Chevron U.S.A. Inc.
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91 SEP 20 AM 11:59

Marketing Department

September 11, 1991

Mr. Paul Smith
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Service Station #9-0019
210 Grand Avenue, Oakland

Dear Mr. Smith:

Enclosed we are forwarding the Soil Excavation, Remediation and Disposal Report dated August, 1991, prepared by our consultant Resna Environmental Solutions for the above referenced site. This report documents the soils remediation activity conducted in the vicinity of the former underground storage tanks and associated piping. The soils remediation program consisted of excavating and aerating impacted soils encountered during the removal of the underground storage tank system.

290 ppm and 69

Initial sampling results during the tank removal reported concentrations of total petroleum hydrocarbons as gasoline (TPH-G) and Total Oil & Grease (TOG) up to 800 and 3,600 ppm, respectively, from within the former waste oil tank excavation. Up to 160 ppm TPH-G was detected within the former product tanks and piping excavations. Final excavation samples collected detected TPH-G at concentrations ranging from ND to 56 ppm. However, 210 ppm TPH-G was detected in a sidewall sample collected from the east wall of the excavation along Bay Place. Final excavation samples collected detected TOG at concentrations ranging from ND to 190 ppm. However, 380 ppm TOG was detected from a sidewall sample from the west wall of the waste oil tank excavation along Montecito Avenue. Excavation was limited vertically to the depth of groundwater and horizontally to a point where the adjacent sidewalks would not be compromised.

Approximately 1,500 cubic yards of soils were removed. Approximately 800 cubic yards of soils were aerated on site in compliance with the Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 40, Aeration of Contaminated Soils. Prior to backfilling, confirmatory samples were collected for every 20 cubic yards. All samples reported TPH-G concentrations of less than 6 ppm, Benzene concentrations of less than .006 ppm. The remaining soils were disposed of at a Class III disposal facility.

Based on these findings it appears that no unacceptable levels of hydrocarbon contamination exists beneath the site and that no further soils remediation work is warranted. Chevron has reinitiated the quarterly groundwater monitoring program at this site. An evaluation of the current groundwater data will be conducted and appropriate next actions recommended.

If you have any questions or comments, please do not hesitate to contact me at (415) 842-9581.

Very truly yours,
CHEVRON U.S.A. INC.

Nancy Vukelich
Environmental Engineer

cc: Mr. Eddie So, RWQCB-Bay Area
Ms. B.C. Owen
File (9-0019A1)

WESTERN GEOLOGIC RESOURCES INC.
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RESNA
Environmental Solutions
Through Applied Science,
Engineering & Construction

SOIL EXCAVATION, REMEDIATION AND DISPOSAL

Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

Prepared For

Chevron USA
2410 Camino Ramon
San Ramon, California 94583

August 1991

CONTENTS

FIGURES

TABLES

APPENDICES

1 INTRODUCTION

This report presents the results of the soil excavation, soil stockpile aeration, confirmatory soil sampling and soil disposal conducted from June 1990 to July 1991 by Western Geologic Resources, Inc. (WGR) at the former Chevron service station #90019 located at 210 Grand Avenue in Oakland, California (Figure 1). This work was performed at the request of Chevron in order to evaluate the vertical and horizontal extent of petroleum hydrocarbons in the soil, to remove by excavation as much of the contaminated soil as possible, to aerate the soil on-site, and to dispose of the aerated soil. Responsibility for obtaining necessary permits and agency approval was assumed by Chevron.

1.1 SCOPE OF WORK

The scope of work included the following:

1. Excavate soil containing petroleum hydrocarbons in the vicinity of the former underground waste oil and fuel storage tanks;

2. Collect confirmatory soil samples from the excavation sidewalls;

3. Analyze the excavation soil samples for total purgeable petroleum hydrocarbons (TPPH) by EPA Method 8015, benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8020 and total oil and grease by Standard Method 503D and E (gravimetric);

4. Stockpile the excavated soil, and spread and turn the stockpiles at weekly intervals to aerate the soil;

5. Collect confirmatory soil samples from the stockpiles and analyze for oil and grease by Standard Method 503D and E (gravimetric), TPPH and BTEX by EPA Methods 8015 and 8020, as applicable. Analyze selected soil samples for semi-volatile organic hydrocarbons by EPA Method 8270, volatile organics by EPA Method 8240, toxicity characteristic leaching process (TCLP) for arsenic, barium, chromium, lead, nickel and vanadium by EPA Method 3005/6010, ignitability, reactivity, corrosivity, aquatic toxicity, pesticides by EPA Method 8080, and priority metals by soluble threshold limit concentration (STLC) and total threshold limit concentration (TTLC);

6. Dispose of soil that meets non-hazardous criteria at an approved landfill facility;

7. Review all field and laboratory data and prepare a report of this investigation.

2 BACKGROUND

2.1 SITE SETTING

Former Chevron service station #90019 is located in a residential and commercial district on 210 Grand Avenue at the northeast corner of the intersection of Grand and Montecito Avenues in Oakland, California (Figure 2). The site is presently abandoned with all structures demolished and surrounded by locked cyclone fencing. The nearest surface water feature is Lake Merritt, a tidal lake draining into San Francisco Bay, 200 feet (ft) southeast of the site. The elevation of the site is approximately 8 ft above sea level.

2.2 SITE HISTORY

In February 1989, a soil vapor survey was performed by WGR. A total of 19 vapor at 12 sampling locations were installed. The highest concentrations of total volatile hydrocarbons (TVH), ranging from 9.2 parts-per-million (ppm) to 73,000 ppm, were detected in points installed at 5 ft and between 13 ft and 15 ft below ground surface, located in the vicinity of the underground fuel-storage tanks and pump islands on the south half of the site. Lower concentrations of TVH, ranging from 17 ppm to 5,100 ppm, were detected on the north part of the site behind the service station building (reference: WGR report to Chevron of 30 March 1989).

In March 1989, WGR drilled five soil borings to a maximum depth of 20 ft. Soil samples were collected from borings B-1 through B-5 and converted to 4-inch diameter groundwater monitor wells MW-1 through MW-5. TPPH and BTEX were detected in soil samples collected from borings B-2 through B-5. A maximum concentration of 390 ppm TPPH were detected in a soil sample collected from a depth of 5.5 ft in boring B-5. Maximum concentrations of 4.5 ppm benzene, 16 ppm toluene, 8.4 ppm ethylbenzene and 32 ppm total xylenes were detected in a soil sample collected from a depth of 5.0 ft in boring B-2. Soil samples collected from a depth of 5 ft in borings B-2, B-3

and B-5 contained up to 0.2 ppm 1,2-dichloroethane (1,2-DCA). Oil and grease were detected in soil samples from boring B-3 at up to 360 ppm. TPPH were detected in groundwater samples collected from wells MW-1, MW-4 and MW-5. Aromatic hydrocarbons were detected in groundwater samples collected from wells MW-1 through MW-5. Maximum concentrations of 20,000 parts-per-billion (ppb) TPPH, 6,600 ppb benzene, 1,600 ppb toluene, 270 ppb ethylbenzene and 1,100 ppb total xylenes were detected in a groundwater sample from well MW-5. Groundwater samples from wells MW-2 and MW-3 contained 1,2-DCA at 0.7 ppb and 3.0 ppb, respectively (reference: WGR Subsurface Investigation Report to Chevron of June 1989).

Quarterly groundwater sampling has been conducted by WGR from March 1989 to October 1990, when sampling was suspended by Chevron because of the excavation on-site. Groundwater elevation and analytical data are contained in the WGR quarterly monitoring reports of March 1989 through October 1990.

In June 1990, all existing structures at the site were demolished. Three fiberglass gasoline tanks and one fiberglass waste oil tank were excavated and removed by Blaine Tech Services, Inc. (BTS) of San Jose, California and Armer/Norman, of Walnut Creek, California on 20 June 1990. Up to 160 ppm TPPH as gasoline, with BTEX, were detected in soil samples collected from the east wall of the former fuel tank pit. Up to 3,600 ppm oil and grease, 69 ppm TPPH as gasoline, and BTEX were detected in soil samples collected from the former waste oil tank pit (BTS report to Chevron dated 22 June 1990).

On 27 and 29 June 1990, WGR drilled four soil borings B-6 through B-9 to a maximum depth of 14.0 ft below ground surface and installed four groundwater monitor wells MW-6 through MW-9 in Grand and Montecito Avenues adjacent to the site. Ethylbenzene was detected at 0.01 ppm in soil samples collected from boring B-6 in Montecito Avenue west of the site. Groundwater samples were collected from all wells at the site on 6 July 1990. TPPH and BTEX were detected in groundwater samples from wells MW-4, MW-5 and MW-6 with a maximum concentrations of 30,000 ppb TPPH, 5,600 ppb benzene, 890 ppb toluene, 210 ppb ethylbenzene and 1,400 ppb total xylenes in the sample from well MW-5. The groundwater sample from well MW-4 contained 0.79 ppb 1,2-DCA; and 1.2 ppb 1,2-dichloropropane was detected in the groundwater sample from well MW-5 (reference: WGR Subsurface Investigation Report to Chevron of August 1990).

3 EXCAVATION, SOIL AERATION AND DISPOSAL

3.1 METHODS AND PROCEDURES

The WGR standard operating procedures for excavation soil sampling (SOP-11) and stockpile soil sampling (SOP-5) are included in Appendix A. The locations of the excavations in the vicinity of the former underground waste oil and fuel tanks and former pump islands are shown in Figure 3. The locations of confirmatory excavation soil samples collected by BTS and WGR are shown in Figure 3; excavation soil sample analytic results are included in Table 1; chain-of-custody forms and laboratory analytical reports and quality assurance/quality control documents are included in Appendices B and C, respectively.

Beginning in July 1990, WGR, at the request and direction of Chevron, supervised follow-up soil excavations in the northwest area of the site in the vicinity of the former waste oil tank, and in the southern portion of the site in the vicinity of the former underground fuel storage tanks. The excavations were performed by Armer/Norman, and Tom Daniels Excavation, Inc. of San Ramon, California (Tom Daniels), who previously performed the tank removal and initial excavation at the site for BTS in June 1990. The excavations were conducted using backhoes, excavators and loaders. Soil removed from the excavations was screened for the presence of volatile hydrocarbons while in the backhoe bucket by WGR staff using a photoionization detector (PID). Soil was segregated depending on the presence of volatile hydrocarbons based on the PID screenings and visual observations into separate stockpiles. The excavations were continued to the extent of petroleum hydrocarbons in the soil based on PID screening and/or visual observation. Excavation was also limited by the proximity of sidewalks and streets. Confirmatory soil samples were collected at the extent of the excavation sidewalls by WGR staff using the backhoe bucket as described in SOP-11 included in Appendix A.

Soil stockpiles were turned over and spread out at regular intervals using excavators by Armer/Norman and Tom Daniels. This was usually done at weekly intervals. The purpose of spreading the soil was to aerate the soil and volatilize any petroleum hydrocarbons present in the

soil. During the latter portion of the investigation in early 1991 there was insufficient space available at the site to spread out the entire amount of soil excavated, so soil was rotated between stockpiles and aeration piles. Confirmatory soil stockpile samples were collected at regular intervals by WGR staff according to SOP-5 included in Appendix A. Analysis of these samples indicated whether or not petroleum hydrocarbon concentrations had declined below levels allowing the soil to be disposed of at an appropriate landfill facility or used as backfill at the site. Responsibility for notifying the Bay Area Air Quality Management District (BAAQMD) of the soil aeration plan and obtaining the necessary permits if the 90 day aeration limit was exceeded was assumed by Chevron (Chevron letter from Nancy Vukelich to WGR dated 25 June 1990; WGR workplan to Chevron dated 27 September 1990).

Soil stockpile confirmatory sample locations are included in Figures 4 through 7. Soil stockpile sample analytical results are included in Table 2. Chain-of-custody forms and laboratory analytical reports and quality assurance/quality control documents are included in Appendices B and C, respectively.

4 CONCLUSIONS

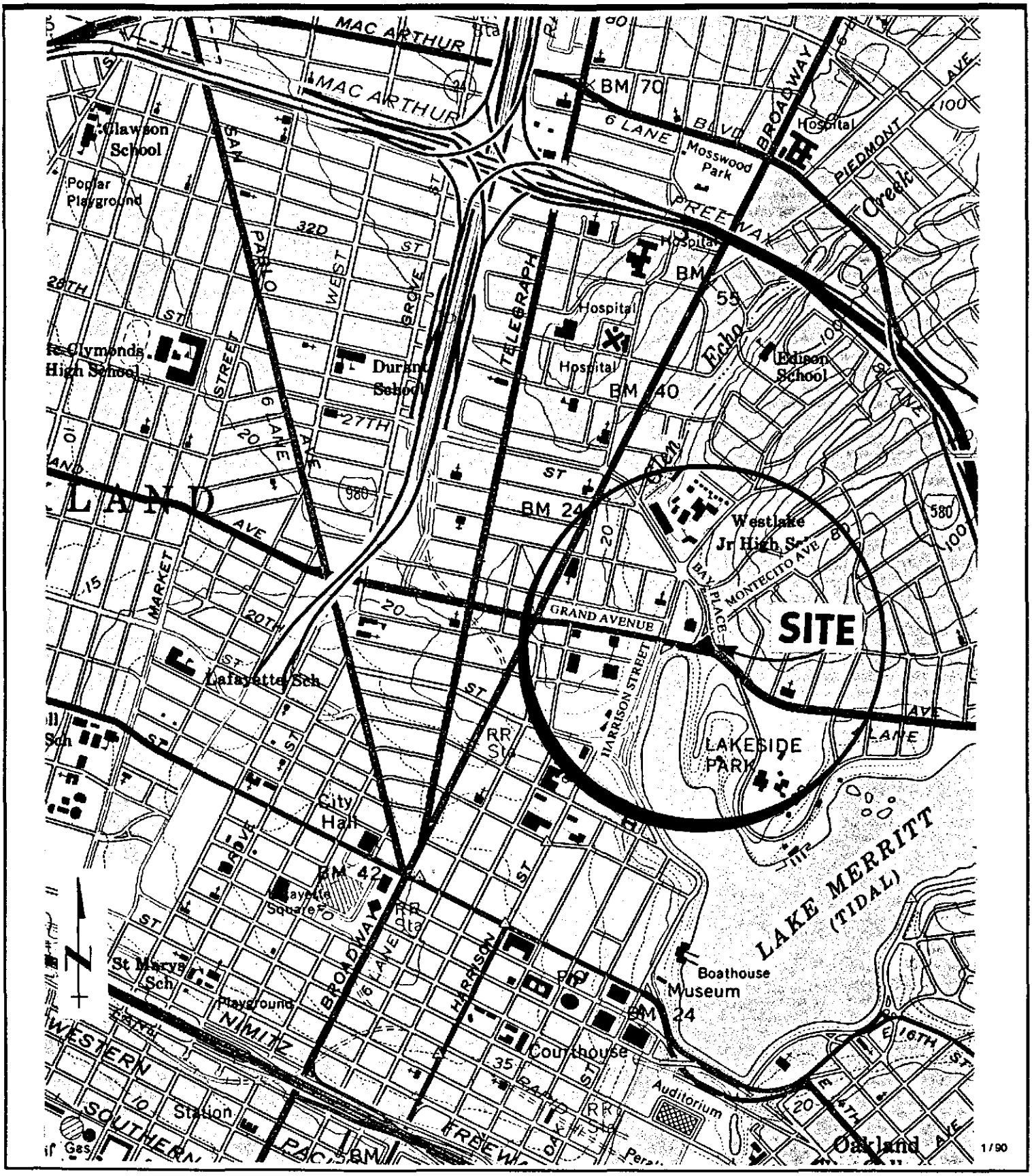
The total volume of soil removed from the excavations conducted on-site by BTS, WGR and Armer/Norman from June 1990 to May 1991 was approximately 1,500 cy. Approximately 700 cy of non-hazardous soil containing below 1,000 ppm oil and grease has been disposed of and approximately 800 cy of soil remained on-site in stockpiles until used as excavation backfill by Chevron in July 1991. Samples collected during the final confirmatory soil stockpile sampling conducted by WGR on 2 July 1991 contained a maximum of 6 ppm TPPH as gasoline, 0.006 ppm benzene, 0.006 ppm toluene and 0.026 ppm total xylenes.

The excavations covered a total area of approximately 6,000 square feet (sft) and a depth of approximately 4 ft to 9 ft below ground surface. The maximum concentrations of petroleum hydrocarbons detected in confirmatory sidewall soil samples collected by WGR from the former waste oil tank (northern) pit were 280 ppm oil and grease in sample 0123.02 from the west wall of the pit, 130 ppm TPPH as gasoline, 1.9 ppm toluene, 2.6 ppm ethylbenzene, and 9.0 ppm total xylenes in sample OP-W-7.0 collected from the south wall of the pit at a depth of 7 ft.

The maximum petroleum hydrocarbon concentrations detected in confirmatory sidewall soil samples collected by WGR from the former fuel tank (southern) pit were 190 ppm oil and grease from sample 0214.01 collected from the west wall of the excavation along Montecito Avenue and 210 ppm TPPH as gasoline, 0.57 ppm benzene, 6.4 ppm toluene, 3.6 ppm ethylbenzene and 12 ppm total xylenes in sample 005211.03,04 (composite) collected from the east wall of the excavation along Bay Place.

Evidence of petroleum hydrocarbons in the soil, in the form of discolored soil, PID vapor readings and liquid hydrocarbons in groundwater, were still apparent at the limits of the excavation along the Grand Avenue and Montecito Place sidewalks. A previously unknown product line approximately 50 ft in length and 2.5 ft in depth was uncovered adjacent to the Bay Place sidewalk during excavation in April and May 1991.

The waste oil tank pit and the central portion of the fuel tank pit were backfilled with clean pea gravel in February 1991. The western and eastern portions of the fuel tank excavation (along Montecito Avenue and Bay Place) were backfilled by Chevron on 29 July 1991, with the aerated soil stockpiled on-site and with clean backfill material (personal communication with Nancy Vukelich of Chevron, 15 August 1991). No soil stockpiles remain on-site.



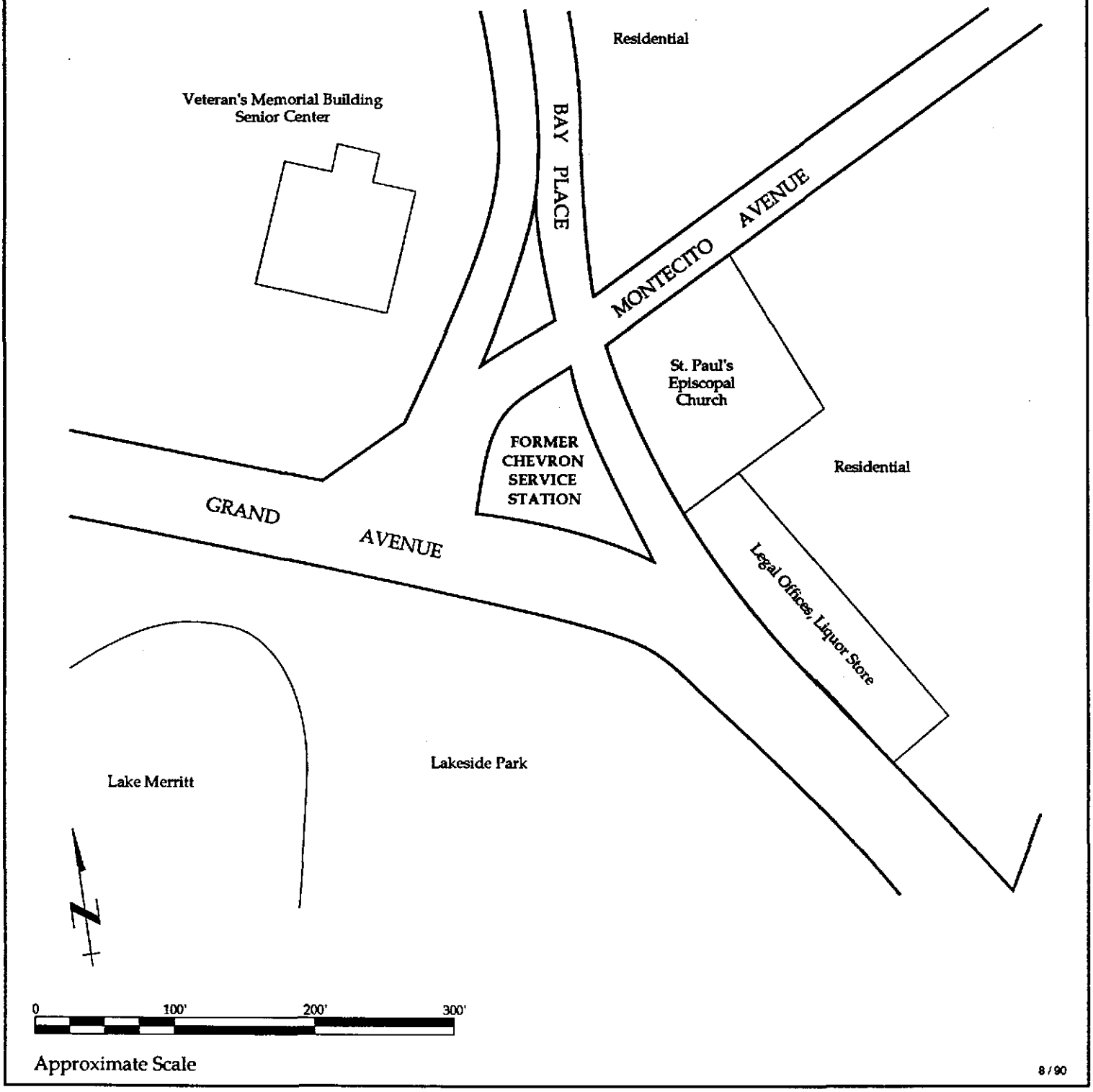
NOT TO SCALE

Site Location Map
Chevron Service Station #90019
Oakland, California

FIGURE
1

WESTERN GEOLOGIC RESOURCES, INC.

1-101.06

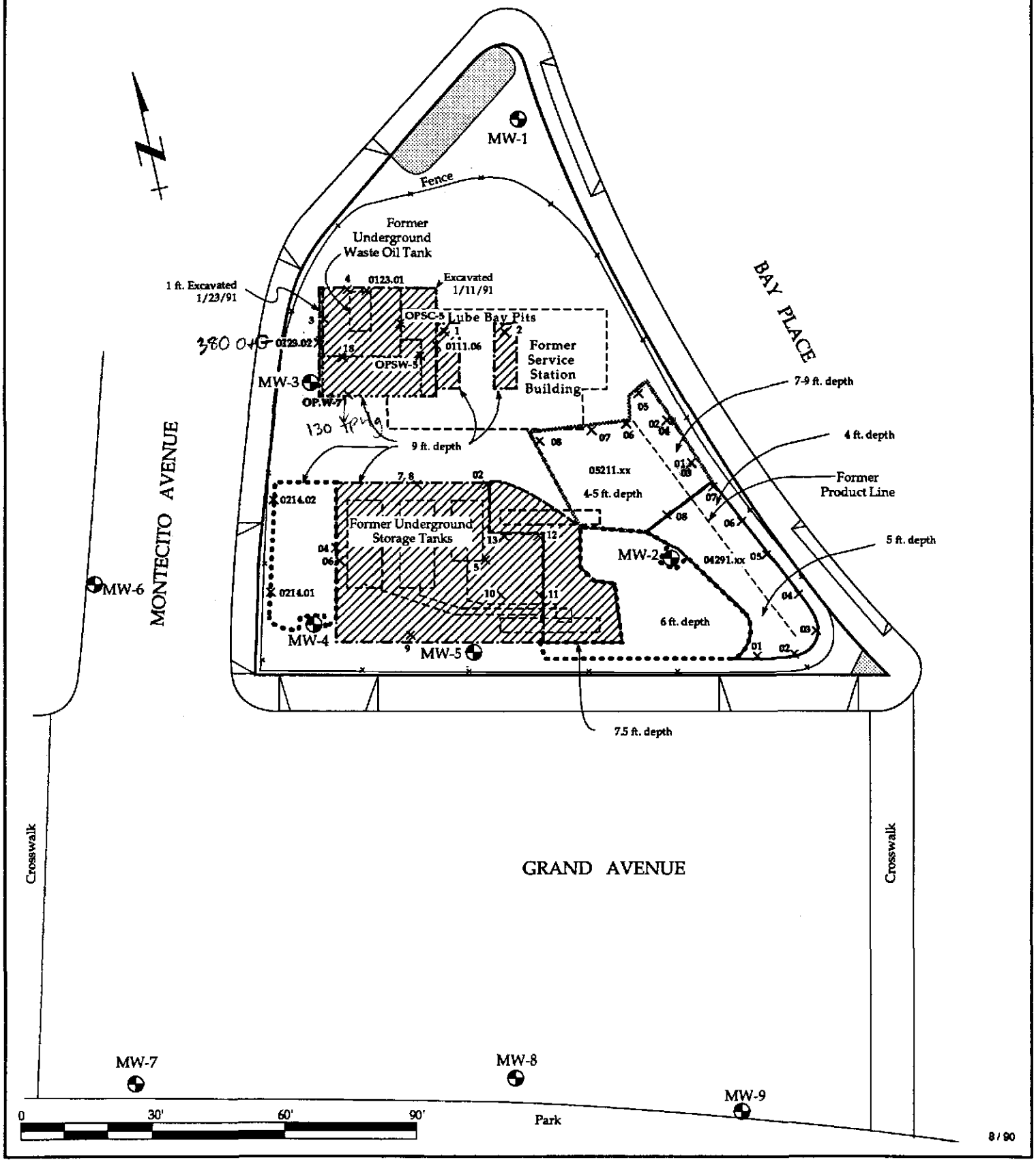


Vicinity Map
Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

FIGURE
2

WESTERN GEOLOGIC RESOURCES, INC.

1-101.04



EXPLANATION

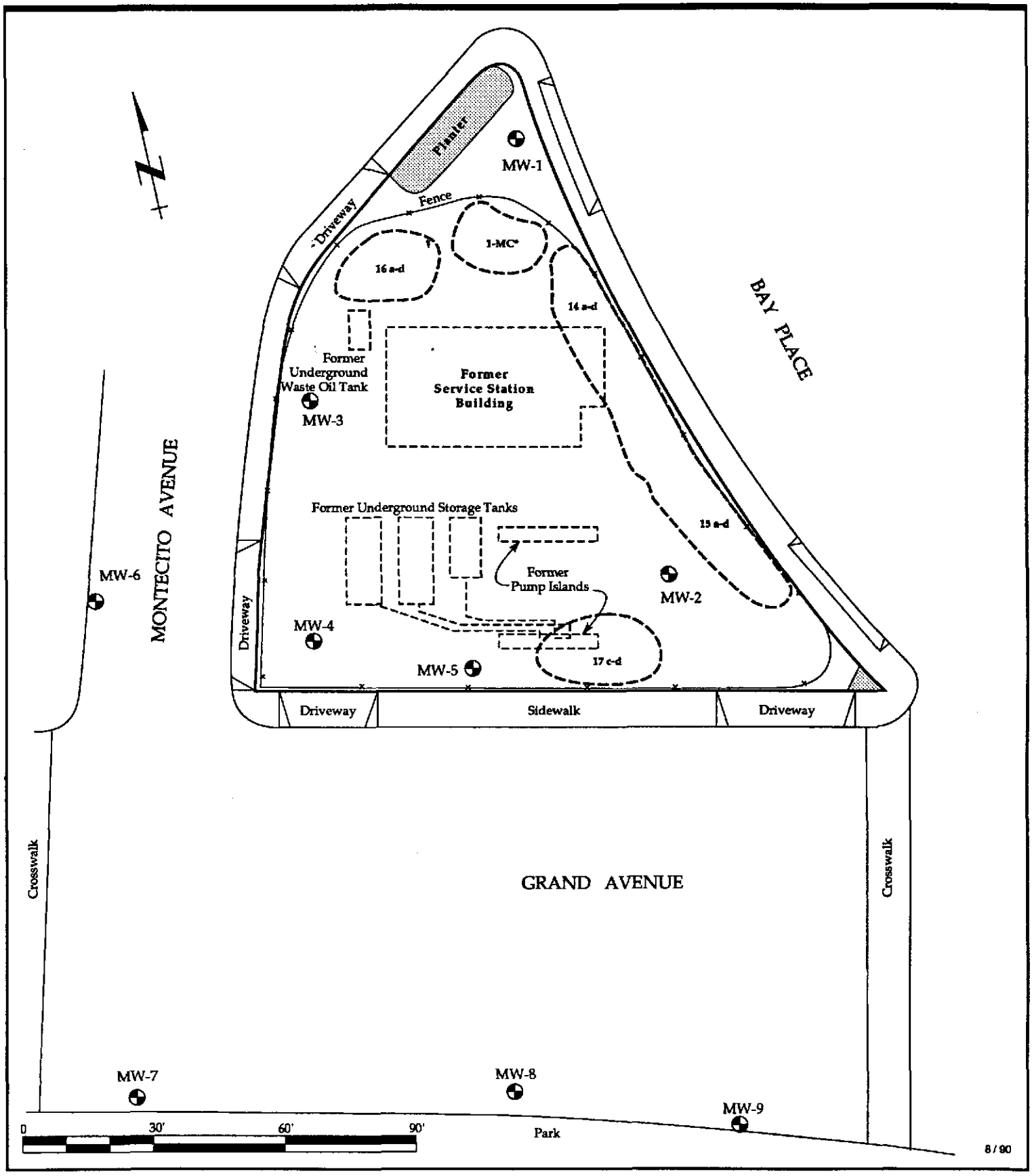
MW-7	Monitor Well Location
0214.01	Soil Sample Location
	Excavation, Blaine Tech Services, 6/20/90
	Excavation, WGR/ Armer Norman, 7/2/90
	Excavation, WGR, 11/19/90 & 12/6/90
	Excavation, WGR, 1/11/91 & 1/23/91
	Excavation, WGR, 2/14, 2/15 and 2/19/91
	Excavation, WGR, 4/29/91
	Excavation, WGR, 5/21/91
	Backfilled Excavation, 2/5/91 & 2/14/91

Site Map with Excavations and Soil Sample Locations
Chevron Service Station #90019
210 Grand Avenue
Oakland, California

FIGURE
3

WESTERN GEOLOGIC RESOURCES, INC.

1-101.06



EXPLANATION

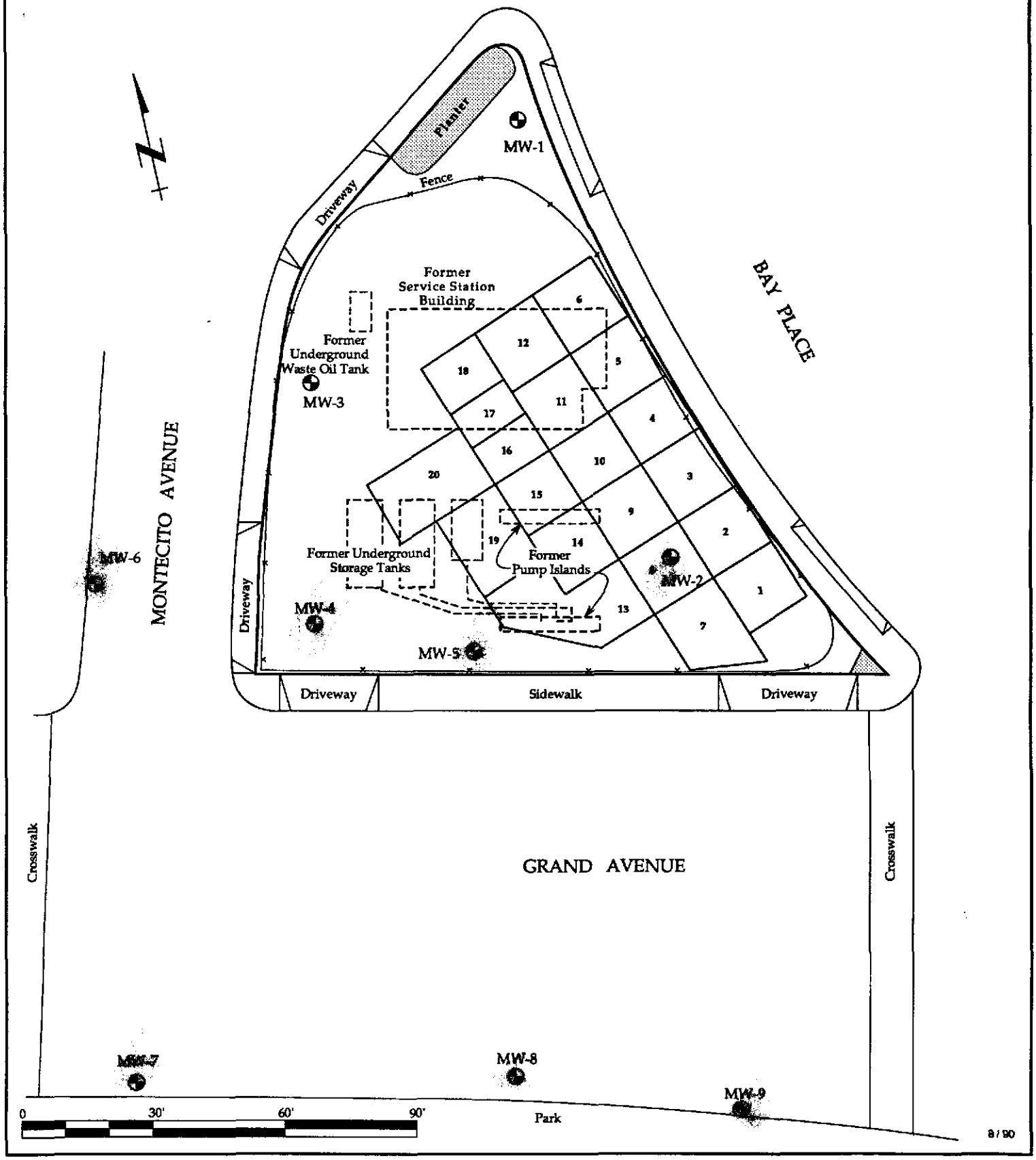
- MW-7 — Monitor Well location
- Stockpile location
- 14 a-d — Composite soil stockpile sample location, collected 20 June 1990 by BTS
- 1-MC* — Soil stockpile sample location, collected 2 July 1990 by WGR

Site Map with Soil Stockpile Sample Locations
20 June and 2 July 1990
Chevron Service Station #90019
210 Grand Avenue
Oakland, California

FIGURE
4

WESTERN GEOLOGIC RESOURCES, INC.

1-101.06



EXPLANATION

MW-7 Monitor Well Location

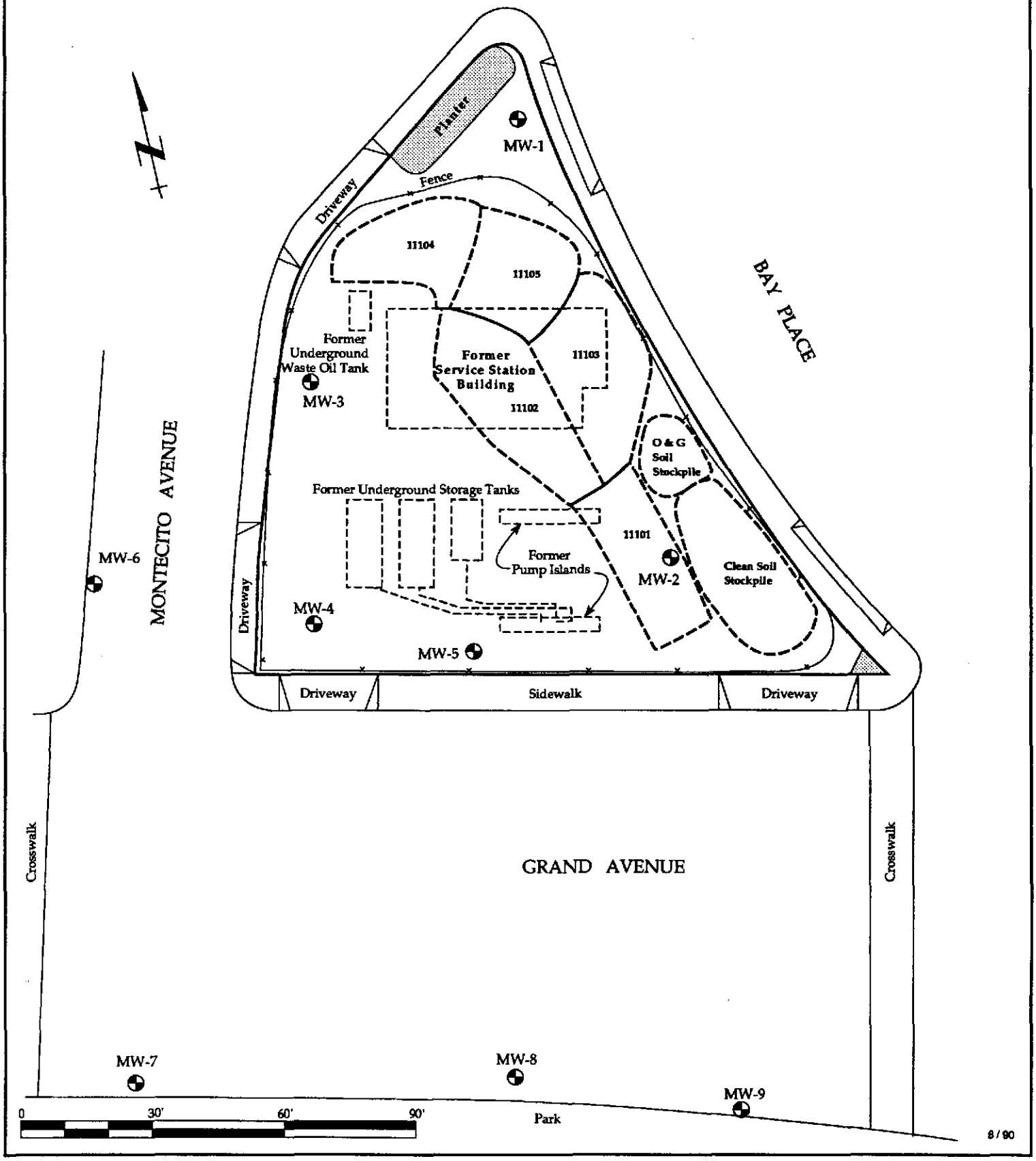
8 Stockpile Composite Sampling Grid and Number

Site Map with Soil Stockpile Sampling Grid
23 July 1990
Chevron Service Station #90019
210 Grand Avenue
Oakland, California

FIGURE
5

WESTERN GEOLOGIC RESOURCES, INC.

1-101.06



EXPLANATION

MW-7 Monitor Well location

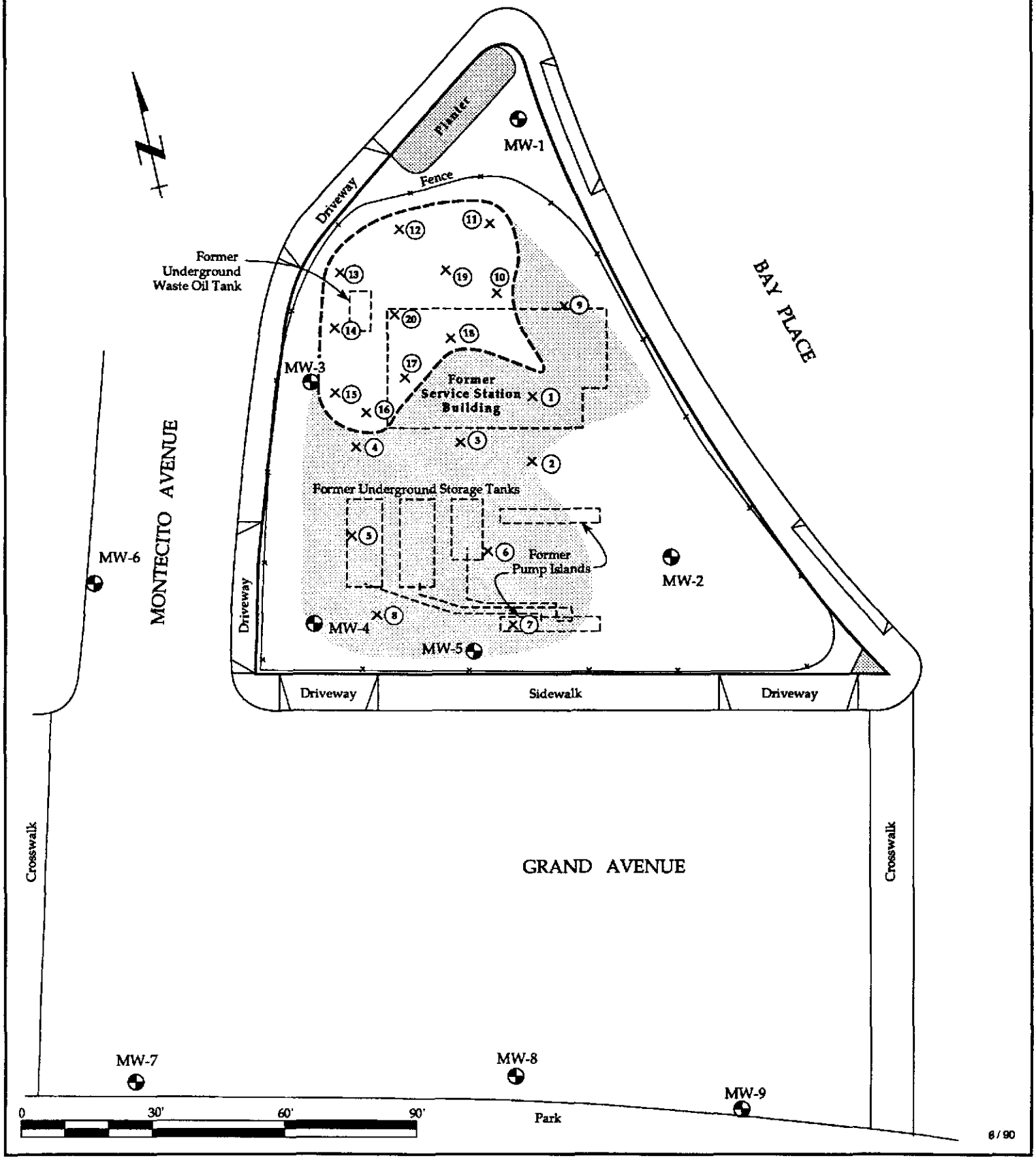
11103 Stockpile location and composite soil stockpile sample location, collected 11 January 1991

Site Map with Soil Stockpile Sample Locations
11 January 1991
Chevron Service Station #90019
210 Grand Avenue
Oakland, California

FIGURE
6

WESTERN GEOLOGIC RESOURCES, INC.

1-101.06



EXPLANATION

MW-7 Monitor Well Location

(1) Stockpile location and composite soil stockpile sample location, collected 2,3 July 1991

Spread out soil

Site Map with Soil Stockpile Sample Locations
2 July and 3 July 1991
Chevron Service Station #90019
210 Grand Avenue
Oakland, California

FIGURE
7

WESTERN GEOLOGIC RESOURCES, INC.

1-101.06

TABLE 1. Analytic Results: Soil Excavation Samples
Former Chevron Service Station #90019
210 Grand Avenue
Oakalnd, California

Sample ID #	Date	TPPHg	B	T	E	X	O&G	Lab	Analytical Methods
		<--------				ppm			-------->
# 1*A	20 Jun 90	---	---	---	---	---	100	SQA	EPA 8015 (diesel); SM 503 D&E
# 2*B	20 Jun 90	---	---	---	---	---	1,300	SQA	EPA 8015 (diesel); SM 503 D&E
# 3*C	20 Jun 90	41	0.085	0.33	0.20	1.6	3,600	SQA	EPA 8015/8020/8010 SM 503 D&E; metals
# 4*D	20 Jun 90	<1.0	<0.005	<0.005	<0.005	<0.005	170	SQA	EPA 8015/8020/8010 SM 503 D&E; metals
# 5*	20 Jun 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	SQA	EPA 8015/8020
# 6*	20 Jun 90	3.3	0.075	0.012	0.033	0.051	---	SQA	EPA 8015/8020
# 7*	20 Jun 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	SQA	EPA 8015/8020
# 8*	20 Jun 90	<1.0	0.011	<0.005	0.025	0.0054	---	SQA	EPA 8015/8020
# 9*	20 Jun 90	13	0.10	0.30	0.18	0.54	---	SQA	EPA 8015/8020
#10*	20 Jun 90	160	2.9	13	4.4	19	---	SQA	EPA 8015/8020
#11*	20 Jun 90	100	1.7	0.36	5.1	2.9	---	SQA	EPA 8015/8020
#12*	20 Jun 90	57	2.8	7.7	1.4	9.0	---	SQA	EPA 8015/8020
#13*	20 Jun 90	5.1	0.84	0.43	0.19	0.74	---	SQA	EPA 8015/8020
#18*E	20 Jun 90	69	0.29	2.1	1.2	4.0	650	SQA	EPA 8015/8020/8010; SM 503 D&E; metals
OP-W-7.0	02 Jul 90	130	<0.50	1.9	2.6	9.0	50	PACE	EPA 8015/8020; SM 503 D&E
OPSW-5	02 Jul 90	3.6	0.06	0.12	0.06	0.19	<50	PACE	EPA 8015/8020; SM 503 D&E
OPSC-5	02 Jul 90	800	1.9	28	17	68	850	PACE	EPA 8015/8020; SM 503 D&E
02	19 Nov 90	<1.0	<0.005	<0.005	<0.005	<0.005	<50	PACE	EPA 8015/8020; SM 503 D&E
04	19 Nov 90	<1.0	<0.005	<0.005	<0.005	<0.005	140	PACE	EPA 8015/8020; SM 503 D&E
111-06	11 Jan 91	<1.0	<0.005	<0.005	<0.005	<0.005	60	PACE	EPA 8015/8020; SM 503 D&E

TABLE 1. Analytic Results: Soil Excavation Samples (continued)
Former Chevron Service Station #90019
210 Grand Avenue
Oakalnd, California

Sample ID #	Date	TPPHg	B	T	E	X	O&G	Lab	Analytical Methods
		<--------				ppm			-------->
123-01	23 Jan 91	<1	<0.005	<0.005	<0.005	<0.005	<50	SAL	EPA 8015/8020; SM 503 D&E
123-02	23 Jan 91	<1	<0.005	<0.005	<0.005	<0.005	380	SAL	EPA 8015/8020; SM 503 D&E
0214.01	14 Feb 91	4	0.077	0.027	0.29	0.11	190	SAL	EPA 8015/8020 SM 503 A&E
0214.02	14 Feb 91	3	0.084	0.019	0.17	0.35	<50	SAL	EPA 8015/8020 SM 503 A&E
04291.01, 02 Comp	29 Apr 91	1	<0.005	<0.005	<0.005	0.013	---	SAL	EPA 8015/8020
04291.03, 04 Comp	29 Apr 91	<1	<0.005	<0.005	<0.005	0.005	---	SAL	EPA 8015/8020
04291.05, 06 Comp	29 Apr 91	3	0.045	0.051	0.023	0.086	---	SAL	EPA 8015/8020
04291.07, 08 Comp	29 Apr 91	1,100	4.2	48	24	84	---	SAL	EPA 8015/8020
05211-01, 02 Comp	21 May 91	25	0.41	2.2	0.69	2.3	---	SAL	EPA 8015/8020
05211-03, 04 Comp	21 May 91	210	0.57	6.4	3.6	12	---	SAL	EPA 8015/8020
05211-05, 06 Comp	21 May 91	26	0.06	0.48	0.54	1.7	---	SAL	EPA 8015/8020
05211-07, 08 Comp	21 May 91	56	0.17	1.9	1.3	4.6	---	SAL	EPA 8015/8020

TABLE 1. Analytic Results: Soil Excavation Samples (continued)
Former Chevron Service Station #90019
210 Grand Avenue
Oakalnd, California

NOTES:

All samples collected by Western Geologic Resources, Inc. unless noted
* = Samples collected by Blaine Tech Services, Inc.
TPPHg = Total Purgeable Petroleum Hydrocarbons as gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Total Xylenes
O&G = Oil and Grease
ppm = parts-per-million
SQA = Sequoia Analytical, Inc.
PACE = Pace, Inc.
SAL = Superior Analytical Laboratories, Inc.
< = Less than listed detection limit
--- = Not analyzed
A = <1.0 ppm total petroleum hydrocarbons as diesel (TPHd)
B = 180 ppm TPHd
C = 190 ppm TPHd, 0.140 ppm cis-1,2-dichloroethene (c-1,2-DCE), 0.052 ppm tetrachloroethene (PCE), 0.250 ppm 1,1,1- trichloroethane (TCA), 39 ppm chromium (Cr), 20 ppm lead (Pb, 43 ppm zinc (Zn)
D = <1.0 ppm TPHd, 0.026 ppm C-1,2-DCE, 41 ppm Cr, 3.1 ppm Pb, 26 ppm Zn
E = 140 ppm TPHd, 22 ppm Cr, 2.6 ppm Pb, 15 ppm Zn
Comp = Composite Sample

TABLE 2. Analytic Results: Soil Stockpile Samples
Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

Sample ID #	Date	TPPHg	B	T	E	X	O&G	Lab	Analytical Methods
		<--------				ppm			-------->
#14(a-d)*	20 Jun 90	3.1	<0.005	0.0097	0.0088	0.025	---	SQA	EPA 8015/8020
#15(a-d)*	20 Jun 90	11	<0.005	0.061	0.078	0.47	---	SQA	EPA 8015/8020
#16(a-d)*A	20 Jun 90	960,000	14,000	99,000	31,000	120,000	6,400	SQA	EPA 8015/8020/8010; SM 503 D&E; metals
#17(a-d)*B	20 Jun 90	290	0.33	6.3	4.7	31	---	SQA	EPA 8015/8020
1-MC	2 Jul 90	130	<0.10	0.70	0.34	5.5	50	PACE	EPA 8015/8020; SM 503 D&E
A-1	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-2	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-3	23 Jul 90	1.5	<0.005	<0.005	<0.005	0.009	---	PACE	EPA 8015/8020
A-4	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-5	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-6	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-7	23 Jul 90	<1.0	<0.005	<0.005	<0.005	1.2	---	PACE	EPA 8015/8020
A-8	23 Jul 90	1.9	<0.005	0.010	<0.005	<0.005	---	PACE	EPA 8015/8020
A-9	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-10	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-11	23 Jul 90	5.3	<0.005	<0.005	0.037	0.054	---	PACE	EPA 8015/8020
A-12	23 Jul 90	<1.0	<0.005	<0.005	<0.005	0.011	---	PACE	EPA 8015/8020
A-13	23 Jul 90	6.7	<0.005	0.006	0.007	0.043	---	PACE	EPA 8015/8020
A-14	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-15	23 Jul 90	4.9	<0.005	0.016	<0.050	0.020	---	PACE	EPA 8015/8020
A-16	23 Jul 90	7.0	<0.005	0.017	<0.050	0.026	---	PACE	EPA 8015/8020

TABLE 2. Analytic Results: Soil Stockpile Samples (continued)
Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

Sample ID #	Date	TPPHg	B	T	E	X	O&G	Lab	Analytical Methods
		<----------					ppm		---------->
A-17	23 Jul 90	70	<0.005	0.13	0.26	0.87	---	PACE	EPA 8015/8020
A-18	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-19	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
A-20	23 Jul 90	<1.0	<0.005	<0.005	<0.005	<0.005	---	PACE	EPA 8015/8020
1A	17 Aug 90	<1.0	<0.005	<0.005	<0.005	<0.005	250	PACE	EPA 8015/8020 SM 503 D&E
2A	17 Aug 90	4.4	<0.005	<0.005	<0.005	0.016	600	PACE	EPA 8015/8020 SM 503 D&E
3A	17 Aug 90	5.2	<0.005	<0.005	<0.005	0.016	500	PACE	EPA 8015/8020 SM 503 D&E
4A	17 Aug 90	<1.0	<0.005	<0.005	<0.005	0.007	250	PACE	EPA 8015/8020 SM 503 D&E
5A	17 Aug 90	370	<0.50	4.24	2.97	26.2	6,350	PACE	EPA 8015/8020 SM 503 D&E
1B	17 Aug 90	1.9	<0.005	<0.005	<0.005	0.016	2,500	PACE	EPA 8015/8020 SM 503 D&E
2B	17 Aug 90	13	<0.005	<0.005	0.017	0.077	2,750	PACE	EPA 8015/8020 SM 503 D&E
3B	17 Aug 90	1.8	<0.005	<0.005	<0.005	0.013	1,200	PACE/SQA	EPA 8015/8020/8080/8240; metals; Aquatic Toxicity
4B	17 Aug 90	2.9	<0.005	<0.005	<0.005	0.019	2,850	PACE	EPA 8015/8020; SM 503 D&E
5B	17 Aug 90	1.3	<0.005	<0.005	<0.005	0.017	350	PACE	EPA 8015/8020; SM 503 D&E
1-C	20 Sep 90	---	---	---	---	---	---	GTEL	C
1	8 Oct 90	---	---	---	---	---	---	GTEL	D
111-01	11 Jan 91	6.7E	<0.020	<0.020	<0.020	0.024	160	PACE	EPA 8015/8020; SM 503 D&E
111-02	11 Jan 91	210E	<0.50	<0.50	<0.50	2.0	220	PACE	EPA 8015/8020; SM 503 D&E
111-03	11 Jan 91	6.7E	<0.020	<0.020	<0.020	0.023	<50	PACE	EPA 8015/8020; SM 503 D&E
111-04	11 Jan 91	36E	<0.10	<0.10	<0.10	<0.10	140	PACE	EPA 8015/8020; SM 503 D&E
111-05	11 Jan 91	43E	<0.10	<0.10	<0.10	0.13	<50	PACE	EPA 8015/8020; SM 503 D&E

TABLE 2. Analytic Results: Soil Stockpile Samples (continued)
Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

Sample ID #	Date	TPPHg	B	T	E	X	O&G	Lab	Analytical Methods
		<--------	--------	--------	--------	--------	ppm	--------	-------->
219-01	19 Feb 91	---	---	---	---	---	<50	SAL	SM 503 A&E
219-02	19 Feb 91	---	---	---	---	---	86	SAL	SM 503 A&E
07021-01	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-02	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-03	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-04	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-05	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-06	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-07	2 Jul 91	3	<0.005	<0.005	<0.005	0.012	---	SAL	EPA 8015/8020
07021-08	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-09	2 Jul 91	6	0.006	0.006	<0.005	0.026	---	SAL	EPA 8015/8020
07021-10	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-11	2 Jul 91	2	0.006	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-12	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-13	2 Jul 91	1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-14	2 Jul 91	2	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-15	2 Jul 91	2	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-16	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-17	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-18	2 Jul 91	2	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020
07021-19	2 Jul 91	2	<0.005	<0.005	<0.005	0.009	---	SAL	EPA 8015/8020
07021-20	2 Jul 91	<1	<0.005	<0.005	<0.005	<0.005	---	SAL	EPA 8015/8020

TABLE 2. Analytic Results: Soil Stockpile Samples (continued)
Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

NOTES:

All samples collected by Western Geologic Resources, Inc. unless noted
TPPHg = Total Purgeable Petroleum Hydrocarbons as gasoline
B = Benzene
T = Toluene
E = Ethylbenzene
X = Total Xylenes
O&G = Oil and Grease
ppm = parts-per-million
< = Less than listed detection limit
--- = Not analyzed
* = Samples collected by Blaine Tech Services, Inc.
A = 510 ppm total petroleum hydrocarbons as diesel (TPHd), 26 ppm chromium (Cr), 18 ppm lead (Pb) 44 ppm zinc (Zn)
B = Sample 38 analyzed by Sequoia Analytical for pesticides by EPA 8080, volatile organics by EPA 8240, TTLC and STLC metals, and aquatic toxicity. Refer to laboratory analytical reports for results (EPA 8080 & 8240 were below detection limits).
C = Analyzed for ignitability, reactivity and corrosivity. Refer to laboratory analytical reports for results.
D = Analyzed for semivolatile organics by EPA 8270 (below detection limits), and TCLP for arsenic (As) barium (Ba), Cr, Pb, nickel (Ni) and vanadium (V) by EPA Method 3005/6010. Refer to laboratory analytical reports for results.
E = Sample contains hydrocarbons heavier than gasoline (possibly kerosene); results quantified as gasoline
SQA = Sequoia Analytical, Inc.
PACE = Pace, Inc.
GTEL = GTEL Environmental Laboratores, Inc.
SAL = Superior Analytical Laboratories, Inc.

APPENDIX A

STANDARD OPERATING PROCEDURES

STANDARD OPERATING PROCEDURES
RE: STOCKPILE SOIL SAMPLING
SOP-5

Soil samples from soil stockpiles are collected in thin-walled, 4-inch long by 2-inch outside diameter brass tubes. The sampling protocol for stockpile sampling is determined by the dimensions of the soil pile and the requirements of the facility that may receive the soil for disposal. An average of one soil sample per ten cubic yards is collected. The samples are composited prior to chemical analysis. The number of samples in a composite depends on the amount of cubic yards of soil. Typically, composites are made up of a minimum of two samples, and range up to a maximum of four samples.

The sampling tools used are hand driven sampling devices that maintain the physical integrity of the samples while minimizing volatilization. Upon removal from the sampling device, the tubes are immediately trimmed and sealed with aluminum foil and plastic end caps. They are then hermetically sealed with duct tape, labeled, and refrigerated until delivery, under chain-of-custody, to the laboratory.

STANDARD OPERATING PROCEDURES
RE: EXCAVATION SOIL SAMPLING
SOP-11

The sampling protocol for excavation sampling is determined by the dimensions of the soil excavation and as established in the site workplan when a plan is necessary.

For shallow excavations (less than 4' in depth): The sampling is conducted using hand sampling tools that maintain the physical integrity of the samples while minimizing volatilization.

For deeper excavations (greater than 4' in depth): The person taking sidewall or floor samples cannot enter the pit. Samples are taken with a hand sampling device directly from the excavator's bucket or scoop.

For tankpulls: Soil samples are taken in conjunction with LUFT guidelines established by the California Regional Water Quality Control Board (LUFT Field Manual).

Soil samples from soil excavating are collected in thin-walled, 4-inch long by 2-inch outside diameter, steam cleaned, brass tubes or other container appropriate to the analysis to be performed. The tubes are immediately trimmed and sealed with aluminum foil and plastic end caps. They are then hermetically sealed with duct tape and labeled. All samples are refrigerated until delivery, under chain-of-custody, to the state-certified laboratory or analyzed on-site by a state-certified mobile laboratory.

APPENDIX B

CHAIN-OF-CUSTODY FORMS

0706.502

Chain-of-Custod Record

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

Chevron Facility Number 90019
Consultant Release Number [redacted]
Consultant Project Number 1-101.06
Consultant Name WGR
Address 2169 E. FRANCISCO, SUITE B, SAN RAFAEL, 94901
Fax Number (415) 457-8521
Project Contact (Name) ERIC STEVENSON
(Phone) (415) 457-7595

Chevron Contact (Name) NANCY VUKELICH
(Phone) (415) 842-9581
Laboratory Name PACE
Contract Number 3522720
Samples Collected by (Name) ERIC STEVENSON
Collection Date 7/2/90
Signature

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed: Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
OP-W-70	77251		S	G														
OPSW-5	52																	
OPSC-5	56																	
I-MC	57																	
QC#	58																	
J/2																		

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	WGR	7/5/90 2:00	Donald Johnson	Pace	7/6/90 1030
Donald Johnson	Pace	7/6/90 1195			
			Received For Laboratory By (Signature)		Date/Time
			C Sontag		7/6/90 1145

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

Printed in U.S.A.

White / Project File Canary / Sampler Pink / Lab

400723 · 505

Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: WESTERN GEOLOGIC RESOURCES
Address: 2169 E FRANCISCO Blvd Suite B
Fax Number: (415) 457-8521
Project Contact (Name): ERIC STEVENSON
(Phone):

Chevron Contact (Name): NANCY VUKELICH
(Phone): (415) 842-9581
Laboratory Name: PACE
Contract Number: 352-2720
Samples Collected by (Name): D. Brady / E. STEVENSON
Collection Date: 7/23/90
Signature:

1 of 2

Sample Number	Lab Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
A1	78089.6	1	S	CG	1245		✓	X			X							May Do Oil/Grease
A2	90.0																	Will Call
A3	91.8																	Hold Matrix
A4	92.6																	
A5	93.4																	
A6	94.2																	
A7	95.0																	
A8	96.9																	
A9	97.7																	
A10	98.5																	
A11	99.3																	
A12	78100.0																	
A13	" 01.9																	

(Entries for A1 in the Containers, Matrix, Type, Iced, TPH-Gasoline and BTXE 8020/602 columns carried down through A13 by ditto lines.)

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
David Brady	W.GR	7/23	Donald Tolenoul	Pace	7/23 1630
Donald Tolenoul	Pace Svc	7/23 1712			
			Received For Laboratory By (Signature): Tina Meyers — Pace		7/23 1712

Turn Around Time (Circle Choice): 24 Hrs / **48 Hrs** (circled) / 5 Days / 10 Days

Printed in U.S.A. K/2

White / Project File   Canary / Sampler   Pink / Lab

400723 · 505

Chain-of-Custody Record

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

Chevron Facility Number 90019
Consultant Release Number
Consultant Project Number 1-101.06
Consultant Name WESTERN GEOLOGIC RESOURCES
Address 2169 E FRANCISCO BL Suite B
Fax Number (415) 457-8521
Project Contact (Name) ERIC STEVENSON
(Phone) (415) 457-7595

Chevron Contact (Name) NANCY VUKELICH
(Phone) (415) 842-9581
Laboratory Name PACE
Contract Number 352-2720
Samples Collected by (Name) D. Brady / E. STEVENSON
Collection Date 7/23/90
Signature

2 of 2

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
A14	78802.7	1	S	CG			✓	X			X							
A15	03.5																	
A16	04.3																	
A17	05.1																	
A18	06.0																	
A19	07.8																	
A20	08.6				14:00													
QC	09.4																	

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
David Zook	WGR		Donald Johnson	Pace Inc	7/23 1630
Donald Johnson	Pace	7/23 1712	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Tina Meyers	Pace	7/23 1712

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

Printed in U.S.A. 1/17

White / Project File Canary / Sampler Pink / Lab

400820 · 500 **Chain-of-Custod, Record**

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

Chevron Facility Number 90019
Consultant Release Number
Consultant Project Number 1-101.06
Consultant Name WESTERN GEOLOGIC RESOURCES
Address 2169 E. FRANCISCO BLVD, SUITE B, SAN RAFAEL
Fax Number (415) 457-8521
Project Contact (Name) ERIC STEVENSON
(Phone) (415) 457-7595

Chevron Contact (Name) NANCY VUKELICH
(Phone) (415) 842-9581
Laboratory Name PACE
Contract Number 3522720
Samples Collected by (Name) ERIC STEVENSON
Collection Date ~~7/2/90~~ 8-17-90 DATE SAMPLED
Signature E. Stevenson

PER E. STEVENSON

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease ~~GRAV.~~ LUFT	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803			Remarks
1A	79342.4	1	S	C	AM	NONE	X	X		X	X						PLEASE HOLD SAMPLE
2A	79343.2	↓	↓	↓	↓	↓	↓	↓		↓	↓						AFTER ANALYSIS
3A	79344.0																IS DONE
4A	79345.9																
5A	79346.7																
1B	79347.5																
2B	79348.3																
3B	79349.1																
4B	79350.5																
5B	79351.3	↓	↓	↓	↓	↓	↓	↓		↓	↓						↓
QC Batch #	79352.1																

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
E. Stevenson	WGR	8/20/90 9:58 AM	Ronald Johnson	Pace Inc	8/20/90 940
Ronald Johnson	Pace Inc	8/20/90 1000			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
		→	C Sontag	PACE, Inc.	8/20/90 1005 AM

Turn Around Time (Circle Choice): 24 Hrs, (48 Hrs), 5 Days, 10 Days

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Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: WESTERN GEOLOGIC RESOURCES
Address: 2169 E FRANCISCO, SUITE B, SAN RAFAEL
Fax Number: (415) 457-8521
Project Contact (Name): ERIC STEVENSON
(Phone): (415) 457-7595

Chevron Contact (Name): NANCY VUKELICH
(Phone): (415) 842-9581
Laboratory Name: SEQUOIA
Contract Number: 352720
Samples Collected by (Name): E.D.S.
Collection Date: 8/17/90
Signature:

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803	8080	AQUATIC TOX	TTLC (CA METALS)	8240	Remarks
38		1	S	C	AM	NONE	X								X	X	X	X	

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	WGR	PM 8/21/90			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs
48 Hrs
~~5 Days~~
~~10 Days~~

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White / Project File Canary / Sampler Pink / Lab

Chain-of-Custody Record

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

Chevron Facility Number 9009
Consultant Release Number
Consultant Project Number 1-101.06
Consultant Name WESTERN GEOLOGIC RESOURCES, INC.
Address 2169 E. FRANCISCO BLVD, #B SAN RAFAEL
Fax Number 457-8521
Project Contact (Name) ERIC STEVENSON
(Phone) 457-7595

Chevron Contact (Name) NANCY VUKELICH
(Phone) 842-9581
Laboratory Name GTEL
Contract Number 2450060
Samples Collected by (Name) RANDALL D. SMITH
Collection Date 9/20/90
Signature R. D. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803	IGNITABILITY (CLOSED CUP FLASH POINT)	REACTIVITY (SULFIDE, CYANIDE)	CORROSIVITY (1:1 w/ DISTILLED WATER)	Remarks
1-C		1	S	G		NONE	X								X	X	X	PLEASE HOLD SAMPLE - MAY REQUIRE ADDITIONAL ANALYSIS

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	WGR, Inc.	9/20 3:05		CanalCourier	9/20 3:01
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Kathy Biava		9/20 4:55

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

Printed in U.S.A.

White / Project File

Chain-of-Custody Record

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

Chevron Facility Number: 9009
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: WESTERN GEOLOGIC RESOURSES
Address: 2169 E. FRANCISCO BLVD., #B SAN RAFAEL
Fax Number: 457-8521
Project Contact (Name): ERIC STEVENSON
(Phone): 457-7595

Chevron Contact (Name): NANCY VUKELICH
(Phone): 842-9581
Laboratory Name: GTEL
Contract Number: 2450060
Samples Collected by (Name): E. STEVENSON
Collection Date: 10/8/90
Signature:

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed: Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803	8270	TCLP - Lead, Arsenic, Barium, Chromium, Nickel, Vanadium		Remarks
1		1	S	G		NONE	X								~~X~~	X		

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
			R. Rico	Concord Courier	10/8 4:00
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			[illegible]		10/8 4:50

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

Printed in U.S.A.

White / Project File Canary / Sampler Pink / Lab

401120.503

Chain-of-Custody Record

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

Chevron Facility Number 9001 9.
Consultant Release Number —
Consultant Project Number 1-101.06
Consultant Name Western Geologic Resources
Address 2169 E. Francisco Bl., San Rafael
Fax Number 415-457-8521
Project Contact (Name) Eric Stevenson
(Phone) 415-457-7595

Chevron Contact (Name) Nancy Vukelich
(Phone) 415-842-9581
Laboratory Name PACE
Contract Number 35277720
Samples Collected by (Name) R. Smith
Collection Date 11-19-90
Signature R.D. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
02	84250.6	1	S			NONE	X											HOLD
03	51.4	↓	↓			↓	↓											HOLD
04	52.2							X		X	X							ANALYZE
05	53.0	↓	↓			↓	↓											HOLD
QC#1	54.9																	
KIS																		

	Organization	Date/Time		Organization	Date/Time
Relinquished By (Signature) R.D. Smith	W&R, Inc.	11-20-90	Received By (Signature) Donald Dokarski	Pace Inc.	11/20/90 945
Relinquished By (Signature) Donald Dokarski	Pace Inc	11/20/90	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) Tina Mayes	Pace	Date/Time 11/20 1820

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

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White / Project File Canary / Sampler Pink / Lab

410111 · SOD

Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number: ____ Consultant Project Number: 1-101.06
Consultant Name: Western Geologic Resources
Address: 2169 E. Francisco, San Rafael
Fax Number: 415-457-8521
Project Contact (Name): Randall Smith / Eric Stevens
(Phone): 415-457-7595

Chevron Contact (Name): Nancy Vukelich
(Phone): 415-842-9581
Laboratory Name: PACE Analytical
Contract Number: 3522720
Samples Collected by (Name): Randall Smith
Collection Date: 1-11-91
Signature: R.D. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed: Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
111-01	384.9	1	S			NONE	X	X		X	X							
111-02	385.7	↓	↓			↓	↓	↓		↓	↓							
111-03	386.5																	
111-04	387.3																	
111-05	388.1																	
111-06	389.0	↓	↓			↓	↓	↓		↓	↓							
	F13.5																	

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
R.D. Smith	WGR, Inc.	1-11-91			
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			[illegible] PACE, Inc.		1/11/91 1439

Turn Around Time (Circle Choice): 24 Hrs (48 Hrs) 5 Days 10 Days

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White / Project File Canary / Sampler Pink / Lab

SA # 11415

RUSH

Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: Western Geologic Resources
Address: 2169 E. Francisco, San Rafael
Fax Number: 415-457-8521
Project Contact (Name): Randall Smith / Eric Stevens
(Phone): 415-457-7595

Chevron Contact (Name): Nancy Vukelich
(Phone):
Laboratory Name: Superior Analytical
Contract Number: 4482030
Samples Collected by (Name): R. Smith
Collection Date: 1-23-91
Signature: R. J. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
								Analyses To Be Performed										
123-01		1	S			NONE	X	X		X	X							
123-02		1	S			"	X	X		X	X							

Please initial:
Samples stored in ice.
Appropriate containers.
Samples preserved.
VOA's free of headspace.
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
R. Smith	WGR, Inc.	1-23-91	[illegible]	Express-IT	1/23/91 1520
[illegible]	Express-IT	1/23 1535	[illegible]	Organization	Date/Time
[illegible]	Express-IT	1/23 1540	Received For Laboratory By (Signature)		Date/Time 1/23/91

Turn Around Time (Circle Choice): 24 Hrs, (48 Hrs), 5 Days, 10 Days

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White / Project File Canary / Sampler Pink / Lab

82481

Chain-of-Custody Record

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

Chevron Facility Number: # 90019

Consultant Release Number: ______ Consultant Project Number: 1-101.04

Consultant Name: Western Geologic Resources

Address: 2169 E. Francisco Blvd. Suite B, San Rafael

Fax Number: (415) 457-8521

Project Contact (Name): Eric Stevenson

(Phone): (415) 457-7595

Chevron Contact (Name): Nancy Vukelich

(Phone): (415) 842-9581

Laboratory Name: Superior Analytical

Contract Number: 448 2030

Samples Collected by (Name): Kevin Spela

Collection Date: 2/14/91

Signature: Kevin Spela

Sample Number	Lab Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	NG 503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/~~Wtr.: 602~~	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
0214.01		1	S		1115	None	Yes	X		X	X							
0214.02		1	↓		11:20	↓	↓	↓		↓	↓							

(Columns 9–15 are headed "Analyses To Be Performed".)

Please initial: AS
Samples Stored in ice. AS
Appropriate containers. ✓
Samples preserved. NP
VOA's without headspace. ↓
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
Kathy Yamamoto	WGR	2/15 1:50	Tom Um Re X674	EXPRESS - IT	2/15 1:50	24 Hrs
Tom Um X674	EXPRESS - IT	2/15 1450				48 Hrs
John Deqenerig	EXPRESS IT	2/15 1640	Received For Laboratory By (Signature): Hsaneh Salimpour		2/15/91 4:35	5 Days / 10 Days

92505

Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: Western Geologic Resources
Address: 2169 E. Francisco Bl., San Rafael
Fax Number: 415-457-8521
Project Contact (Name): Randall Smith / Eric Stevenson
(Phone): 415-457-7595

Chevron Contact (Name): Nancy Vukelich
(Phone): 842-9581 (415)
Laboratory Name: Superior Analytical
Contract Number: 4482030
Samples Collected by (Name): R. Smith
Collection Date: 2-19-91
Signature: R. J. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed: Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
219-01		1	S			NONE	X			X								
219-02		1	S			"	X			X								

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
R. Smith	WGR, Inc.		B. Woods	Express-It	2-20-91 9:20	24 Hrs
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs
				EXPRESS-IT	2-20-91 1138	5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time	10 Days
	EXPRESS-IT	2-20-91 1215		2/28/91	12:15	

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83006

Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: Western Geologic Resources, Inc.
Address: 816 Digital Dr., S. 108, Novato
Fax Number: 415-382-7415
Project Contact (Name): Gail Jones
(Phone): 415-382-7400

Chevron Contact (Name): Nancy Vukelich
(Phone): 415-842-9581
Laboratory Name: Superior Analytical lab
Contract Number: 4482030
Samples Collected by (Name): Randall Smith
Collection Date: 4-29-91
Signature: R. D. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
04291-01		1	S			NONE	X	X			X							composite 01 & 02
04291-02																		
04291-03																		composite 03 & 04
04291-04																		
04291-05																		composite 05 & 06
04291-06																		
04291-07																		composite 07 & 08
04291-08																		

Please initial: RA
Samples Stored in ice. Y
Appropriate containers. Y
~~Samples preserved.~~
VOA's without headspace —
Comments: Expect something high!

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
	WGR, Inc.	4-30-91	D. Woods	Express-St	4-30-91 10:45A	
Relinquished By (Signature) D. Woods	Organization Express-St	Date/Time 4-30-91 13:20	Received By (Signature)	Organization	Date/Time	24 Hrs 48 Hrs (5 Days) 10 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) Lara Jabel		Date/Time 4/30/91 1:15P	

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8315+

Chain-of-Custody Record

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

Chevron Facility Number: 9009
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: Western Geologic Resources, Inc.
Address: 16 Digital Dr., S.108, Novato
Fax Number: 415-382-7415
Project Contact (Name): Gail Jones
(Phone): 415-382-7800

Chevron Contact (Name): Nancy Vukelich
(Phone): 842-9581
Laboratory Name: Superior Analytical
Contract Number: 4482030
Samples Collected by (Name): Randall D. Smith
Collection Date: 5-21-91
Signature: R.D. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803	Remarks
05211-01		1	S			NONE	X	X			X				composite 1-2
05211-02															
05211-03															composite 3-4
05211-04															
05211-05															composite 5-6
05211-06															
05211-07															composite 7-8
05211-08															

As

Please initial:
Samples Stored in ice
Appropriate containers
Samples preserved
VOA's without headspace
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
R.D. Smith	WGR, Inc.	5-22-91/935	Ken Thompson	Express-it	5/22/91 1022
Ken Thompson	Express-it	5-22-91 1410			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			Grace Salumpa		5/22/91 4:55

Turn Around Time (Circle Choice): 24 Hrs, 48 Hrs, (5 Days), 10 Days

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1 of 2 (12045)

Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: Western Geologic Resources, Inc.
Address: 16 Digital Dr., S. 108, Novato
Fax Number: 415-382-7415
Project Contact (Name): Randy Smith
(Phone): 415-382-7400

Chevron Contact (Name): Nancy Vukelich
(Phone): 415-842-9581
Laboratory Name: Superior Analytical
Contract Number: 4482030
Samples Collected by (Name): Randy Smith
Collection Date: 7-2, 3-91
Signature: R. D. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803			Remarks
07021-01		1	S			NONE		X			X						
" -02																	
" -03																	
" -04																	
" -05																	
" -06																	
" -07																	
" -08																	
" -09																	
" -10																	
" -11																	
" -12																	
" -13																	

Please initial: RL
Samples Stored in ice. ✓
Appropriate containers. ✓
Samples preserved. ✓
VOA's without headspace ✓
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Kathryn Yamamoto	WGR	7/3 11:15	B. Woods	Express St	7-3-91 11:15
B. Woods	Express St	7/3 12:50			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			[signature]		7/3/91 1:05 pm

Turn Around Time (Circle Choice): 24 Hrs, 48 Hrs, (5 Days), 10 Days

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White / Project File Canary / Sampler Pink / Lab

2 of 2 (12045)

Chain-of-Custody Record

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

Chevron Facility Number: 90019
Consultant Release Number:
Consultant Project Number: 1-101.06
Consultant Name: Western Geologic Resources, Inc.
Address: 16 Digital Dr., S.108, Novato
Fax Number: 415-382-7415
Project Contact (Name): Randy Smith
(Phone): 415-382-7400

Chevron Contact (Name): Nancy Vukelich
(Phone): 415-842-9581
Laboratory Name: Superior
Contract Number: 4482030
Samples Collected by (Name): R. Smith
Collection Date: 7-2, 3-91
Signature: R. D. Smith

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803			Remarks
07021-14		1	S					X			X						
" -15																	
" -16																	
" -17																	
" -18																	
07031-19																	
" -20																	

Please initial:
Samples Stored in ice.
Appropriate containers.
Samples preserved.
VOA's without headspace.
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Kathy Yamasaki	WGR	7/3 11:15	B. Woods	Express Air	7/3/91 11:15
B. Woods	Express Air	7-3 12:50		Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					7/3/91 1:05 pm

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

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SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., Suite 505	Sample Descript:	Soil, #3	Received:	Jun 20, 1990
San Jose, CA 95122			Extracted:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	006-3049	Analyzed:	Jun 21, 1990
			Reported:	Jun 22, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	N.D.
Chromium	0.25	39
Lead	0.25	20
Zinc	0.50	43

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

JUN 25

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., Suite 505	Sample Descript:	Soil, #4	Received:	Jun 20, 1990
San Jose, CA 95122			Extracted:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	006-3050	Analyzed:	Jun 21, 1990
			Reported:	Jun 22, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	N.D.
Chromium	0.25	41
Lead	0.25	3.1
Nickel	0.50	26

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

63042.BLA <2>

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., Suite 505	Sample Descript:	Soil, #18	Received:	Jun 20, 1990
San Jose, CA 95122			Extracted:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	006-3051	Analyzed:	Jun 21, 1990
			Reported:	Jun 22, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	N.D.
Chromium	0.25	22
Lead	0.25	8.1
Zinc	0.50	16

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

63049.BLA <3>

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., suite 505	Sample Descript:	Soil Comp., #16	Received:	Jun 20, 1990
San Jose, CA 95122			Extracted:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	005-3954	Analyzed:	Jun 21, 1990
			Reported:	Jun 22, 1990

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	N.D.
Chromium	0.25	28
Lead	0.25	18
Zinc	0.50	44

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled: Jun 20, 1990
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received: Jun 20, 1990
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed: Jun 21, 1990
Attention: Richard Blaine	First Sample #:	006-3049	Reported: Jun 22, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
006-3049	#3	41	0.085	0.33	0.20	1.6
006-3050	#4	N.D.	N.D.	N.D.	N.D.	N.D.
006-3051	#18	69	0.29	2.1	1.2	4.0
006-3052	#5	N.D.	N.D.	N.D.	N.D.	N.D.
006-305[illegible]	#6	3.3	0.075	0.012	0.033	0.051
006-3054	#7	N.D.	N.D.	N.D.	N.D.	N.D.
006-3055	#8	N.D.	0.011	N.D.	0.025	0.0054
006-3056	#9	13	0.10	0.30	0.18	0.51
[illegible]	#10	180	2.9	13	4.4	19
006-3058	#11	[illegible]	1.7	0.38	5.1	[illegible]
Detection Limits:		[illegible]	0.0050	0.0050	0.0050	[illegible]

Low to Medium Boiling Point H[illegible] against a gasoline standard.
Analytes reported as N.D. were present above the stated limit of detection.

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

6304S.BLA <5>

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services	Client Project ID:	#900520G1, Chevron #90019	Sampled: Jun 20, 1990
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received: Jun 20, 1990
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed: Jun 21, 1990
Attention: Richard Blaine	First Sample #:	006-3059	Reported: Jun 22, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
006-3059	#12	67	2.8	7.7	1.4	9.0
006-3060	#13	5.1		0.43	0.19	0.74
0063061 A-D	#17, Composite	25	0.33	6.3	1.7	31
0063062 A-D	#14, Composite	3.1	N.D.	0.0097	0.0086	0.025
0063063 A-D	#15, Composite		N.D.	0.061	0.078	0.47
0063064 A-D	#16, Composite	960,000	14,000	99,000	31,000	120,000
Detection Limits:		1.0	0.0050	0.005	0.005	0.015

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

63045 BL

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
[illegible]4-9600 • FAX (415) 364-9233

Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled: Jun 20, 1990
1370 Tur[illegible]., Suite 505	Matrix Descript:	Soil	Received: Jun 20, 1990
San Jose, CA 95122	Analysis Method:	EPA 3550/8015	Extracted: Jun 20, 1990
Attention: Richard Blaine	First Sample #:	006-3047	Analyzed: Jun 21, 1990
			Reported: Jun 22, 1990

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
006-3047	#1	N.D.
006-3048	#2	180
006-3049	#3	190
006-3050	#4	N.D.
006-3051	#18	140
0063064 A-D	#18, Comp.	510

Detection Limits:	1.0

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

[illegible]

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Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled: Jun 20, 1990
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received: Jun 20, 1990
San Jose, CA 95122	Analysis Method:	SM 503 D&E (Gravimetric)	Extracted: Jun 21, 1990
Attention: Richard Blaine	First Sample #:	006-3047	Analyzed: Jun 21, 1990
			Reported: Jun 22, 1990

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
006-3047	#1	100
006-3048	#2	1,300
006-3049	#3	3,600
006-3050	#4	170
006-3051	#18	650
0063064 A-D	#16, Comp.	6,400

Detection Limits:	30

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

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Elizabeth W. Hackl
Project Manager

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Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., Suite 505	Sample Descript:	Soil, #3	Received:	Jun 20, 1990
San Jose, CA 95122	Analysis Method:	EPA 5030/8010	Analyzed:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	006-3049	Reported:	Jun 22, 1990

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Bromodichloromethane	50	N.D.
Bromoform	50	N.D.
Bromomethane	50	N.D.
Carbon tetrachloride	50	N.D.
Chlorobenzene	50	N.D.
Chloroethane	250	N.D.
2-Chloroethylvinyl ether	50	N.D.
Chloroform	50	N.D.
Chloromethane	50	N.D.
Dibromochloromethane	50	N.D.
1,2-Dichlorobenzene	100	N.D.
1,3-Dichlorobenzene	100	N.D.
1,4-Dichlorobenzene	100	N.D.
1,1-Dichloroethane	50	N.D.
1,2-Dichloroethane	50	N.D.
1,1-Dichloroethene	50	N.D.
cis-1,2-Dichloroethene	50	140
1,2-Dichloropropane	50	N.D.
cis-1,3-Dichloropropene	50	N.D.
trans-1,3-Dichloropropene	50	N.D.
Methylene chloride	100	N.D.
1,1,2,2-Tetrachloroethane	50	N.D.
Tetrachloroethene	50	32
1,1,1-Trichloroethane	50	250
1,1,2-Trichloroethane	50	N.D.
Trichloroethene	50	N.D.
Trichlorofluoromethane	50	N.D.
Vinyl chloride	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

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Elizabeth W. Hackl
Project Manager

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Blaine Tech Services	Client Project ID:	#900520G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., Suite 505	Sample Descript:	Soil, #4	Received:	Jun 20, 1990
San Jose, CA 95122	Analysis Method:	EPA 5030/8010	Analyzed:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	006-3050	Reported:	Jun 22, 1990

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Bromodichloromethane	10	N.D.
Bromoform	10	N.D.
Bromomethane	10	N.D.
Carbon tetrachloride	10	N.D.
Chlorobenzene	10	N.D.
Chloroethane	50	N.D.
2-Chloroethylvinyl ether	10	N.D.
Chloroform	10	N.D.
Chloromethane	10	N.D.
Dibromochloromethane	10	N.D.
1,2-Dichlorobenzene	20	N.D.
1,3-Dichlorobenzene	20	N.D.
1,4-Dichlorobenzene	20	N.D.
1,1-Dichloroethane	10	N.D.
1,2-Dichloroethane	10	N.D.
1,1-Dichloroethene	10	N.D.
trans-1,2-Dichloroethene	10	26
1,2-Dichloropropane	10	N.D.
cis-1,3-Dichloropropene	10	N.D.
trans-1,3-Dichloropropene	10	N.D.
Methylene chloride	20	N.D.
1,1,2,2-Tetrachloroethane	10	N.D.
Tetrachloroethene	10	N.D.
1,1,1-Trichloroethane	10	N.D.
1,1,2-Trichloroethane	10	N.D.
Trichloroethene	10	N.D.
Trichlorofluoromethane	10	N.D.
Vinyl chloride	20	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

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Elizabeth W. [illegible]
Project Manager

63049.BLA <10>

SEQUOIA ANALYTICAL

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Blaine Tech Services	Client Project ID:	#900520G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., Suite 505	Sample Descript:	Soil, #18	Received:	Jun 20, 1990
San Jose, CA 95122	Analysis Method:	EPA 5030/8010	Analyzed:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	006-3051	Reported:	Jun 22, 1990

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Bromodichloromethane	20	N.D.
Bromoform	20	N.D.
Bromomethane	20	N.D.
Carbon tetrachloride	20	N.D.
Chlorobenzene	20	N.D.
Chloroethane	100	N.D.
2-Chloroethylvinyl ether	20	N.D.
Chloroform	20	N.D.
Chloromethane	20	N.D.
Dibromochloromethane	20	N.D.
1,2-Dichlorobenzene	40	N.D.
1,3-Dichlorobenzene	40	N.D.
1,4-Dichlorobenzene	40	N.D.
1,1-Dichloroethane	20	N.D.
1,2-Dichloroethane	20	N.D.
1,1-Dichloroethene	20	N.D.
Total 1,2-Dichloroethene	20	N.D.
1,2-Dichloropropane	20	N.D.
cis-1,3-Dichloropropene	20	N.D.
trans-1,3-Dichloropropene	20	N.D.
Methylene chloride	40	N.D.
1,1,2,2-Tetrachloroethane	20	N.D.
Tetrachloroethene	20	N.D.
1,1,1-Trichloroethane	20	N.D.
1,1,2-Trichloroethane	20	N.D.
Trichloroethene	20	N.D.
Trichlorofluoromethane	20	N.D.
Vinyl chloride	40	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

83049.BLA <11>

SEQUOIA ANALYTICAL

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Blaine Tech Services	Client Project ID:	#900620G1, Chevron #90019	Sampled:	Jun 20, 1990
1370 Tully Rd., Suite 505	Sample Descript:	Soil Composite, #16	Received:	Jun 20, 1990
San Jose, CA 95122	Analysis Method:	EPA 5030/8010	Analyzed:	Jun 20, 1990
Attention: Richard Blaine	Lab Number:	006-3064 A - D	Reported:	Jun 22, 1990

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
Carbon tetrachloride	100	N.D.
Chlorobenzene	100	N.D.
Chloroethane	500	N.D.
2-Chloroethylvinyl ether	100	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Dibromochloromethane	100	N.D.
1,2-Dichlorobenzene	200	N.D.
1,3-Dichlorobenzene	200	N.D.
1,4-Dichlorobenzene	200	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethene	100	N.D.
Total 1,2-Dichloroethene	100	N.D.
1,2-Dichloropropane	100	N.D.
cis-1,3-Dichloropropene	100	N.D.
trans-1,3-Dichloropropene	100	N.D.
Methylene chloride	200	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
Trichloroethene	100	N.D.
Trichlorofluoromethane	100	N.D.
Vinyl chloride	200	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

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Elizabeth W. Hackl
Project Manager

03048.BLA <12>

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Blaine Tech Services
1370 Tully Rd., Suite 505
San Jose, CA 95122
Attention: Richard Blaine

Client Project ID: #900620G1, Chevron #90019

QC Sample Group: 0063049 - 0063064

Reported: Jun 22, 1990

QUALITY CONTROL DATA REPORT

ANALYTE	Lead	Cadmium	Chromium	Zinc
Method:	EPA 7421	EPA 6010	EPA 6010	EPA 6010
Analyst:	R. Briton	D. Herrera	D. Herrera	D. Herrera
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Jun 21, 1990	Jun 21, 1990	Jun 21, 1990	Jun 21, 1990
QC Sample #:	006-3064	006-2705	006-2705	006-2705
Sample Conc.:	18	N.D.	0.50	1.2
Spike Conc. Added:	25	1.0	1.0	1.0
Conc. Matrix Spike:	44	7.9	8.3	9.8
Matrix Spike % Recovery:	100	79	78	86
Conc. Matrix Spike Dup.:	44	8.7	9.8	11
Matrix Spike Duplicate % Recovery:	100	87	93	98
Relative % Difference:	0.0	9.6	17	12

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

% Recovery: $\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services 1370 Tully Rd., Suite 505 San Jose, CA 95122 Attention: Richard Blaine	Client Project ID: #900620G1, Chevron #90019 QC Sample Group: 0063049 - 0063064	 Reported: Jun 22, 1990

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020/8015	EPA 8020/8015	EPA 8020/8015	EPA 8020/8015
Analyst:	L. Erickson	L. Erickson	L. Erickson	L. Erickson
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Jun 21, 1990	Jun 21, 1990	Jun 21, 1990	Jun 21, 1990
QC Sample #:	006-0718	006-0718	006-0718	006-0718
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	[illegible]
Conc. Matrix Spike:	0.17	0.17	0.17	0.56
Matrix Spike % Recovery:	85	85	85	93
Conc. Matrix Spike Dup.:	0.17	0.18	0.17	0.57
Matrix Spike Duplicate % Recovery:	85	90	85	95
Relative % Difference:	0.0	5.7	0.0	[illegible]

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Elizabeth W. Hackl
Project Manager

% Recovery:
$$\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

Relative % Difference:
$$\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{(\text{Conc. of M.S. + Conc. of M.S.D.}) / 2} \times 100$$

63049.BLA <14>

JUN [illegible] 7:22 [illegible]

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Blaine Tech Services
1370 Tully Rd., Suite 505
San Jose, CA 95122
Attention: Richard Blaine

Client Project ID: #900620G1, Chevron #90019

QC Sample Group: 0063049 - 0063064

Reported: Jun 22, 1990

QUALITY CONTROL DATA REPORT

ANALYTE	Diesel	Total Oil & Grease
Method:	EPA 8015	SM503D&E
Analyst:	K. Mitchell	S. Scott
Reporting Units:	mg/kg	mg/kg
Date Analyzed:	Jun 21, 1990	Jun 21, 1990
QC Sample #:	DI	006-2882
Sample Conc.:	N.D.	N.D.
Spike Conc. Added:	15	5,000
Conc. Matrix Spike:	14	4,600
Matrix Spike % Recovery:	93	87
Conc. Matrix Spike Dup.:	14	4,600
Matrix Spike Duplicate % Recovery:	93	87
Relative % Difference:	0.0	0.0

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Elizabeth W. Hackl
Project Manager

% Recovery: Conc. of M.S. - Conc. of Sample / Spike Conc. Added x 100

Relative % Difference: (Conc. of M.S. - Conc. of M.S.D.) / (Conc. of M.S. + Conc. of M.S.D.) / 2 x 100

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Blaine Tech Services
1370 Tully Rd., Suite 505
San Jose, CA 95122
Attn: Richard Blaine

Client Project ID: #900520G1, Chevron #90019

QC Sample Group: 0063049 - 0063054

Reported: Jun 22, 1990

QUALITY CONTROL DATA REPORT

ANALYTE	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
Method:	EPA 8010	EPA 8010	EPA 8010
Analyst:	J. Montierth	J. Montierth	J. Montierth
Reporting Units:	µg	µg	µg
Date Analyzed:	Jun 20, 1990	Jun 20, 1990	Jun 20, 1990
QC Sample #:	006-1161	006-1162	006-1162
Sample Conc.:	N.D.	N.D.	N.D.
Spike Conc. Added:	25	25	25
Conc. Matrix Spike:	25	23	22
Matrix Spike % Recovery:	100	92	88
Conc. Matrix Spike Dup.:	28	25	23
Matrix Spike Duplicate % Recovery:	110	100	92
Relative % Difference:	11	8.0	4.4

SEQUOIA ANALYTICAL

Elizabeth Arias
Project Manager

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REPORT OF LABORATORY ANALYSIS

July 18, 1990

Mr. Eric Stevenson
Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

RE: PACE Project No. 400706.502
Ch90019/WGR 1-101.06

Dear Mr. Stevenson:

Enclosed is the report of laboratory analyses for samples received July 06, 1990.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Stephen Nackord

Stephen F. Nackord
Director, Sampling and Analytical Services

Enclosures

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Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

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REPORT OF LABORATORY ANALYSIS

Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

July 18, 1990
PACE Project
Number: 400706502

Attn: Mr. Eric Stevenson

Ch90019/WGR 1-101.06

PACE Sample Number:			70 0772516	
Date Collected:			07/02/90	
Date Received:			07/06/90	
Parameter	Units	MDL	OP-W-7.0	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	50	07/17/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/10/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	130	07/10/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/10/90
Benzene	mg/kg wet	0.005	LT 0.50	07/10/90
Ethylbenzene	mg/kg wet	0.005	2.6	07/10/90
Toluene	mg/kg wet	0.005	1.9	07/10/90
Xylenes, Total	mg/kg wet	0.005	9.0	07/10/90

MDL Method Detection Limit
LT Less than.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 2

July 18, 1990
PACE Project Number: 400706502

Ch90019/WGR 1-101.06

PACE Sample Number:			70 0772524	
Date Collected:			07/02/90	
Date Received:			07/06/90	
Parameter	Units	MDL	OPSW-5	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	ND	07/17/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/10/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	3.6	07/10/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/10/90
Benzene	mg/kg wet	0.005	0.06	07/10/90
Ethylbenzene	mg/kg wet	0.005	0.06	07/10/90
Toluene	mg/kg wet	0.005	0.12	07/10/90
Xylenes, Total	mg/kg wet	0.005	0.19	07/10/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 3

July 18, 1990
PACE Project
Number: 400706502

Ch90019/WGR 1-101.06

PACE Sample Number:			70 0772567	
Date Collected:			07/02/90	
Date Received:			07/06/90	
Parameter	Units	MDL	OPSC-5	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	850	07/17/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/10/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	800	07/10/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/10/90
Benzene	mg/kg wet	0.005	1.9	07/10/90
Ethylbenzene	mg/kg wet	0.005	17	07/10/90
Toluene	mg/kg wet	0.005	28	07/10/90
Xylenes, Total	mg/kg wet	0.005	68	07/10/90

MDL Method Detection Limit

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 4

July 18, 1990
PACE Project Number: 400706502

Ch90019/WGR 1-101.06

PACE Sample Number:			70 0772575	
Date Collected:			07/02/90	
Date Received:			07/06/90	
Parameter	Units	MDL	1-MC	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	50	07/17/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/10/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	130	07/10/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/10/90
Benzene	mg/kg wet	0.005	LT 0.10	07/10/90
Ethylbenzene	mg/kg wet	0.005	0.70	07/10/90
Toluene	mg/kg wet	0.005	0.34	07/10/90
Xylenes, Total	mg/kg wet	0.005	5.5	07/10/90

MDL Method Detection Limit
LT Less than.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 5

July 18, 1990
PACE Project Number: 400706502

Ch90019/WGR 1-101.06

PACE Sample Number:			70 0772583	
Date Collected:			07/02/90	
Date Received:			07/06/90	
			Q.C.Batch	
Parameter	Units	MDL	No.	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	P999	07/17/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/10/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	Q1143	07/10/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/10/90

MDL Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

See Marked for

Ruth J. Siegmund
Organic Chemistry Manager

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Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

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REPORT OF LABORATORY ANALYSIS

July 30, 1990

Mr. Eric Stevenson
Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

RE: PACE Project No. 400723.505
Ch 90019/WGR1-101.06

Dear Mr. Stevenson:

Enclosed is the report of laboratory analyses for samples received July 23, 1990.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Walter Miller for.

Stephen F. Nackord
Director, Sampling and Analytical Services

Enclosures

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REPORT OF LABORATORY ANALYSIS

Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

July 30, 1990
PACE Project
Number: 400723505

Attn: Mr. Eric Stevenson

Ch 90019/WGR1-101.06

PACE Sample Number:			70 0780896	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-1	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	ND	07/24/90
Ethylbenzene	mg/kg wet	0.005	ND	07/24/90
Toluene	mg/kg wet	0.005	ND	07/24/90
Xylenes, Total	mg/kg wet	0.005	ND	07/24/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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July 30, 1990
PACE Project Number: 400723505

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PACE Sample Number:			70 0780900	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-2	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	ND	07/24/90
Ethylbenzene	mg/kg wet	0.005	ND	07/24/90
Toluene	mg/kg wet	0.005	ND	07/24/90
Xylenes, Total	mg/kg wet	0.005	ND	07/24/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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July 30, 1990
PACE Project Number: 400723505

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PACE Sample Number:			70 0780918	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-3	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	1.5	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	ND	07/24/90
Ethylbenzene	mg/kg wet	0.005	ND	07/24/90
Toluene	mg/kg wet	0.005	ND	07/24/90
Xylenes, Total	mg/kg wet	0.005	0.009	07/24/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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July 30, 1990
PACE Project Number: 400723505

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PACE Sample Number:			70 0780926	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-4	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	ND	07/24/90
Ethylbenzene	mg/kg wet	0.005	ND	07/24/90
Toluene	mg/kg wet	0.005	ND	07/24/90
Xylenes, Total	mg/kg wet	0.005	ND	07/24/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Project Number: 400723505

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PACE Sample Number:			70 0780934	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-5	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	ND	07/24/90
Ethylbenzene	mg/kg wet	0.005	ND	07/24/90
Toluene	mg/kg wet	0.005	ND	07/24/90
Xylenes, Total	mg/kg wet	0.005	ND	07/24/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Project Number: 400723505

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PACE Sample Number:			70 0780942	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-6	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	ND	07/24/90
Ethylbenzene	mg/kg wet	0.005	ND	07/24/90
Toluene	mg/kg wet	0.005	ND	07/24/90
Xylenes, Total	mg/kg wet	0.005	ND	07/24/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0780950	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-7	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	ND	07/24/90
Ethylbenzene	mg/kg wet	0.005	ND	07/24/90
Toluene	mg/kg wet	0.005	ND	07/24/90
Xylenes, Total	mg/kg wet	0.005	1.2	07/24/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0780969	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-8	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	1.9	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	ND	07/25/90
Toluene	mg/kg wet	0.005	0.010	07/25/90
Xylenes, Total	mg/kg wet	0.005	ND	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0780977	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-9	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	ND	07/25/90
Toluene	mg/kg wet	0.005	ND	07/25/90
Xylenes, Total	mg/kg wet	0.005	ND	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0780985	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-10	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	ND	07/25/90
Toluene	mg/kg wet	0.005	ND	07/25/90
Xylenes, Total	mg/kg wet	0.005	ND	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0780993	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-11	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	5.3	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	0.037	07/25/90
Toluene	mg/kg wet	0.005	ND	07/25/90
Xylenes, Total	mg/kg wet	0.005	0.054	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0781000	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-12	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	ND	07/25/90
Toluene	mg/kg wet	0.005	ND	07/25/90
Xylenes, Total	mg/kg wet	0.005	0.011	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0781019	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-13	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	6.7	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	0.007	07/25/90
Toluene	mg/kg wet	0.005	0.006	07/25/90
Xylenes, Total	mg/kg wet	0.005	0.043	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0781027	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-14	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	ND	07/25/90
Toluene	mg/kg wet	0.005	ND	07/25/90
Xylenes, Total	mg/kg wet	0.005	ND	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0781035	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-15	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	4.9	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	LT 0.050	07/25/90
Toluene	mg/kg wet	0.005	0.016	07/25/90
Xylenes, Total	mg/kg wet	0.005	0.020	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.
LT Less than.

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PACE Sample Number:			70 0781043	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-16	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	7.0	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	LT 0.050	07/25/90
Toluene	mg/kg wet	0.005	0.017	07/25/90
Xylenes, Total	mg/kg wet	0.005	0.026	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.
LT Less than.

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PACE Sample Number:			70 0781051	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-17	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	70	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	0.26	07/25/90
Toluene	mg/kg wet	0.005	0.13	07/25/90
Xylenes, Total	mg/kg wet	0.005	0.87	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0781060	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-18	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/26/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/26/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/26/90
Benzene	mg/kg wet	0.005	ND	07/26/90
Ethylbenzene	mg/kg wet	0.005	ND	07/26/90
Toluene	mg/kg wet	0.005	ND	07/26/90
Xylenes, Total	mg/kg wet	0.005	ND	07/26/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0781078	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-19	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	ND	07/25/90
Toluene	mg/kg wet	0.005	ND	07/25/90
Xylenes, Total	mg/kg wet	0.005	ND	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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PACE Sample Number:			70 0781086	
Date Collected:			07/23/90	
Date Received:			07/23/90	
Parameter	Units	MDL	A-20	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/25/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	07/25/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/25/90
Benzene	mg/kg wet	0.005	ND	07/25/90
Ethylbenzene	mg/kg wet	0.005	ND	07/25/90
Toluene	mg/kg wet	0.005	ND	07/25/90
Xylenes, Total	mg/kg wet	0.005	ND	07/25/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 21

July 30, 1990
PACE Project Number: 400723505

Ch 90019/WGR1-101.06

PACE Sample Number:			70 0781094	
Date Collected:			07/23/90	
Date Received:			07/23/90	
			Q.C.Batch	
Parameter	Units	MDL	No.	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/24/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	Q6105	07/24/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	07/24/90
Benzene	mg/kg wet	0.005	Q6106	07/24/90
Ethylbenzene	mg/kg wet	0.005	Q6107	07/24/90

MDL Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

Ruth Siegmund

Ruth J. Siegmund
Organic Chemistry Manager

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Novato, CA 94949
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FAX: 415-883-2673

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REPORT OF LABORATORY ANALYSIS

August 22, 1990

Mr. Eric Stevenson
Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

RE: PACE Project No. 400820.500
CH 90019/WGR1-101.06

Dear Mr. Stevenson:

Enclosed is the report of laboratory analyses for samples received August 20, 1990.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Carol Posthuma

Carol Posthuma
Project Manager

Enclosures

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REPORT OF LABORATORY ANALYSIS

Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

August 22, 1990
PACE Project
Number: 400820500

Attn: Mr. Eric Stevenson

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793424	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	1A	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	250	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	ND	08/20/90
Ethylbenzene	mg/kg wet	0.005	ND	08/20/90
Toluene	mg/kg wet	0.005	ND	08/20/90
Xylenes, Total	mg/kg wet	0.005	ND	08/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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Mr. Eric Stevenson
Page 2

August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793432	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	2A	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	600	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	4.4	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	ND	08/20/90
Ethylbenzene	mg/kg wet	0.005	ND	08/20/90
Toluene	mg/kg wet	0.005	ND	08/20/90
Xylenes, Total	mg/kg wet	0.005	0.016	08/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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Offices: Minneapolis, Minnesota; Tampa, Florida; Iowa City, Iowa; San Francisco, California; Kansas City, Missouri; Los Angeles, California; Charlotte, North Carolina; Asheville, North Carolina

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 3

August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793440	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	3A	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	500	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	5.2	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	ND	08/20/90
Ethylbenzene	mg/kg wet	0.005	ND	08/20/90
Toluene	mg/kg wet	0.005	ND	08/20/90
Xylenes, Total	mg/kg wet	0.005	0.016	08/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
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August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793459	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	4A	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	250	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	ND	08/20/90
Ethylbenzene	mg/kg wet	0.005	ND	08/20/90
Toluene	mg/kg wet	0.005	ND	08/20/90
Xylenes, Total	mg/kg wet	0.005	0.007	08/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
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August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793467	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	5A	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	6350	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/21/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	370	08/21/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/21/90
Benzene	mg/kg wet	0.005	LT 0.50	08/21/90
Ethylbenzene	mg/kg wet	0.005	2.97	08/21/90
Toluene	mg/kg wet	0.005	4.24	08/21/90
Xylenes, Total	mg/kg wet	0.005	26.2	08/21/90

MDL Method Detection Limit
LT Less than.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
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August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793475	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	1B	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	2500	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	1.9	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	ND	08/20/90
Ethylbenzene	mg/kg wet	0.005	ND	08/20/90
Toluene	mg/kg wet	0.005	ND	08/20/90
Xylenes, Total	mg/kg wet	0.005	0.016	08/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
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August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793483	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	2B	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	2750	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	13	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	ND	08/20/90
Ethylbenzene	mg/kg wet	0.005	0.017	08/20/90
Toluene	mg/kg wet	0.005	ND	08/20/90
Xylenes, Total	mg/kg wet	0.005	0.077	08/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
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August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793491	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	3B	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	1200	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	1.8	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	ND	08/20/90
Ethylbenzene	mg/kg wet	0.005	ND	08/20/90
Toluene	mg/kg wet	0.005	ND	08/20/90
Xylenes, Total	mg/kg wet	0.005	0.013	08/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793505	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	4B	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	2850	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/21/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	2.9	08/21/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/21/90
Benzene	mg/kg wet	0.005	ND	08/21/90
Ethylbenzene	mg/kg wet	0.005	ND	08/21/90
Toluene	mg/kg wet	0.005	ND	08/21/90
Xylenes, Total	mg/kg wet	0.005	0.019	08/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 10

August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:			70 0793513	
Date Collected:			08/17/90	
Date Received:			08/20/90	
Parameter	Units	MDL	5B	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	350	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/21/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	1.3	08/21/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/21/90
Benzene	mg/kg wet	0.005	ND	08/21/90
Ethylbenzene	mg/kg wet	0.005	ND	08/21/90
Toluene	mg/kg wet	0.005	ND	08/21/90
Xylenes, Total	mg/kg wet	0.005	0.017	08/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 11

August 22, 1990
PACE Project
Number: 400820500

CH 90019/WGR1-101.06

PACE Sample Number:	70 0793521
Date Collected:	08/17/90
Date Received:	08/20/90

Parameter	Units	MDL	Q.C. Batch No.	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	P1068	08/21/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	08/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	Q1170	08/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	08/20/90
Benzene	mg/kg wet	0.005	Q1171	08/20/90

MDL Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

Ruth J. Siegmund
Organic Chemistry Manager

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SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Western Geological Resources	Client Project ID: Chevron #90019	Sampled: 8/29/90
2169 E. Francisco Blvd., Suite B	Sample Descript: Soil	Received: 9/29/90
San Rafael, CA 94901	Analysis Method: See below	
Attention: Eric Stevenson	Lab Number: 0084602	Reported: 9/7/90

STATIC ACUTE HAZARDOUS WASTE BIOASSAY

Static [X]
Cont. Flow [ ]

Screening [ ]
Definitive [X]

Species: Pimephales promelas
Common Name: Fathead minnow
Mean length: 31.0 mm
Mean weight: 0.39 g
Supplier: Sticklebacks Unlimited
Acclimation Temp.: 20.0 degrees C

Organisms/Tank: 10
Replicates: 2
Organisms/Conc.: 20
Tank Depth: 13 cm
Tank Volume: 10 L

Dilution Water: Synthetic Softwater

	Alkalinity, mg/L	Hardness, mg/L
Control	31	41
1000 ppm	33	45
320 ppm	34	46
100 ppm	33	46

	Initial	24 Hr	48 Hr	72 Hr	96 Hr
DATE	8/29	8/30	8/31	9/1	9/2

	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
Control	6.9	21	7.0	6.1	21	7.2	0	6.2	20	6.9	0	6.4	20	6.9	0	6.3	21	6.9	0	0
100 ppm	9.2	19	7.8	7.4	17	7.4	0	7.4	19	7.5	0	6.8	19	6.6	0	6.9	19	7.0	0	0
180 ppm	9.4	19	7.8	7.6	17	7.5	0	7.4	19	7.5	0	7.2	19	7.4	0	6.8	19	7.3	0	0
320 ppm	9.4	19	7.9	7.4	17	7.5	1	7.3	19	7.5	1	7.1	19	7.4	3	6.6	19	7.3	3	3
560 ppm	9.4	19	7.9	7.7	17	7.5	0	7.4	19	7.5	1	7.3	19	7.4	1	6.8	19	7.4	1	1
1000 ppm	9.8	18	7.9	7.5	17	7.5	1	7.4	18	7.5	1	7.3	19	7.5	1	6.7	19	7.4	1	1

LC-50: >1000 ppm

LC-50 Calculation Method: Non-linear interpolation

Remarks:

Analyst: M. Trujillo

Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples, September 1987, California Department of Fish and Game WPCL.

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Western Geological Resources	Client Project ID: Chevron #90019	Sampled: 8/29/90
2169 E. Francisco Blvd., Suite B	Sample Descript: Soil	Received: 9/29/90
San Rafael, CA 94901	Analysis Method: See below	
Attention: Eric Stevenson	Lab Number: 0084602	Reported: 9/7/90

STATIC ACUTE HAZARDOUS WASTE BIOASSAY

Static [X]
Cont. Flow [ ]

Screening [ ]
Definitive [X]

Species: Pimephales promelas
Common Name: Fathead minnow
Mean length: 31.0 mm
Mean weight: 0.39 g
Supplier: Sticklebacks Unlimited
Acclimation Temp.: 20.0 degrees C

Organisms/Tank: 10
Replicates: 2
Organisms/Conc.: 20
Tank Depth: 13 cm
Tank Volume: 10 L

Dilution Water: Synthetic Softwater

	Alkalinity, mg/L	Hardness, mg/L
Control	31	41
1000 ppm	33	45
320 ppm	33	44
100 ppm	33	43

	Initial	24 Hr	48 Hr	72 Hr	96 Hr
DATE	8/29	8/30	8/31	9/1	9/2

	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
Control	6.9	21	7.0	6.1	21	7.2	0	6.2	20	6.9	0	6.4	20	6.9	0	6.3	21	6.9	0	0
100 ppm	9.1	18	7.9	7.3	17	7.5	1	7.2	18	7.5	2	6.9	18	7.4	2	6.7	18	7.5	2	2
180 ppm	9.3	18	7.9	7.0	17	7.5	0	6.9	18	7.5	0	6.7	18	7.5	2	6.6	18	7.5	2	2
320 ppm	9.4	18	7.9	7.0	17	7.5	0	6.9	18	7.4	0	6.8	18	7.5	0	6.7	18	7.5	0	0
560 ppm	9.4	19	7.9	7.7	17	7.5	0	7.7	18	7.4	0	7.4	19	7.4	0	6.9	19	7.5	0	0
1000 ppm	9.5	19	7.9	7.9	17	7.5	0	7.6	18	7.5	0	7.1	18	7.5	1	6.8	18	7.6	1	1

LC-50: >1000 ppm

LC-50 Calculation Method: Non-linear interpolation

Remarks:

Analyst: M. Trujillo

Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples, September 1987, California Department of Fish and Game WPCL.

SEQUOIA ANALYTICAL

Maile A. McBirney
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Western Geological Resources	Client Project ID:	#1-101.06, Chevron #90019	Sampled:	Aug 17, 1990
2169 E. Francisco Blvd., Suite B	Sample Descript:	Soil, 3B	Received:	Aug 29, 1990
San Rafael, CA 94901			Extracted:	Sep 4, 1990
Attention: Eric Stevenson	Lab Number:	A0084602	Reported:	Sep 7, 1990

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

	Soluble Threshold Limit Concentration Waste Extraction Test			Total Threshold Limit Concentration		
Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTLC Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.050	-	500	5.0	N.D.
Arsenic	5	0.010	-	500	0.25	34
Barium	100	0.10	-	10,000	5.00	210
Beryllium	0.75	0.010	-	75	0.50	N.D.
Cadmium	1	0.010	-	100	0.50	N.D.
Chromium (VI)	5	0.0050	-	500	0.0500	N.D.
Chromium (III)	560	0.0050	-	2,500	0.050	30
Cobalt	80	0.050	-	8,000	0.25	6.8
Copper	25	0.010	-	2,500	0.50	23
Lead	5	0.0050	-	1,000	0.250	34
Mercury	0.2	0.00020	-	20	0.100	0.18
Molybdenum	350	0.050	-	3,500	2.50	N.D.
Nickel	20	0.050	-	2,000	2.50	35
Selenium	1	0.010	-	100	0.25	N.D.
Silver	5	0.010	-	500	0.50	N.D.
Thallium	7	0.50	-	700	5.0	N.D.
Vanadium	24	0.050	-	2,400	2.50	26
Zinc	250	0.010	-	5,000	0.50	83

TTLC results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Maile A. McBirney
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Western Geological Resources	Client Project ID:	#1-101.06, Chevron #90019	Sampled:	Aug 17, 1990
2169 E. Francisco Blvd., Suite B	Sample Descript:	Soil, 3B	Received:	Aug 29, 1990
San Rafael, CA 94901	Analysis Method:	EPA 8240	Analyzed:	Aug 30, 1990
Attention: Eric Stevenson	Lab Number:	008-4602	Reported:	Sep 7, 1990

VOLATILE ORGANICS by GC/MS (EPA 8240)

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

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

SEQUOIA ANALYTICAL

Maile A. McBirney
Project Manager

A0084602.WGR <2>

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Western Geological Resources	Client Project ID:	#1-101.06, Chevron #90019	Sampled:	Aug 17, 1990
2169 E. Francisco Blvd., Suite B	Sample Descript:	Soil, 3B	Received:	Aug 29, 1990
San Rafael, CA 94901	Analysis Method:	EPA 8080	Extracted:	Aug 30, 1990
Attention: Eric Stevenson	Lab Number:	008-4602	Analyzed:	Sep 5, 1990
			Reported:	Sep 7, 1990

ORGANOCHLORINE PESTICIDES AND PCB'S (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Aldrin	5.0	N.D.
alpha-BHC	5.0	N.D.
beta-BHC	5.0	N.D.
delta-BHC	10	N.D.
gamma-BHC (Lindane)	5.0	N.D.
Chlordane	50	N.D.
4,4'-DDD	10	N.D.
4,4'-DDE	5.0	N.D.
4,4'-DDT	10	N.D.
Dieldrin	5.0	N.D.
Endosulfan I	10	N.D.
Endosulfan II	5.0	N.D.
Endosulfan sulfate	50	N.D.
Endrin	10	N.D.
Endrin aldehyde	15	N.D.
Heptachlor	5.0	N.D.
Heptachlor expoxide	5.0	N.D.
Methoxychlor	150	N.D.
Toxaphene	180	N.D.
PCB-1016	50	N.D.
PCB-1221	50	N.D.
PCB-1232	50	N.D.
PCB-1242	50	N.D.
PCB-1248	50	N.D.
PCB-1254	50	N.D.
PCB-1260	50	N.D.

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

SEQUOIA ANALYTICAL

Malle A. McBirney
Project Manager

A0084602.WGR <3>

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(415) 825-0720 (FAX)

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 90019
Work Order Number: C009500
Report Issue Date: October 2, 1990

Eric Stevenson
Western Geologic Resources Inc.
2169 E. Francisco Blvd, #B
San Rafael, CA 94901

Dear Mr. Stevenson:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 09/07/90.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to approved protocols.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

Emma P. Popek /RMB

Emma P. Popek
Laboratory Director

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500A
Report Issue Date: October 2, 1990

Table 1

ANALYTICAL RESULTS

Water pH
EPA Method 150.1

Sample Identification		Date Analyzed	pH
GTEL No.	Client ID		
C009500	1-C	09/24/90	8.5

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500A
Report Issue Date: October 2, 1990

QA Conformance Summary

Water pH
EPA Method 150.1

1.0 Initial Instrument Calibration

The calibration buffers used are shown in Table 2.

2.0 Laboratory Control Sample

The control limits were met for the pH 6 and pH 7 laboratory control solutions as shown in Table 3.

3.0 Sample Duplicate Precision

Absolute difference (AD) criteria was met in the sample duplicate as shown in Table 4.

4.0 Sample Handling

Sample handling and holding time criteria were met for all samples.

Table 2

INITIAL CALIBRATION STANDARDS DATA

Water pH
EPA Method 150.1

Standard ID Vendor/PN	Lot Number	Expiration Date	Buffer Type	pH
H7590-4A	050005	05-14-92	PHOSPHATE	4
H7590-7A	988002	03-06-92	PHOSPHATE	7

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500A
Report Issue Date: October 2, 1990

Table 3

LABORATORY CONTROL SAMPLE (LCS) RESULTS

Water pH
EPA Method 150.1

Date of Analysis: 09/24/90

Analyte	Expected Result	Observed Result,	Absolute Difference,	Acceptability Limit[1], Difference
pH 6 Buffer	6.0	5.99	0.01	≤0.05
pH 7 Buffer	7.0	7.0	0	≤0.05

1 = Acceptability limits are derived from EPA 150.1.

Table 3a

LABORATORY CONTROL SAMPLE (LCS) SOURCE

Water pH
EPA Method 150.1

Analyte	Lot Number	Source
pH 6 Buffer	74990B	BAXTER
pH 1 Buffer	988002	BAXTER

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500A
Report Issue Date: October 2, 1990

Table 4

LABORATORY DUPLICATE SAMPLE RESULTS

Water pH
EPA Method 150.1

Date of Analysis: 09/24/90
Sample Used: C009500-01 Client ID: 1-C

Sample Result	Duplicate Result	Absolute Difference, pH units	Acceptability Limit[1], Difference
8.47	8.51	0.04	≤0.1

1 = Acceptability limits are derived from APHA SM 423.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500B
Report Issue Date: October 2, 1990

Table 1

ANALYTICAL RESULTS

Cyanide/Sulfide Reactivity of Soil
Screen Test: Cyanide: GTEL/Cyantesmo Test Paper
Sulfide: GTEL/Lead Acetate Test Paper

Sample Identification		Date Sampled	Date Analyzed	Sulfide Concentation mg/Kg[1]	Cyanide Concentration, mg/Kg[1]
GTEL No.	Client ID				
C009500-1	1-C	09/20/90	09/25/90	<1	<1

1 = Method detection limit = 1 mg/Kg; analyte below this level would not be detected.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500B
Report Issue Date: October 2, 1990

Table 2

LABORATORY CHECK STANDARD RESULTS

Cyanide/Sulfide Reactivity of Soil
Screen Test: Cyanide: GTEL/Cyantesmo Test Paper
Sulfide: GTEL/Lead Acetate Test Paper

Date of Analysis: 09/25/90

Screen Test at 1 ppm Level			
	1 ppm Standard gave positive test result		
Parameter	Yes	No	NA
Sulfide	Yes		
Cyanide	Yes		

Source of Stock Solutions						
Parameter	Vendor	Part Number	Lot Number	Date Made	Date Standardized	Concentration, mg/L
Sulfide[1]	MALLIWCKRODT	CAS1313844	8044 KAJC	09/20/90	09/20/90	348 ppm
Cyanide[2]	MALLIWCKRODT	CAS-151388	C881 KBW	05/16/90	05/16/90	1000.9 ppm

NA = Not Analyzed

1 = Made from $Na_2S.9H_2O$ washed crystal in 0.1 N NaOH. Standardized periodically.

2 = Primary Standard made from dried crystalline KCN in 0.05 N NaOH.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Table 3

LABORATORY DUPLICATE ANALYSIS RESULTS

Cyanide/Sulfide Reactivity of Soil
Screen Test: Cyanide: GTEL/Cyantesmo Test Paper
Sulfide: GTEL/Lead Acetate Test Paper

Date of Analysis: 09/25/90

Parameter	Sample ID	Result 1	Result 2	RPD, %
Sulfide	C009500-1	<1	<1	0
Cyanide	C009500-1	<1	<1	0

Table 4

MATRIX SPIKE RECOVERY RESULTS

Cyanide/Sulfide Reactivity of Soil
Screen Test: Cyanide: GTEL/Cyantesmo Test Paper
Sulfide: GTEL/Lead Acetate Test Paper

Date of Analysis: 09/25/90

Analyte	Sample ID	Concentration Added, mg/Kg	Expected Result	Observed Result
Sulfide	C009500-1 SPK	1.74	(+)	(+)
Cyanide	C009500-1 SPK	0.5	(+)	(+)

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500C
Report Issue Date: October 2, 1990

Table 1

ANALYTICAL RESULTS

Flashpoint of Soil
Modified EPA Method 1010

Sample Identification		Date Analyzed	Flash Point[1], ° F
GTEL No.	Client ID		
C009500	1-C	09/24/90	>160

1 = <80 indicates a flashpoint of less than 80° F;
>160 indicates that the test termination point (160° F) was reached without ignition.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500C
Report Issue Date: October 2, 1990

QA Conformance Summary

Flashpoint of Soil
Modified EPA Method 1010

1.0 Laboratory Control Sample

The control limits were met for the laboratory control compound (p-Xylene) as shown in Table 2.

2.0 Sample Duplicate Precision

Not enough sample provided for duplicate analysis.

3.0 Sample Handling

Sample handling and holding time criteria were met for all samples.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 9-0019
Work Order Number: C009500C
Report Issue Date: October 2, 1990

Table 2

LABORATORY CONTROL SAMPLE (LCS) RESULTS

Flashpoint of Soil
Modified EPA Method 1010

Date of Analysis: 09/24/90 Units: °F

Analyte	Expected Result	Observed Result	Absolute Difference	Acceptability Limit[1]
p-Xylene	81	78	3	<5

1. Acceptability limit is taken from EPA Method 1010 specifications.

Table 2a

LABORATORY CONTROL SAMPLE (LCS) SOURCE

Flashpoint of Soil
Modified EPA Method 1010

Analyte	Lot Number	Source
p-Xylene	00414PV	ALDRICH

INVOICE # 72-10266

DATE: 10/02/90

SUPERVISOR APP.: [illegible]

JOB NO.: SFB-175-0204.72

JOB NAME: Chevron/90019

C.O.C.# _____

TO: Chevron U.S.A. Inc.
P.O. Box 5004
San Ramon, CA 94583
Attn: Accounts Payable

GTEL ENVIRONMENTAL LABORATORIES, INC.

Northwest Region
4080-C Pike Ln.
Concord, CA 94520
(415) 685-7852
FAX (415) 825-0720

PLEASE REMIT TO:
GTEL Environmental Laboratories, Inc.
P.O. Box 4795
Boston, MA 02212-4795
Terms: Net 30 Days

LABORATORY ANALYSIS CHARGES

TEST	LAB NO.	DATE RECEIVED	NUMBER OF SAMPLES	CHARGE/ SAMPLE	AMOUNT
1.Corrosivity pH	C009500-01	9/7/90	1 water		
2.Flashpoint			1 soil		
3.Reactivity Screen CN			1 soil		
4.Reactivity Screen S			1 soil		
5.					
6.					
7.					
8.					
9.					
10.					

SHIPPING CH

TOTAL:

Item number 1,2,3 & 4 not in contract see GTEL fee schedule on page 16.

NOTES:

Lab Release#: 2450060

Contract#: N46CWC0244-9X

Facility#: 9001

Consultant: Western Geologic Resources, Inc.

Chevron Contact: Nancy Vukelich

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(415) 825-0720 (FAX)

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 90019
Work Order Number: C010230, C010231
Report Issue Date: October 18, 1990

Eric Stevenson
Western Geologic Resources
2169 E. Francisco Blvd. Suite B
San Rafael, CA 94901

Dear Mr. Stevenson:

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories on 10/08/90.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to approved protocols.

If you have any questions concerning this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

Emma P. Popek

Emma P. Popek
Laboratory Director

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 90019
Work Order Number: C010230
Report Issue Date: October 15, 1990

Table 1

ANALYTICAL RESULTS

Semi-Volatile Organics in Soil
EPA Method 8270

GTEL Sample Number		01			
Client Identification		1			
Date Sampled		10/08/90			
Date Extracted		10/10/90			
Date Analyzed		10/11/90			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	660	<660			
bis(2-Chloroethyl) Ether	660	<660			
2-Chlorophenol	660	<660			
1,3-Dichlorobenzene	660	<660			
1,4-Dichlorobenzene	660	<660			
Benzyl Alcohol	1300	<1300			
1,2-Dichlorobenzene	660	<660			
2-Methylphenol	660	<660			
bis(2-Chloroisopropyl) Ether	660	<660			
4-Methylphenol	660	<660			
N-Nitroso-di-n-propylamine	660	<660			
Hexachloroethane	660	<660			
Nitrobenzene	660	<660			
Isophorone	660	<660			
2-Nitrophenol	660	<660			
2,4-Dimethylphenol	660	<660			
Benzoic Acid	3300	<3300			
bis(2-Chlorethoxy)methane	660	<660			
2,4-Dichlorophenol	660	<660			
1,2,4-Trichlorobenzene	660	<660			
Naphthalene	660	<660			
4-Chloroanaline	660	<660			
Hexachlorobutadiene	660	<660			
4-Chloro-3-methylphenol	1300	<1300			
2-Methylnaphthalene	660	<660			

Table 1 continued on page 3

Table 1 con't

ANALYTICAL RESULTS

Semi-Volatile Organics in Soil
EPA Method 8270

GTEL Sample Number		01			
Client Identification		1			
Date Sampled		10/08/90			
Date Extracted		10/10/90			
Date Analyzed		10/11/90			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Hexachlorocyclopentadiene	660	<660			
2,4,6-Trichlorophenol	660	<660			
2,4,5-Trichlorophenol	660	<660			
2-Chloronaphthalene	660	<660			
2-Nitroanalilline	3300	<3300			
Dimethylphthalate	660	<660			
Acenaphthylene	660	<660			
3-Nitroanaline	3300	<3300			
Acenaphthene	660	<660			
2,4-Dinitrophenol	3300	<3300			
4-Nitrophenol	3300	<3300			
Dibenzofuran	660	<660			
2,4-Dinitrotoluene	660	<660			
2,6-Dinitrotoluene	660	<660			
Diethylphthalate	660	<660			
4-Chlorophenyl-phenyl Ether	660	<660			
Fluorene	660	<660			
4-Nitroanaline	3300	<3300			
4,6-Dinitro-2-methylphenol	3300	<3300			
N-Nitrosodiphenylamine[1]	660	<660			
4-Bromophenyl Ether	660	<660			
Hexachlorobenzene	660	<660			
Pentachlorophenol	3300	<3300			
Phenanthrene	660	<660			
Anthracene	660	<660			

1 = Cannot be separated from diphenylamine.

Table 1 continued on page 4

GTEL ENVIRONMENTAL LABORATORIES, INC.

Table 1 con't

ANALYTICAL RESULTS

Semi-Volatile Organics in Soil
EPA Method 8270

GTEL Sample Number		01			
Client Identification		1			
Date Sampled		10/08/90			
Date Extracted		10/10/90			
Date Analyzed		10/11/90			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Di-n-butylphthalate	660	<660			
Fluoranthene	660	<660			
Pyrene	660	<660			
Butylbenzylphthalate	660	<660			
3,3'-Dichlorobenzidine	660	<660			
Benzo[a]anthracene	660	<660			
bis(2-Ethylhexyl)phthalate	660	<660			
Chrysene	660	<660			
Di-n-octylphthalate	660	<660			
Benzo[b]fluoranthene	660	<660			
Benzo[k]fluoranthene	660	<660			
Benzo[a]pyrene	660	<660			
Indeno[1,2,3-cd]pyrene	660	<660			
Dibenz[a,h]anthracene	660	<660			
Benzo[g,h,i]perylene	660	<660			
Benzidine	3300	<3300			

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 90019
Work Order Number: C010230
Report Issue Date: October 15, 1990

QA Conformance Summary

Semi-Volatile Organics in Soil
EPA Method 8270

1.0 Blanks

2 of 66 target compounds found in Reagent blank as shown in Table 2.

2.0 Surrogate Compound Recoveries

Recovery limits were met for at least 5 of 6 surrogate compounds for all samples as shown in Tables 3a, 3b, 3c, 3d, 3e and 3f.

3.0 Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Accuracy and Precision

3.1 Accuracy:

Percent recovery limits were met for 18 of 22 compounds in the MS and MSD as shown in Table 4.

3.2 Precision:

Relative percent difference (RPD) criteria were met for 11 of 11 compounds in the MS and MSD as shown in Table 5.

4.0 Sample Handling

4.1 Sample handling and holding time criteria were met for all samples.

4.2 There were no exceptional conditions requiring dilution of samples.

Table 2

REAGENT BLANK DATA

Semi-Volatile Organics in Soil
EPA Method 8270

Date of Analysis: 10/11/90

Analyte	Observed Result, ug/Kg
Phenol	ND
bis(2-Chloroethyl) Ether	ND
2-Chlorophenol	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Benzyl Alcohol	ND
1,2-Dichlorobenzene	ND
2-Methylphenol	ND
bis(2-Chloroisopropyl) Ether	ND
4-Methylphenol	ND
N-Nitroso-di-n-propylamine	ND
Hexachloroethane	ND
Nitrobenzene	ND
Isophorone	ND
2-Nitrophenol	ND
2,4-Dimethylphenol	ND
Benzoic Acid	ND
bis(2-Chlorethoxy)methane	ND
2,4-Dichlorophenol	ND
1,2,4-Trichlorobenzene	ND
Naphthalene	ND
4-Chloroanaline	ND
Hexachlorobutadiene	ND
4-Chloro-3-methylphenol	ND
2-Methylnaphthalene	ND

ND = Not detected above the statistical detection limit.

Table 2 continued on page 7

Table 2 con't

REAGENT BLANK DATA

Semi-Volatile Organics in Soil
EPA Method 8270

Analyte	Observed Result, ug/Kg
Hexachlorocyclopentadiene	ND
2,4,6-Trichlorophenol	ND
2,4,5-Trichlorophenol	ND
2-Chloronaphthalene	ND
2-Nitroanalline	ND
Dimethylphthalate	ND
Acenaphthylene	ND
3-Nitroanaline	ND
Acenaphthene	ND
2,4-Dinitrophenol	ND
4-Nitrophenol	ND
Dibenzofuran	ND
2,4-Dinitrotoluene	ND
2,6-Dinitrotoluene	ND
Diethylphthalate	ND
4-Chlorophenyl-phenyl Ether	ND
Fluorene	ND
4-Nitroanaline	ND
4,6-Dinitro-2-methylphenol	ND
N-Nitrosodiphenylamine	ND
4-Bromophenyl Ether	ND
Hexachlorobenzene	ND
Pentachlorophenol	ND
Phenanthrene	ND
Anthracene	ND

ND = Not detected above the statistical detection limit.

Table 2 continued on page 8

Table 2 con't

REAGENT BLANK DATA

Semi-Volatile Organics in Soil
EPA Method 8270

Analyte	Observed Result, ug/Kg
Di-n-butylphthalate	730
Fluoranthene	ND
Pyrene	ND
Butylbenzylphthalate	ND
3,3'-Dichlorobenzidine	ND
Benzo[a]anthracene	ND
bis(2-Ethylhexyl)phthalate	98
Chrysene	ND
Di-n-octylphthalate	ND
Benzo[b]fluoranthene	ND
Benzo[k]fluoranthene	ND
Benzo[a]pyrene	ND
Indeno[1,2,3-cd]pyrene	ND
Dibenz[a,h]anthracene	ND
Benzo[g,h,i]perylene	ND
Benzidine	ND

ND = Not detected above the statistical detection limit.

Table 3a

SURROGATE COMPOUND RECOVERY

d5-Nitrobenzene

Semi-Volatile Organics in Soil
EPA Method 8270

Recovery Acceptability Limits[1]: 23 - 120 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	50	29	58
01	50	32	64
MS	50	34	68
MSD	50	33	66

MS = Matrix spike sample
MSD = Matrix spike duplicate sample
1 = Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

Table 3b

SURROGATE COMPOUND RECOVERY

2-Fluorobiphenyl

Semi-Volatile Organics in Soil
EPA Method 8270

Recovery Acceptability Limits[1]: 30 - 115 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	50	42	84
01	50	47	94
MS	50	50	100
MSD	50	49	98

MS = Matrix spike sample
MSD = Matrix spike duplicate sample
1 = Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

Table 3c

SURROGATE COMPOUND RECOVERY

d14-Terphenyl

Semi-Volatile Organics in Soil
EPA Method 8270

Recovery Acceptability Limits[1]: 18 - 137 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	50	49	98
01	50	62	124
MS	50	84	168
MSD	50	76	152

MS = Matrix spike sample
MSD = Matrix spike duplicate sample
1 = Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

Table 3d

SURROGATE COMPOUND RECOVERY

d5-Phenol

Semi-Volatile Organics in Soil
EPA Method 8270

Recovery Acceptability Limits[1]: 24 - 113 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	100	76	76
01	100	72	72
MS	100	68	68
MSD	100	68	68

MS = Matrix spike sample
MSD = Matrix spike duplicate sample
1 = Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

Table 3e

SURROGATE COMPOUND RECOVERY

2-Fluorophenol

Semi-Volatile Organics in Soil
EPA Method 8270

Recovery Acceptability Limits[1]: 25 - 121 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	100	80	80
01	100	75	75
MS	100	71	71
MSD	100	69	69

MS = Matrix spike sample
MSD = Matrix spike duplicate sample
1 = Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

Table 3f

SURROGATE COMPOUND RECOVERY

2,4,6-Tribromophenol

Semi-Volatile Organics in Soil
EPA Method 8270

Recovery Acceptability Limits[1]: 19 - 122 %

GTEL No.	Expected Result, ug/L	Surrogate Result, ug/L	Surrogate Recovery, %
Blank	100	80	80
01	100	90	90
MS	100	115	115
MSD	100	122	122

MS = Matrix spike sample
MSD = Matrix spike duplicate sample
1 = Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

Table 4

MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)
RECOVERY AND RELATIVE PERCENT DEVIATION (RPD)
REPORT

Semi-Volatile Organics in Soil
EPA Method 8270

Date of Analysis: 10/11/90
Sample Spiked: C01023001
Client ID: 1
Units: ug/Kg

Analyte	Sample Result	Amount Added	MS Result	MSD Result
Phenol	ND	100	53	51
2-Chlorophenol	ND	100	63	62
4-Chloro-3-methylphenol	ND	100	66	64
4-Nitrophenol	ND	100	148	142
Pentachlorophenol	ND	100	112	111
1,4-Dichlorobenzene	ND	50	24	24
N-Nitroso-di-n-propylamine	ND	50	22	22
1,2,4-Trichlorobenzene	ND	50	31	31
2,4-Dinitrotoluene	ND	50	23	23
Acenaphthene	ND	50	27	27
Pyrene	5.9	50	48	44

Analyte	MS, % Recovery	MSD, % Recovery	RPD, %	Acceptability Limits[1]	
				Maximum RPD, %	% Recovery
Phenol	53	51	4	35	26- 90
2-Chlorophenol	63	62	2	50	25-102
4-Chloro-3-methylphenol	66	64	3	33	26-103
4-Nitrophenol	148	142	4	50	11-114
Pentachlorophenol	112	111	1	47	17-109
1,4-Dichlorobenzene	48	48	0	27	28-104
N-Nitroso-di-n-propylamine	44	44	0	38	41-126
1,2,4-Trichlorobenzene	62	62	0	23	38-107
2,4-Dinitrotoluene	46	46	0	47	28- 89
Acenaphthene	54	54	0	19	31-137
Pyrene	96	88	9	36	35-142

ND = Not Detected above the statistical detection limit
1 = Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 90019
Work Order Number: C010231
Report Issue Date: October 18, 1990

Table 1

ANALYTICAL RESULTS

TCLP Test on Soil[1]

GTEL Sample Number		C010231-01			
Client Identification		01			
Date Sampled		10/08/90			
Date Extracted		10/12/90			
Date Analyzed		10/12/90			
Analyte	Detection Limit, mg/L	Concentration, mg/L			
Arsenic	1	<1			
Barium	0.02	1.1			
Chromium	0.02	<0.02			
Lead	0.1	<0.1			
Nickel	0.07	0.13			
Vanadium	0.04	<0.04			

1 = EPA Method 3005/6010; Extraction by EPA Method 1310

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QA Conformance Summary

TCLP Test on Soil

1.0 Blanks

The method blank was below the detection limit for all analytes as shown in Table 2.

2.0 Initial Instrument Calibration

The concentrations of the initial instrument calibration for all analytes are shown in Table 3.

3.0 Calibration Verification Standards

3.1 The control limits were met for all analytes in the initial calibration verification standard (ICVS) as shown in Table 4.

3.2 If applicable, the control limits were met for all analytes in the continuing calibration verification standard (CCVS) as shown in Table 5.

4.0 Matrix Spike (MS) Recovery

Recovery limits were not met for all compounds in the MS as shoen in table 6.

5.0 Sample Duplicate Precision

Relative percent difference criteria were not met for the sample duplicate as shown in Table 7.

6.0 Sample Handling

6.1 Sample handling and holding time criteria were met for all samples.

6.2 There were no exceptional conditions requiring dilution of samples.

Table 2

REAGENT BLANK DATA

TCLP Test on Soil

Date of Analysis: 10/12/90

Analyte	Concentration, mg/L
Arsenic	<1
Barium	<0.02
Chromium	<0.02
Lead	<0.1
Nickel	<0.07
Vanadium	<0.04

<# = Not detected at the indicated detection limit.

Table 3

INITIAL CALIBRATION STANDARDS DATA

TCLP Test on Soil

Standard ID	CAL STDSPEX03-83-VS		
Date of Analysis	10/12/90		
Analyte	Standard Concentration, mg/L		
Arsenic	10.0		
Barium	1.0		
Chromium	10.0		
Lead	10.0		
Nickel	10.0		
Vanadium	10.0		

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Table 4

INITIAL CALIBRATION VERIFICATION STANDARDS RESULTS

TCLP Test on Soil

Date of Analysis: 10/12/90

Analyte	Expected Result, mg/L	Observed Result, mg/L	Recovery, %	Acceptability Limits, %
Arsenic	5.00	5.01	100	80 - 120
Barium	0.50	0.498	100	80 - 120
Chromium	5.00	5.08	102	80 - 120
Lead	5.00	5.13	103	80 - 120
Nickel	5.00	5.15	103	80 - 120
Vanadium	5.00	4.97	99	80 - 120

Table 4a

INITIAL CALIBRATION VERIFICATION STANDARDS SOURCE

TCLP Test on Soil

Analyte	Lot Number	Source
Arsenic	2-57-VS	SPEX
Barium	2-57-VS	SPEX
Chromium	2-57-VS	SPEX
Lead	2-57-VS	SPEX
Nickel	2-57-VS	SPEX
Vanadium	2-57-VS	SPEX

Table 5

CONTINUING CALIBRATION VERIFICATION STANDARDS RESULTS

TCLP Test on Soil

Date of Analysis: 10/12/90

Analyte	Expected Result, mg/L	Observed Result, mg/L	Recovery, %	Acceptability Limits, %
Arsenic	5.00	5.16	103	80 - 120
Barium	0.50	0.50	100	80 - 120
Cadmium	5.00	5.12	102	80 - 120
Lead	5.00	5.21	104	80 - 120
Nickel	5.00	5.17	103	80 - 120
Vanadium	5.00	5.07	102	80 - 120

Table 5a

CONTINUING CALIBRATION VERIFICATION STANDARDS SOURCE

TCLP Test on Soil

Analyte	Lot Number	Source
Arsenic	3-83-VS	SPEX
Barium	3-83-VS	SPEX
Chromium	3-83-VS	SPEX
Lead	3-83-VS	SPEX
Nickel	3-83-VS	SPEX
Vanadium	3-83-VS	SPEX

Table 6

MATRIX SPIKE (MS) RESULTS

TCLP Test on Soil

Date of Analysis: 10/12/90
Sample Used: C010231-01

Client ID: 1
Units: mg/L

Analyte	MS Result	Sample Result	Amount Recovered	Amount Added	MS Recovery, %	Acceptability Limits, %
Arsenic	1.0	<1	1.0	1.0	100	80 - 120
Barium	1.1	1.1	0	0.1	0*	80 - 120
Chromium	1.0	<0.02	1.0	1.0	100	80 - 120
Lead	1.0	<0.1	1.0	1.0	100	80 - 120
Nickel	1.1	0.1	1.0	1.0	100	80 - 120
Vanadium	1.0	<0.04	1.0	1.0	100	80 - 120

* Sample was too high in barium for spiked amount to be recovered.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Project Number: SFB-175-0204.72
Consultant Project Number: 1-101.06
Contract Number: N46CWC0244-9-X
Facility Number: 90019
Work Order Number: C010231
Report Issue Date: October 18, 1990

Table 7

LABORATORY DUPLICATE SAMPLE RESULTS AND RELATIVE PERCENT DIFFERENCE (RPD) REPORT

TCLP Test on Soil

Date of Analysis: 10/12/90
Sample Used: C010231-01
Client ID: 1
Units: mg/L

Analyte	Sample Result	Duplicate Result	RPD, %	Maximum RPD, %
Arsenic	<1	<1	NA	20
Barium	1.18	1.05	12	20
Chromium	<0.02	<0.02	NA	20
Lead	<0.1	<0.1	NA	20
Nickel	0.14	<0.12	15	20
Vanadium	<0.04	<0.04	0	20

NA = Not Applicable

GTEL ENVIRONMENTAL LABORATORIES, INC.

INVOICE # 72-10517

DATE: 10/18/90

SUPERVISOR APP.: _____

JOB NO.: SFB-175-0204.72

JOB NAME: Chevron XXXXX 90014

C.O.C.# _____

TO: Chevron U.S.A. Inc.
P.O. Box 5004
San Ramon, CA 94583
Attn: Accounts Payable

GTEL ENVIRONMENTAL LABORATORIES, INC.

Northwest Region
4080-C Pike Ln.
Concord, CA 94520
(415) 685-7852
FAX (415) 825-0720

PLEASE REMIT TO:
GTEL Environmental Laboratories, Inc.
P.O. Box 4795
Boston, MA 02212-4795
Terms: Net 30 Days

LABORATORY ANALYSIS CHARGES

TEST	LAB NO.	DATE RECEIVED	NUMBER OF SAMPLES	CHARGE/	AMOUNT
1 EPA 8270	C010230-01	10/8/90	1 soil		
2 Metals/TCLP	C010231-01	10/8/90	1Leachat		
3 Sample extraction					
4 Sample digestion					
5 Level 1 10 day TAT					
6.					
7.					
8.					
9.					
10.					

SHIPPING C

*Item number 2,3 &4 not in contract, see GTEL fee schedule on pa

NOTES:

Lab Release#: 2450060

Contract#: N46CWC0244-9-X

Facility#: 90014

Consultant: Western Geologic Resources

Chevron Contact: Nancy Vukelich

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REPORT OF LABORATORY ANALYSIS

December 07, 1990

Mr. Eric Stevenson
Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

RE: PACE Project No. 401120.503
Ch 90019/WGR1-101.06

Dear Mr. Stevenson:

Enclosed is the report of laboratory analyses for samples received November 20, 1990.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Carol Posthuma

Carol Posthuma
Project Manager

Enclosures

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FAX: 415-883-2673

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REPORT OF LABORATORY ANALYSIS

Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

December 07, 1990
PACE Project
Number: 401120503

Attn: Mr. Eric Stevenson

Ch 90019/WGR1-101.06

PACE Sample Number:			70 0842506	
Date Collected:			11/19/90	
Date Received:			11/20/90	
Parameter	Units	MDL	02	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	ND	11/29/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/30/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	11/30/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	11/30/90
Benzene	mg/kg wet	0.005	ND	11/30/90
Ethylbenzene	mg/kg wet	0.005	ND	11/30/90
Toluene	mg/kg wet	0.005	ND	11/30/90
Xylenes, Total	mg/kg wet	0.005	ND	11/30/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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Mr. Eric Stevenson
Page 2

December 07, 1990
PACE Project Number: 401120503

Ch 90019/WGR1-101.06

Parameter	Units	MDL	70 0842522 04	DATE ANALYZED
PACE Sample Number:				
Date Collected:			11/19/90	
Date Received:			11/20/90	
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	140	11/28/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/26/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	11/26/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	11/26/90
Benzene	mg/kg wet	0.005	ND	11/26/90
Ethylbenzene	mg/kg wet	0.005	ND	11/26/90
Toluene	mg/kg wet	0.005	ND	11/26/90
Xylenes, Total	mg/kg wet	0.005	ND	11/26/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

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Mr. Eric Stevenson
Page 3

December 07, 1990
PACE Project Number: 401120503

Ch 90019/WGR1-101.06

PACE Sample Number:			70 0842549	
Date Collected:			11/19/90	
Date Received:			11/20/90	
Parameter	Units	MDL	Q.C.Batch No.	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	P1233	11/28/90
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			Q6190	11/26/90
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	-	11/26/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	11/26/90
Benzene	mg/kg wet	0.005	-	11/26/90
Ethylbenzene	mg/kg wet	0.005	-	11/26/90
Toluene	mg/kg wet	0.005	-	11/26/90
Xylenes, Total	mg/kg wet	0.005	-	11/26/90

MDL Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

Ruth Siegmund

Ruth J. Siegmund
Organic Chemistry Manager

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REPORT OF LABORATORY ANALYSIS

January 15, 1991

Mr. Eric Stevenson
Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

RE: PACE Project No. 410111.500
CH90019/WGR1-101.06

Dear Mr. Stevenson:

Enclosed is the report of laboratory analyses for samples received January 11, 1991.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Carol Posthuma

Carol Posthuma
Project Manager

Enclosures

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Western Geologic Resources
2169 E. Francisco Blvd.
San Rafael, CA 94901

January 15, 1991
PACE Project
Number: 410111500

Attn: Mr. Eric Stevenson

CH90019/WGR1-101.06

PACE Sample Number:			70 0003849	
Date Collected:			01/11/91	
Date Received:			01/11/91	
Parameter	Units	MDL	111-01	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	160	01/14/91
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/14/91
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	4.0	6.7(*)	01/14/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	01/14/91
Benzene	mg/kg wet	0.020	ND	01/14/91
Ethylbenzene	mg/kg wet	0.020	ND	01/14/91
Toluene	mg/kg wet	0.020	ND	01/14/91
Xylenes, Total	mg/kg wet	0.020	0.024	01/14/91

MDL Method Detection Limit
ND Not detected at or above the MDL.
(*) Sample contains hydrocarbons heavier than gasoline (possibly Kerosene); results quantified as gasoline.

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Mr. Eric Stevenson
Page 2

January 15, 1991
PACE Project
Number: 410111500

CH90019/WGR1-101.06

Parameter	Units	MDL	70 0003857 01/11/91 01/11/91 111-02	DATE ANALYZED
PACE Sample Number:				
Date Collected:				
Date Received:				
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	220	01/14/91
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/14/91
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	100	210(*)	01/14/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	01/14/91
Benzene	mg/kg wet	0.50	ND	01/14/91
Ethylbenzene	mg/kg wet	0.50	ND	01/14/91
Toluene	mg/kg wet	0.50	ND	01/14/91
Xylenes, Total	mg/kg wet	0.50	2.0	01/14/91

MDL Method Detection Limit
ND Not detected at or above the MDL.
(*) Sample contains hydrocarbons heavier than gasoline (possibly Kerosene); results quantified as gasoline.

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Page 3

January 15, 1991
PACE Project
Number: 410111500

CH90019/WGR1-101.06

PACE Sample Number:			70 0003865	
Date Collected:			01/11/91	
Date Received:			01/11/91	
Parameter	Units	MDL	111-03	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	ND	01/14/91
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/14/91
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	4.0	6.7(*)	01/14/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	01/14/91
Benzene	mg/kg wet	0.020	ND	01/14/91
Ethylbenzene	mg/kg wet	0.020	ND	01/14/91
Toluene	mg/kg wet	0.020	ND	01/14/91
Xylenes, Total	mg/kg wet	0.020	0.023	01/14/91

MDL Method Detection Limit
ND Not detected at or above the MDL.
(*) Sample contains hydrocarbons heavier than gasoline (possibly Kerosene); results quantified as gasoline.

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January 15, 1991
PACE Project
Number: 410111500

CH90019/WGR1-101.06

PACE Sample Number:			70 0003873	
Date Collected:			01/11/91	
Date Received:			01/11/91	
Parameter	Units	MDL	111-04	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	140	01/14/91
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/14/91
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	20	36(*)	01/14/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	01/14/91
Benzene	mg/kg wet	0.10	ND	01/14/91
Ethylbenzene	mg/kg wet	0.10	ND	01/14/91
Toluene	mg/kg wet	0.10	ND	01/14/91
Xylenes, Total	mg/kg wet	0.10	ND	01/14/91

MDL Method Detection Limit
ND Not detected at or above the MDL.
(*) Sample contains hydrocarbons heavier than gasoline (possibly Kerosene); results quantified as gasoline.

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Mr. Eric Stevenson
Page 5

January 15, 1991
PACE Project
Number: 410111500

CH90019/WGR1-101.06

Parameter	Units	MDL	111-05	DATE ANALYZED
PACE Sample Number:			70 0003881	
Date Collected:			01/11/91	
Date Received:			01/11/91	
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	ND	01/14/91
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/14/91
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	20	43(*)	01/14/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	01/14/91
Benzene	mg/kg wet	0.10	ND	01/14/91
Ethylbenzene	mg/kg wet	0.10	ND	01/14/91
Toluene	mg/kg wet	0.10	ND	01/14/91
Xylenes, Total	mg/kg wet	0.10	0.13	01/14/91

MDL Method Detection Limit
ND Not detected at or above the MDL.
(*) Sample contains hydrocarbons heavier than gasoline (possibly Kerosene); results quantified as gasoline.

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REPORT OF LABORATORY ANALYSIS

Mr. Eric Stevenson
Page 6

January 15, 1991
PACE Project
Number: 410111500

CH90019/WGR1-101.06

PACE Sample Number:			70 0003890	
Date Collected:			01/11/91	
Date Received:			01/11/91	
Parameter	Units	MDL	111-06	DATE ANALYZED
ORGANIC ANALYSIS				
INDIVIDUAL PARAMETERS				
Oil and Grease, Gravimetric (503D&E)	mg/kg wet	50	60	01/14/91
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/14/91
Purgeable Fuels, as Gasoline (EPA 8015)	mg/kg wet	1.0	ND	01/14/91
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	01/14/91
Benzene	mg/kg wet	0.005	ND	01/14/91
Ethylbenzene	mg/kg wet	0.005	ND	01/14/91
Toluene	mg/kg wet	0.005	ND	01/14/91
Xylenes, Total	mg/kg wet	0.005	ND	01/14/91

MDL Method Detection Limit
ND Not detected at or above the MDL.

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

Ruth Siegmund

Ruth J. Siegmund
Organic Chemistry Manager

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SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 11415 DATE RECEIVED: 01/23/91
CLIENT: Western Geologic Resources DATE REPORTED: 01/25/91
CLIENT JOB NO.: 1-101.06

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
11415- 1	123-01	01/23/91	01/24/91
11415- 2	123-02	01/23/91	01/24/91

Laboratory Number:	11415 1	11415 2
ANALYTE LIST	Amounts/Quantitation Limits (mg/kg)	
OIL AND GREASE:	ND<50	380
TPH/GASOLINE RANGE:	ND<1	ND<1
TPH/DIESEL RANGE:	NA	NA
BENZENE:	ND<.005	ND<.005
TOLUENE:	ND<.005	ND<.005
ETHYL BENZENE:	ND<.005	ND<.005
XYLENES:	ND<.005	ND<.005

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CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 11415

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = part per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg
Standard Reference: 08/24/90

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg
Standard Reference: 01/09/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	10/16/90	10mg	63	6	50-130
Diesel	NA	NA	NA	NA	NA
Gasoline	01/09/91	200ng	89/87	2	75-125
Benzene	01/09/91	200ng	97/95	2	60-135
Toluene	01/09/91	200ng	91/88	3	60-135
Ethyl Benzene	01/09/91	200ng	94/92	2	60-135
Total Xylene	01/09/91	600ng	93/90	3	60-135

Richard Srna, Ph.D.
Laboratory Director

SUPERIOR ANALYTICAL LABORATORIES, INC.
825 ARNOLD, STE. 114 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512
DOHS #319
DOHS #220

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 82481
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-101.04

DATE RECEIVED: 02/15/91
DATE REPORTED: 02/25/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
82481- 1	0214.01	02/14/91	02/25/91
82481- 2	0214.02	02/14/91	02/25/91

Laboratory Number:	82481 1	82481 2
ANALYTE LIST	Amounts/Quantitation Limits (mg/Kg)	
OIL AND GREASE:	190	ND<50
TPH/GASOLINE RANGE:	4	3
TPH/DIESEL RANGE:	NA	NA
BENZENE:	0.077	0.084
TOLUENE:	0.027	0.019
ETHYL BENZENE:	0.29	0.17
XYLENES:	0.11	0.35

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CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 82481

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = part per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg
Standard Reference: 10/25/90

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg
Standard Reference: 01/28/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	9/20/90	30 ppm	74	7	56-106
Diesel	NA	NA	NA	NA	NA
Gasoline	10/25/90	200 ng	95	3	70-130
Benzene	01/28/91	200 ng	77	8	70-130
Toluene	01/28/91	200 ng	100	7	70-130
Ethyl Benzene	01/28/91	200 ng	108	7	70-130
Total Xylene	01/28/91	200 ng	112	7	70-130

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OUTSTANDING QUALITY AND SERVICE

SUPERIOR ANALYTICAL LABORATORIES, INC.

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CERTIFICATE OF ANALYSIS

DOHS #319
DOHS #220

LABORATORY NO.: 82505
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-101-06

DATE RECEIVED: 02/20/91
DATE REPORTED: 02/27/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
82505- 1	219-01	02/19/91	02/27/91
82505- 2	219-02	02/19/91	02/27/91

Laboratory Number:	82505 1	82505 2
ANALYTE LIST	Amounts/Quantitation Limits (mg/Kg)	
OIL AND GREASE:	ND<50	86
TPH/GASOLINE RANGE:	NA	NA
TPH/DIESEL RANGE:	NA	NA
BENZENE:	NA	NA
TOLUENE:	NA	NA
ETHYL BENZENE:	NA	NA
XYLENES:	NA	NA

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DOHS #220

CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 82505

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = part per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg
Standard Reference: NA

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg
Standard Reference: NA

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	9/20/90	30 ppm	77	9	56-106
Diesel	NA	NA	NA	NA	NA
Gasoline	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA
Ethyl Benzene	NA	NA	NA	NA	NA
Total Xylene	NA	NA	NA	NA	NA

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DOHS #319
DOHS #220

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 83006
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-101.06

DATE RECEIVED: 04/30/91
DATE REPORTED: 05/08/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
83006- 1	04291.01,02 COMP	04/29/91	05/07/91
83006- 2	04291.03,04 comp	04/29/91	05/07/91
83006- 3	04291.05,06 comp	04/29/91	05/07/91
83006- 4	04291.07,08 comp	04/29/91	05/08/91

Laboratory Number:	83006 1	83006 2	83006 3	83006 4
ANALYTE LIST	Amounts/Quantitation Limits (mg/kg)			
OIL AND GREASE:	NA	NA	NA	NA
TPH/GASOLINE RANGE:	1	ND<1	3	1100
TPH/DIESEL RANGE:	NA	NA	NA	NA
BENZENE:	ND<.005	ND<.005	0.045	4.2
TOLUENE:	ND<.005	ND<.005	0.051	48
ETHYL BENZENE:	ND<.005	ND<.005	0.023	24
XYLENES:	0.013	ND<.005	0.086	84

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DOHS #220

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 83006

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = part per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg
Standard Reference: 03/28/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg
Standard Reference: 04/18/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	03/28/91	200 ng	111	0	70-130
Benzene	04/18/91	200 ng	97	0	70-130
Toluene	04/18/91	200 ng	108	0	70-130
Ethyl Benzene	04/18/91	200 ng	104	0	70-130
Total Xylene	04/18/91	200 ng	111	4	70-130

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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 83157
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-101.06

DATE RECEIVED: 05/22/91
DATE REPORTED: 05/30/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
83157- 1	05211-01,02	05/21/91	05/30/91
83157- 2	05211-03,04	05/21/91	05/30/91
83157- 3	05211-05,06	05/21/91	05/30/91
83157- 4	05211-07,08	05/21/91	05/30/91

Laboratory Number:	83157 1	83157 2	83157 3	83157 4
ANALYTE LIST	Amounts/Quantitation Limits (mg/kg)			
TPH/GASOLINE RANGE:	25	210	26	56
BENZENE:	0.41	0.57	0.06	0.17
TOLUENE:	2.2	6.4	0.48	1.9
ETHYL BENZENE:	0.69	3.6	0.54	1.3
XYLENES:	2.3	12	1.7	4.6

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C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 83157

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = part per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg
Standard Reference: 03/28/91

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg
Standard Reference: 01/18/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline	03/28/91	200 ng	91	1	70-130
Benzene	01/18/91	200 ng	99	7	70-130
Toluene	01/18/91	200 ng	95	3	70-130
Ethyl Benzene	01/18/91	200 ng	95	3	70-130
Total Xylene	01/18/91	200 ng	91	3	70-130

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SUPERIOR ANALYTICAL LABORATORY, INC.
1555 BURKE, UNIT I • SAN FRANCISCO, CA 94124 • PHONE (415) 647-2081 DOHS #1332

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 12045
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-101.06

DATE RECEIVED: 07/03/91
DATE REPORTED: 07/11/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
12045- 1	07021-01	07/02/91	07/08/91
12045- 2	07021-02	07/02/91	07/10/91
12045- 3	07021-03	07/02/91	07/08/91
12045- 4	07021-04	07/02/91	07/08/91
12045- 5	07021-05	07/02/91	07/08/91
12045- 6	07021-06	07/02/91	07/08/91
12045- 7	07021-07	07/02/91	07/10/91
12045- 8	07021-08	07/02/91	07/08/91
12045- 9	07021-09	07/02/91	07/10/91
12045-10	07021-10	07/02/91	07/08/91

Laboratory Number:	12045 1	12045 2	12045 3	12045 4	12045 5
ANALYTE LIST	Amounts/Quantitation Limits (mg/kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1	ND<1	ND<1	ND<1	ND<1
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
TOLUENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
ETHYL BENZENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
XYLENES:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005

Laboratory Number:	12045 6	12045 7	12045 8	12045 9	12045 10
ANALYTE LIST	Amounts/Quantitation Limits (mg/kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1	3	ND<1	6	ND<1
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<.005	ND<.005	ND<.005	0.006	ND<.005
TOLUENE:	ND<.005	ND<.005	ND<.005	0.006	ND<.005
ETHYL BENZENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
XYLENES:	ND<.005	0.012	ND<.005	0.026	ND<.005

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CERTIFICATE OF ANALYSIS

LABORATORY NO.: 12045
CLIENT: Western Geologic Resources
CLIENT JOB NO.: 1-101.06

DATE RECEIVED: 07/03/91
DATE REPORTED: 07/11/91

Lab Number	Customer Sample Identification	Date Sampled	Date Analyzed
12045-11	07021-11	07/02/91	07/10/91
12045-12	07021-12	07/02/91	07/08/91
12045-13	07021-13	07/02/91	07/10/91
12045-14	07021-14	07/02/91	07/08/91
12045-15	07021-15	07/02/91	07/10/91
12045-16	07021-16	07/02/91	07/11/91
12045-17	07021-17	07/02/91	07/10/91
12045-18	07021-18	07/02/91	07/08/91
12045-19	07021-19	07/02/91	07/10/91
12045-20	07021-20	07/02/91	07/10/91

Laboratory Number:	12045 11	12045 12	12045 13	12045 14	12045 15
ANALYTE LIST	Amounts/Quantitation Limits (mg/kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	2	ND<1	1	2	2
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	0.006	ND<.005	ND<.005	ND<.005	ND<.005
TOLUENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
ETHYL BENZENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
XYLENES:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005

Laboratory Number:	12045 16	12045 17	12045 18	12045 19	12045 20
ANALYTE LIST	Amounts/Quantitation Limits (mg/kg)				
OIL AND GREASE:	NA	NA	NA	NA	NA
TPH/GASOLINE RANGE:	ND<1	ND<1	2	2	ND<1
TPH/DIESEL RANGE:	NA	NA	NA	NA	NA
BENZENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
TOLUENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
ETHYL BENZENE:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
XYLENES:	ND<.005	ND<.005	ND<.005	0.009	ND<.005

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CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 12045

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = part per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 503E:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA-SW846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg
Standard Reference: NA

EPA-SW846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg
Standard Reference: 08/24/90

SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg
Standard Reference: 04/09/91

ANALYTE	REFERENCE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil & Grease	NA	NA	NA	NA	NA
Diesel	NA	NA	NA	NA	NA
Gasoline	08/24/90	200ng	83/76	8.9	58-120
Benzene	04/09/91	200ng	100/100	0.5	65-121
Toluene	04/09/91	200ng	94/92	2.2	65-120
Ethyl Benzene	04/09/91	200ng	92/88	5.0	65-122
Total Xylene	04/09/91	600ng	90/85	5.9	65-122

Richard Srna, Ph.D.
Laboratory Director