Weiss Associates DRAFT *Environmental and Geologic Services*

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COMPREHENSIVE SITE EVALUATION AND PROPOSED FUTURE ACTION PLAN

at

Former Chevron Service Station 9-6607
2340 Otis Drive
Alameda, California

prepared for

Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon, California 94583-0804

DRAFT

Weiss Associates

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5500 Shellmound Street
Emeryville, CA 94608

WA Job # 7-0314--014

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Senior Staff Geologist

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Staff Engineer

Weiss Associates' work for Chevron U.S.A. Products Company, P.O. Box 5004, San Ramon, California, was conducted under my supervision. To the best of my knowledge, the data contained herein are true and accurate and satisfy the specified scope of work prescribed by the client for this project. The data, findings, recommendations, specifications or professional opinions were prepared solely for the use of Chevron U.S.A. in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied, and are not responsible for the interpretation by others of these data.

Eric M. Nichols December 20, 1994
Registered Civil Engineer
No. 42695

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SUMMARY

The Chevron site at 2340 Otis Drive in Alameda, California is an operating Chevron service station. In February 1991, R.W. Johnston & Son oversaw the removal of three fiberglass gasoline tanks and one spherical fiberglass waste oil tank. The existing tanks were replaced with new double-walled fiberglass underground storage tanks (USTs). In October 1991, Geraghty & Miller, Inc. installed four monitoring wells to define hydrogeologic conditions beneath the site and to determine the extent of petroleum hydrocarbons in soil and ground water.

Review of subsequent subsurface site investigation data shows that:

- ***All source areas have been removed from the site:*** Soil samples taken after tank and product line excavations indicated that no total petroleum hydrocarbons as gasoline (TPH-G) or benzene were present in the remaining unsaturated soil. Total oil and grease (TOG) concentrations were detected in soils extending under the station building, but have not impacted ground water.

- ***The site has been remediated to the extent feasible:*** Historical monitoring data demonstrate that TPH-G has been detected in only two of the four wells, and has decreased from a maximum concentration of 430 parts per billion (ppb) after the wells were installed in 1991, to less than 100 ppb during the past year.

- ***The plume is contained by natural processes, and no significant plume migration occurs with or without ground water extraction:*** Historical ground water monitoring data indicate a significant decrease in both TPH-G and benzene concentrations in monitoring well MW-2. The continued low to non-detectable concentrations of these constituents in downgradient wells MW-3 and MW-4 indicate that the small onsite plume has degraded naturally, and has not significantly migrated from its original position.

Therefore, we submit that:

- The remaining hydrocarbons present at the site are contained in the vicinity of the site, and do not present a threat to human health or to the quality of the surrounding aquifer; and

- All economically and technically feasible measures have been taken to reduce the contaminant plume.

Chevron requests that the Alameda County Department of Environmental Health (ACDEH) approve a gradual reduction in well sampling frequency, and consider this site a candidate for establishment of a Non-Attainment Area.

INTRODUCTION

Achieving drinking water standards in the ground water may not be feasible at some contaminated sites. At sites meeting certain criteria, the Regional Water Quality Control Board (RWQCB) has concluded that containing the residual plume and setting a downgradient point or site boundary as the point of compliance with drinking water maximum contaminant levels (MCLs) is a more reasonable and appropriate approach.

This petition presents a request to implement reduced sampling and to establish a Non-Attainment Area (NAA) at Chevron Service Station 9-6607, located at 2340 Otis Drive, Alameda, California (see Appendix A for a site location map). This petition presents background on the site investigation and remediation, and outlines the proposed future action plan and demonstrates how the site meets each RWQCB criterion for establishing an alternative point of compliance. The site-specific information presented in this petition is compiled from the reports listed in the references section.

SITE HISTORY

Site Setting

Operating Chevron Service Station 9-6607 is located in a mixed commercial and residential district at the intersection of Otis Drive and Park Street. The site is located in the Alameda Bay Plain Basin, an area of subsidence bounded to the east by the Oakland hills. The geology of the region surrounding the site consists of miscellaneous bay mud or sand dredged from the bay. The composition varies from place to place and is difficult to distinguish from natural Bay Mud or Merritt sand. Prior to the early 1960's, this portion of Alameda was beneath the San Francisco Bay. The area was artificially filled using locally derived dredgings in the 1960's.

Site Investigations

1991 Tank Removal: On February 14, 1991, four fiberglass underground storage tanks, three gasoline and one waste oil, were removed from the site by R.W. Johnston & Son. A sheen was observed on the surface of the water in both the gasoline tank excavation pit and the waste oil tank excavation pit. The depths to water were approximately 6 to 6.5 ft below ground surface (bgs) on Febuary 14, and 6.5 to 7 ft bgs on Feburary 22 in both excavations. No holes were observed in any of the tanks upon visual inspection. Six soil samples (#1 through #6) were collected from the walls of the gasoline tank pit at a depth of 6 ft bgs by Blaine Tech and analyzed for TPH-G and benzene, toluene, ethylbenzene, and xylenes (BTEX). No petroleum hydrocarbons were detected in any of the samples at concentrations above 50 parts per million (ppm).

Two soil samples (#7 and #8) were collected from the walls of the waste oil tank pit at a depth of 6 ft bgs and analyzed for TPH-G, BTEX and TOG. TPH-G and benzene concentrations in both samples were low or nondetectable; TOG was detected only in sample #7, in the eastern wall of the excavation, at 3,200 ppm.

A water sample was also collected from each excavation (#9 and #10) and analyzed for TPH-G and BTEX. 3,000 parts per billion (ppb) TPH-G was detected in the water sample collected from the waste oil tank pit; 48,000 ppb TPH-G was detected in the water sample collected from the gasoline tank pit. Benzene was detected in these samples at 150 ppb and 8,600 ppb, respectively. A Tank Removal Diagram depicting sampling locations is presented in Appendix A. Tables summarizing this analytic data are presented in Appendix B.

1991 Tank Installation: Additional soil from the gasoline tank pit bottom was removed by Blaine Tech Services, Inc. to accommodate the installation of the new double-containment storage tanks. On February 15, 1991, six samples (#1 through #6) were collected from the saturated and unsaturated soil within the enlarged tank pit to determine the levels (if any) of soil contamination present. TPH-G and benzene concentrations were nondetectable in all of the soil samples, with the exception of one, which had low concentrations. A Tank Installation Diagram depicting sampling

locations is presented in Appendix A. Analytic data are summarized in tables presented in Appendix B.

1991 Waste Oil Tank Pit Over-excavation: On February 22, 1991, additional soil was excavated from the southeast wall of the waste oil tank excavation to remove TOG-impacted soil identified in sample #7 above. Following the widening of this excavation by approximately 2 to 3 feet, a soil sample (#l) was collected from the southeast wall at a depth of 6.25 ft bgs by Blaine Tech. The laboratory analysis of this sample showed concentrations of TOG at 260 ppm; TPH-G, BTEX, volatile organic compounds (VOCs), and semi-VOCs were not detected. Additional excavation was conducted on February 26, 1991. Another soil sample (#1) was collected at approximately 5.5 ft bgs in the southeast wall of the excavation and analyzed for TOG: TOG was not detected in this soil sample. TPH-G, benzene, HVOCs, VOCs and semi-VOCs were also not detected. Additional Excavation Diagrams (1991 Over-excavation, and 1991 Additional Over-excavation) depicting sampling locations are presented in Appendix A. Analytic data are summarized in tables (1991 Over-excavation, and 1991 Additional Over-excavation) presented in Appendix B.

1991 Product Line Excavation: The product lines were excavated on February 28, 1991. Fourteen soil samples (#2 through #15) were collected from beneath the dispenser islands and from various locations within the piping trenches. A maximum concentration of 36 ppm benzene was detected in samples from beneath the dispenser islands. TPH-G ranged from non-detect (ND) in four of the samples (#3, #4, #7 and #14) to 5,700 ppm in sample #13 collected from beneath the dispenser islands. A maximum TOG concentration of 640 ppm was detected in sample #6, from beneath the dispenser islands. A Product Line Diagram depicting sampling locations is presented in Appendix A. Analytic data are summarized in tables and presented in Appendix B.

1991 Over-Excavation: Additional excavation was performed on March 7, 1991 to remove areas of high hydrocarbon concentration identified during the previous sampling. After excavation, samples #l through #9 were collected from the soil underlying the product lines and dispenser pump islands; samples #10 and #11 were collected from the sidewalls of the waste oil tank pit. Maximum concentrations of 150 ppm TPH-G and 2.4 ppm benzene were detected in the samples. Sample #10, collected from a depth of 6 ft bgs from the southwestern sidewall of the waste oil tank

pit, adjacent to the station building, contained 16,000 ppm TOG. TOG was not detected in sample #11, collected at a depth of 6 ft bgs from the northwestern sidewall of the waste oil tank pit adjacent to the planter next to the station building. The presence of the station building made further excavation in the vicinity of sample #10 impossible. A Product Line Excavation Diagram depicting sampling locations is presented in Appendix A. Analytic data are summarized in tables presented in Appendix B.

1991 Monitoring Well Installation: In August 1991, Geraghty & Miller, Inc. drilled four soil borings (MW-1 through MW-4) and converted them into ground water monitoring wells. A total of 8 soil samples, collected from the drill cuttings, were analyzed for TPH-G and BTEX. One discretionary sample (MW-2-2) was analyzed for total organic lead. Two soil samples (MW-4-3 and MW-4-5), generated from monitoring well MW-4 located adjacent to the waste oil tank, were analyzed for total petroleum hydrocarbons as diesel (TPH-D), TOG and metals. All samples contained non-detectable concentrations (ND) of TPH-G, benzene, TPH-D, TOG and total organic lead. Negligible concentrations of chromium, zinc and total nickel were detected at concentrations ranging from 15 to 22 ppm.

Ground water samples collected from the newly installed wells were analyzed for TPH-G, BTEX, and total organic lead; MW-4 was also tested for TPH-D, TOG and VOCs. TPH-G was detected only in MW-2 (430 ppb). Benzene was detected in monitoring wells MW-2 and MW-4 at concentrations of 170 and 0.6 ppb, respectively. No detectable concentrations of TPH-D, TOG or VOCs were present in any of the samples. A site plan including well locations is presented in Appendix A. Analytical results are summarized in tables presented in Appendix B.

All four site wells have been sampled quarterly since 1991. TPH-G and benzene concentrations have consistently been very low or non-detectable in all of the site wells except MW-2. TPH-G and benzene concentrations in MW-2 have been declining steadily, and no benzene has been detected in this, or any of the other site wells at concentrations above MCLs in over a year except for one anomalous detection in MW-4, which may be an artifact associated with the presence of an unidentified non-gasoline compound.

Ground water samples collected from MW-1 and MW-2 on October 12, 1994 were analyzed for volatile organics by EPA Method 8240a. MTBE was detected at 121 ppb in MW-1 and at 2,900 ppb in MW-2. A non-gasoline compound tentatively identified by the analytical laboratory (Groundwater Technology Environmental Laboratory of Concord, California) as methyl-tertiary butyl ether (MTBE) was present in samples collected from MW-1 and MW-2 during the third quarter of 1993. The compound has not been detected again in MW-1, but has been present in MW-2 for the last three sampling events, and appeared to be present in MW-4 during the fourth quarter of 1993.

The distribution and detection time of this non-hydrocarbon compound indicate that the compound did not originate at the Chevron site for the following reasons:

- ***Distribution:*** The compound was initially detected in MW-1 and MW-2, which are widely separated, and are located cross- and generally up-gradient from the tanks and most of the product line piping.

- ***Detection Time:*** MTBE is a volatile and very mobile compound and generally migrates more rapidly than other gasoline constituents. Detection of MTBE released during a gasoline spill should be followed shortly by detection of TPH-G. Since TPH-G has not been detected in any site well at concentrations greater than 80 ppb since 1992, it appears that the MTBE is not associated with a gasoline spill, or is associated with an upgradient TPH-G plume, which has not yet reached the Chevron site.

NO-

There are no identified potential sources of MTBE or related compounds in this area. The additive is blended with gasoline at the refinery, and is not present at the retail station as an unmixed product.

Remedial Actions

As discussed in detail above, all of the accessible hydrocarbon-impacted soil has been removed from the site. The low levels of hydrocarbons initially detected in MW-2 have degraded naturally, without migrating into the downgradient wells, and no ground water remediation is necessary.

EVALUATION OF NON ATTAINMENT AREA CRITERIA AND FUTURE ACTION PLAN

The reduction of the onsite plume to nearly non-detectable concentrations, in combination with the site hydrogeologic and chemical conditions indicate that this site is an excellent candidate for closure. However, since very low concentrations of hydrocarbons are occasionally detected in ground water, and because MTBE of possible offsite origin is present in ground water samples, we suggest that establishment of a non-attainment area (NAA) may be a more appropriate action.

In the following section, each of the criterion specified by the RWQCB for NAA are considered for the subject site.

Discussion Of Non-Attainment Area Criteria

Criterion a. The Discharger has demonstrated (e.g., pump test, ground water monitoring, transport modeling) and will verify (e.g., ground water monitoring) that no significant pollution migration will occur due to hydrogeologic or chemical characteristics.

Site Hydrogeology: The site is underlain by fine to medium-grained sand to a depth of 24.5 feet (the total depth explored). This sand is probably natural fill material dredged from San Francisco Bay. Boring logs are included in Appendix C at the end of this report.

Ground Water Flow: Depth to water ranges from approximately four to seven ft below ground surface (bgs), depending upon the season and local rainfall. The direction of ground water flow is generally to the south or west with an average gradient of less than 0.002 foot per foot. However, during the October 12, 1994 sampling event the ground water flow direction was apparently to the northeast. The regional ground water flow direction is to the west-southwest towards the San Francisco Bay. Compiled water level data for MW-1, MW-2, MW-3 and MW-4 are presented in

the Water Level Data and Well Construction Details table included in Appendix B. Typical ground water elevation contour maps are presented in Appendix A.

Plume Location: TPH-G and benzene have been present in significant concentrations only in MW-2, and these concentrations have declined steadily over the last four years. Benzene has never been detected at concentrations greater than the 1 ppb MCL in wells MW-1 and MW-3. Benzene has been detected above the MCL once in downgradient well MW-4, on October, 1993; however this detection may be an artifact related to the presence of a non-hydrocarbon peak in this sample. The uncatagorized compound initially identified in wells MW-1 and MW-2 has been tentatively identified once in well MW-4. Whether this is a small plume which is passing under the site, or the leading edge of an as-yet unidentified offsite plume, is not known at this time.

Plume Stability: Historical ground water monitoring data indicate a significant decrease in both TPH-G and benzene concentrations in monitoring well MW-2. The continued low to non-detectable concentrations of these constituents in all other site wells indicate that the small onsite plume has degraded naturally, and has not migrated significantly from its original position.

A detailed description of the hydrogeology and ground water chemistry at the site can be found in the Site Assessment Report (Geraghty and Miller, 1991).

Criterion b. Adequate source removal and/or isolation is undertaken to limit future migration of pollutants to ground water.

Source Removal: No spill has ever been documented at the site and the source for the hydrocarbons detected in ground water has never been determined. The former single-walled fiberglass underground storage tanks were replaced in 1991 with double-containment storage tanks. Hydrocarbon impacted soil in the vicinity of the former gasoline tanks, waste oil tank, product lines and dispenser pump stations were excavated during tank removal. The data demonstrate that hydrocarbon concentrations in ground water decreased rapidly after the site was excavated, indicating that all source areas have been removed.

Criterion c. Dissolved phase cleanup is not cost-effective due to limited water quality impacts, environmental and human health risks and separate phases have been or are actively being removed.

The only appropriate remedial technology, excavation, has been successfully performed, and hydrocarbon levels in groundwater are now at or near MCLs in all of the site wells. No other remediation is required at this site.

Criterion d. An acceptable plan is submitted and implemented for containing and managing the remaining human health, water quality and environmental risks, if any, posed by residual soil and ground water pollution.

Very little risk to ground water remains at this site. Chevron proposes, therefore to implement a reduced monitoring program as outlined in the Future Action Plan presented below.

Future Action Plan

Currently, all four wells at the site are monitored quarterly for hydrocarbons. To date, quarterly sampling of these wells has been conducted for over three years. Samples collected from MW-1, MW-3, and MW-4 have consistently contained very low to non-detectable levels, indicating that the hydrocarbon plume identified in 1991 has not migrated from the center of the site. Continued monitoring of these wells will not yield additional information concerning this original plume, however, since additional monitoring may assist in determining the origin of the MTBE Chevron will continue monitoring these wells and MW-2 at a reduced frequency described below:

1) The four site wells will be monitored semi-annually for one year.

2) After one year, the site wells will be sampled annually for one additional year.

3) After two years, if the Contingency Plan has not been activated, monitoring will cease.

Contingency Plan: For each of these four sampling points, "baseline" and "trigger" conditions have been defined (Appendix D). Should monitoring indicate that "trigger" concentrations occur in any well for two consecutive monitoring periods, a Contingency Plan for increased ground water monitoring and evaluating an appropriate course of action will go into effect. This plan will ensure that "baseline" conditions are maintained in all wells. Details of the contingency plan are presented in Appendix D.

CONCLUSIONS

Data collected at the site demonstrate the following points:

- All four site wells have been sampled quarterly since 1991. TPH-G and benzene concentrations have consistently been very low or non-detectable in all of the site wells except MW-2.
- TPH-G and benzene concentrations in MW-2 have been declining steadily, and no benzene has been detected in this well at concentrations exceeding the MCL in over a year.
- As much of the hydrocarbon-impacted soil as was technically feasible has been removed from the site. The consistent decrease of hydrocarbon concentrations in ground water indicates that the source was successfully removed.
- MTBE has been present intermittently in samples collected from MW-1, MW-2 and MW-4 since July of 1993. Since the compound was first detected in upgradient wells MW-1 and MW-2, which are located more than 100 feet apart, it is unlikely that the compound originated at the Chevron site. These wells are located directly adjacent the dispensers/piping and USTs. PP

Based on the data summarized in this report, it is apparent that no additional remedial measures are necessary, and that the very small amount of hydrocarbons remaining at the site will continue to degrade naturally, and do not present a threat to the local ground water quality.

Chevron requests that ACDEH and the RWQCB accept that attainment of drinking water standards may not be possible at this site, and consider establishing a Non-Attainment Area encompassing the residual Chevron plume.

REFERENCES

Blaine Tech Services, April 11, 1991. Tank removal and replacement with new double containment underground storage tanks, Chevron Service Station No. 96607, 2340 Otis Drive, Alameda, California. Multiple Event Sampling Report 910409-J-1.

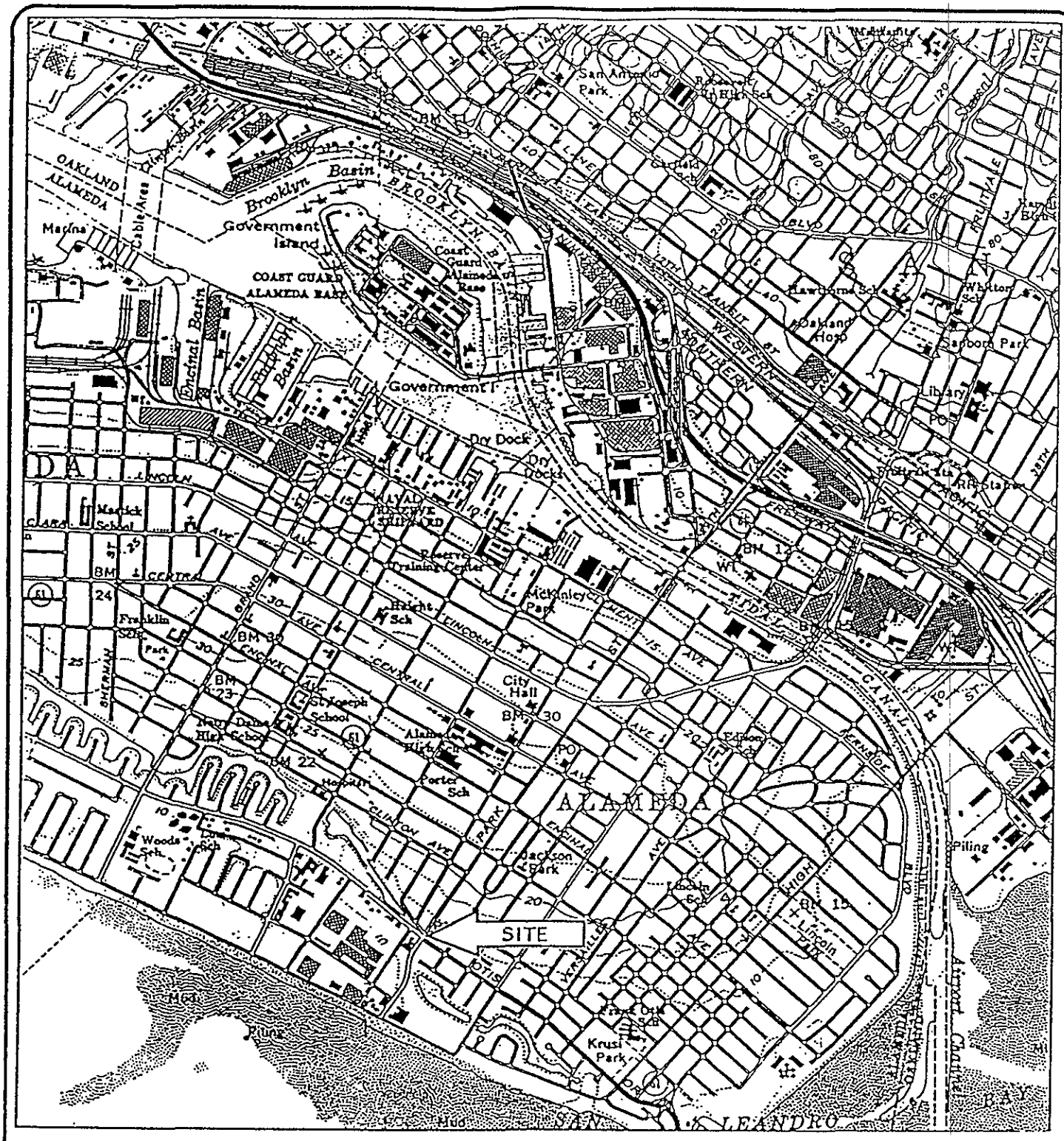
Geraghty & Miller, Inc., October 29, 1991. Site Assessment Report, Chevron U.S.A. Inc., Service Station #9-6607, 2340 Otis Drive, Alameda, California.

Sierra Environmental, Inc., February 18, 1994. Quarterly Ground Water Sampling Report, Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California. SES Project #1-292-04.

Sierra Environmental, Inc., November 10, 1994. Quarterly Ground Water Sampling Report, Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California. SES Project #1-292-04.

APPENDIX A

FIGURES



Reference: USGS Oakland East and West Quadrangles
Scale: 1: 24,000

GERAGHTY & MILLER, INC.
Environmental Services

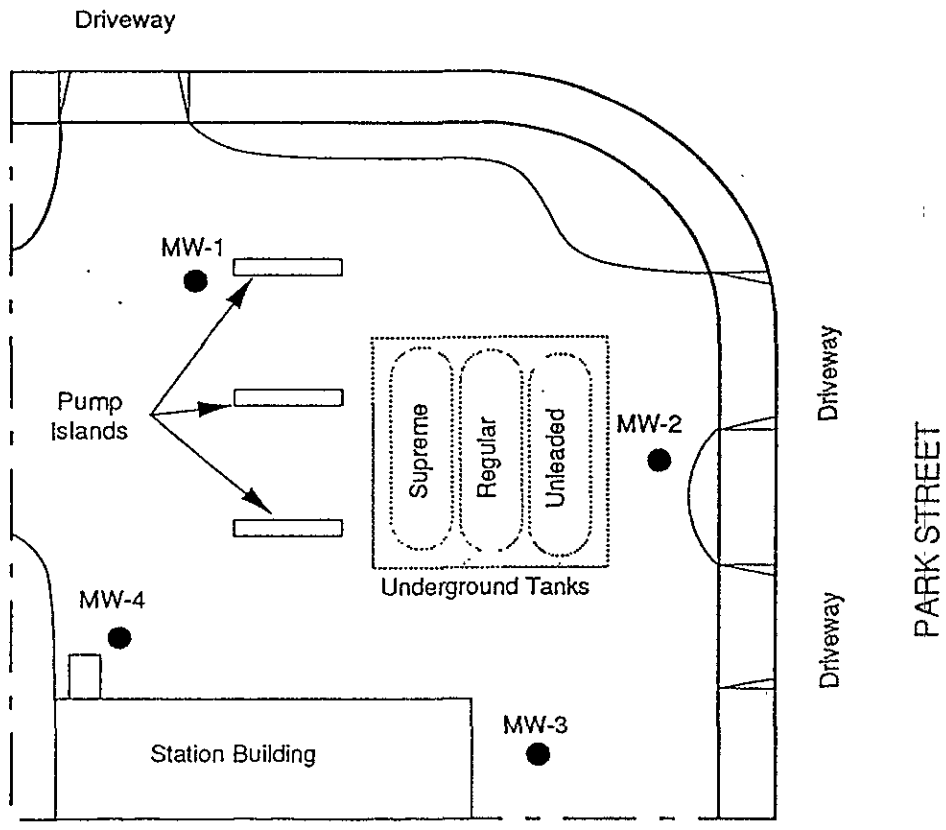
Project No. RC05002

SITE LOCATION MAP

Chevron Service Station #9-6607
2340 Otis Drive
Alameda, California

FIGURE

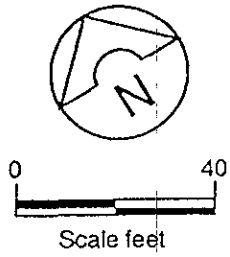
1



EXPLANATION

MW-4 ● Approximate location of Monitor Well

Property line



Reference: Blaine Tech Services, Inc. Report No. 910409-J-1

GERAGHTY & MILLER, INC.
Environmental Services

Project No. RC05002

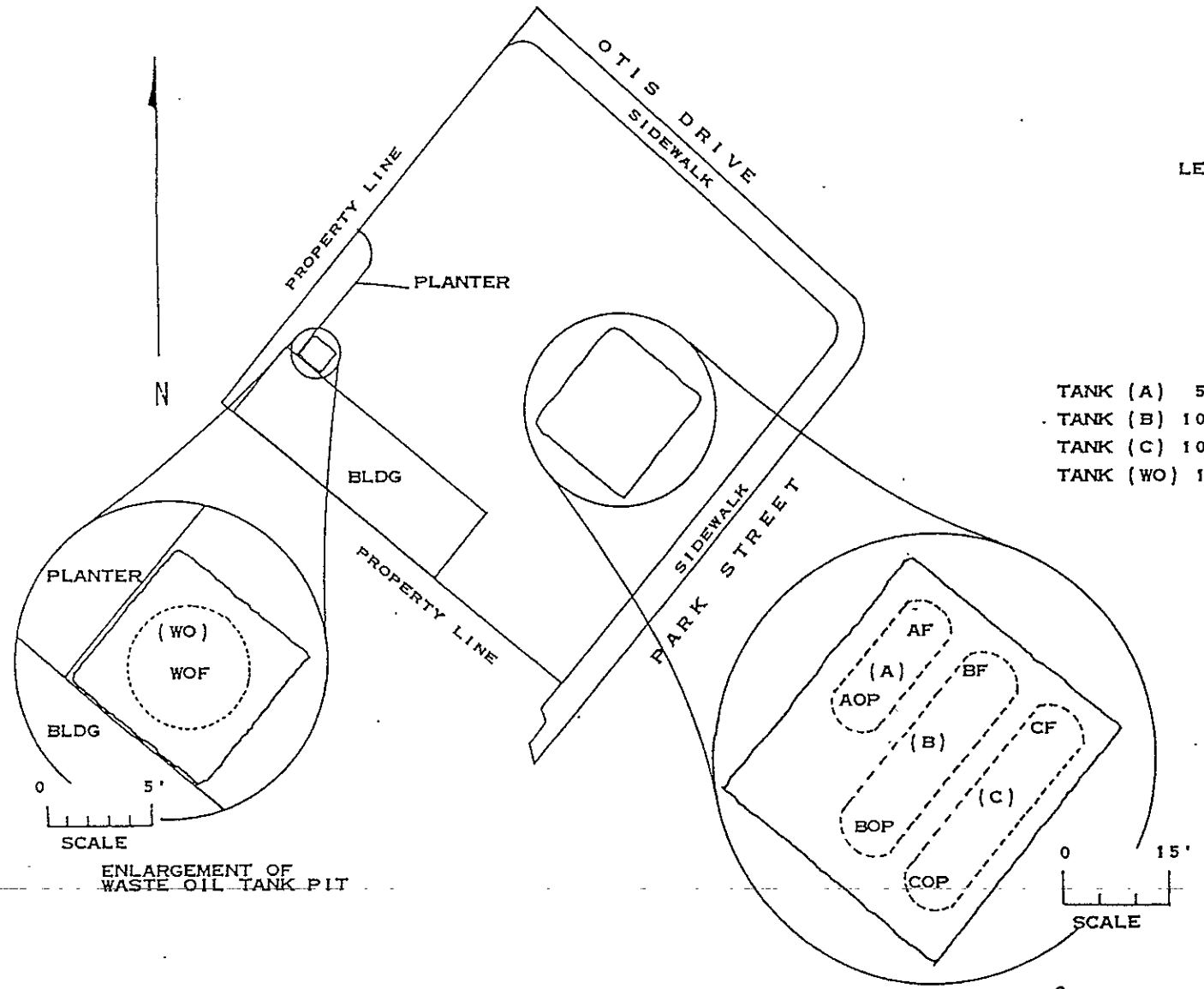
SITE PLAN

Chevron Service Station #9-6607
2340 Otis Drive
Alameda, California

FIGURE
2

MASTER SITE DIAGRAM

Chevron Station 96607



0 100'

SCALE:

MAP REF: THOMAS BROS.
ALAMEDA COUNTY
P.11 D-6

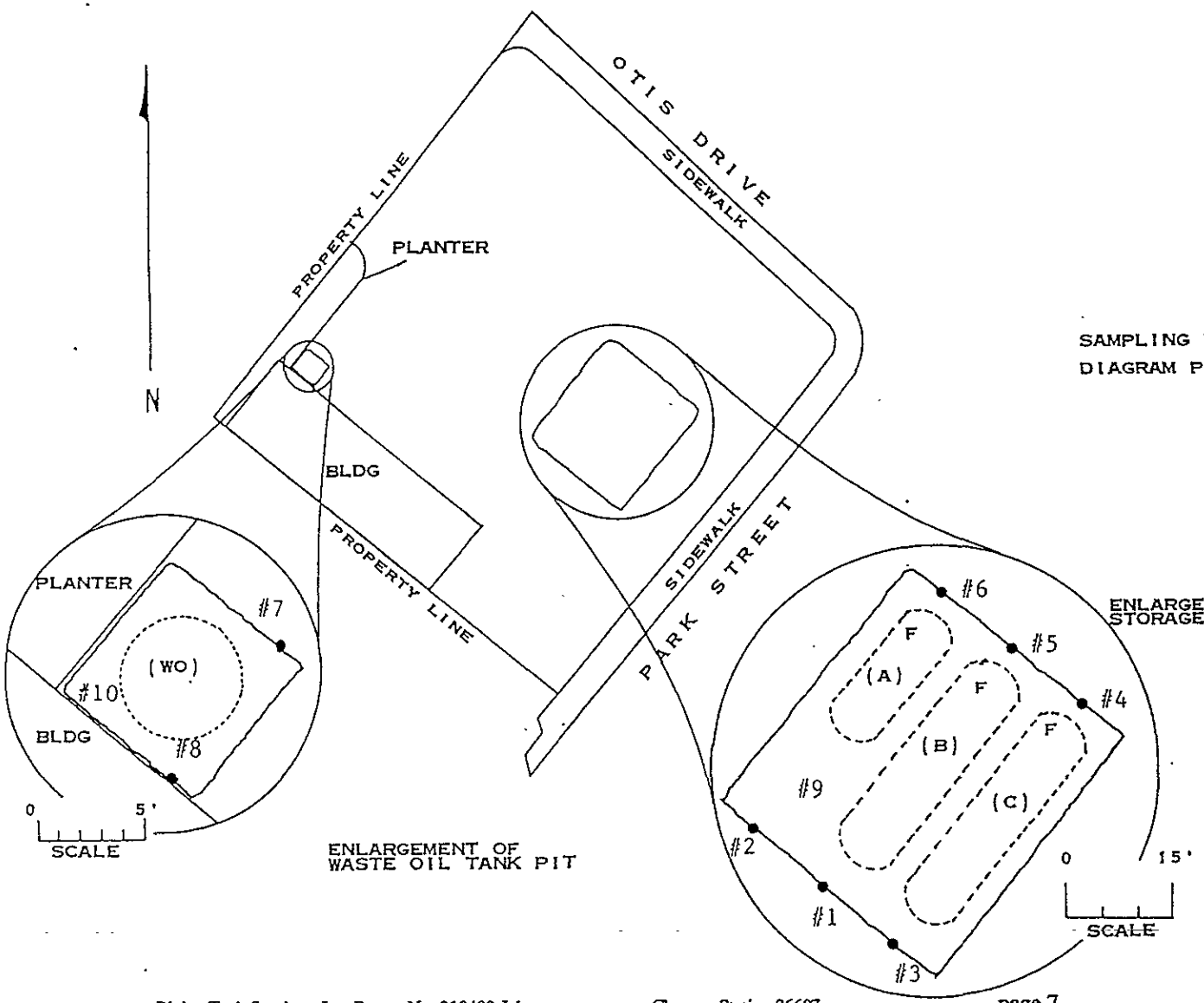
LEGEND: F = FILL END
OP = OPPOSITE THE FILL END

TANK (A) 5,000 GALLON GASOLINE TANK
TANK (B) 10,000 GALLON GASOLINE TANK
TANK (C) 10,000 GALLON GASOLINE TANK
TANK (WO) 1,000 GALLON WASTE OIL TANK

ENLARGEMENT OF GASOLINE
STORAGE TANK PIT

TANK REMOVAL DIAGRAM

February 14, 1991 / 910214-C-1



0 100'

SCALE:

MAP REF: THOMAS BROS.
ALAMEDA COUNTY
P.11 D-6

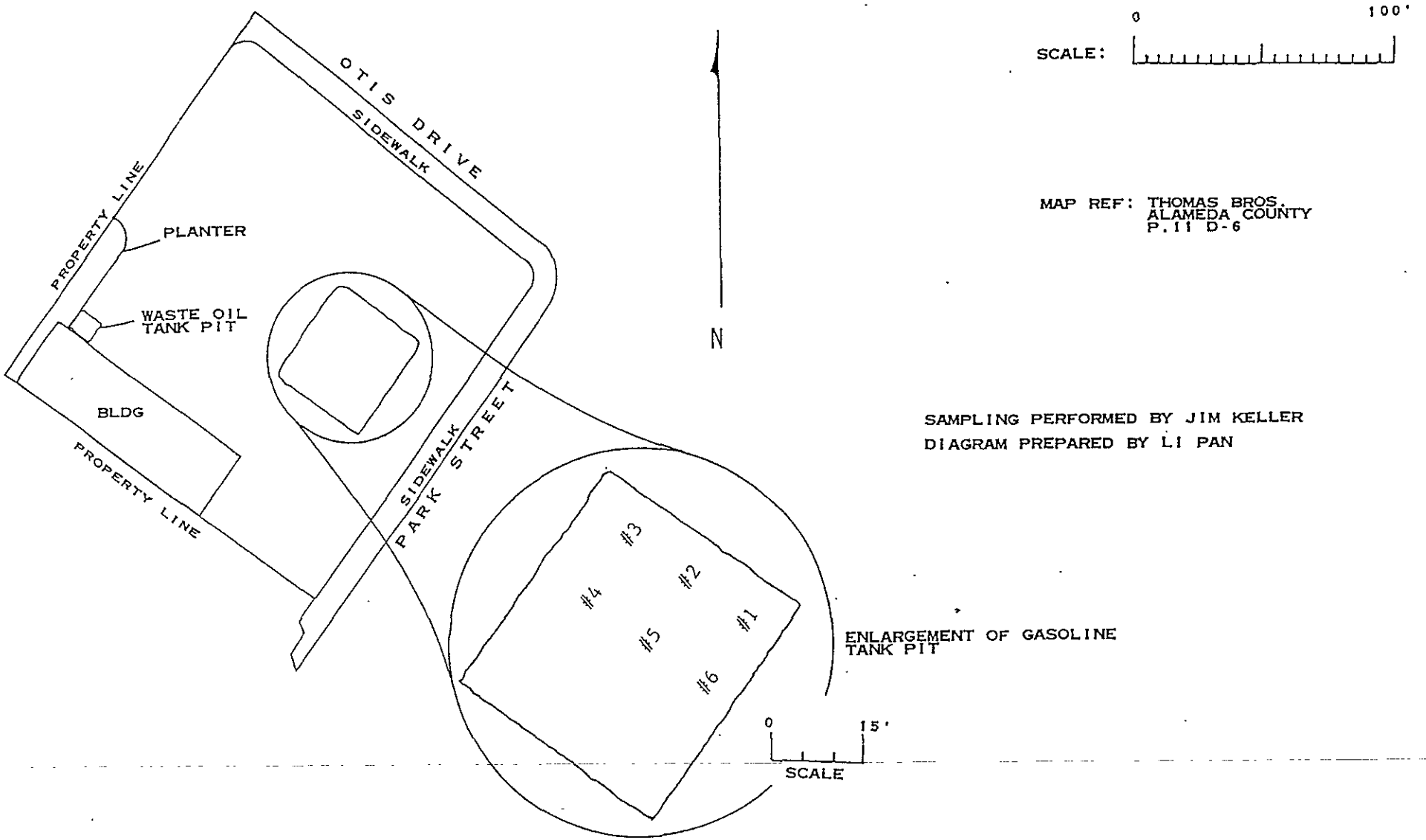
LEGEND: F = FILL END

SAMPLING PERFORMED BY GLEN BENNETT
DIAGRAM PREPARED BY LI PAN

ENLARGEMENT OF GASOLINE
STORAGE TANK PIT

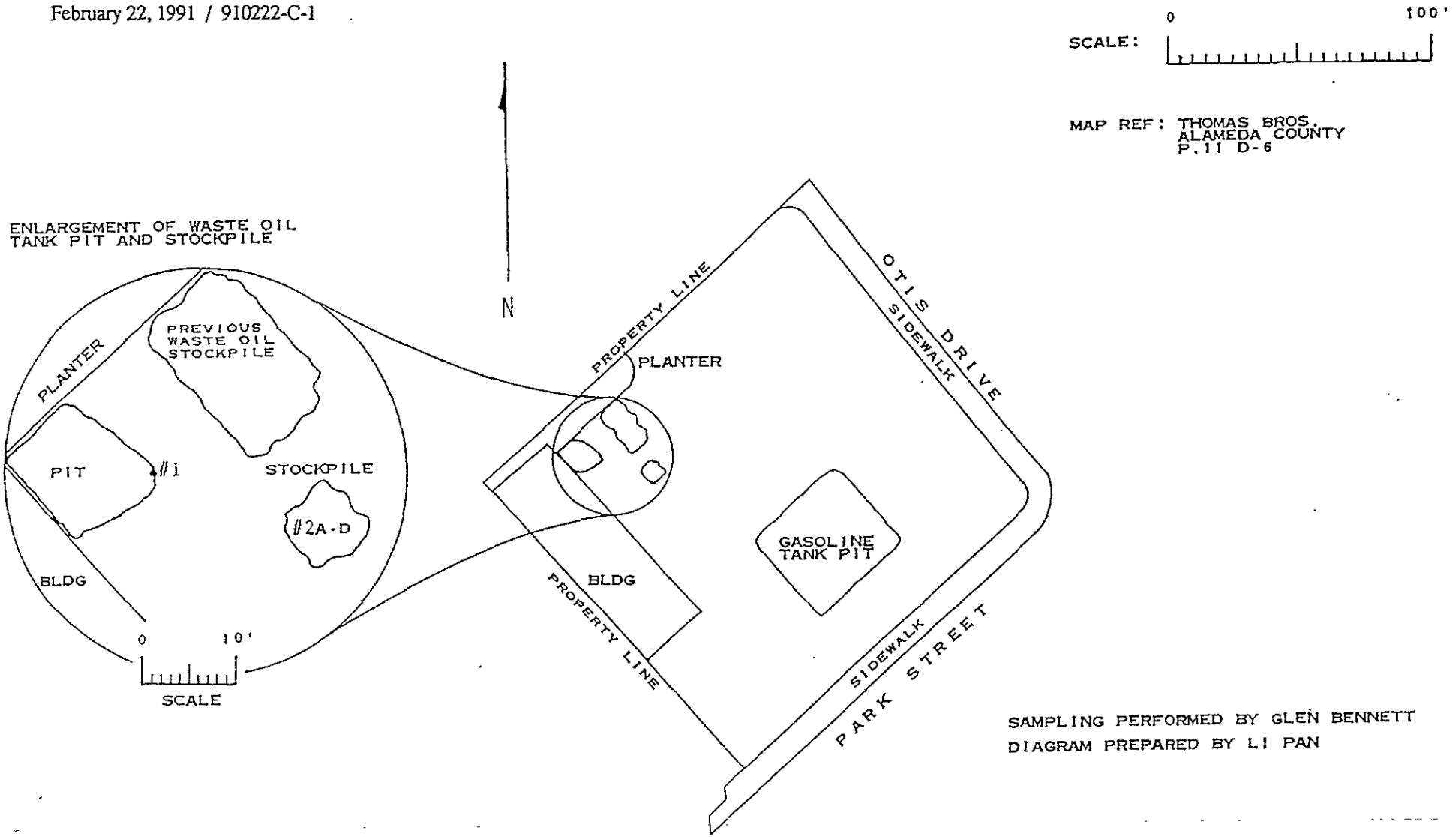
TANK INSTALLATION DIAGRAM

February 15, 1991 / 910215-J-1



ADDITIONAL EXCAVATION DIAGRAM

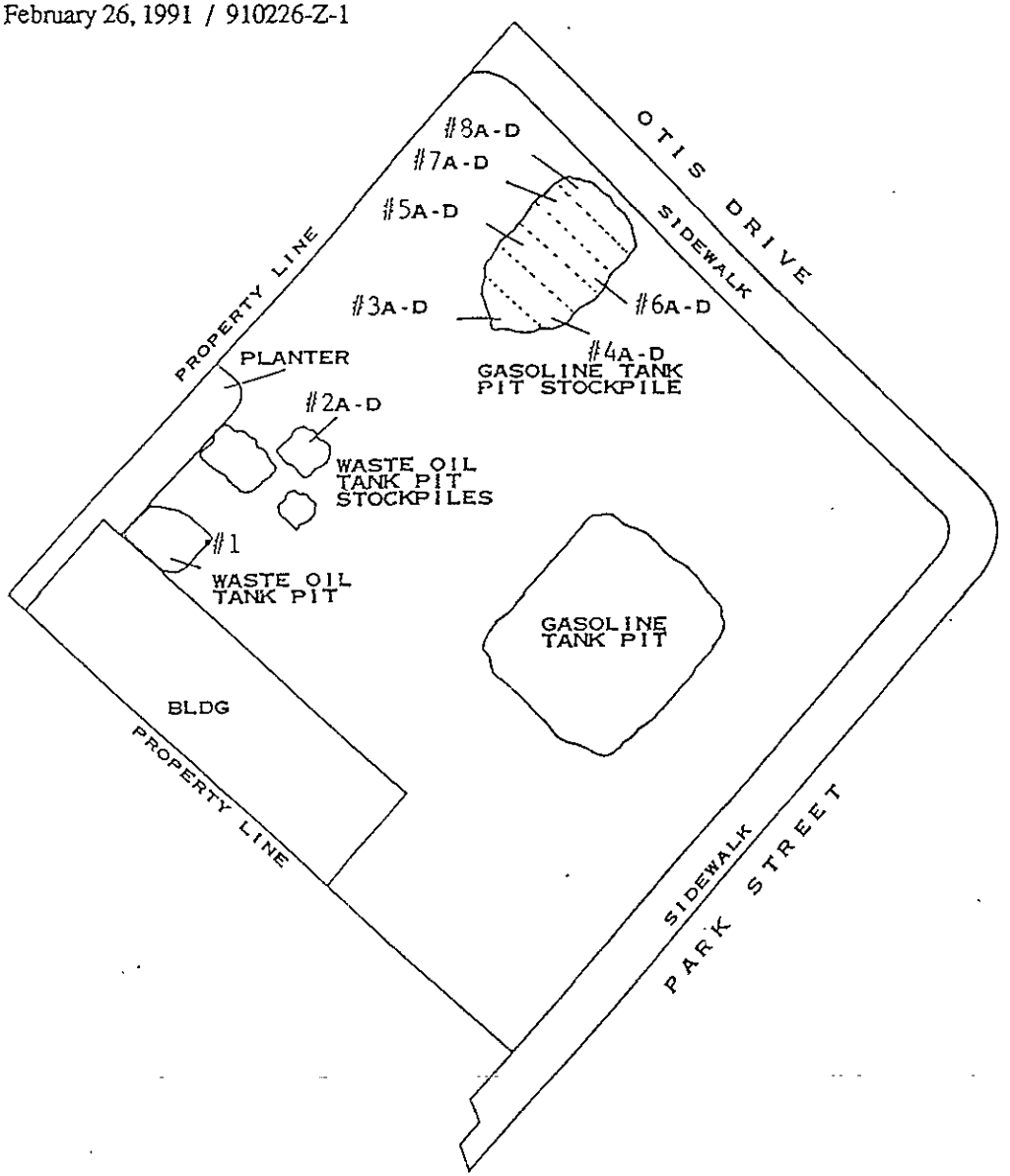
February 22, 1991 / 910222-C-1

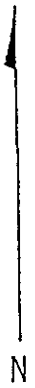


SAMPLING PERFORMED BY GLEN BENNETT
DIAGRAM PREPARED BY LI PAN

ADDITIONAL EXCAVATION DIAGRAM

February 26, 1991 / 910226-Z-1





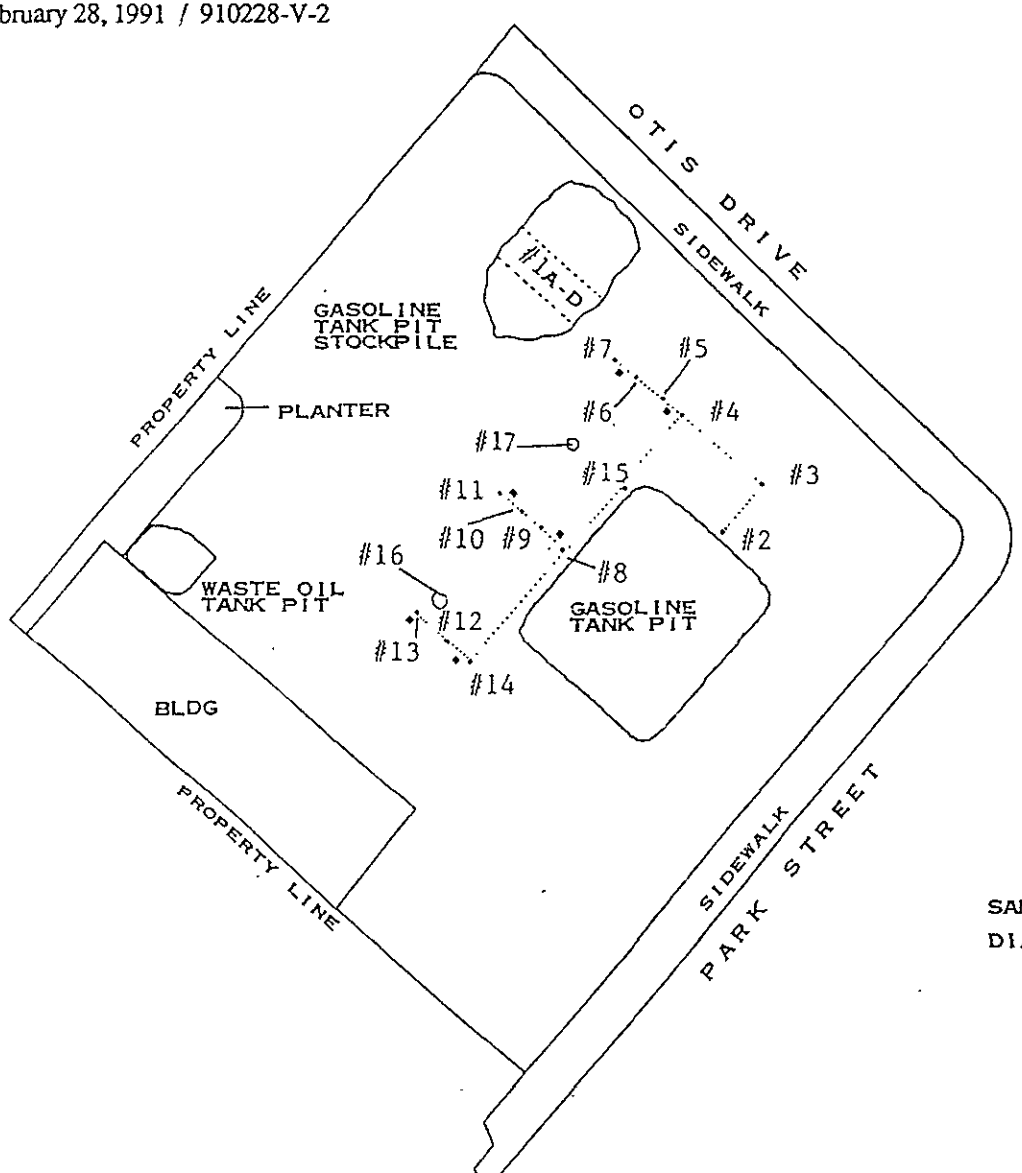
SCALE: 0 100'

MAP REF: THOMAS BROS. ALAMEDA COUNTY P.11 D-6

SAMPLING PERFORMED BY SCOTT ZAVACK
DIAGRAM PREPARED BY LI PAN

PRODUCT LINE DIAGRAM

February 28, 1991 / 910228-V-2



N

SCALE: 0 100'

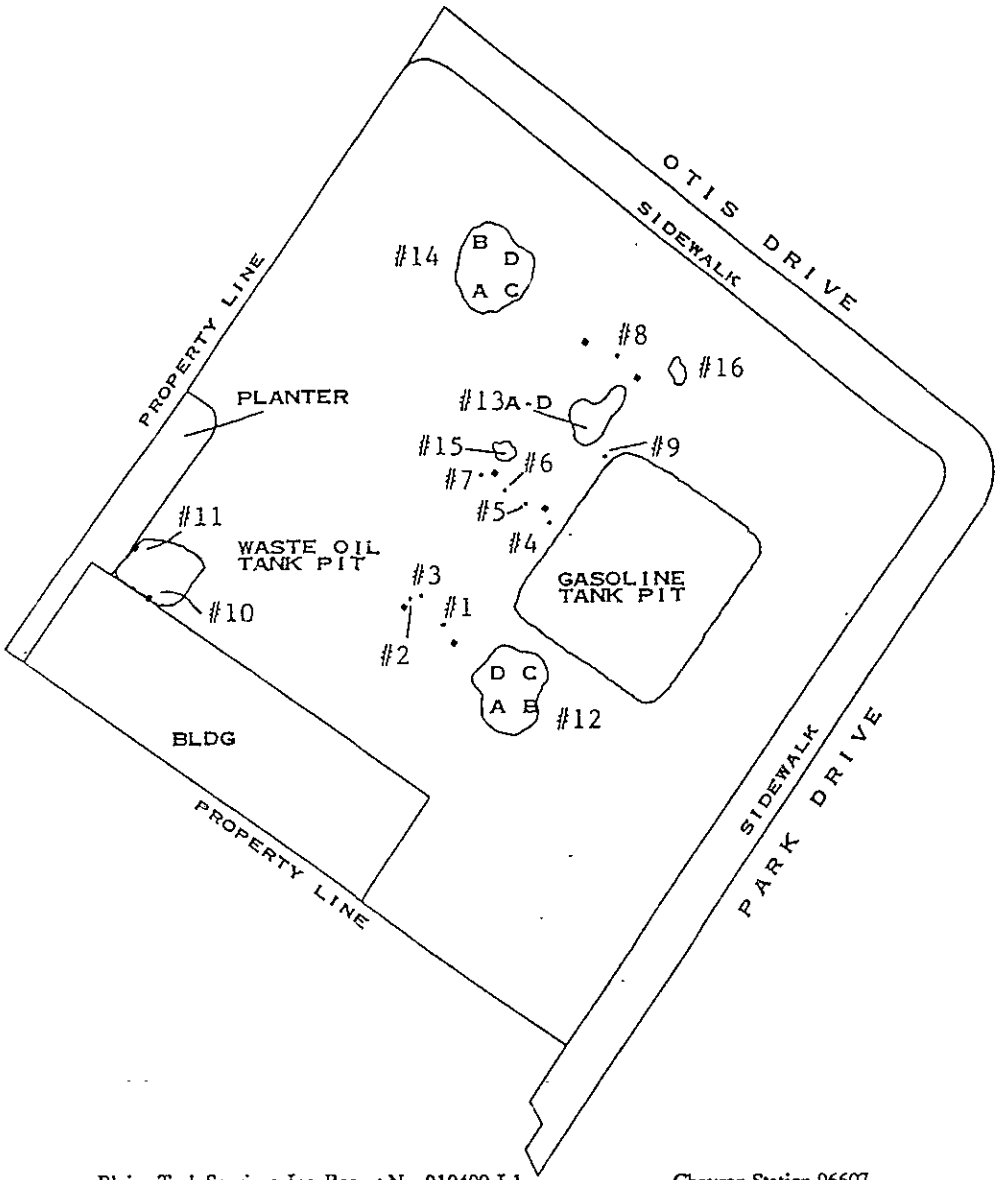
MAP REF: THOMAS BROS. ALAMEDA COUNTY P.11 D-6

LEGEND: • = CANOPY SUPPORT POST

SAMPLING PERPORMED BY FRED VAN DEN BROECK
DIAGRAM PREPARED BY LI PAN

PRODUCT LINE EXCAVATION DIAGRAM

March 7, 1991 / 910307-Z-1



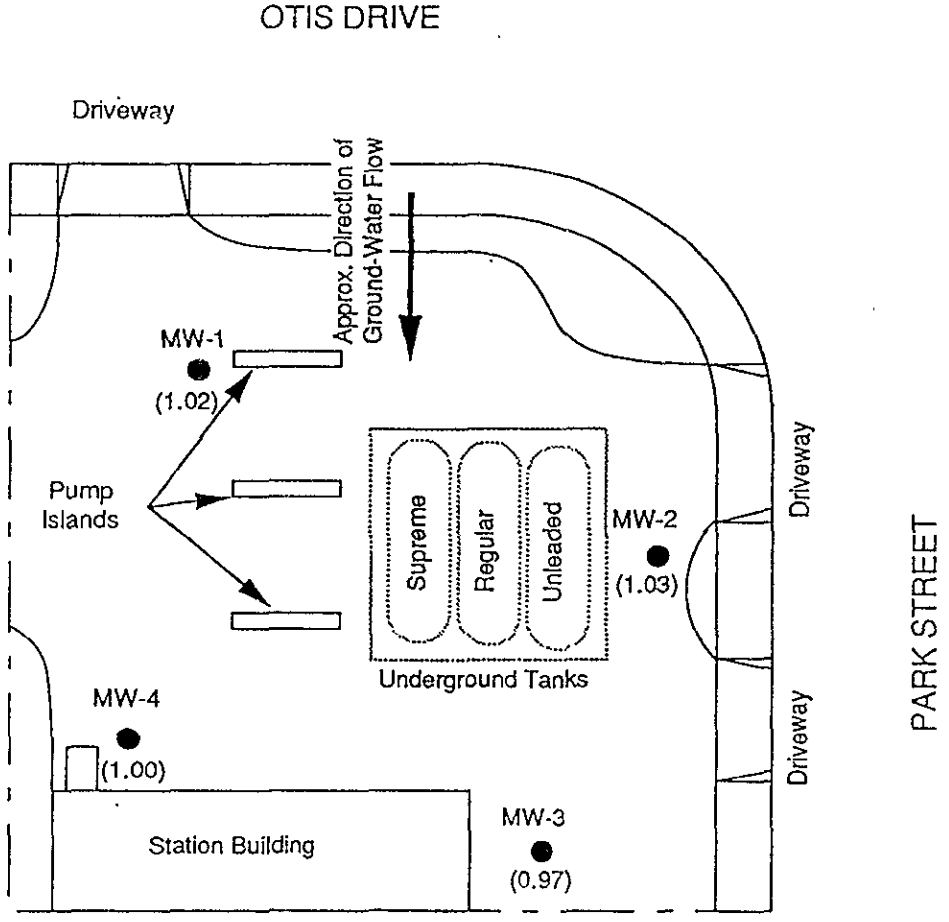
SCALE: 0 100'

MAP REF: THOMAS BROS.
ALAMEDA COUNTY
P.11 D-6

LEGEND: • = CANOPY SUPPORT POST

SAMPLING PERFORMED BY SCOTT ZAVACK

DIAGRAM PREPARED BY LI PAN



EXPLANATION

Monitor Well

Property line

(1.02) Ground-water elevation in feet

N

0 40

Scale feet

Reference: Blaine Tech Services, Inc. Report No. 910409-J-1

GERAGHTY & MILLER, INC.
Environmental Services

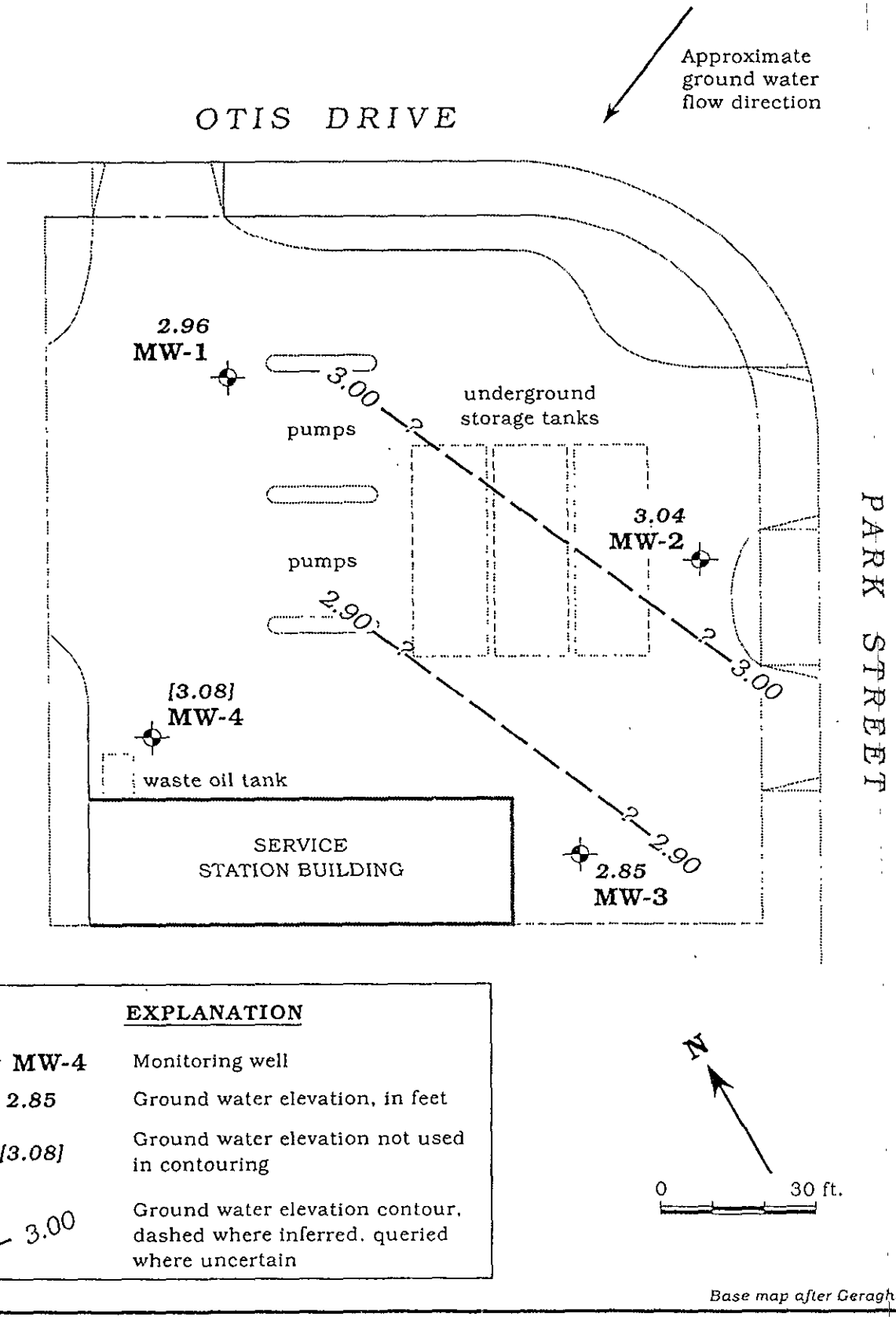
Project No. RC05002

GROUND-WATER ELEVATION MAP

Chevron Service Station #9-6607
2340 Otis Drive
Alameda, California

FIGURE
3

SIERRA



Base map after Geraghty & Miller, Inc.

Figure 1. Monitoring Well Location and Ground Water Elevation Contour Map – January 11, 1994 – Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California

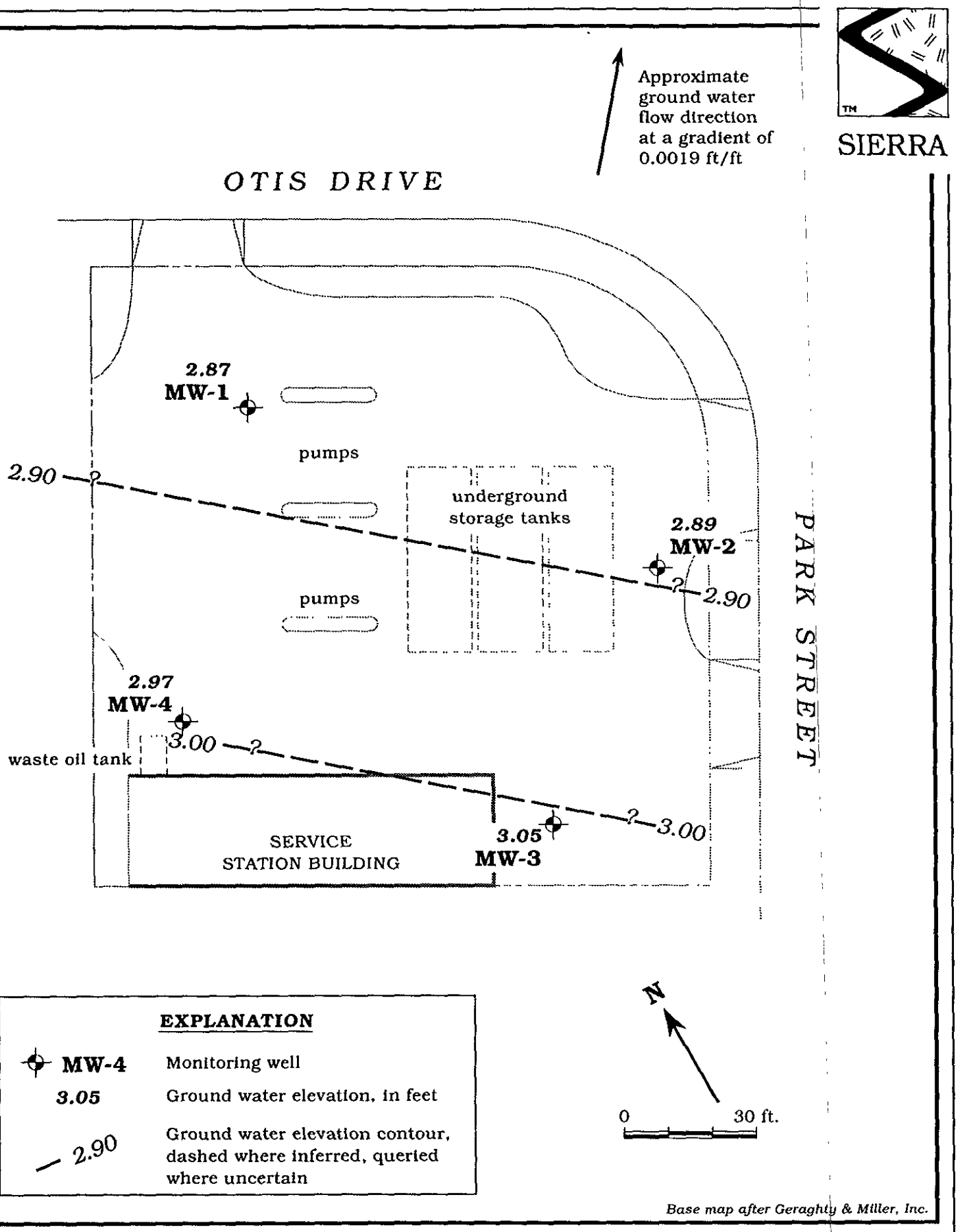


Figure 1. Monitoring Well Location and Ground Water Elevation Contour Map - October 12, 1994 - Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California

1-292-04 11/10/94

APPENDIX B

TABLES

SEQUOIA ANALYTICAL

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

MW1 TANK P.U.

Blaine Tech Services	Client Project ID:	#910214-C-1, Chevron U.S.A.	Sampled:	Feb 14, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 14, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Feb 19, 1991
Attention: Richard Blaine	First Sample #:	102-1664	Reported:	Feb 19, 1991

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)
102-1664	#2	N.D.	0.19	0.012	N.D.	0.013
102-1665	#4	42	0.29	0.40	1.2	2.3
102-1666	#7	N.D.	0.0073	0.040	0.013	0.061
102-1667	#8	N.D.	0.0072	0.012	N.D.	0.012
102-1668	#1	5.3	0.45	0.075	0.070	0.075
102-1669	#3	7.0	0.0090	0.010	0.021	0.060
102-1670	#5	9.0	0.94	0.18	0.80	0.52
102-1671	#6	N.D.	0.021	N.D.	N.D.	0.020
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	#910214-C-1, Chevron U.S.A.	Sampled:	Feb 14, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Water	Received:	Feb 14, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Feb 15, 1991
Attention: Richard Blaine	First Sample #:	102-1672 A - C	Reported:	Feb 19, 1991

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

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)
1021672 A-C	#9	48,000	8,600	5,000	1,000	11,000
1021673 A-C	#10	3,000	150	630	120	690
Detection Limits:		30	0.30	0.30	0.30	0.30

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

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	#910214-C-1, Chevron U.S.A.	Sampled:	Feb 14, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 14, 1991
San Jose, CA 95122	Analysis Method:	SM 5520 D&F (Gravimetric)	Extracted:	Feb 15, 1991
Attention: Richard Blaine	First Sample #:	102-1666	Analyzed:	Feb 15, 1991
			Reported:	Feb 19, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Number	Sample Description	Oil & Grease mg/kg (ppm)
102-1666	#7	3,200
102-1667	#8	N.D.

Detection Limits:	30

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

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(415) 364-9600 • FAX (415) 364-9233

1991 TANK INSTALLATION

Blaine Tech Services	Client Project ID:	#910215K1, Chevron U.S.A., Sta. #96607	Sampled:	Feb 15, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 19, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Feb 19, 1991
Attention: Richard Blaine	First Sample #:	102-2009	Reported:	Feb 20, 1991

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)
102-2009	#1	N.D.	N.D.	N.D.	N.D.	N.D.
102-2010	#2	2.6	0.080	0.013	0.020	0.074
102-2011	#3	N.D.	N.D.	N.D.	N.D.	N.D.
102-2012	#4	N.D.	N.D.	N.D.	N.D.	N.D.
102-2013	#5	N.D.	N.D.	N.D.	N.D.	N.D.
102-2014	#6	N.D.	0.22	N.D.	N.D.	N.D.
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

1022011.BLA <2>

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	BTS # 910222-C1 / Chevron	Sampled:	Feb 22, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 22, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Feb 22, 1991
Attention: Richard Blaine	First Sample #:	102-2569	Reported:	Feb 26, 1991

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)
102-2569	# 1	N.D.	N.D.	N.D.	N.D.	N.D.
102-2570	# 2 A-D	N.D.	N.D.	N.D.	N.D.	N.D.
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	BTS # 910222-C1 / Chevron	Sampled:	Feb 22, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 22, 1991
San Jose, CA 95122	Analysis Method:	SM 5520 E&F (Gravimetric)		
Attention: Richard Blaine	First Sample #:	102-2569	Analyzed:	Feb 22, 1991
			Reported:	Feb 26, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
102-2569	# 1	260
102-2570	# 2 A-D	420

Detection Limits:	30

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:	#910226-Z-1 Chevron	Sampled:	Feb 26, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 26, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Feb 26, 1991
Attention: Richard Blaine	First Sample #:	102-2901	Reported:	Feb 27, 1991

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)
102-2901	#1	N.D.	N.D.	N.D.	N.D.	N.D.
102-2902	#2A-D	N.D.	N.D.	N.D.	N.D.	N.D.
102-2903	#3A-D	73	0.18	0.62	0.59	3.7
102-2904	#4A-D	15	0.044	0.038	0.10	0.30
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

1022901.BLA <1>

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	#910226-Z-1 Chevron	Sampled:	Feb 26, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 26, 1991
San Jose, CA 95122	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Feb 26, 1991
Attention: Richard Blaine	First Sample #:	102-2901	Analyzed:	Feb 26, 1991
			Reported:	Feb 27, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
102-2901	#1	N.D.
102-2902	#2A-D	N.D.

Detection Limits:	30

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

1022901.BLA <6>

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	#910228-V-2, Chevron 96607	Sampled:	Feb 28, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 28, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Mar 1, 1991
Attention: Richard Blaine	First Sample #:	102-3408 A-D	Reported:	Mar 5, 1991

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)
1023408 A-D	#1 A-D, Composite	160	0.35	0.58	0.75	6.8
102-3409	#2	1.2	0.041	0.016	0.025	0.038
102-3410	#3	N.D.	N.D.	N.D.	N.D.	N.D.
102-3411	#4	N.D.	N.D.	0.0080	N.D.	N.D.
102-3412	#5	310	1.7	1.9	5.0	13
102-3413	#6	53	0.11	0.14	0.67	3.0
102-3414	#7	N.D.	N.D.	0.0060	N.D.	N.D.
102-3415	#8	690	0.90	8.3	6.6	62
102-3416	#9	4,700	13	27	65	320
102-3417	#10	2,100	23	190	870	430
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

MW1 PRODUCTION EXPANSION

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	#910228-V-2, Chevron 96607	Sampled:	Feb 28, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 28, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Mar 4, 1991
Attention: Richard Blaine	First Sample #:	102-3418	Reported:	Mar 5, 1991

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)
102-3418	#11	5,200	27	270	150	920
102-3419	#12	240	0.76	7.2	4.4	21
102-3420	#13	5,700	36	190	91	430
102-3421	#14	N.D.	N.D.	N.D.	N.D.	N.D.
102-3422	#15	660	2.7	20	12	73
102-3423	#16	38	0.27	0.13	1.1	0.098
102-3424	#17	N.D.	N.D.	N.D.	N.D.	0.0090
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

Please Note:
Amended report on 3/7/91.

1023408.BLA <2>

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	#910228-V-2, Chevron 96607	Sampled:	Feb 28, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 28, 1991
San Jose, CA 95122	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Mar 1, 1991
Attention: Richard Blaine	First Sample #:	102-3408 A-D	Analyzed:	Mar 1, 1991
			Reported:	Mar 5, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
1023408 A-D	#1 A-D, Composite	150
102-3409	#2	N.D.
102-3410	#3	N.D.
102-3411	#4	N.D.
102-3412	#5	180
102-3413	#6	640
102-3414	#7	N.D.
102-3415	#8	220
102-3416	#9	N.D.
102-3417	#10	160
Detection Limits:		30

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

1991 PRODUCT LINE EXCAVATION

Blaine Tech Services	Client Project ID:	#910228-V-2, Chevron 96607	Sampled:	
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Feb 28, 1991
San Jose, CA 95122	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Mar 1, 1991
Attention: Richard Blaine	First Sample #:	102-3418	Analyzed:	Mar 1, 1991
			Reported:	Mar 5, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
102-3418	#11	N.D.
102-3419	#12	N.D.
102-3420	#13	N.D.
102-3421	#14	N.D.
102-3422	#15	80
102-3423	#16	N.D.
102-3424	#17	140

Detection Limits:	30

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

1023408.BLA <4>

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

Blaine Tech Services	Client Project ID:	Chevron #910307-Z-1	Sampled:	Mar 7, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Mar 7, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Mar 7, 1991
Attention: Richard Blaine	First Sample #:	103-0888	Reported:	Mar 8, 1991

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)
103-0888	#1	23	0.16	1.1	0.48	2.5
103-0889	#2	N.D.	0.024	0.020	0.012	0.051
103-0890	#3	150	N.D.	2.2	1.9	17
103-0891	#4	9.0	0.068	N.D.	N.D.	0.83
103-0892	#5	150	1.3	2.5	2.1	7.7
103-0893	#6	9.4	2.4	0.75	0.55	0.70
103-0894	#7	5.7	1.7	0.18	0.22	1.1
103-0895	#8	N.D.	N.D.	N.D.	N.D.	N.D.
103-0896	#9	1.8	0.63	0.030	0.085	0.13
103-0898	#11	N.D.	N.D.	N.D.	N.D.	N.D.
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

1991 ADDITIONAL PETRO. UNL EXCAVATION

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	Chevron #910307-Z-1	Sampled:	Mar 7, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Mar 7, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Mar 7, 1991
Attention: Richard Blaine	First Sample #:	103-0899	Reported:	Mar 8, 1991

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)
103-0899	#15	310	6.3	34	7.0	41
103-0900	#16	35	0.024	0.035	0.014	0.40
103-0901 A-D	#12A-D, Comp.	N.D.	N.D.	N.D.	N.D.	N.D.
103-0902 A-D	#13A-D, Comp.	1,200	3.1	32	19	120
103-0903 A-D	#14A-D, Comp.	1,200	1.2	35	26	210
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

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

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	Chevron #910307-Z-1	Sampled:	Mar 7, 1991
1370 Tully Rd., Suite 505	Sample Descript.:	Soil, #10	Received:	Mar 7, 1991
San Jose, CA 95122	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Mar 7, 1991
Attention: Richard Blaine	Lab Number:	103-0897	Reported:	Mar 11, 1991

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

Analyte	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Low to Medium Boiling Point Hydrocarbons	1.0	150
Benzene	0.0050	0.20
Toluene	0.0050	1.9
Ethyl Benzene	0.0050	1.6
Xylenes	0.0050	5.7

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

SEQUOIA ANALYTICAL

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

Blaine Tech Services	Client Project ID:	Chevron #910307-Z-1	Sampled:	Mar 7, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Mar 7, 1991
San Jose, CA 95122	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Mar 8, 1991
Attention: Richard Blaine	First Sample #:	103-0897	Analyzed:	Mar 8, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
103-0897	#10	16,000

Detection Limits:	30

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:	Chevron #910307-Z-1	Sampled:	Mar 7, 1991
1370 Tully Rd., Suite 505	Matrix Descript:	Soil	Received:	Mar 7, 1991
San Jose, CA 95122	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Mar 8, 1991
Attention: Richard Blaine	First Sample #:	103-0898	Analyzed:	Mar 8, 1991
			Reported:	Mar 8, 1991

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
103-0898	#11	N.D.

Detection Limits:	30

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

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

Table 3: **Soil Sample Analytical Results for Petroleum Hydrocarbons, Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California,**

Sample ID #	TPH as Gasoline (mg/kg)(a)	Benzene (mg/kg)(b)	Toluene (mg/kg)(b)	Ethylbenzene (mg/kg)(b)	Xylenes (mg/kg)(b)	TPH as Diesel (mg/kg)(c)	Total Oil and Grease (mg/kg)(d)
MW-1-3	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	—	—
MW-1-5	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	—	—
MW-2-2	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	—	—
MW-2-5	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	—	—
MW-3-3	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	—	—
MW-3-5	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	—	—
MW-4-3	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<10)	ND(<50)
MW-4-5	ND(<1)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<10)	ND(<50)

Notes:
(a) Analyzed by USEPA Method 8015, modified.
(b) Analyzed by USEPA Method 8020.
(c) Analyzed by USEPA Method 8015, modified.
(d) Total Oil and Grease analyzed by Standard Methods 503E.
mg/kg: Milligrams per kilogram.
ND(<): Not detected within the method detection limit.
---: Not analyzed.

Soil samples analyzed by Superior Precision Analytical, Inc., San Francisco, California.

Table 4: Soil Sample Analytical Results for Metals, Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California;

Sample ID #	Total Organic Lead (mg/kg) (a)	Cadmium (mg/kg) (b)	Chromium (mg/kg) (b)	Lead (mg/kg) (b)	Zinc (mg/kg) (b)	Total Nickel (mg/kg) (c)
MW-1-3	---	---	---	---	---	---
MW-1-5	---	---	---	---	---	---
MW-2-2	ND(<2)	---	---	---	---	---
MW-2-5	---	---	---	---	---	---
MW-3-3	---	---	---	---	---	---
MW-3-5	---	---	---	---	---	---
MW-4-3	---	ND (<0.6)	15	ND (<10)	17	21
MW-4-5	---	ND (<0.6)	16	ND (<10)	17	22

Notes:

mg/kg Milligrams per kilogram.
ND(<) Below laboratory method detection limit.
--- Not analyzed.
(a) Samples analyzed by California Department of Health Services Method (Leaking Underground Fuel Tank Manual).
(b) Samples analyzed by USEPA Method SW-846.
(c) Samples analyzed by USEPA Method 7520.

Soil samples analyzed by Superior Precision Analytical, Inc., Martinez, California.

Table 5: **Ground-Water Analytical Results, Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California;**

Well	Date	TPH as gasoline (µg/L) (a)	Benzene (µg/L) (b)	Toluene (µg/L) (b)	Ethylbenzene (µg/L) (b)	Xylenes (µg/L) (b)	TPH as diesel (µg/L) (c)	Organic Lead (µg/L) (d)	Oil & Grease (µg/L) (e)
MW-1	21-Aug-91	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	ND(<4000)	NA
MW-2	21-Aug-91	430	170	0.9	1.0	3.6	NA	ND(<4000)	NA
MW-3	21-Aug-91	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	ND(<4000)	NA
MW-4 *	21-Aug-91	ND(<50)	0.6	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<50)	ND(<4000)	ND(<5000)

Notes:
(a) Analyzed by USEPA Method 8015, modified.
(b) Analyzed by USEPA 8020.
(c) Analyzed by USEPA Method 8015, modified.
(d) Analyzed by California Department of Health Services Method (Leaking Underground Fuel Tank Manual).
(e) Analyzed by USEPA Method 5520F (sampled 11 Nov 91).
µg/L: Micrograms per liter.

ND: Below laboratory method detection limit:
NA: Not analyzed.
* Sample was analyzed for Volatile Organic Compounds by USEPA Method 8240 and was non detect for any constituents.

Water samples analyzed by Superior Precision Analytical, Martinez, California.

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Table 1. Water Level Data and Ground Water Analytic Results - Chevron Service Station #96607, 2340 Otis Drive, Alameda, California

Well ID/ TOC (ft)	Date	DTW (ft)	GWE (msl)	Product Thickness* (ft)	Analytic Method	TPPH(G)	TPH(D)	O&G	B	T	E	X	MTBE	Other VOCs
						<----------ppb---------->								
MW-1/ 7.12	8/21/91	6.10	1.02	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	1/9/92	3.96	3.16	0	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5	---	---
	4/20/92	3.90	3.22	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	7/25/92	4.18	2.94	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	11/24/92	4.72	2.40	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	1/21/93	3.18	3.94	0	8015/8020	<50	---	---	<0.5	0.7	<0.5	1.0	---	---
	4/13/93	3.70	3.42	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	1.0	---	---
	7/14/93	4.21	2.91	0	8015/8020	<50[2]	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/26/93	4.28	2.84	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	1/11/94	4.16	2.96	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	3/31/94	3.88	3.24	0	8015/8020	<50	---	---	<0.5	0.6	<0.5	0.7	---	---
	7/14/94	3.00	4.12	0	8015/8020	<50[2]	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/12/94	**4.25**	**2.87**	**0**	**8015/8020/8240**	**80**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**121**	**ND[3]**
MW-2/ 7.43	8/21/91	6.40	1.03	0	8015/8020	430	---	---	170.0	0.9	1.0	3.6	---	---
	1/9/92	4.23	3.20	0	8015/8020/503E	58[1]	---	<5,000	16.0	<0.5	<0.5	<0.5	---	---
	4/20/92	4.17	3.26	0	8015/8020	180	---	---	9.6	<0.5	0.8	<0.5	---	---
	7/25/92	4.47	2.96	0	8015/8020	220	---	---	8.0	0.7	4.0	8.6	---	---
	11/24/92	5.82	1.61	0	8015/8020	72	---	---	3.2	<0.5	0.5	0.6	---	---
	1/21/93	3.35	4.08	0	8015/8020	<50	---	---	0.8	<0.5	<0.5	<0.5	---	---
	4/13/93	4.02	3.41	0	8015/8020	78	---	---	<0.5	<0.5	<0.5	0.6	---	---
	7/14/93	4.49	2.94	0	8015/8020	<50[2]	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/26/93	4.56	2.87	0	8015/8020	<50[2]	---	---	<0.5	0.9	<0.5	0.6	---	---
	1/11/94	4.39	3.04	0	8015/8020	<50[2]	---	---	<0.5	1	<0.5	<0.5	---	---
	3/31/94	4.18	3.25	0	8015/8020	<50	---	---	0.5	<0.5	<0.5	0.8	---	---
	7/14/94	4.90	2.53	0	8015/8020	<50[2]	---	---	<0.5	<0.5	<0.5	0.6	---	---
	10/12/94	**4.54**	**2.89**	**0**	**8015/8020/8240**	**<50[2]**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**2,900**	**ND[4]**
MW-3/ 8.07	8/21/91	7.10	0.97	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	1/9/92	5.03	3.04	0	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5	---	---
	4/20/92	4.91	3.16	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	7/25/92	5.34	2.73	0	8015/8020	<50	---	---	1.0	1.0	1.0	3.4	---	---
	11/24/92	5.00	3.07	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	1/21/93	4.34	3.73	0	8025/8020	<50	---	---	<0.5	0.5	<0.5	1.0	---	---
	4/13/93	4.84	3.23	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	0.6	---	---
	7/14/93	5.29	2.78	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	2	---	---
	10/26/93	5.36	2.71	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---

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Table 1. Water Level Data and Ground Water Analytic Results - Chevron Service Station #96607, 2340 Otis Drive, Alameda, California (continued)

Well ID/ TOC (ft)	Date	DTW (ft)	GWE (msl)	Product Thickness* (ft)	Analytic Method	TPPH(G)	TPH(D)	O&G	B	T	E	X	MTBE	Other VOCs
						<--------			ppb					-------->
MW-3	1/11/94	5.22	2.85	0	8015/8020	<50	---	---	<0.5	1	<0.5	<0.5	---	---
(cont)	3/31/94	4.99	3.08	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	7/14/94	5.36	2.71	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/12/94	**5.02**	**3.05**	**0**	**8015/8020**	**<50**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**---**
MW-4/														
7.85	8/21/91	6.85	1.00	0	8015/8020/503E	<50	---	<5,000	0.6	<0.5	<0.5	<0.5	---	---
	1/9/92	4.70	3.15	0	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5	---	---
	4/20/92	4.64	3.21	0	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	<0.5	---	---
	7/25/92	4.95	2.90	0	8015/8020	<50	78	---	0.5	1.1	<0.5	0.8	---	---
	11/24/92	5.42	2.43	0	8015/8020/503E	<50	---	<5,000	<0.5	<0.5	<0.5	1.0	---	---
	1/21/93	4.07	3.78	0	8015/8020	<50	<10	---	<0.5	0.5	<0.5	0.7	---	---
	4/13/93	4.45	3.40	0	8015/8020	<50	<10	---	<0.5	<0.5	<0.5	1.0	---	---
	7/14/93	4.90	2.95	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/26/93	4.95	2.90	0	8015/8020	<50[2]	---	---	2	3	2	3	---	---
	1/11/94	4.77	3.08	0	8015/8020	<50	---	---	<0.5	0.5	<0.5	<0.5	---	---
	3/31/94	4.65	3.20	0	8015/8020	<50	---	---	<0.5	<0.5	<0.5	1.0	---	---
	7/14/94	5.05	2.80	0	8015/8020	<50	---	---	0.9	1.2	<0.5	2.0	---	---
	10/12/94	**4.88**	**2.97**	**0**	**8015/8020**	**<50**	**---**	**---**	**<0.5**	**0.9**	**<0.5**	**0.7**	**---**	**---**
Trip/Lab Blank														
TB-LB	1/21/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	4/13/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	7/14/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/26/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	1/11/94	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	3/31/94	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	7/14/94	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/12/94	**---**	**---**	**---**	**8015/8020**	**<50**	**---**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**	**---**
Bailer Blank														
BB	1/21/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	4/13/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	7/14/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	10/26/93	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	1/11/94	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---
	3/31/94	---	---	---	8015/8020	<50	---	---	<0.5	<0.5	<0.5	<0.5	---	---

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Table 1. Water Level Data and Ground Water Analytic Results - Chevron Service Station #96607, 2340 Otis Drive, Alameda, California (continued)

EXPLANATION:

DTW = Depth to water
GWE = Ground water elevation
msl = Measurements referenced relative to mean sea level
TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline
TPH(D) = Total Petroleum Hydrocarbons as Diesel
O&G = Oil and Grease
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methytertiary butylether
VOCs = Volatile Organic Compounds
ppb = Parts per billion
--- = Not analyzed/Not applicable

ANALYTIC METHODS:

8015 = EPA Method 8015/5030 for TPPH(G)
8015 = Modified EPA Method 8015/3510 for TPH(D)
8020 = EPA Method 8020 for BTEX
503E = Standard Methods Method 503E for O&G
8240 = EPA Method 8240 for VOCs

NOTES:

Top of casing elevations were compiled from the Quarterly Ground Water Monitoring Report prepared for Chevron by Geraghty & Miller, Inc., December 29, 1992.

Analytic data prior to January 2, 1993 compiled from the Quarterly Ground Water Monitoring Report prepared for Chevron by Geraghty & Miller, Inc., December 29, 1992.

* Product thickness was measured with an MMC flexi-dip interface probe on and after January 21, 1993.

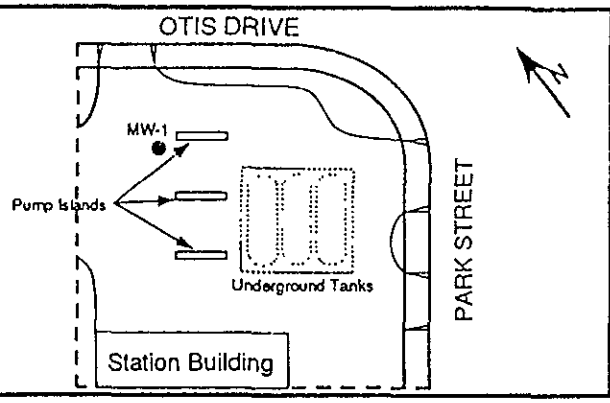
[1] Chromatogram reported as having a single peak in the gasoline range.

[2] Uncategorized compound is not included in gasoline hydrocarbon total.

[3] VOCs not detected at detection limits ranging from 5 to 50 ppb.
[4] VOCs not detected at detection limits ranging from 50 to 500 ppb.

APPENDIX C

BORING LOGS



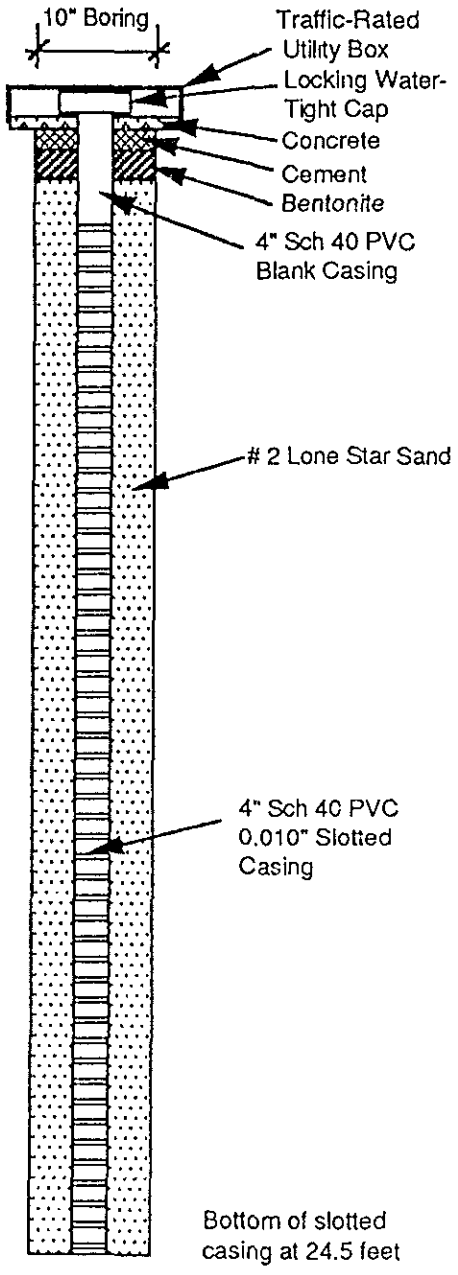
LOG OF BORING MW-1

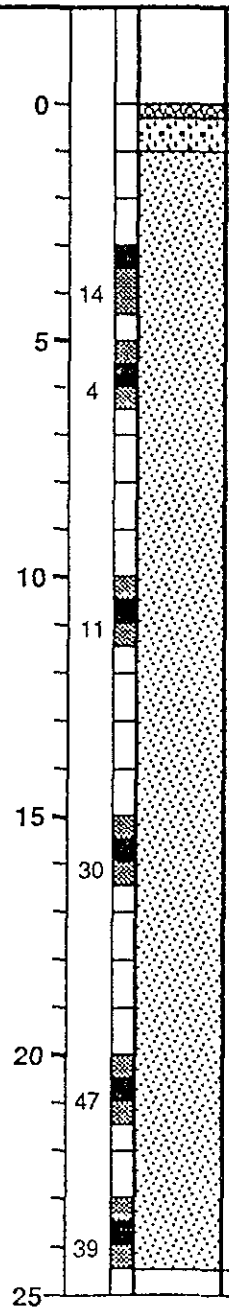
Chevron Service Station #9-6607
2340 Otis Drive
Alameda, California

Project No.: RC05002
Logged By: Andy Bunten
Drilling Co.: West Hazmat
Driller: Doug Howard

Date Drilled: August 6, 1991
Drilling Method: 10" Hollow Stem Auger
Sampling Method: 2" Split Spoon
Inclination: Vertical

WELL CONSTRUCTION





DESCRIPTION

Surface Elevation: 7.23 feet
Casing Elevation: 7.12 feet

Asphaltic Concrete
Fill Material

SAND (SP), 2.5Y 5/6 light olive brown, well graded, 90-95% fine/medium-grained sand, 5-10% silt, moist

@ 3 feet: moist/wet, medium dense

▽ 5 feet: water level visually observed

@ 5 feet: 5Y4/1 dark grey, wet, loose

▼ 6.10 feet, August 21, 1991

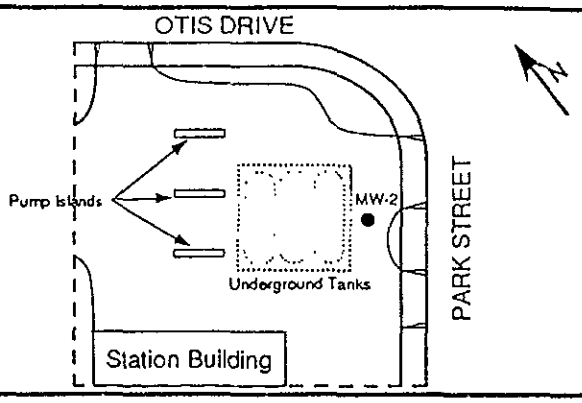
@ 10 feet: 10-15% silt, wet, medium dense

@ 15 feet: wet, medium dense

@ 20 feet: wet, dense

@ 23 feet: wet, dense

Bottom of Boring: 24.5 Feet, 10:10 AM, 8/6/91



LOG OF BORING MW-2
Chevron Service Station #9-6607
2340 Otis Drive
Alameda, California

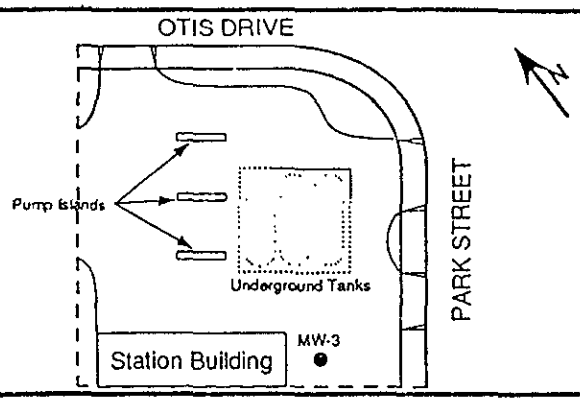
Project No.: RC05002
Logged By: Andy Bunten
Drilling Co.: West Hazmat
Driller: Doug Howard

Date Drilled: August 6, 1991
Drilling Method: 10" Hollow Stem Auger
Sampling Method: 2" Split Spoon
Inclination: Vertical

WELL CONSTRUCTION

10" Boring
Traffic-Rated Utility Box
Locking Water-Tight Cap
Concrete
Cement
Bentonite
4" Sch 40 PVC Blank Casing
2 Lone Star Sand
4" Sch 40 PVC 0.010" Slotted Casing
Bottom of slotted casing at 24.5 feet

Depth (ft.)	Blows/ft.	Samples	Graphic	DESCRIPTION
				Surface Elevation: 7.78 feet
				Casing Elevation: 7.43 feet
0				Asphaltic Concrete
				Fill Material
				SAND (SP), 2.5Y 5/6 light olive brown, well graded, 90-95% fine/medium-grained sand, 5-10% silt, moist
				@ 3 feet: moist/wet, medium dense
				@ 3.5 feet: large cobble encountered, 6 inches in diameter
5	Pushed			*@ 5 feet: 5Y4/1 dark grey, very moist/wet, medium dense*
	12			6 feet
				6.40 feet, August 21, 1991
10				@ 10 feet: wet, medium dense
	14			
15				@ 15 feet: wet, dense
	31			
20				@ 20 feet: wet, dense
	42			
				@ 23 feet: wet, dense
	41			
25				Bottom of Boring: 24.5 Feet, 12:35 PM, 8/6/91

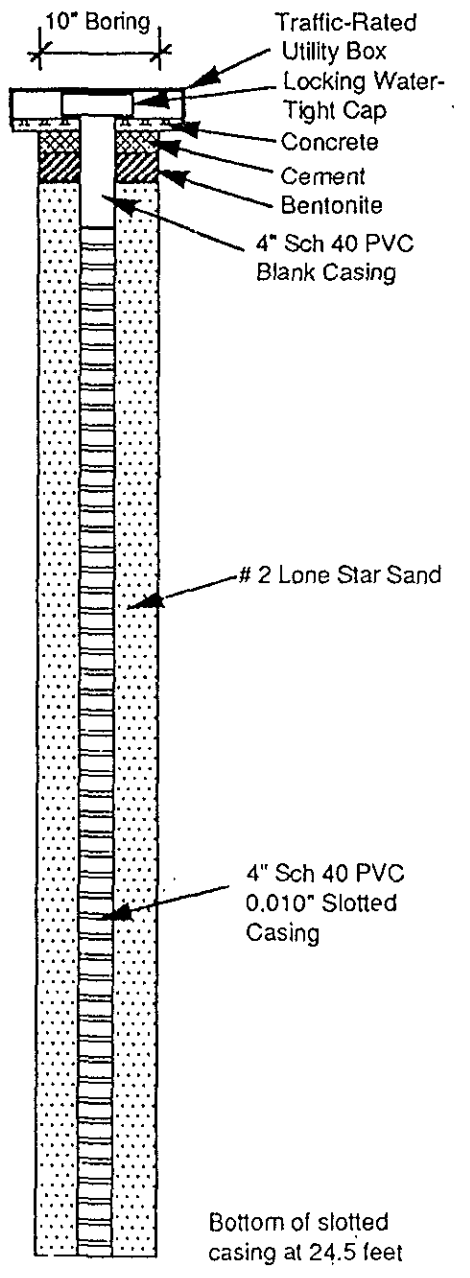


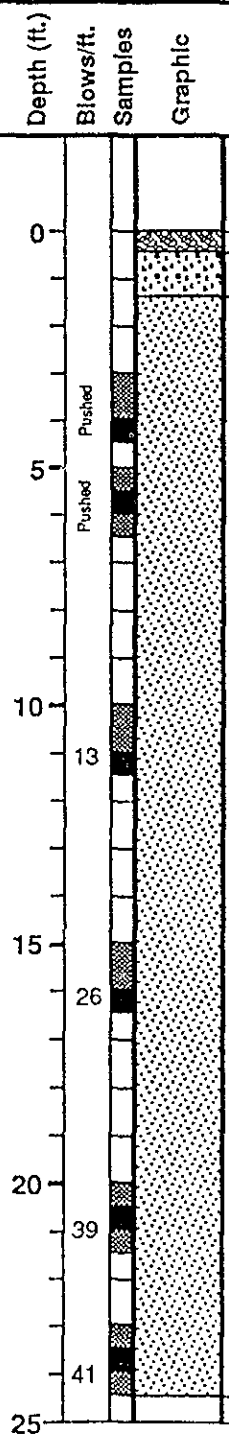
LOG OF BORING MW-3

Chevron Service Station #9-6607
2340 Otis Drive
Alameda, California

Project No.: RC05002
Logged By: Andy Bunten
Drilling Co.: West Hazmat
Driller: Doug Howard

Date Drilled: August 6, 1991
Drilling Method: 10" Hollow Stem Auger
Sampling Method: 2" Split Spoon
Inclination: Vertical





DESCRIPTION

Surface Elevation: 8.24 feet
Casing Elevation: 8.07 feet

Asphaltic Concrete

Fill Material

SAND (SP), 2.5Y 5/6 light olive brown, well graded, 90-95% fine/medium-grained sand, 5-10% silt, moist

@ 3 feet: moist/wet

@ 5 feet: 5Y4/1 dark grey, moist/wet

@ 6 feet

7.10 feet, August 21, 1991

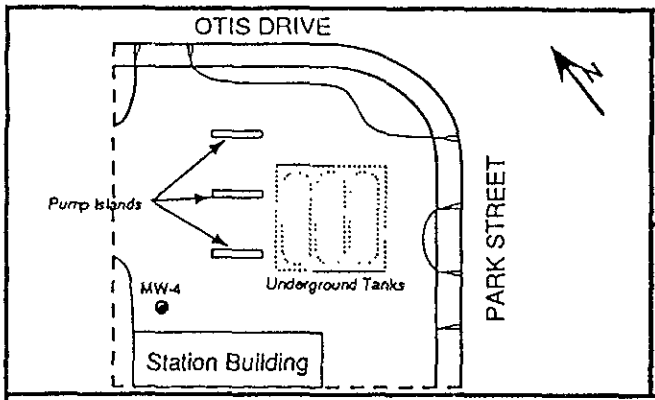
@ 10 feet: wet, medium dense

@ 15 feet: wet, medium dense

@ 20 feet: wet, dense

@ 23 feet: wet, dense

Bottom of Boring: 24.5 Feet, 2:30 PM, 8/6/91



LOG OF BORING MW-4
Chevron Service Station #9-6607
2340 Otis Drive
Alameda, California

Project No.: RC05002
Logged By: Andy Bunten
Drilling Co.: West Hazmat
Driller: Doug Howard

Date Drilled: August 7, 1991
Drilling Method: 10" Hollow Stem Auger
Sampling Method: 2" Split Spoon
Inclination: Vertical

WELL CONSTRUCTION

10" Boring
Traffic-Rated Utility Box
Locking Water-Tight Cap
Concrete
Cement
Bentonite
4" Sch 40 PVC Blank Casing
2 Lone Star Sand
4" Sch 40 PVC 0.010" Slotted Casing
Bottom of slotted casing at 21 feet
Note: Boring caved to 21 feet

Depth (ft.)	Blows/ft.	Samples	Graphic	DESCRIPTION
0				Surface Elevation: 8.01 feet Casing Elevation: 7.85 feet Asphaltic Concrete Fill Material
	15			SAND (SP), 2.5Y 5/6 light olive brown, well graded, 90-95% fine/medium-grained sand, 5-10% silt, moist @ 3 feet: moist, medium dense @ 4.5 feet: 5Y4/1 dark grey
5	23			@ 5 feet: moist, medium dense ▽ @ 7 feet ▼ 6.85 feet, August 21, 1991
10	16			@ 10 feet: wet, medium dense
15	47			@ 15 feet: wet, dense @ 16 feet: 2.5YR 5/6 light olive brown
20	58			*@ 20 feet: 5Y4/1 dark grey, wet, very dense*
	57			@ 23 feet: wet, very dense
25				Bottom of Boring: 24.5 Feet, 10:15 AM, 8/7/91

APPENDIX D

CONTINGENCY PLAN

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CONTINGENCY PLAN

This contingency plan will ensure that the hydrocarbon plume remains in compliance with the cleanup goals for the site. The cleanup goal is maximum contaminant levels (MCLs) in ground water at the downgradient edge of the current plume.

MTBE has been detected in ground water at this site. If the source of the compound was a recent gasoline spill at the Chevron site, TPH-G should be detected shortly after detection of the MTBE. Since no TPH-G has been detected, we do not believe that the Chevron site is the source of the MTBE. However, to confirm that TPH-G is not present and to gather additional data on this MTBE, additional monitoring will be carried out for two years.

If this ground water monitoring indicates that certain conditions have been met, a contingency plan will be triggered. These conditions and contingency plan responses are summarized in Table D-1. In general, each monitoring well is assigned a "baseline" hydrocarbon concentration which represents a typical concentration detected during the last several years, and a "trigger" concentration which represents a significant concentration increase that may lead to non-compliance with the cleanup goal. As Table D-1 shows, the baseline hydrocarbons concentration for all four wells is <50 ppb of TPH-G, and the trigger concentration is 100 ppb TPH-G. When the trigger concentration is met or exceeded for two consecutive monitoring events, or when concentrations are increasing at a rate such that the trigger concentration might be met or exceeded before the next sampling event, the contingency plan will go into effect.

When triggered, the contingency plan calls for three responses:

1) The ACDEH is notified;

2) All four wells are sampled in the following quarter

3) An appropriate course of action, identified by Chevron, and approved by the ACDEH, is implemented.

Table D-1. Contingency Plan, Chevron Service Station #9-6607, 2340 Otis Drive, Alameda, California. All conditions are for TPH-G unless otherwise noted.

	Monitoring Well	Baseline Concentration (TPH-G)	Trigger Concentration (TPH-G)	Response to Trigger Concentration[1]
Guard Wells	All wells (MW-1, MW-2, MW-3, MW-4)	< 50 ppb	100 ppb	1. Notify ACDEH 2. Sample all site wells in the next quarter 3. Identify an appropriate course of action

Notes:

[1] Response is triggered when the trigger condition is met or exceeded for two consecutive sampling events, or when concentrations are increasing at a rate such that the trigger condition might be met or exceeded before the next sampling event.