB2-6	5/15/01	6	6.85E-04	6.98E-09	32.5	1.80	2.13	2.67	0.1847	gray very fine to medium grained sand

Explanations

mm = millimeter

cm/sec = centimeter per second

g/cc = grams per cubic centimeter

cm = centimeter

ppm = parts per million

Analytical Laboratory:

pH/Total Organic Carbon: Sequoia Analytical (ELAP#1271)

Moisture content/permeability/porosity/densities/median grain size: Core Laboratory

Analytical Methods:

pH: EPA Method 9045B

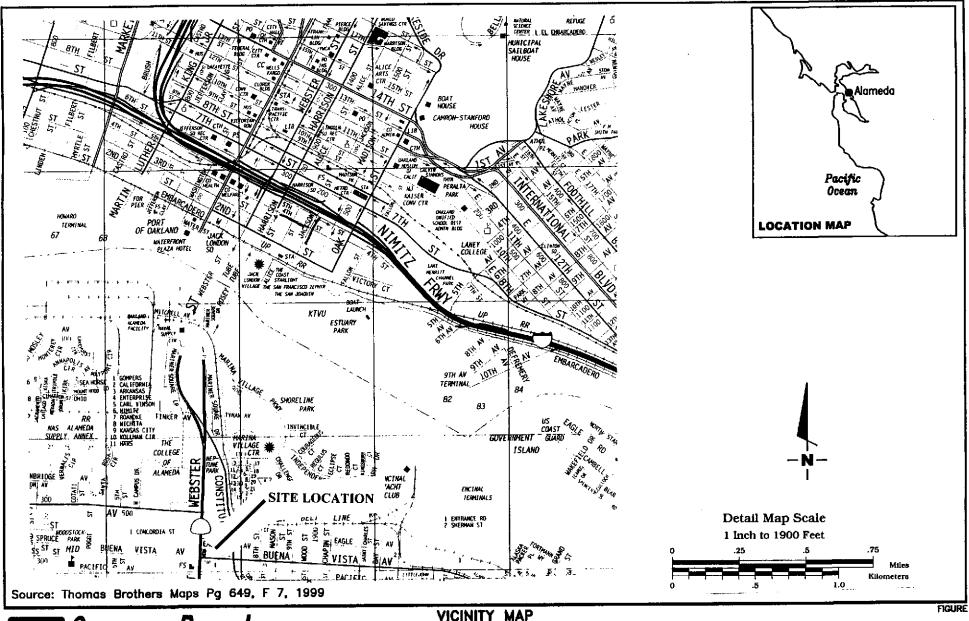
Total Organic Carbon: ASA 90-3

Permeabiltiy to Air: Steady-state methods as described in API RP-40

Intrinsic Permeability: API RP 27 Moisture Content: ASTM D-2216

Total Porosity and Densities: API RP-40

Particle size distribution: ASTM D-422 and ASTM D-4464

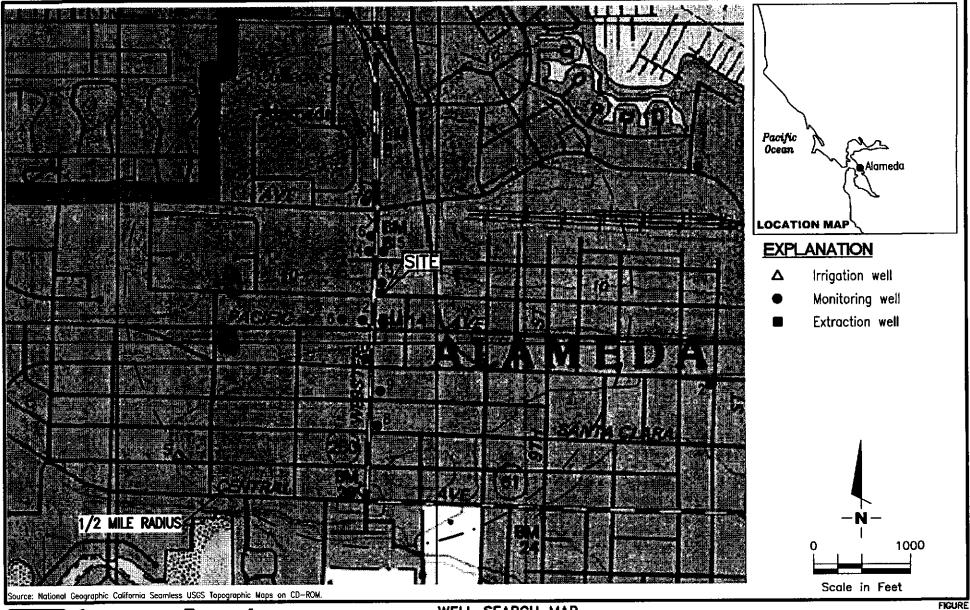




Chevron Service Station No. 9-0290 1802 Webster Street Alameda, California

REVISED DATE

JOB NUMBER REVIEWED BY DATE 345280.02 02/01





PROJECT NUMBER

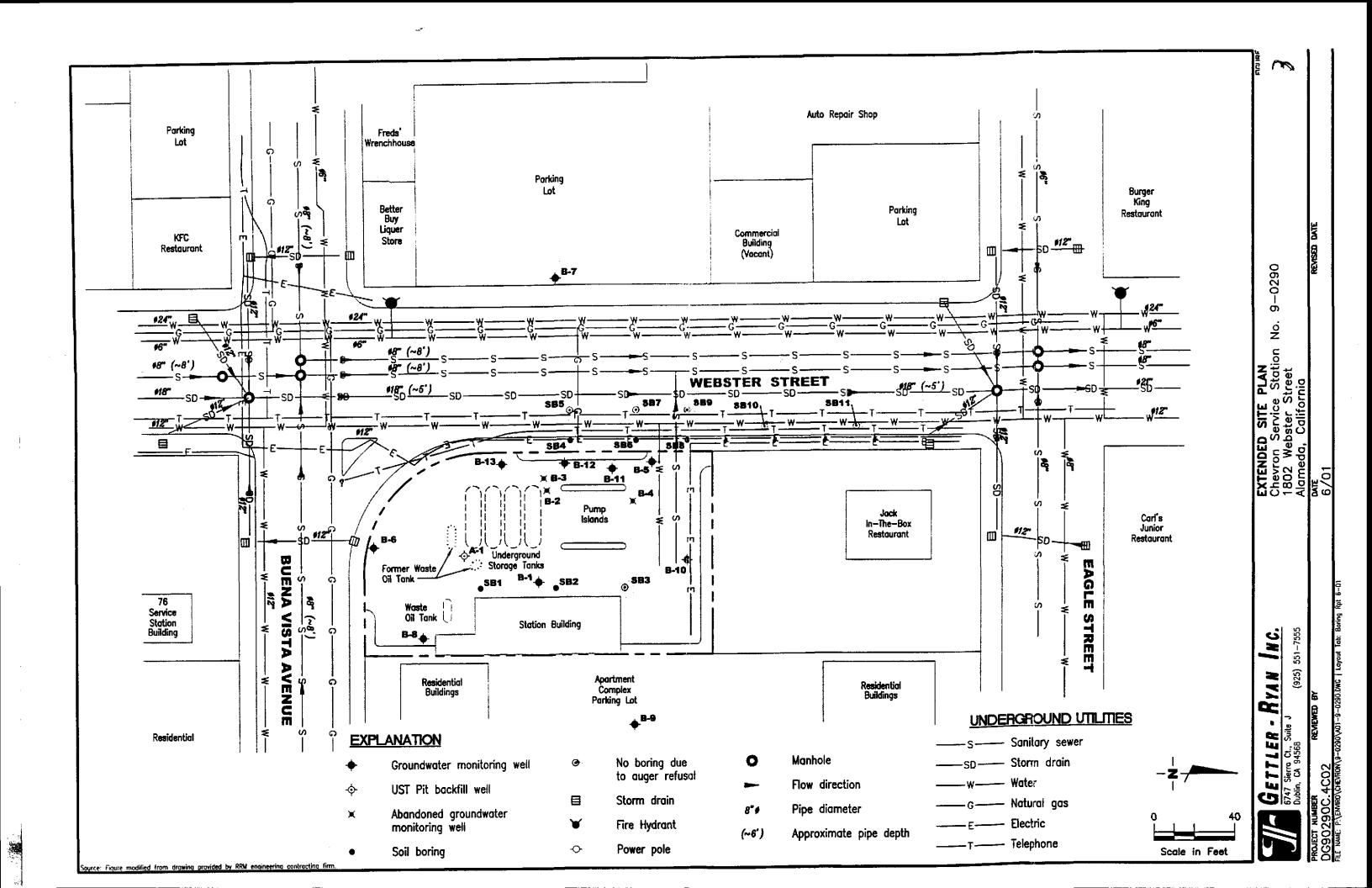
WELL SEARCH MAP Chevron Service Station No. 9-0290 1802 Webster Street Alameda, California

DATE REVISED DATE 6/01

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FILE NAME: P:\ENVIRO\CHEVRON\9-0290\ViC-9-0290.DWG | Layout Tab: Well Search 6-01

REVIEWED BY

2



GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES

Site Safety Plan

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

Collection of Soil Samples

Hand auger borings are advanced by GR personnel. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring. Soil samples are collected from the soil boring with hand driven sampling device. The encountered soils are 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 place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based on:

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

Field Screening of Soil Samples

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

Groundwater Sampling

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. The samples are labeled to include job number, sample identification, collection date and time, analyses, preservative (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4 °C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivery to the laboratory.

The chain of custody includes the job number, type of preservation, if any, analyses requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on and covered with plastic sheeting or stored in drums depending on site conditions and regulatory requirements. Stockpile samples are collected and analyzed for disposal classification on the basis of one composite sample per 100 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 steel 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.

CITY OF ALAMEDA

(510) 749-5840

Alameda Point Alameda, CA 94501

Public Works Department

Fax (510) 749-5867

Printed: 05-10-2001

Right-of-Way Permit

Permit #

EX01-0023

Applicant

GETTLER-RYAN INC

6747 SIERRA COURT, SUITE J **DUBLIN CA** 94568

Contractor Information

Owner Information **CHEVRON USA CX**

PO BOX 285 HOUSTON TX

77001

Project Information

RTOFWAY - Right-of-Way Permit

- APPROVED

Applied: 03/26/2001

Issued: 05/10/2001

Sub-Type:

925-551-7555

Finaled:

Valuation:

Expires: 05/10/2002 \$81.00

Job Address:

1802 WEBSTER ST

Parcel Number:

073 042600700

Suite / Unit:

Work Description: (8) 3" HAND AUGER SOIL BORINGS 6" DEEP

Total Fees:

\$381.00

Total Payments:

\$381.00

BALANCE DUE

\$0.00

Payments Made:

05/10/2001 08:58 AM

RECEIPT

Receipt #: R01-002158

Total Payment:

\$81.00

Payee: GETTLER-RYAN INC.

Current Payment Made to the Following Items:

Account Code	Description	Amount
4225-37160 (6319)	Engineering Plan Check	75.00
99409-37900 (1464)	Records Mgmt./Microfiche	6.00

Payments Made for this Receipt:

Туре	Method	Description	Amount	
Payment	Check	56387	81.00	

Account Summary for Fees and Payments:

Item#	Description	Account Code	Tot Fee	Paid	Prev. Pmts	Cur. Pmts
620 782	Permit Filing Fees Records Mgmt./Microfiche Engineering Plan Check Concrete Permit Fee	4520-37450 (1050) 99409-37900 (1464) 4225-37160 (6319) 4210-33700 (1315)	36.00 6.00 75.00 264.00	36.00 6.00 75.00 264.00	36.00 .00 .00 264.00	.00 6.00 75.00 .00

** See application for additional requirements **

INSPECTIONS

510-749-5840

NOTE:

All construction within the public right of way must have barricades with flashers for night time protection.

This is to certify that the above work has been completed to my satisfaction and approval.

			-
Date	ı	nspector	

. FE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION			
NCROACHMENT PERMIT	Permit	·	
TR-0120		-6SV-0994	
The second of th		o/Rte/PM la-260-0.43	
In compliance with (Check one):	04-11	14-200-0.43	
_	Date		
Your application of April 10, 2001		1, 2001	
Utility Notice No. of	Fee Pai \$160.		Deposit \$160.00
Offility Notice No.		nance Bond Amount (1)	Payment Bond Amount (2)
Agreement No. of			
T Pay Comment	Bond C	Company	
R/W Contract No. of	Bond N	lumber (1)	Bond Number (2)
	Bolle	unioer (1)	Bolld Hamber (2)
TO: CHEVRON			
P.O.Box 6004	·		
San Ramon, CA 94583-0904			
Attn: Thomas Banks			
Phone: (925) 842-8898	, PERMI	ITTEE	
and subject to the following, PERMISSION IS HEREBY GRAM	TED to:		
Perform soil borings using hand auger on Webster Stree	et State Highw	ay 04-41a-260 Po	st Mile 0.43 at Ruena
Vista and Eagle Streets, in the City of Alameda.	or, Grate Highwa	ay 04-A1a-200, 1 0	st vine 0.43, at Ducha
vista and Dagio Outoos, in the City of Manieda.			
Two days before work is started under this permit, notice	e shall be give	n to, and approval	of construction details.
operations, public safety, and traffic control shall be ob			
Lewelling Blvd., San Leandro, 94579, 510-614-5951, v			
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, , , , , , , , , , , , , , , , , , , ,		
Immediately following completion of the work perm	itted herein, th	ie permittee shall	fill out and mail the
Notice of completion attached to this permit.		-	
All personnel shall wear hard hats and orange vests, shi	rts, or jackets a	s appropriate durir	ng construction.
<u></u>			_
The following attachments are also included as part of this permit (Check	applicable):		permittee will be billed actual
Yes No General Provisions		costs for:	
Yes ⊠ No Utility Maintenance Provisions Yes ⊠ No Special Previsions		Yes No	Review Inspection
Yes No A Cal-OSHA permit required prior to beginning	work:	Yes —	Field Work
#	·	(If any Calt	ans effort expended)
Yes No The information in the environmental document	ation has been revie	wed and considered price	or to approval of this permit.
This permit is void unless the work is completed before December 31,			
This permit is to be strictly construed and no other work other than specific			
No project work shall be commenced until all other necessary permits and	APPROVED:	rances have been obtain	<u> </u>
	ALIKOTED.		
			
		HATA, District Dire	ctor
	BY:	1 12	,
	1.10.	nogan	(
	C C MOZZADI	District Damit E-	-i

Chevron 0401-6SV-0994 May 1, 2001

The site of the work shall be enclosed by suitable barricades, signs and lights, as approved by State's representative, to warn and protect traffic effectively.

Traffic control is authorized only between 9:00 A.M. and 3:00 P.M., Monday through Friday, holidays excluded. Any traffic control which requires lane closure shall be in compliance with the appropriate traffic control plan. Where required by the plan, the use of a flashing arrow sign is MANDATORY.

Before any work is begun which will interrupt the normal flow of public traffic, approval shall be obtained from State's representative, and closures will be as shown on the attached copy of Standard Plan Sheet T-11.

No excavation shall be left open overnight without written permission from the Caltrans representative or unless otherwise specified herein.

Certain details of work authorized hereby are shown on permittee's plan submitted with request for permit

Any collected survey data requested by Caltrans shall be furnished to Caltrans without charge.

The resulting holes shall be backfilled as per Caltrans requirements or as directed by the State representative.

When boring operations are being conducted, the permittee shall furnish, place and maintain signs and safety equipment in accordance with the latest edition of the "Manual of Traffic Controls for Construction and maintenance Work Zones".

All painted markings shall be made with water-soluble paint.

Permission is granted to park survey vehicles temporarily within the right of way, outside the shoulders, while work is in progress.

This permit does not authorize any excavation or trenching in State's right of way.

Any damage to existing facilities, landscaping or irrigation within the State's Right of Way shall be replaced in kind by the permittee at permittee's expense.

If an accident or other incident (related to or not related to the permitted activity) occurs within, or close to the permitted activity, the permittee shall immediately stop work and remove traffic controls from the highway unless public health, welfare and safety is endangered by unfinished work. Only traffic control to protect open excavations may remain in place. After free traffic flow is restored, work in accordance with the conditions of the permit may be returned.

FE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION	En Nat									
NCROACHMENT PERMIT TR-0120	Permit No.									
110-0120	0401-6SV-0994 Dist/Co/Rte/PM									
In compliance with (Check one):	04-Ala-260-0.43									
	Date									
Your application of _April 10, 2001	May 1, 2001									
.:	Fee Paid	Deposit								
Utility Notice No. of	\$160.00 Performance Bond Amount (1)	\$160.00 Payment Bond Amount (2)								
Agreement No of		Fayment Bond Amount (2)								
R/W Contract No of	Bond Company									
	Bond Number (1)	Bond Number (2)								
TO: CHEVRON P.O.Box 6004 San Ramon, CA 94583-0904										
Attn: Thomas Banks Phone: (925) 842-8898, PERMITTEE										
and subject to the following, PERMISSION IS HEREBY GRAN	TED to:									
Perform soil borings using hand auger on Webster Stree Vista and Eagle Streets, in the City of Alameda.	t, State Highway 04-Ala-260,	Post Mile 0.43, at Buena								
Two days before work is started under this permit, notic operations, public safety, and traffic control shall be obta Lewelling Blvd., San Leandro, 94579, 510-614-5951, w	ained from State Representati	ve N. Freitag, 600								
Immediately following completion of the work permit.										
All personnel shall wear hard hats and orange vests, shir	ts, or jackets as appropriate d	uring construction.								
The following attachments are also included as part of this permit (Check of	applicable): In addition to fee, costs for:	the permittee will be billed actual								
	1	No. Daview								
☐ Yes ☐ No Utility Maintenance Provisions ☐ Yes ☐ No Special Previsions	1 = =	No Review No Inspection								
Yes No A Cal-OSHA permit required prior to beginning		Field Work								
#	(If any C	Caltrans effort expended)								
Yes No The information in the environmental documenta	ation has been reviewed and considered	prior to approval of this permit.								
This permit is void unless the work is completed before December 31,	2001									
This permit is to be strictly construed and no other work other than specific No project work shall be commenced until all other necessary permits and		tained								
tro project work shart oc continenced with all other necessary permits and	APPROVED:	tan(og.								
	HADDVV VAHATA Distaling	Nireator								
Į.	HARRY Y. YAHATA, District I. BY:	orector								
	A A Mais	C								
	S. S. NOZZARI, District Permit	Engineer								



City of Alameda 2263 Santa Clara Avenue, Room 190 Alameda, CA 94501 (510) 748-4520

Submit in Duplicate

FITTY OF ALAMEDA (STO) /48-DECENVIEW
RIGHT-OF-WAY PERMIT APPLICATION
SERVICE NUMBER MAY 1 5 2001 DATE 3/15 19 0/
Application is hereby made to occupy or perform work in the public that of way por the Right side
Application is hereby made to occupy or perform work in the public that of way on thesidesidesideside
Webster St 16 feet Max from curb for
Of (See Site Map Attached)
House
No. 1802 Webster St Owner Chevron For the purpose of
Name of Cul D
Applicant Cettor-Rycun Drc. Address 6747 Sierra of SweJ City/State Dublin CA 74568
Contractor's City Business Phone License No. 1060 Number 925 551-7555
INDICATE LOCATION BELOW OR ATTACH SEPARATE SHEET SHOWING LOCATION
Sec Site Map Attached
Jac Jile 1919 Millianted
PLEASE NOTE THE FOLLOWING:
 Urban runoff program requires that no conteminants, including dirt, enter the storm drain system. Contractor is required to protect inlets. Failure to comply is subject to \$200/day fine.
 48 hour advance notice is required for inspection. Contact Engineering Division, Construction Inspection office at 749-5840.
Required inspections: Trenching, backfill concrete traffic/pedestrian detours, urban runoff, final inspection. Fallure to obtain inspection prior to work may result in rejection of said work.
All striping, painted graphics and pavement markers damaged or destroyed by street excavation work must be restored by the permittee.
 All construction within the Public Right-of-Way must have barricades with flashers for night time protection. All work involved is to be done in accordance with standard City of Alameda specifications and City of Alameda practices, all to
the satisfaction of the City Engineer. Standard details are attached. Inspection charges shall be paid to the City monthly.
7. FAILURE TO OBTAIN INSPECTIONS PRIOR TO COMPLETION OF WORK IS SUBJECT TO ADDITIONAL INSPECTION
COSTS AT A RATE OF \$32.70 PER HOUR.
Acceptance of this permit constitutes acceptance of the conditions included.
/mm man
APPLICANT SIGNATURE SPECIAL CONDITIONS
D NO OPEN TRENCH CUTTING
STATE PERMIT REQUIRED O ADDITIONAL SETS OF PLANS AND SPECIFICATIONS TO THE ENGINEERING DIVISION PRIOR TO CONSTRUCTION
#OF SETS
RECEIVED DATE 3/2-6/01 SIGNED & Chase PERMIT NO. EXO1-0023
APPROVED DATE 5-03-51 SIGNED FOR SIGNED
ISSUED DATE 5/10/2001 SIGNED No SULLA

833

Revised: 07/20/98

GACENPERM.BIVFORMSVEXCAV.FRM

PAGE.001

FAX NO. 5107821939

P. 02

TO 15107821939

PAGE.002/003

MAR-05-01 MON 08:49 AM ALAMEDA COUNTY PWA RM239

FAX NO. 5107821939

P. 02/02



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-3195
PHONE (510) 470-3554
FAX (510)141-1919

DRILLING PERM	IT APPLICATION
LOCATION OF PROJECT 1802 webster St.	FOR OFFICE USE PERMIT NUMBER WO 1 175 WELL NUMBER
	PERMIT CONDITIONS Circled Permit Requirements Apply
CLIENT Cherron	
Address BO Box 6004 Phone	A. GENERAL 1. A permit application should be submitted so as to
City Sin Ramon Zip 74583	arrive at the ACPWA office five days prior to proposed starting date.
APPLICANT	2. Submit to ACPWA within 60 days after completion of
Name Coffee Ryan Inc	permitted original Department of Weter Resources-
Address 6747 5 cros 4 Phone 925) 587-7400	Well Completion Report.
Address 6747 Scra 4 Phone 925) 557-7422 Chy 124110 04 2ip 94521	1. Permit is void if project not begun within 90 days of approval date
210210210210	B. WATER SUPPLY WELLS
	1. Minimum surface real thickness is two inches of
TYPE OF PROJECT	cement growt placed by tramis.
Well Construction Geotechnical Investigation	2. Minimum seal depth is 50 feet for municipal and
Cathodic Protection 0 General 0	Industrial wells or 20 feet for domestic and irrigation
Water Supply 0 Contamination 0 Monitoring 0 Well Destruction 0	wells unless a lesser depth is specially approved. C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMIETERS
PROPOSED WATER SUPPLY WELL USE	1. Minimum surface seal thickness is two inches of
New Domestic 0 Replacement Domestic 0	coment grout placed by tramic.
Municipal D Irrigation D	2. Minimum seal depth for manitoring wells is the
Industrial D Other 0	maximum depth practicable or 20 feet.
havi t tug kippligs	D. GEOTECHNICAL
DRILLING ALETHOD: Mud Rotary 0 Air Rotary 0 Auger 0	Back fill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind
Med Rotery 0 Air Rotery 0 Auger 0 Cable 0 Other & Hand Auger	or with compacted cuttings.
A nume Abger	E. CATHODIC
DRILLER'S NAME	Pill hole anode zone with concrete placed by tremit.
	F. WELL DESTRUCTION
DRILLER'S LICENSE NO.	Send a map of work size. A coparate pennit is required
	for wells deeper than 45 feet. G. SPECIAL CONDITIONS
WELL PROJECTS	G. SPECIAL COMPLITORS
Drift Hole Diameterin. Maximum	NOTE: One application must be submined for each well or well
Casing Diameter in, Denth ft.	description. Multiple borings on one application are acceptable
Surface Seal Depth 1. 17. Owner's Well Number	for geotechnical and contamination investigations.
GEOTECHNICAL PROJECTS	
Number of Borings// Maximum	
Hole Diameter 3 in Depth 7	1
ESTIMATED STARTING DATE 3/23/01	3-14-0]
ESTIMATED COMPLETION DATE 3/30/0/	APPROVED DATE
I hereby agree to comply with 4tl requirement of this person and Alemoda Coun	iry Ordinance No. 73-68.
APPLICANT'S SIGNATURE DAT	13/17/61 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
PLEASE PAINT NAME Andrew South	Rev.5-13-00
MAR 5 '01 8:45	6107821939 PAGE.002

	0	et	tler-F	Ryan	, Inc.		Log of Boring SB1					
PROJ	ECT:	Che	vron Serv	rice Sta	tion No.	9-0290	LOCATION: 1802 Webster Street, Alamed	ə, CA.				
GR P	ROJEC	T NO	.: DG90	0290C.4	C02		SURFACE ELEVATION:					
DATE	STA	RTED	: 05/15/	/01			WL (ft. bgs): 6 DATE: 05/15/01 TIME: 10:30					
DATE	FINI	SHED): 05/15	/01	••		WL (ft. bgs): DATE: TIME					
DRIL	LING I	METH	OD: 3 in	. Hand	Auger		TOTAL DEPTH: 9.5 feet					
DRIL	LING (COMP	ANY: Ge	etter-R	yan, Inc.		GEOLOGIST: Andrew Smith					
ОЕРТН (feet)	PIO (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.			GEOLOGIC DESCRIPTION	REMARKS				
				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	^	Concrete - 6 inc	ches thick.					
				 		Pea Gravel - 3 in		1				
2-	0.00				SM	SILTY SAND WIT moist, loose; 65%	H GRAVEL (SM) – reddish brown (5YR 4/3), sand, 20% angular gravel, 15% silt.	Boring backfilled				
_						-		with neat cement to ground surface.				
4-	0.00							-				
	0.00		SB1-5 SB1	7		SILTY SAND (SM	M) – dark greenish gray (Gley2 4/1), wet, 5% fine sand, 15% silt, s amp gerrole um	Grab groundwater sample SB1.				
6-			351			odor.						
8-	1					Dating of basis	g at 9.5 feet bgs.					
10-						Bottom of porms	ן פנ פנט וכבינ טקש.	-				
12-												
14-								_				

JOB NUMBER: *DG90290C.4C02*

Page 1 of 1

	Gettler-Ryan, Inc.						Log of Boring SB2					
PROJ	ECT:	Che	vron Serv	ice Stati	on No. 8	9-0290	LOCATION: 1802 Webster Street, Alamed	da, CA.				
GR PI	ROJEC	T NO).: DG90	290C.4C	02		SURFACE ELEVATION:					
DATE	STA	RTED	: 05/15/	'01			WL (ft. bgs): 9 DATE: 05/15/01 TIME	: <i>11:10</i>				
DATE	FINI	SHEE	D: <i>05/15/</i>	/01			WL (ft. bgs); DATE: TIME:					
DRIL	LING	METH	IOD: 3 in:	. Hand A	uger		TOTAL DEPTH: 10 feet					
_				tter-Rya			GEOLOGIST: Andrew Smith					
DEРТН (feet)	PIO (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT. GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS				
_			**	A > A > A > A > A > A > A > A > A > A >		Concrete - 6 in	ches thick.					
						Pea Gravel - 3 i	nches thick.	<u>-</u>				
l				וֹוֹווֹוֹן	SM		M) - dark greenish gray (Gleyl 3/1), moist, 5% sand, 15% silt,	7 4				
2	0.00		RBCA SB2-6.5				petipleum odor.	Boring backfilled with neat cement to ground surface.				
10-	0.00		SB2	7		₽ Bottom of borin	g at 10 feet bgs.	Grab groundwater sample SB2.				
12-												

	•	et	tier–R	yε	an,	Inc.			Log of Boring SB4					
PROJ	ECT:	Che	vron Serv	ice	Stati	on No.	9-02	290	LOCATION: 1802 Webster Street, Alameda	a, CA.				
GR PI	ROJEC	T NO).: DG90	290	C.4C	02			SURFACE ELEVATION:					
DATE	STA	RTED	: 05/15/	01					WL (ft. bgs): 5.5 DATE: 05/15/01 TIME:	09:00				
├ ──			D: <i>05/15/</i>						WL (ft. bgs): DATE: TIME:					
			OD: 3 in.		nd A	uaer		-	TOTAL DEPTH: 7 feet					
			ANY: Ge						GEOLOGIST: Andrew Smith					
DEРТН (feet)	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS			GEOLOGIC DESCRIPTION	REMARKS				
					۰,۰ ۲,۰			Concrete - 6 inc	hes thick.					
	0.00				<u>````</u>	SW-SM		SAND WITH SILT	(SW-SM) - dark reddish brown (5YR 3/2),	+				
2-								moist, medium de	nse; 90% sand, 10% sllt. o brown (7.5YR 4/3) at 3 feet.	Boring backfilled — with neat cement to ground surface.				
4-	0.00								changes to dark greenish gray (Gley1 4/1); a odo r.	-				
6-	0.00		SB4-5.5 SB4				Ā	Bottom of boring		Grab groundwater sample SB4.				
8-				_										
]				1							
10-			1	-	1									
- 12					-									
14-				-						Page 1 of				

JOB NUMBER: *DG90290C.4C02*

	Gettler-Ryan, Inc.							Log of Boring SB8						
PROJ	ECT:	Che	vron Servi	ice :	Station	No. 9	7-0290	LOCATION: 1802 Webster Street, Alamed	a, CA.					
			.: DG90					SURFACE ELEVATION:						
			: 05/16/					WL (ft. bgs): 6 DATE: 05/16/01 TIME: 19:40						
DATE	FINI	SHEC): <i>05/16/</i>	<i>'01</i>			·	WL (ft. bgs): DATE: TIME	:					
DRIL	LING !	METH	0D: 3 in.	Ha	nd Auge	er .		TOTAL DEPTH: 8 feet						
DRIL	LING (COMP.	ANY: Ge	tter	-Ryan,	Inc.		GEOLOGIST: Andrew Smith						
DEPTH (feet)	PID (ppm) BLOWS/FT. * SAMPLE NUMBER SAMPLE INT. GRAPHIC LOG SOIL CLASS							GEOLOGIC DESCRIPTION	REMARKS					
					A 2 A		Concrete - 6 inc	Concrete - 6 inches thick.						
2	0.00 0.00 0.00		SB8-5.5 SB8		r. \	N-SM	SAND WITH SILT medium dense; 90	(SW-SM) - brown (7.5YR 3/2), moist, 0% sand, 10% silt.	Boring backfilled with neat cement to ground surface. Grab groundwater sample SB8.					
8-				-	-:11 -		Bottom of boring	at 8 feet has	-					
_		:			-		Porroll of Politic	g et o icet bys.						
10-									-					
12-									-					
14-				_					Page 1 of 1					

	(et ¹	tler–R	lyε	n, i	inc.		Log of Boring SE	36
PROJ	ECT:	Che	vron Serv	ice	Statio	n No.	9-0290	LOCATION: 1802 Webster Street, Alamed	a, CA.
			.: DG90					SURFACE ELEVATION:	
			: 05/16/					WL (ft. bgs): 5.5 DATE: 05/16/01 TIME	11:10
			: 05/16/				<u></u>	WL (ft. bgs): DATE: TIME	_
			0D: <i>3 in</i> .		nd Au	aer		TOTAL DEPTH: 7 feet	
						n, Inc.	····································	GEOLOGIST: Andrew Smith	
				T	,,, <u>,,</u>	,			
OEPTH (feet)	PIO (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SAMPLE INT.	GRAPHIC LOG	SOIL CLASS		GEOLOGIC DESCRIPTION	REMARKS
		-			^ ^ ^ ^		Concrete - 6 in	ches thick.	
2- 4-	0.00 0.00 0.00		SB6-5.5 SB6			SW-SM	SAND WITH SILT medium dense; 9	T (SW~SM) - brown (7.5YR 3/2), moist, 0% sand, 10% silt. o dark greenish gray (Gley1 4/1) at 5.5	Boring backfilled with neat cement to ground surface. Grab groundwater sample SB6.
8- - 10-							Bottom of borin	g at / reet bgs.	
12-				-	4000				Page 1 of 1



7 June, 2001

Andrew Smith Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin, CA 94568

RE: Chevron Sequoia Report: W105405

Enclosed are the results of analyses for samples received by the laboratory on 17-May-01 16:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater Project Manager

CA ELAP Certificate #1271



404 N. Wiget Lane Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673 www.sequoialabs.com

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

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 08:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	
SB1-5	W105405-01	Soil	15-May-01 00:00	17-May-01 16:40	
SB2-6.5	W105405-02	Soil	15-May-01 00:00	17-May-01 16:40	
SB4-5.5	W105405-03	Soil	16-May-01 00:00	17-May-01 16:40	
SB6-5.5	W105405-04	Soil	16-May-01 00:00	17-May-01 16:40	
SB8-5.5	W105405-05	Soil	16-May-01 00:00	17-May-01 16:40	

Sequoia Analytical - Walnut Creek

Charlie Westwater, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



404 N. Wiget Lane Walnut Creek, CA 94598 (925) 988-9600 FAX (925) 988-9673 www.sequoialabs.com

Gettler Ryan, Inc. - Dublin

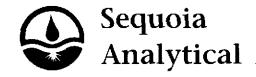
6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith Reported:

07-Jun-01 08:53

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB1-5 (W105405-01) Soil	Sampled: 15-May-01 00:00	Received:	17-May-	01 16:40					
Purgeable Hydrocarbons	6.7	1.0	mg/kg	20	1E21002	21-May-01	22-May-01	EPA 8015/8020	P-03
Benzene	0.023	0.0050	**	"	**	**	U	11	
Toluene	0.028	0.0050	**	"	"	11	"	"	
Ethylbenzene	0.035	0.0050	**	ij	11	H	11	tt.	
Xylenes (total)	0.11	0.0050	+1	11	**	**	II	**	
Methyl tert-butyl ether	ND	0.050	**	11	"	"	II .	"	CC-3
Surrogate: a,a,a-Trifluoroto	luene	89.0 %	40-	140	и	,,	"	u	
SB2-6.5 (W105405-02) Soil	Sampled: 15-May-01 00:00) Receive	d: 1 7-M a;	y-01 16:40					
Purgeable Hydrocarbons	1.1	1.0	mg/kg	20	1E21002	21-May-01	22-May-01	EPA 8015/8020	P-03
Benzene	0.0099	0.0050	u	ш	**	0	ц	*	
Toluene	0.0072	0.0050	n	п	"	n	п	#	
Ethylbenzene	0.0075	0.0050		"	"	"	ш	"	
Xylenes (total)	0.015	0.0050	"	ч	**	U	п	"	
Methyl tert-butyl ether	0.084	0.050	"	11	11	н	u	"	CC-3
Surrogate: a,a,a-Trifluoroto	luene	99.0 %	40-	140	"	"	"	"	
SB4-5.5 (W105405-03) Soil	Sampled: 16-May-01 00:00	Receive	d: 17-Ma	y-01 16:40					
Purgeable Hydrocarbons	81	20	mg/kg	400	1E21002	21-May-01	25-May-01	EPA 8015/8020	P-03
Benzene	ND	0.10	**	"	**	"	u	"	
Toluene	ND	0.10	**	u	**	11	11	u	
Ethylbenzene	0.13	0.10	H	ш	ŋ	II	111	n .	
Xylenes (total)	0.31	0.10	**	"	"	11	H	п	
Methyl tert-butyl ether	ND	1.0	"	u	"	п	17	ч	CC-3
Surrogate: a,a,a-Trifluoroto	luene	103 %	40-	140	"	п	"	"	



Gettler Ryan, Inc. - Dublin

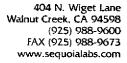
6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 08:53

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB6-5.5 (W105405-04) Soil	Sampled: 16-May-01 00:00	Received	l: 17-Ma	y-01 16:40					
Purgeable Hydrocarbons	1.8	1.0	mg/kg	20	1E21002	21-May-01	22-May-01	EPA 8015/8020	-
Benzene	ND	0.0050	H	11	11	ч	U	st	
Toluene	ND	0.0050	**	**	u	u	u-	n	
Ethylbenzene	ND	0.0050	18	п		(I	17	ii .	
Xylenes (total)	ND	0.0050	41	11	"	u	79	н	
Methyl tert-butyl ether	ND	0.050	11	14	п	п	H	н	CC-3
Surrogate: a,a,a-Trifluorotolu	iene	94.0 %	40-	140	"	н	"	н	
SB8-5.5 (W105405-05) Soil	Sampled: 16-May-01 00:00	Received	l: 17-Maj	y-01 16:40					
Purgeable Hydrocarbons	ND	1.0	mg/kg	20	1E21002	21-May-01	22-May-01	EPA 8015/8020	
Benzene	ND	0.0050	ш	"	14	n	**	*	
Toluene	ND	0.0050	"	"	**	u	**	**	
Ethylbenzene	ND	0.0050	a	u	**	II	11	*	
Xylenes (total)	ND	0.0050	"	n n	**	n	**	**	
Methyl tert-butyl ether	0.12	0.050	ч	"	"	n	**	**	CC-3
Surrogate: a,a,a-Trifluorotolu	lene	103 %	40-	140	"	,,	"	"	





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

Dublin CA, 94568

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 08:53

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	F Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB1-5 (W105405-01) Soil S	Sampled: 15-May-01 00:00	Received:	17-May-01	1 16:40	-				
Diesel Range Hydrocarbons	ND	1.0	mg/kg	1	1E29015	29-May-01	31-May-01	DHS LUFT	
Surrogate: n-Pentacosane		59.1 %	50-I.	50	"	"	"	"	
SB2-6.5 (W105405-02) Soil	Sampled: 15-May-01 00:00	Received	l: 17-May-	01 16:40					
Diesel Range Hydrocarbons	ND	1.0	mg/kg	Į.	1E29015	29-May-01	31-May-01	DHS LUFT	
Surrogate: n-Pentacosane	The state of the s	66.0 %	50-1.	50	"	"	"	"	
SB4-5.5 (W105405-03) Soil	Sampled: 16-May-01 00:00	Received	l: 17-May-	01 16:40					
Diesel Range Hydrocarbons	2.4	1.0	mg/kg	1	1E29015	29-May-01	31-May-01	DHS LUFT	D-02
Surrogate: n-Pentacosane		51.1 %	50-1.	50	"	"	"	"	
SB6-5.5 (W105405-04) Soil	Sampled: 16-May-01 00:00	Received	l: 17-May-	01 16:40					
Diesel Range Hydrocarbons	ND	1.0	mg/kg	1	1E29015	29-May-01	31-May-01	DHS LUFT	
Surrogate: n-Pentacosane		67.0 %	50-I.	50	"	"	"	"	
SB8-5.5 (W105405-05) Soil	Sampled: 16-May-01 00:00	Received	l: 17-May-	01 16:40					
Diesel Range Hydrocarbons	ND	1.0	mg/kg	1	1E29015	29-May-01	31-May-01	DHS LUFT	
Surrogate: n-Pentacosane		68.0 %	50-1.	50	"	"	"	"	



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Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 08:53

MTBE Confirmation by EPA Method 8260B

Sequoia Analytical - Walnut Creek

Analyte	F Result	Reporting Limit	Units	Dilution	Batch	Ртерагед	Analyzed	Method	Notes
SB2-6.5 (W105405-02) Soil Samp	led: 15-May-01 00:00	Received	i: 17-May	-01 16:40				<u> </u>	O-04
Methyl tert-butyl ether	ND	0.20	mg/kg	100	1F01017	31-May-01	31-May-01	EPA 8260B	
Surrogate: Dibromofluoromethane		110 %	50-150		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		112%	50-	150	"	"	u	"	
SB8-5.5 (W105405-05) Soil Sampled: 16-May-01 00:00 Received: 17-May-01 16:40							O-04		
Methyl tert-butyl ether	ND	0.20	mg/kg	100	1F01017	31-May-01	31-May-01	EPA 8260B	
Surrogate: Dibromofluoromethane		108 %	50-	150	"	ıı .	"	"	
Surrogate: 1,2-Dichloroethane-d4		102 %	50-	150	"	"	v	#	





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

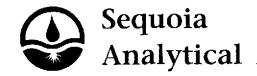
Dublin CA, 94568

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 08:53

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1E21002 - EPA 5030B MeOH										
Blank (1E21002-BLK1)	Prepared & Analyzed: 21-May-01									
Purgeable Hydrocarbons	ND	1.0	mg/kg				-			
Benzene	ND	0.0050	ır							
Toluene	ND	0.0050	11							
Ethylbenzene	ND	0.0050								
Xylenes (total)	ND	0.0050	n							
Methyl tert-butyl other	ND	0.050	"							
Surrogate: a,a,a-Trifluorotoluene	0.684		"	0.600		114	40-140			
LCS (1E21002-BS1)	Prepared & Analyzed: 21-May-01									
Benzene	0.726	0.0050	mg/kg	0.800		90.8	50-150			
Toluene	0.754	0.0050	**	0.800		94.2	50-150			
Ethylbenzene	0.792	0.0050	11	0.800		99.0	50-150			
Xylenes (total)	2.35	0.0050	"	2.40		97.9	50-150			
Surrogate: a.a.a-Trifluorotoluene	0.706		"	0.600		118	40-140			
Matrix Spike (1E21002-MS1)	Source: W105395-02			Prepared: 21-May-01 Analyzed: 22-May-01						
Benzene	0.756	0.0050	mg/kg	0.800	ND	94.5	50-150	<u>-</u>		
Toluene	0.796	0.0050	н	0.800	ND	99.5	50-150			
Ethylbenzene	0.838	0.0050	n	0.800	ND	105	50-150			
Xylenes (total)	2.53	0.0050	n.	2.40	ND	105	50-150			
Surrogate: a.a.a-Trifluorotoluene	0.612		"	0.600		102	40-140			
Matrix Spike Dup (1E21002-MSD1)	Source: W105395-02			Prepared: 21-May-01 Analyzed: 22-May-01						
Benzene	0.748	0.0050	mg/kg	0.800	ND	93.5	50-150	1.06	20	
Toluene	0.790	0.0050	n	0.800	ND	98.8	50-150	0.757	20	
Ethylbenzene	0.826	0.0050	n	0.800	ND	103	50-150	1.44	20	
Xylenes (total)	2,46	0.0050	Ħ	2.40	ND	102	50-150	2.81	20	
Surrogate: a.a,a-Trifluorotoluene	0.616		n	0.600		103	40-140			



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

Dublin CA, 94568

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 08:53

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1E29015 - EPA 3550A					,					
Blank (1E29015-BLK1)				Prepared	: 29 -M ay-(01 Analyz	ed: 01-Jun	1- 01		
Diesel Range Hydrocarbons	ND	1.0	mg/kg							
Surrogate: n-Pentacosane	0.778		"	1.11		70.1	50-150			
LCS (1E29015-BS1)				Prepared	: 29-May-() l Analyz	ed: 01-Jun	ı-01		
Diesel Range Hydrocarbons	12.4	1.0	mg/kg	15.0		82.7	60-140			
Surrogate: n-Pentacosane	0.889		"	1.11		80.1	50-150			
LCS Dup (1E29015-BSD1)		~		Prepared	: 29-May-(l Analyz	ed: 02-Jur	ı-01		
Diesel Range Hydrocarbons	11.7	1.0	mg/kg	15.0		78.0	60-140	5.81	40	
Surrogate: n-Pentacosane	0.933		it	1.11		84.1	50-150			
Matrix Spike (1E29015-MS1)	So	ource: W1054	05-01	Prepared:	29-May-(01 Analyz	ed: 31-Ma	ıy-01		
Diesel Range Hydrocarbons	12.4	1.0	mg/kg	15.0	ND	82.7	50-150			
Surrogate: n-Pentacosane	1.12		н	1.11		101	50-150			
Matrix Spike Dup (1E29015-MSD1)	Source: W105405-01			Prepared: 29-May-01 Analyzed: 31-May-01				ıy-01		
Diesel Range Hydrocarbons	10.1	1.0	mg/kg	15.0	ND	67.3	50-150	20.4	50	
Surrogate: n-Pentacosane	0.889		а	<i>I.11</i>		80.I	50-150			



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

Dublin CA, 94568

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 08:53

MTBE Confirmation by EPA Method 8260B - Quality Control

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1F01017 - EPA 5030B (MeOH)										
Blank (1F01017-BLK1)				Prepared	& Analyz	ed: 31-Ma	y-01			
Methyl tert-butyl ether	ND	0.20	mg/kg							
Surrogate: Dibromofluoromethane	2.60		"	2.50		104	50-150			
Surrogate: 1,2-Dichloroethane-d4	2.85		"	2.50		114	50-150			
LCS (1F01017-BS1)				Prepared	& Analyz	ed: 31-Ma	ıy-01			
Methyl tert-hutyl ether	2.55	0.20	mg/kg	2.50	,	102	70-130			•
Surrogate: Dibromofluoromethane	2.60		и	2.50		104	50-150			
Surrogate: 1,2-Dichloroethane-d4	2.75		"	2.50		110	50-150			
LCS Dup (1F01017-BSD1)		Prepared & Analyzed: 31-May-01								
Methyl tert-butyl ether	2.52	0.20	mg/kg	2,50		101	70-130	1.18	25	
Surrogate: Dibromofluoromethane	2.50		"	2.50		100	50-150			
Surrogate: 1,2-Dichloroethane-d4	2.80		"	2.50		112	50-150			



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

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith Reported:

07-Jun-01 08:53

Notes and Definitions

CC-3 Continuing Calibration indicates that the quantitative result for this analyte includes a greater than 15% degree of uncertainty. The value as reported is within method acceptance.
 D-02 Chromatogram Pattern: Unidentified Hydrocarbons C9-C40.
 O-04 This sample was analyzed outside the EPA recommended holding time.

P-03 Chromatogram Pattern: Unidentified Hydrocarbons C6-C12

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Fax copy of Lab Report and COC to Chevron Contact: No Chain-of-Custody-Record Chevron Facility Number #9-0290 Chevron Contact (Home) Tom Bachs Foolity Address 1802 webster Street Alameda CA. Chevron U.S.A. Inc. (Phone)_ Consultant Project Number 345280.02 Laboratory Name Sequoia Analytical P.O. BOX 5004 Consultant Home Gottler Ryan Inc. Laboratory Release Number..... San Ramon, CA 94583 6747 Sicre Andrew South FAX (415)842-9591 Samples Collected by (Name)____ Project Contact (Name) Andrew Collection Date (Phone) (725)551-7444 (Fox Number) (725) 551-7555 Signature ... Analyses To Be Performed * With Silica Gel G = Grab
C = Composite
D = Discrete Purgeable Aromatics (8020) Purgeothe Organica (8240) Extractable Organica (8270) Clean - UP (8015)
Oil and Gream
(5520) Remarks 501-5 OIA D 5/15/01 Yes 5B2-65 0ZA 5/15/ 5/16/4 SB4-5.5 03A 5/16/0 SB6-5.5 09A 5/16/4 SB8-55 05A Relinquished By (Signature) Date/Time Organization Date/Time Received By (Signature) Date/11.01/530 Organization Turn Around Time (Circle Choice) GRI 5/17/07 Seguo 24 Hrs. Relinquished By (Signature) Date/Time Organization Received By (Signature) Date/Time Organization 48 Hrs. 5-17-01/140 Segun. 5 Days 10 Days Relinquished By (Signature) Date/Time Date/Time 5/17/01 1640 Organization Recieved For Laboratory By (Signature) As Contracted





7 June, 2001

Andrew Smith Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin, CA 94568

RE: Chevron Sequoia Report: W105481

Enclosed are the results of analyses for samples received by the laboratory on 17-May-01 16:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwater > Project Manager

CA ELAP Certificate #1271



Gettler Ryan, Inc. - Dublin

Project: Chevron

6747 Sierra Court Suite J Project Number: Chevron # 9-0290 Dublin CA, 94568 Project Manager: Andrew Smith

Reported: 07-Jun-01 07:44

ANALYTICAL REPORT FOR SAMPLES

Sample LD	Laboratory ID	Matrix	Date Sampled	Date Received
SB1	W105481-01	Water	16-May-01 00:00	17- May -01 16:40
SB2	W105481-02	Water	15-May-01 00:00	17-May-01 16:40
SB4	W105481-03	Water	16-May-01 00:00	17-May-01 16:40
SB6	W105481-04	Water	16- M ay-01 00:00	17-May-01 16:40
SB8	W105481-05	Water	16-May-01 00:00	17-May-01 16:40

Sequoia Analytical - Walnut Creek

Charlie Westwater, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 1 of 10



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

Dublin CA, 94568

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 07:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB1 (W105481-01) Water	Sampled: 16-May-01 00:00	Received:	17-May	-01 16:40					
Purgeable Hydrocarbons	1000	500	ug/l	10	1E29002	30-May-01	30-May-01	EPA 8015M/8020	P-01
Benzene	ND	5.0	"	**	10	10	ij	п	
Toluene	ND	5.0	"	11	**	**	11	u	
Ethylbenzene	5.3	5.0	11	11	17	"	"	11	
Xylenes (total)	ND	5.0	ч	11	и	11	n	п	
Methyl tert-butyl ether	ND	25	"	II.	**	11	n	"	CC-3
Surrogate: a,a,a-Trifluoroto	luene	92.7 %	70-	-130	"	"	"	"	
SB2 (W105481-02) Water	Sampled: 15-May-01 00:00	Received:	17-May	-01 16:40					
Purgeable Hydrocarbons	910000	50000	ug/l	1000	1E29002	29-May-01	29-May-01	EPA 8015M/8020	P-04
Benzene	530	500		10	,,	"	"	II .	
Toluene	940	500		n	"	"	**	n	
Ethylbenzene	2300	500		u		· ·	**	н	
Xylenes (total)	5100	500	"	u .	**	"	*	"	
Methyl tert-butyl ether	ND	2500	"	"	**	ч	**	"	
Surrogate: a,a,a-Trifluoroto	luene	72.7 %	70-	-130	"	"	"	n	
SB4 (W105481-03) Water	Sampled: 16-May-01 00:00	Received:	17-May	-01 16:40					
Purgeable Hydrocarbons	5100	500	ug/i	10	1E29002	30-May-01	30-May-01	EPA 8015M/8020	P-01
Benzene	23	5.0	D.	и	11	"	"	**	
Toluene	10	5.0	,,	**	**	"	"	**	
Ethylbenzene	18	5.0	0	rr	41	"	"	**	
Xylenes (total)	11	5.0	H	И	**	n	"	n	
Methyl tert-butyl ether	35	25	11	u	u	*	**	17	CC-3
Surrogate: a,a,a-Trifluorotoi	luene	85.7 %	70-	130	и	"	11	"	



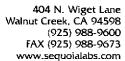


6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 07:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB6 (W105481-04) Water Sam	pled: 16-May-01 00:00	Received:	17-May	-01 16:40		····			
Purgeable Hydrocarbons	200	50	ug/l	1	1E29002	30-May-01	30-May-01	EPA 8015M/8020	P-01
Benzene	0.51	0.50	,,	*	**	Ħ	**	"	
Toluene	ND	0.50	u	17	**	**	**	п	
Ethylbenzene	ND	0.50	"	17	**	**	n	п	
Xylenes (total)	ND	0.50	"	"	rī	**	**	u	
Surrogate: a,a,a-Trifluorotoluene		85.3 %	70	-130	"	"	"	и	
SB6 (W105481-04RE1) Water	Sampled: 16-May-01 00):00 Recei	ved: 17-	May-01 16:	:40				
Methyl tert-butyl ether	3200	500	ug/l	200	1E29002	30-May-01	30-May-01	EPA 8015M/8020	CC-3
Surrogate: a,a,a-Trifluorotoluene		94.7 %	70-	-130	"	"	"	и	
SB8 (W105481-05) Water Sam	pled: 16-May-01 00:00	Received:	17-May	-01 16:40					
Purgeable Hydrocarbons	ND	50	ug/l	1	1E 29 002	30-May-01	30-May-01	EPA 8015M/8020	
Benzene	ND	0.50	11	17	"	IJ	**	"	
Toluene	ND	0.50	**	**	u	"	**	**	
Ethylbenzene	ND	0.50	**	**	"	II	Ħ	77	
Xylenes (total)	ND	0.50	"	"	11	п	*	**	
Surrogate: a,a,a-Trifluorotoluene		96.3 %	70-	-130	"	"	"	"	
SB8 (W105481-05RE1) Water	Sampled: 16-May-01 00):00 Rece	ived: 17-	May-01 16:	:40				
Methyl tert-butyl ether	3000	2500	ug/l	1000	1E29002	30-May-01	30-May-01	EPA 8015M/8020	CC-3
Surrogate: a,a,a-Trifluorotoluene		96.3 %	70	-130	"	"	"	u	





Project: Chevron

6747 Sierra Court Suite J Dublin CA, 94568 Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 07:44

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB1 (W105481-01) Water	Sampled: 16-May-01 00:00	Received:	17-May	-01 16:40					
Diesel Range Hydrocarbon	s 940	50	ug/l	1	1E25007	25-May-01	31-May-01	EPA 8015M	D-11
Surrogate: n-Pentacosane		62.2 %	50-	-150	"	и	"	n	
SB2 (W105481-02) Water	Sampled: 15-May-01 00:00	Received:	: 17-May	-01 16:40					
Diesel Range Hydrocarbon	s 5600	590	ug/l	10	1E25007	25-May-01	01-Jun-01	EPA 8015M	D-11
Surrogate: n-Pentacosane		130 %	50-	-150	"	и	"	n	
SB4 (W105481-03) Water	Sampled: 16-May-01 00:00	Received:	: 17-May	-01 16:40					
Diesel Range Hydrocarbon	s 330	50	սը/1	1	1E25007	25-May-01	31-May-01	EPA 8015M	D-11
Surrogate: n-Pentacosane		99.1 %	50-	-150	"	n	"	"	
SB6 (W105481-04) Water	Sampled: 16-May-01 00:00	Received:	: 17-May	-01 16:40					
Diesel Range Hydrocarbon	s 110	50	ug/l	1	1E25007	25-May-01	31-May-01	EPA 8015M	D-11
Surrogate: n-Pentacosane		99.1 %	50-	-150	11	ri .	"	"	
SB8 (W105481-05) Water	Sampled: 16-May-01 00:00	Received	: 17-May	-01 16:40					
Diesel Range Hydrocarbons	ND	62	ug/l	1	1E25007	25-May-01	31-May-01	EPA 8015M	
Surrogate: n-Pentacosane		70.2 %	50-	-150	"	"	"	"	





6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 07:44

MTBE Confirmation by EPA Method 8260B Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB4 (W105481-03) Water	Sampled: 16-May-01 00:00	Received:	17-May	-01 16:40					O-04
Methyl tert-butyl ether	ND	2.0	ug/l	1	1F01016	31-May-01	31-May-01	EPA 8260B	
Surrogate: Dibromofluorome	thane	90.0 %	50-	150	"	"	и	и	
Surrogate: 1,2-Dichloroethai	ne-d4	96.0 %	50-	150	u	ır	a	u	
SB6 (W105481-04) Water	Sampled: 16-May-01 00:00	Received:	17-May	-01 16:40					O-04
Methyl tert-butyl ether	3600	100	ug/l	50	1F01016	31-May-01	31-May-01	EPA 8260B	
Surrogate: Dibromofluorome	thane	92.0 %	50-	-150	et .	"	"	"	
Surrogate: 1,2-Dichloroethan	ne-d4	96.2 %	50-	150	"	"	"	n	
SB8 (W105481-05) Water	Sampled: 16-May-01 00:00	Received:	17-May	-01 16:40					O-04
Methyl tert-butyl ether	4300	200	ug/l	100	1F01016	31-May-01	31-May-01	EPA 8260B	
Surrogate: Dibromofluorome	thane	9160 %	50-	150	u	"	"	"	-
Surrogate: 1,2-Dichloroethai		9740 %	50-	150	"	"	"	"	

Page 5 of 10



6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 07:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Апаlyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1E29002 - EPA 5030B P/T										
Blank (1E29002-BLK1)				Prepared	& Analyz	ed: 29-Ma	ıy-01			
Purgeable Hydrocarbons	ND	50	ug/l		-					
Benzene	ND	0.50	• 4							
Toluene	ND	0.50	"							
Ethylbenzene	ND	0.50	11							
Xylenes (total)	ND	0.50	**							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a,a,a-Trifluorotoluene	31.3		"	30.0	<u> </u>	104	70-130			•
Blank (1E29002-BLK2)				Prepared	& Analyz	ed: 30 -M a	y-01			
Purgeable Hydrocarbons	ND	50	ug/l		.,					
Benzene	ND	0.50	"							
Toluene	ND	0.50								
Ethylbenzene	ND	0.50	u u							
Xylenes (total)	ND	0.50	"	•						
Methyl tert-butyl ether	ND	2.5	II .							
Surrogate: a.a.a-Trifluorotoluene	30.1		"	30.0		100	70-130			
Blank (1E29002-BLK3)				Prepared	& Analyz	ed: 31-Ma	ıy-01			
Purgeable Hydrocarbons	ND	50	ug/l			***				
Benzene	ND	0.50	"							
Toluene	ND	0.50	u							
Ethylbenzene	ND	0.50	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	2.5	"							
Surrogate: a.a.a-Trifluorotoluene	29.2		"	30.0	-	97.3	70-130			
LCS (1E29002-BS1)	Prepared & Analyzed: 29-May-01									
Benżene	19.8	0.50	ug/l	20.0		99.0	70-130			
Toluene	20.7	0.50	11	20.0		104	70-130			
Ethylbenzene	21.4	0.50	11	20.0		107	70-130			
Xylenes (total)	63.9	0.50	**	60.0		106	70-130			
Surrogate: a,a,a-Trifluorotoluene	30.5			30.0		102	70-130			





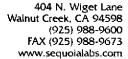
Project: Chevron

6747 Sierra Court Suite J Project Number: Chevron # 9-0290 Dublin CA, 94568 Project Manager: Andrew Smith

Reported: 07-Jun-01 07:44

Total Purgeable Hydrocarbons (C6-C12), BTEX and MTBE by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1E29002 - EPA 5030B P/T					·					
LCS (1E29002-BS2)			•••	Prepared	& Analyz	ed: 30-Ma	y-01			
Benzene	18.1	0.50	น _ร /ไ	20.0		90.5	70-130			
Toluene	19.1	0.50	11	20.0		95.5	70-130			
Ethylbenzene	19.8	0.50	п	20.0		99.0	70-130			
Xylenes (total)	59.2	0.50	11	60.0		98.7	70-130			
Surrogate: a,a,a-Trifluorotoluene	29.0		"	30.0		96.7	70-130			
LCS (1E29002-BS3)				Prepared	& Analyz	ed: 31-Ma	y-01			
Benzene	16.7	0.50	ug/l	20.0		83.5	70-130			
Toluene	1 7 .6	0.50	n	20.0		88.0	70-130			
Ethylbenzene	18.4	0.50	**	20.0		92.0	70-130			
Xylenes (total)	55.0	0.50	11	60.0		91.7	70-130			
Surrogate: a,a,a-Trifluorotoluene	28.8		,,	30.0		96.0	70-130			
LCS Dup (1E29002-BSD1)				Prepared	& Analyz	ed: 29-Ma	y-01			
Benzene	18.6	0.50	ug/l	20.0		93.0	70-130	6.25	20	
Toluene	19.5	0.50	11	20.0		97.5	70-130	5.97	20	
Ethylbenzene	20.0	0.50	11	20.0		100	70-130	6.76	20	
Xylenes (total)	60.8	0.50	n	60.0		101	70-130	4.97	20	
Surrogate: a,a,a-Trifluorotoluene	29.7		n	30,0		99.0	70-130			





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

Dublin CA, 94568

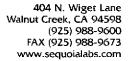
Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 07-Jun-01 07:44

Diesel Hydrocarbons (C9-C24) with Silica Gel Cleanup by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1E25007 - EPA 3510B										
Blank (1E25007-BLK1)		- "		Prepared:	25-May-0	31 Analyz	.ed: 30-Ma	y-01		
Diesel Range Hydrocarbons	ND	50	ug/l							
Surrogate: n-Pentacosane	27.3		"	33,3		82.0	50-150			
LCS (1E25007-BS1)				Prepared:	25-May-0	01 A nalyz	ed: 30-Ma	y-01		
Diesel Range Hydrocarbons	312	50	ug/i	500		62.4	50-125			
Surrogate: n-Pentacosane	20.3		"	33.3		61.0	50-150			
LCS Dup (1E25007-BSD1)		2		Prepared:	25-May-0) l Analyz	ed: 30-Ma	y-01		
Diesel Range Hydrocarbons	266	50	ug/l	500		53.2	50-125	15.9	50	
Surrogate: n-Pentacosane	21.3		"	33.3		64.0	50-150			

Page 8 of 10





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

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith

Reported: 07-Jun-01 07:44

MTBE Confirmation by EPA Method 8260B - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1F01016 - EPA 5030B (P/T)										
Blank (1F01016-BLK1)				Prepared	& Analyz	ed: 31-Ma	y-01			
Methyl tert-hutyl ether	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	44.9		"	50.0		89.8	50-150	•		
Surrogate: 1,2-Dichloroethane-d4	47.2		,,,	50.0		94.4	50-150			
Blank (1F01016-BLK2)				Prepared	& Analyz	ed: 01-Jun	- 01			
Methyl tert-butyl ether	ND	2.0	ug/l							
Surrogate: Dibromofluoromethane	46.2			50.0		92.4	50-150			
Surrogate: 1,2-Dichloroethane-d4	46.5			50.0		93.0	50-150			
LCS (1F01016-BS1)				Prepared	& Analyz	ed: 31-Ma	y-01			
Methyl tert-butyl ether	46.3	2.0	ug/l	50.0		92.6	70-130			
Surrogate: Dibromofluoromethane	45.3		'n	50.0		90.6	50-150			
Surrogate: 1,2-Dichloroethane-d4	45.1			50.0		90.2	50-150			
LCS Dup (1F01016-BSD1)	Prepared & Analyzed: 01-Jun-01									
Methyl tert-butyl ether	48.5	2.0	ug/l	50.0		97.0	70-130	4.64	25	
Surrogate: Dibromofluoromethane	46.4		- "	50.0		92.8	50-150			
Surrogate: 1,2-Dichloroethane-d4	46.4		"	50.0		92.8	50-150			





Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith

Reported: 07-Jun-01 07:44

Notes and Definitions

CC-3 Continuing Calibration indicates that the quantitative result for this analyte includes a greater than 15% degree of uncertainty. The value as reported is within method acceptance.

D-11 Chromatogram Pattern: Unidentified Hydrocarbons < C16

O-04 This sample was analyzed outside the EPA recommended holding time.

P-01 Chromatogram Pattern: Gasoline C6-C12

P-04 Chromatogram Pattern: Gasoline C6-C12 + Unidentified Hydrocarbons C6-C12

DET Analyte DETECTED

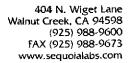
ND Analyte NOT DETECTED at or above the reporting limit

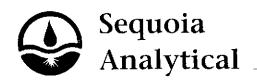
NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Fax copy of Lab Report and COC to Chevron Contact: Chain-of-Custody-Record Chevron Contact (Name) Ton Bachs Chevron Facility Number #9-0290 11105481 Facility Address 1802 Webster Street Alameda CA. (Phone)_ Chevron U.S.A. Inc. Sequeia Consultant Project Number 345280.02 Laboratory Name ___ P.O. BOX 5004 Consultant Name Gottler Ryan Inc. Laboratory Release Number San Ramon, CA 94583 Andrew South Address 6747 Sicrea Samples Collected by (Name) FAX (415)842-9591 115/01 \$ 51/16/01 (Name) Andrew Smith (Phone) 925)551-7444 (Fox Number) 925)551-7555 Project Contact (Name) Andrew Collection Date_ * with Analyses to Be Performed Silica Gel Purgeable Aromotics (8020) Purgeable Organics (8240)
Extractable Organics (8270) Purpeoble Holocurbox (8010) 8020 + 1PH GAS (8020 + 8015) Clow-up 1PH Diese (8015) Remarks 7 5/16/6 531 7 5/15/4 **5**B2 5/16/4 7 534 5/16/0 7 5B6 7 5/16/0 5B8 Turn Around Time (Circle Choice) Date/Time Received By (Signature) Organization Date/Time Organization 5.17.01/1550 Relinquished By (Signeture) Seque 5/17/61 GRI 24 Hre. 48 Hrs. Date/Time Date/Time Received By (Signature) Organization Organization Relinquished By (Şignature) 54701/1640 5 Days Sign 10 Days Date/Time Recieved For Laboratory By (Signature) Date/Time As Contracted Relinquished By (Signature) Organization





RECEIVED

JUN 29 man

20 June, 2001

GETTLER-RYAN INC.

Deanna L. Harding Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin, CA 94568

RE: Chevron Sequoia Report: W106074

Enclosed are the results of analyses for samples received by the laboratory on 22-May-01 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Charlie Westwaten
Project Manager

CA ELAP Certificate #1271



Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Deanna L. Harding Reported:

20-Jun-01 07:52

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled Date Received
SB2-6	W106074-01	Soil	15-May-01 00:00 22-May-01 16:00

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Charlie Westwater, Project Manager



Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Deanna L. Harding Reported:

20-Jun-01 07:52

Conventional Chemistry Parameters by APHA/EPA Methods Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB2-6 (W106074-01) Soil	Sampled: 15-May-01 00:00	Received:	22-May-0	1 16:00					
рH	8.04	0.100	pH Units	1	1F08004	08-Jun-01	08-Jun-01	EPA 9045B	

Page 2 of 6





nc. - Duomi

6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Deanna L. Harding Reported:

20-Jun-01 07:52

Conventional Chemistry Parameters by APHA/EPA Methods Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB2-6 (W106074-01) Soil	Sampled: 15-May-01 00:00	Received:	22-May-	01 16:00		•			
Total Organic Carbon	3100	200	mg/kg	1	1060223	08-Jun-01	08-Jun-01	ASA 90-3	

Page 3 of 6



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

Dublin CA, 94568

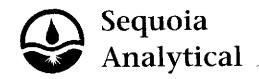
Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Deanna L. Harding **Reported:** 20-Jun-01 07:52

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control Sequoia Analytical - Walnut Creek

рН	12.2	0.100 р	H Units		12.2			0.00	30	
Duplicate (1F08004-DUP1)	So	arce: W105611	1-01	Prepared	& Analyz	ed: 08-Jun	-01			
Batch 1F08004 - General Preparation										
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes





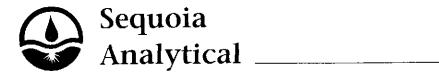
6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Deanna L. Harding Reported:

20-Jun-01 07:52

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control Sequoia Analytical - Petaluma

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060223 - General Preparation										
Blank (1060223-BLK1)				Prepared	& Analyz	ed: 08-Jur	ı-01			
Total Organic Carbon	ND	200	mg/kg	••						
LCS (1060223-BS1)				Prepared	& Analyz	ed: 08-Jur	1- 01			
Total Organic Carbon	10300	200	mg/kg	10000		103	80-120		_	
Matrix Spike (1060223-MS1)	So	urce: W1060	74-01	Prepared	& Analyz	ed: ()8-Jur	-01			
Total Organic Carbon	9040	200	mg/kg	5000	3100	119	75-125			
Matrix Spike Dup (1060223-MSD1)	So	urce: W1060	74-01	Prepared	& Analyz	ed: 08 -J ur	- 01			
Total Organic Carbon	9040	200	mg/kg	5000	3100	119	75-125	0.00	35	



Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Deanna L. Harding Reported:

20-Jun-01 07:52

Notes and Definitions

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

FROM : CORE LABORATORIES BAKERSFIELD

PHONE NO. : 805 392 0824

SUBCONTRACT ORDER

Sequoia Analytical - Walnut Creek

W106074

SENDING LABORATORY:

Sequoia Analytical - Walnut Creek

404 N. Wiget Lanc

Walnut Creek, CA 94598

Phone: (925) 988-9600

Fax: (925) 988-9673

Project Manager: Charlie Westwater

RECEIVING LABORATORY:

Core Laboratory 3430 Unicom Road Bakersfield, CA 93308 Phone:661-392-8600

Fax: -

Received: 22-May-01 16:00

Sample ID: W106074-01 Soil Sampled: 15-May-01 00:00 ASTM D-2937 Bulk Density 90-7an-01-15:00 12-Oct-01 00:00 ASTM D-2937 Misc. Subcontract 06-Jun-01-15:00 11-Nov-01 00:00 particle size D-422-63, water cont.	
Misc. Subcontract 06-Jun-91 15:00 11-Nov-01 00:00 particle size D-422-63, water cont.	14.0
	137
permeabi06-Jun-01 15:00	
Porosity 06-Jun-01- 15:00 12-Oct-01-00:00	

Released By

Date

Received By

Date



Petroleum Services

3430 Unicorn Road Bakersfield, California 93308 Tel: 661-392-8600

Fax: 661-392-0824 www.corelab.com

June 26, 2001

Sequoia Analytical 404 N. Wiget Lane Walnut Creek, CA 94598 Attn: Charlie Westwater

Subject: Transmittal of Geotechnical Analysis Results

Project: W106074

Core Lab File No.: 57111-01126

A soil sample was submitted to our Bakersfield laboratory for geotechnical testing. Moisture content, porosity, permeability, bulk density and Particle Size were the requested geotechnical analyses. Accompanying this letter, please find the results of this study.

Moistue content was determined using standard ASTM methods D-2216. Porosity, permeability and density were measured and calculated as described in API RP-40, <u>API Recommended Practice for Core-Analysis Procedure</u>, 1960. Particle Size distribution was determined using standard sieves in combination with laser diffraction techniques.

We appreciate this opportunity to be of service to you. 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,

Jeff Smith

Jeffry L. Smith

Laboratory Supervisor - Rock Properties

JLS:nw

1 original report: Addressee



CL File No.: 57111-01126

GEOTECHNICAL ANALYSIS RESULTS

	Sample ID		Permeabili (Kair)	ty		Permeabilit (Kinf)	ty	i e	sture tent	Porosity Total	Bulk D Dry	ensity Nat.	Matrix Dens.	Median Gr. Size	Description
١		md	cm/sec	cm2	md	cm/sec	cm2	%	%PV	%BV	g/cc	g/cc	g/cc	ennt	
	W106074-01	798	6.85E-04	6.98E-09	620	5.32E-04	5.43E-09	18.0	99.7	32.5	1.80	2.13	2.67	0.1847	Gray vf-mgr silty sand

Permeability to air determined using steady-state methods as described in API RP-40.

Intrinsic permeability was determined empirically as per API RP-27.

Moisture content determined by ASTM D-2216 standard methods.

Total porosity and sample densities determined as per API RP-40.

Particle size distribution determined using ASTM D-422 and ASTM D-4464.





Company Proj.#

County

Sequoia Analytical

W106074

Smpi ID W106074-1

Field

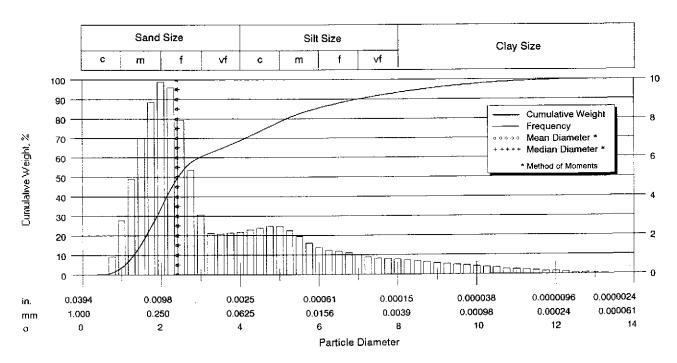
State

File Number 57111-01126

11-June-2001

NΑ Analysts

Laser Particle Size Analysis



	Pa	article Size	e Distribi	ution				Sorting :	Statistic	S	
		Diame	ter		Weid	ht, %					
	[U.S. Sieve]		[mm]	[phi]		[Cum.]	Parameter	[Moment]	[Trask]	[Inman]	[Folk]
Coarse	20	0.0331	0.84	0.25	0.00	0.00	: Mean, in	0.0074	0.0042	0.0032	0.0042
Sand	25	0.0280	0.71	0.50	0.03	0.03	Mean, mm	0.1902	0.1077	0.0810	0.1066
	30	0.0232	0.59	0.75	0.92	0.95	Mean, phi	2.3944	3.2147	3,6254	3.2291
	35	0.0197	0.50	1.00	2.77	3.72		!			
Medium	40	0.0165	0.42	1.25	4.88	8.60	Median, in	0.0072	0.007 =	0.0072	0.0072
Sand	45	0.0138	0.35	1.50	6.99	15.59	Median, mm	0.1847 i	0.1847	0.1847	0.1847
	50	0.0118	0.30	1.75	8.85	24.44	Median, phi	2.4367	2.4366	2.4366	2,4366
	60	0.0098	0.25	2.00	9.87	34.31		i i			
Fine	70	0.0083	0.210	2.25	9,59	43.90	Std Deviation, in	0.0060	0.0126	0.0090	0.0085
Sand	80	0.0070	0.177	2.50	7.91	51.81	Std Deviation, mm	0.1542	0.3239	0.2311	0.2169
	100	0.0059	0.149	2.75	5.34	57.15	Std Deviation, phi	2.6971	1.6262	2.1132	2.2046
	120	0.0049	0.125	3.00	3.07	60.22					
Very Fin		0.0041	0.105	3.25	2.10	62.32	Skewness	0.5730	1.3862	1.1512	0.6023
Sand	170	0.0035	0.088	3.50	2.08	64.40	Kurtosis	-0.4150	0.2541	0.7928	1.0703
	200	0.0029	0.074	3.75	2,13	6 6.53	Mode, mm	0.2633			
	230	0.0025	0.063	4.00	2,17	68.70	95% Confidence	0.1600		1	
Silt	270	0.0021	0.053	4.25	2.27	70.97	Limits, mm	0.2204			
	325	0.0017	0.044	4.50	2.39	73.36	Variance, mm2	0.0238			
	400	0.0015	0.037	4.75	2.46	75.82	Coef. of Variance, %	81.07			
	450	0.0012	0.031	5.00	2.46	78.28	ļ	<u> </u>			
	500	0.0010	0.025	5.32	2.82	81.10	Percentiles			ticle Diam	
	635	8000.0	0.020	5.64	2.30	83,40	[Weight, %]		[in]	[mm]	[phi]
		0.00061	0.0156	6.00	2.04	85.44	5		0.0184	0.4728	1.0807
		0.00031	0,0078	7.00	4.50	89.94	į 10		0.0158	0.4039	1.3078
		0.00015	0.0039	8.00	3.27	93.21	<u> </u> 16		0.0137	0.3506	1.5122
Clay		0.000079	0.0020	9.00	2.60	95.81	25		0.0115	0.2944	1.7640
,		0.000039	0.00098	10.0	1.90	97.71	50		0.0072	0.1847	2.4366
		0.000019	0.00049	11.0	1.24	98.95	75		0.0015	0.0394	4.6653
		0.0000094	0.00024	12.0	0.71	99.66	84		0.0007	0.0187	5.7386
		0.0000047		13.0	0.30	99.96	90		0.0003	0.0077	7.0166
		0.0000039	0.00010	13.3	0.04	100.00	95		0.0001	0.0025	8.6578

Fax copy of Lab Report and COC to Chevron Contact: No Chain-of-Custody-Record Chevron Contact (Name) Tam Bauhs Chevron Facility Number #9-0290 Facility Address 1802 webster Street Laboratory Name Sequeia Analytical Chevron U.S.A. Inc. Consultant Project Number 345280.02 P.O. BOX 5004 Consultant Name Getter-Ryan-Inc Address 6747 Sierra et Suite 3 Laboratory Release Number... San Ramon, CA 94583 Samples Collected by (Name)___ FAX (415)842-9591 Project Contact (Nome) Andrew Snith

(Phone 925) 537-744 (Max Number) 625) 531-7888 Collection Date 5 1519 12437) + CA 6137 Analyses To Be Performed 201 PH (EPA 1501) PLATA D-2434 501 PH (EPA 1501) PLATA D-12434 1501 PH (EPA 1501) PLATA D-122-63 (ASTA 0-122-63 1501) PLATA D-122-63 Purgeable Halocarbora (8010) Purgeable Aromatica (8020) G = Grab C = Composite D = Discrete Oil and Gream (5520) 1PH Diseas (8015) 5132-6 OIA Turn Around Time (Circle Choice) Dote/Time/ Relinquished By (Signoture) Received By (Signature) Organization Date/Time Organization 5-12-/1455 5/22/01 GRI 24 Hrs. Date/Time 48 Hrs. Relinquished By (Signature) Received By (Signature) Organization Organization Date/Time 5-22 01/1600 51400.C. 10 Dogge Date/Time Recieved For Laboratory By (Signature) Relinquished By (Signature) Organization As Contracted 5/22 1600





21 May, 2001

Andrew Smith Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin, CA 94568

RE: Chevron

Sequoia Report: W105365

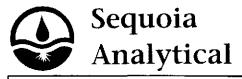
Enclosed are the results of analyses for samples received by the laboratory on 17-May-01 16:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely, Althurn Flagley

Ժմlianne Fegley For Charlie Westwater

Project Manager

CA ELAP Certificate #1271



Gettler Ryan, Inc. - Dublin

Project: Chevron

6747 Sierra Court Suite J Dublin CA, 94568 Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported:** 21-May-01 15:54

ANALYTICAL REPORT FOR SAMPLES

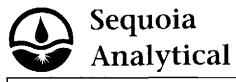
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
COMP 1 (A-D)	W105365-01	Soil	16-May-01 00:00	17-May-01 16:40

Sequoia Analytical - Walnut Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Julianne Fegley For Charlie Westwater, Project Manager





Gettler Ryan, Inc. - Dublin

Project: Chevron

6747 Sierra Court Suite J Dublin CA, 94568 Project Number: Chevron # 9-0290 Project Manager: Andrew Smith Reported:

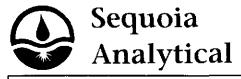
21-May-01 15:54

Total Purgeable Hydrocarbons (C6-C12) and BTEX by DHS LUFT Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
COMP 1 (A-D) (W105365-01) Soil	Sampled: 16-May-	-01 00:00 F	Received:	17-May-0	1 16:40			•	
Purgeable Hydrocarbons	220	10	mg/kg	200	1E16002	18-May-01	19-May-01	DHS LUFT	P-04
Benzene	0.21	0.050	17	"	17	"	**	н	
Toluene	0.34	0.050	17	n	10	п	**	н	
Ethylbenzene	0.46	0.050	"	"	**	п	"	II	
Xylenes (total)	0.97	0.050	"	"	"	"	n	II .	
Surrogate: a.a.a-Trifluorotoluene		90.7%	40-	-140	**	u	"	u	

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

Dublin CA, 94568

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith Reported:

21-May-01 15:54

Diesel Hydrocarbons (C9-C24) by DHS LUFT

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
COMP 1 (A-D) (W105365-01) Soil	Sampled: 16-May	/-01 00:00 F	Received:	17-May-0	1 16:40				
Diesel Range Hydrocarbons	73	10	mg/kg	01	1E21005	21-May-01	21-May-01	DHS LUFT	D-11
Surrogate: n-Pentacosane		60.1 %	50-	150	"	"	"	"	



Gettler Ryan, Inc. - Dublin

6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

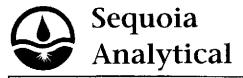
Project Number: Chevron # 9-0290 Project Manager: Andrew Smith Reported:

21-May-01 15:54

Total Metals by EPA 6000/7000 Series Methods

Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
COMP 1 (A-D) (W105365-01) Soil	Sampled: 16-May-0	01 00:00 F	leceived:	17-May-01	16:40				
Lead	5.5	1.0	mg/kg		1E17010	17-May-01	18-May-01	EPA 6010A	



Gettler Ryan, Inc. - Dublin

Project: Chevron

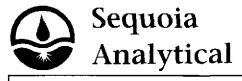
6747 Sierra Court Suite J Project Number: Chevron # 9-0290 Dublin CA, 94568 Project Manager: Andrew Smith

Reported: 21-May-01 15:54

Total Purgeable Hydrocarbons (C6-C12) and BTEX by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD_	RPD Limit	Notes
Batch 1E16002 - EPA 5030B MeOH										
Blank (1E16002-BLK1)				Prepared	& Analyzo	ed: 16- M a	y-01		_	
Purgeable Hydrocarbons	ND	1.0	mg/kg							
Benzene	ND	0.0050								
Toluene	ND	0.0050	4,							
Ethylbenzene	ND	0.0050	.,							
Nylenes (total)	ND	0.0050	"							
Surrogate: a.a.a-Trifluorotoluene	0.662		n	0.600		110	40-140			
Blank (1E16002-BLK2)				Prepared:	18-May-0)1 Analyz	ed: 19-Ma	y-01		
Purgeable Hydrocarbons	ND	1.0	mg/kg							
Benzene	ND	0.0050	,,							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	14							
Xylenes (total)	ND	0.0050	н							
Surrogate: a.a.a-Trifluorotoluene	0.712		и	0.600		119	40-140			
LCS (1E16002-BS1)				Prepared:	16-May-0)l Analyz	ed: 17- M a	y-01		
Benzene	0.624	0.0050	mg/kg	0.800		78.0	50-150			
Toluene	0.686	0.0050	14	0.800		85.7	50-150			
Ethylbenzene	0.734	0.0050	11	0.800		91.8	50-150			
Xylenes (total)	2.22	0.0050	и	2.40		92.5	50-150			
Surrogate: a,a,a-Trifluorotoluene	0.660		"	0.600		110	40-140	<u> </u>		••
LCS (1E16002-BS2)				Prepared:	18-May-0	l Analyz	ed: 19-Ma	y-01		
Benzene	0.720	0.0050	mg/kg	0.800		90.0	50-150			
Toluene	0.758	0.0050	*1	0.800		94,8	50-150			
Ethylbenzene	0.788	0.0050	и	0.800		98.5	50-150			
Xylenes (totał)	2.45	0.0050	"	2.40		102	50-150			
Surrogate: a,a,a-Trifluorotoluene	0.704		"	0.600		117	40-140			

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Gettler Ryan, Inc. - Dublin

Project: Chevron

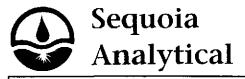
6747 Sierra Court Suite J

Dublin CA, 94568

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith **Reported**: 21-May-01 15:54

Total Purgeable Hydrocarbons (C6-C12) and BTEX by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1E16002 - EPA 5030B MeOH										
Matrix Spike (1E16002-MS1)	So	urce: W1053	62-01	Prepared:	16-May-0)1 Analyz	ed: 21-Ma	y-01		•
Benzene	ND	0.0050	mg/kg	0.800	ND		50-150			
Toluene	ND	0.0050	*	0.800	ND		50-150			
Ethylbenzene	ND	0.0050	**	0.800	ND		50-150			
Xylenes (total)	ND	0.0050		2.40	ND		50-150			
Surrogate: a.a.a-Trifluorotoluene	θ		"	0.600			40-140			
Matrix Spike Dup (1E16002-MSD1)	So	urce: W1053	62-01	Prepared:	16-May-0) l Analyz	ed: 21-Ma	y-01		
Benzene	ND	0.0050	mg/kg	0.800	ND		50-150		20	
Toluene	ND	0.0050	"	0.800	ND		50-150		20	
Ethylbenzene	ND	0.0050	н	0.800	ND		50-150		20	
Xylenes (total)	ND	0.0050	n	2.40	ND		50-150		20	
Surrogate: a.a.a-Trifluorotoluene	0		"	0.600			40-140			



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

Dublin CA, 94568

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith Reported: 21-May-01 15:54

Diesel Hydrocarbons (C9-C24) by DHS LUFT - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1E21005 - EPA 3550B				·		•				
Blank (1E21005-BLK1)				Prepared	& Analyz	ed: 21-Ma	y-01			
Diesel Range Hydrocarbons	ND	1.0	mg/kg							
Surrogate: n-Pentacosane	0.622		"	1.11		56.0	50-150			
LCS (1E21005-BS1)		Prepared & Analyzed: 21-May-()1								
Diesel Range Hydrocarbons	11.6	1.0	mg/kg	15.0		77.3	60-140	vn v		
Surrogate: n-Pentacosane	0.755		n.	1.11		68.0	50-150			



Gettler Ryan, Inc. - Dublin 6747 Sierra Court Suite J Dublin CA, 94568 Project: Chevron

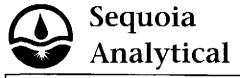
Project Number: Chevron # 9-0290 Project Manager: Andrew Smith Reported:

21-May-01 15:54

Total Metals by EPA 6000/7000 Series Methods - Quality Control Sequoia Analytical - Walnut Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1E17010 - EPA 3050B					2340					
Blank (1E17010-BLK1)	,			Prepared	17-May-0)l Analyz	ed: 18-Ma	y-01		
Lead	ND -	1.0	mg/kg				·	-		
LCS (1E17010-BS1)				Prepared	17-May-0)l Analyz	ed: 18-Ma	y-01		
Lead	53.1	1.0	mg/kg	50.0		106	80-120			
LCS Dup (IE17010-BSDI)			Prepared: 17-May-01 Analyzed: 18-May-01							
Lead	51.1	1.0	mg/kg	50.0		102	80-120	3.84	20	
Matrix Spike (1E17010-MS1)	Sou	ırce: W1953	40-01	Prepared: 17-May-01 Analyzed: 18-May-01						
Lead	56,8	1.0	mg/kg	50.0	8.1	97.4	80-120			
Matrix Spike Dup (1E17010-MSD1)	Sou	irce: W1053	40-01	Prepared: 17-May-01 Analyzed: 18-May-01						
Lead	55.3	1.0	mg/kg	50.0	8.1	94.4	80-120	2.68	20	

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

Project: Chevron

Project Number: Chevron # 9-0290 Project Manager: Andrew Smith

EB

Reported:

21-May-01 15:54

Notes and Definitions

D-11	Chromatogram	Pattern:	Unidentified	Hydroca	irbons < C	16
D 04	Chromatona	Dattami	Constinu CC	010 1		

Chromatogram Pattern: Gasoline C6-C12 + Unidentified Hydrocarbons C6-C12

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Sequoia Analytical - Walnut Creek

Fax copy of Lab Report and COC to Chevron Contact: No Chain-of-Custody-Record Chevron Facility Number #9-0240 Chevron Contact (Name) Tom Bachs Foolity Address 1802 webster Street Alemedia CA. W105365 Chevron U.S.A. Inc. Consultant Project Number 345280.02 Laboratory Name ____ P.O. BOX 5004 Consultant Name GoHler Ryan Inc. Laboratory Release Number_ San Ramon, CA 94583 Address 6747 Sicra Samples Collected by (Name)... FAX (415)842-9591 Project Contact (Name) Andrew Collection Date ___ (Phone) 925)551-7444 (Fax Number) 925)551-7555 Analyses To Be Performed Purgeable Aromatk (9020) Purgeable Organics (8240) BTEX + TPH CAS (8020 + 8015) TPH Ciesal (8015) Remorks 1119 OIA-D Nonz Comp.1 ABLD) Date/Time Turn Around Time (Circle Cholce) Received By (Signature) Organization Relinquiched By (Signoture) Organization Date/Time Seguoia SRI 48 Hrs. Organization Received By (Signature) Date/Time Organization 5 Days 5-14-01 Segmo-10 Days Date/Time Date/Time Realeved For Laboratory By (Signature) Organization As Contracted 5/12/01 1640 Mike Musin