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COMPREHENSIVE SITE EVALUATION AND PROPOSED FUTURE ACTION PLAN

at

Chevron Service Station 9-0019
210 Grand Avenue
Oakland, California

prepared for
Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon, California 94583-0804
December 20, 1994

Weiss Associates

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prepared by

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Cynthia N. Okano
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 210 Grand Avenue in Oakland, California is a former Chevron service station. In 1989, following a soil vapor survey, five monitoring wells were installed to define hydrogeologic conditions beneath the site. In 1990, the station was subsequently demolished and all above ground and subsurface installations were excavated and removed. Four additional wells were installed in June 1990 to further evaluate the lateral and vertical extent of petroleum hydrocarbons in the soil and ground water downgradient from the site. In July 1990, the former fuel tank and waste oil tank pits were overexcavated and backfilled with clean aerated soil and pea gravel and the stockpiled soil was aerated on-site and disposed off-site.

Review of subsurface site investigations and historical ground water monitoring data shows that:

- ***The plume is contained by natural processes, and no significant plume migration occurs with or without ground water extraction:*** The hydrocarbon plume which exists at this site is restricted to an area, south and southwest of the former underground storage tank (UST) complex and pump islands. **Five years of quarterly sampling in onsite and offsite wells have shown that this plume is not migrating.** check MW6

- ***All source areas have been removed from the site:*** In June 1990, all existing structures at the site were demolished. The USTs and associated product piping were removed from the site and all accessible hydrocarbon-impacted soil was removed and either taken to a disposal facility or remediated before backfilling and compacting the excavations.

- ***The site has been remediated to the extent feasible:*** With removal of these potential source areas from the site subsurface, TPH-G and benzene concentrations should further decrease as natural biodegradation occurs over time. **The clay and silt lithology beneath the site appears to be providing natural containment and migration control of the hydrocarbons. This is further shown by the very low flow rates obtained by the on-site ground water extraction and treatment system (Appendix B).** DO? .00 - .02 gpm = 0 - 28.8 gpd Jan-Dec 93

Therefore, Chevron submits that:

- The hydrocarbons remaining in the site subsurface 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) declare that the Chevron site is remediated to the extent feasible and approve discontinuing the

remedial extraction and treatment system, allow a gradual reduction in well sampling frequency, and consider establishing a non-attainment area encompassing the residual plume associated with the former Chevron station.

INTRODUCTION

At the request of Chevron U.S.A. (Chevron), Weiss Associates has prepared this site evaluation for former Chevron Service Station 9-0019, located at 210 Grand Avenue, Oakland, California. The objectives of this evaluation are to: 1) summarize all investigative and remedial actions performed at the site to date; 2) determine whether the site meets the Regional Water Quality Control Board - San Francisco Bay Region (RWQCB) criteria for establishment of a non-attainment area (NAA); and 3) outline a recommended future action plan. The site-specific information presented in this evaluation was compiled from material listed in the References section of this report.

SITE SETTING

Former Chevron Service Station #9-0019 is located at the northeast corner of Grand and Montecito Avenues, in a mixed commercial and residential area in Oakland, California (Appendix A). The site is bounded on the north and northwest by Montecito Avenue, on the south and southwest by Grand Avenue, and on the east by Bay Place. A church is located across Bay Place east of the site. A residential area and a senior center is located across Montecito Avenue northeast and northwest of the site. Lakeside Park is located across Grand Avenue south of the site.

The project 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 ft southeast of the site. The site elevation is approximately 8 ft above mean sea level (msl) and the topography is generally level.

SITE INVESTIGATIONS

1989 Soil Vapor Survey: In February 1989, Western Geologic Resources, Inc. (WGR) performed a soil vapor survey at the site. A total of 19 vapor points at 12 sampling locations were installed. At all 12 locations, shallow vapor points were installed at 5 ft and deeper vapor points were installed between 13 and 15 ft below grade. For the vapor samples collected at 5 ft below grade, the highest total volatile hydrocarbons (TVH) concentrations of 27,000 to 32,000 parts per million (ppm) were detected in vapor points VP-9, VP-10 and VP-11, located to the northeast and east of the underground storage tanks (USTs) and pump islands. Deeper vapor points were not installed at these three locations due to shallow ground water. For the vapor samples collected between 13 and 15 ft below grade, the highest TVH concentration of 73,000 ppm was detected in vapor point VP-7(B), located to the west of the USTs. Lower concentrations of TVH were detected on the north part of the site behind the service station building.

1989 Subsurface Investigation: Between March 8 and 14, 1989, WGR supervised the installation of ground water monitoring wells MW-1 through MW-5. The investigation was conducted to determine the vertical and horizontal extent of fuel hydrocarbons in soil and groundwater beneath the site. Analytic results of soil samples collected during drilling activities showed total purgeable petroleum hydrocarbons (TPPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations above detection limits in all wells except well MW-1. The highest concentration of TPPH (390 ppm) was detected in the sample collected at 5.5 ft below grade from boring B-5, located south of the tank complex. The highest concentrations of BTEX (4.5 ppm benzene, 16 ppm toluene, 8.4 ppm ethylbenzene, and 32 ppm xylenes) were detected in the soil sample collected at 5 ft below grade from boring B-2, located east of the pump islands. Soil samples from boring B-3, adjacent to the waste oil tank, were also analyzed for petroleum-based oil and grease compounds (TOG). Oil and grease ranged from below detection limits at 5 ft and 10 ft below grade to 360 ppm at 18 ft below grade.

Wells were screened in the shallow water-bearing zone from 6 ft to 16.5 ft below grade. Ground water samples collected on March 14, 1989 from MW-1 through MW-5 were analyzed for TPPH, BTEX, TOG and halogenated volatile organics. TPPH were detected in MW-1, MW-4 and MW-5 at 600, 3,000, and 20,000 parts per billion (ppb), respectively. The highest concentrations for the BTEX compounds in ground water were also detected in the sample collected from well MW-5 (6,600 ppb benzene, 1,600 ppb toluene, 220 ppb ethylbenzene, 1,100 ppb xylenes). Petroleum-based oil and grease compounds were below the detection limit of 3,000 ppb in ground water for all five wells. Low concentrations of the fuel additive ethylene dichloride (EDC) were detected in MW-2 and MW-3. Analytic result tables for soil and ground water are presented in Appendix B, and the boring logs for wells MW-1 through MW-5 are presented in Appendix C.

1989 Area Well Survey: In June 1989, WGR conducted a search of registered wells within a 0.5-mile radius of the site. According to California Department of Water Resources records, 12 wells were located within a 0.5-mile radius of the site:

- Three wells to the northwest of the site at the Shell service station at Telegraph Avenue and 28th Street.
- Four wells to the west of the site at the service station formerly owned by Texaco U.S.A. at Grand and Telegraph Avenues.
- A well used for irrigation at Jackson and Lakeside.
- Four other wells used for cathodic protection or of unknown use.
- A map illustrating these well locations is presented in Appendix A and a list of the owners, well locations and uses are presented in Appendix B.

1990 Station Demolition: In June 1990, all existing structures at the site were demolished. Three fiberglass gasoline tanks and one fiberglass waste oil tank in good condition were excavated and removed by Blaine Tech Services, Inc. (BTS) and Armer/Norman. Soil sampling performed during removal of the underground tanks and piping detected limited contamination in both the former underground product tank pit and the former piping trenches. Analytic results of soil samples collected from the former waste oil tank pit showed TOG concentrations ranging from below detection limits to 3,600 ppm. (+ its SP had 6400 O+G, 960,000 TPHg, + 14,000 ppm benzene). Must've been FP.

1990 Offsite Subsurface Investigation: Between June 27 and 29, 1990, WGR supervised the installation of ground water monitoring wells MW-6 through MW-9 in the Grand and Montecito Avenue right-of-ways to further evaluate the lateral and vertical extent of petroleum hydrocarbons in the soil and ground water downgradient from the Chevron site. TPPH as gasoline, total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), waste oil and BTEX were not detected in any of the soil samples collected and analyzed from

borings B-6 through B-9. Low concentrations of the metals cadmium, chromium, lead and zinc were detected in soil samples from boring B-6.

Ground water samples were collected from all site wells on July 6, 1990. TPPH and BTEX were detected in ground water samples collected from wells MW-4, MW-5 and MW-6, downgradient from the former underground storage tanks. The highest concentrations of 30,000 ppb TPPH characterized as gasoline and 5,600 ppb benzene were detected in the ground water sample collected from MW-5. The metals cadmium, chromium, lead and zinc were detected in ground water samples collected from wells MW-7 through MW-9 with maximum concentrations detected in the sample from well MW-8 of 79 ppb, 960 ppb, 100 ppb and 790 ppb, respectively. Because of a very low recovery rate, well MW-6 was redeveloped on July 19, 1990. The redevelopment process was not successful in enhancing the recovery rate of well MW-6.

1990 Area Well Survey: A computer database search of registered wells within a one-half mile radius of the site was conducted in August 1990 by the Alameda County Department of Public Works and WGR at the California Department of Water Resources offices in Sacramento. A total of 40 wells were located within and an additional 18 wells just outside the one-half mile radius. A map illustrating well locations is presented in Appendix A and a list of the owners, well locations and uses are presented in Appendix B.

1990-1991 Soil Excavation, Stockpile Aeration and Disposal: Beginning in July 1990, under the direction of WGR, Armer/Norman and Tom Daniels Excavation, Inc. excavated soil 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 covered a total area of approximately 6,000 sq. ft. and a depth of approximately 4 ft to 9 ft below ground surface. Excavation was limited vertically to the depth of ground water and horizontally to a point where the adjacent sidewalks would not be compromised. The highest concentrations of petroleum hydrocarbons in confirmatory sidewall soil samples collected from the former waste oil tank pit were 380 ppm TOG in sample #0123.02 from the west wall of the pit and 130 ppm TPPH as gasoline 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 in confirmatory sidewall soil samples collected from the former fuel tank pit were 190 ppm TOG from sample #0214.01 collected from the west wall of the excavation along Montecito Avenue, and 210 ppm TPPH as gasoline and 0.57 ppm benzene in sample #005211.03,04 (composite) collected from the east wall of the excavation along Bay Place. Evidence of petroleum hydrocarbons in the soil (discolored soil, PID vapor readings) 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. A total of approximately 1,500 cu. yds. of soil were removed from the excavations, of which 700 cu. yds. were disposed at a Class III disposal facility and 800 cu. yds. were aerated on site in compliance with the Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 40, Aeration of Contaminated Soils. Samples collected during the final confirmatory soil stockpile sampling contained a maximum of 6 ppm TPPH as gasoline and 0.006 ppm benzene. Site maps illustrating locations of the excavations, confirmatory excavation soil samples and soil stockpile samples are presented in Appendix A and the excavation soil sample analytic results are presented in Appendix B.

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 with the aerated soil stockpiled on-site and with clean backfill material in July 1991.

REMEDIAL ACTIONS

Excavation: As discussed in detail above, the underground tanks and associated product lines were removed from the site. All of the accessible hydrocarbon-impacted soil was removed and either

disposed of at a disposal facility or remediated on-site before backfilling and compacting the excavations.

Ground Water Sampling: Quarterly ground water samples have been collected and analyzed for TPH-G, BTEX, TOG and VOCs from monitoring wells MW-1 through MW-5 since March 1989 and from monitoring wells MW-6 through MW-9 since July 1990. Monitoring well MW-2 was constructed during site demolition in 1990 and destroyed in November 1991. The VOC analyses were discontinued in all wells except MW-3 and MW-5 after several quarters of data indicated non-detectable concentrations. Wells MW-3 and MW-5 continue to indicate non-detectable concentrations of VOCs. The results of ground water sampling in these wells are summarized in tables presented in Appendix B.

Ground Water Extraction and Treatment System: After review of the site investigation data, it was determined that a ground water extraction and treatment system presented the best means of remediating the residual hydrocarbon plume. Ground water was extracted from well MW-5 using an electric submersible pump. The treatment system consists of two 1,000-lb. aqueous-phase carbon vessels connected in series. The treated ground water is discharged to the sanitary sewer under an East Bay Municipal Water District (EBMUD) discharge permit.

Since commencing with ground water pumping on March 11, 1993, well yields have been less than expected. As of December 13, 1993, approximately 2,500 gallons of hydrocarbon-impacted ground water had been removed. This translates to an extraction rate of approximately 9 gallons per day (gpd) or 0.006 gallons per minute (gpm). On December 13, 1993, Chevron temporarily discontinued operating the ground water extraction system as was agreed to in a January 13, 1994 letter from Jennifer Eberle of ACDEH to Mark Miller of Chevron U.S.A. Products Company.

EVALUATION OF NON-ATTAINMENT ZONE CRITERIA AND FUTURE ACTION PLAN

The distribution of the remaining hydrocarbons and the site hydrogeologic and chemical conditions indicate that this site is a candidate for reduced action and establishment of a non-attainment area (NAA) under the Category II criteria. In the following section, each of the criterion specified by the RWQCB for establishment of a NAA is considered for the subject site.

DISCUSSION OF NON-ATTAINMENT ZONE CRITERIA

Criterion a. *An appropriate cleanup program, including adequate source removal and free product removal, has been fully implemented and reliably operated for a period of time which is adequate to understand both the hydrogeology of the site and pollutant dynamics.*

As summarized in previous sections, extensive site characterization was performed at this site. Between 1989 and 1991, the station was demolished and all potential source areas were excavated and removed and nine monitoring wells were installed. A ground water extraction and treatment system was installed and operated in 1993. Quarterly sampling data collected over the last four to five years indicates that the dissolved hydrocarbon plume has not migrated significantly either before or after the system became operational.

Site Hydrogeology: Site sediments generally consist of silts and clays to a depth of 20 ft, the total depth explored. Wells MW-1 through MW-4 have medium permeability silty sand/silty gravel from approximately 6 ft to 15 ft bgs. Wells MW-5 and MW-7 have medium permeability sediments between 7 and 9 ft. Wells MW-6, MW-8 and MW-9 have low permeability silty clay from ground surface to the total depth explored. A silty clay stratum underlies the water-bearing sediments.

Ground Water Flow: The surface elevation at the site is approximately 8 ft above msl. The depth to water in site wells ranges from 9 to 13 ft bgs. The ground water flow direction ranges from northwestward to southwestward at a gradient of approximately 0.01 ft per ft. The direction of ground water flow onsite may vary due to tidal action caused by nearby Lake Merritt, an estuary of San Francisco Bay. A ground water elevation contour map is presented in Appendix A. Compiled water level data for monitoring wells MW-1 through MW-9 are presented in the Groundwater Monitoring Data table included in Appendix B.

Plume Location: Hydrocarbons in ground water at the site occur south and southwest of the former underground storage tank (UST) complex and pump islands near monitoring wells MW-4 and MW-5. Hydrocarbon concentrations in cross-/downgradient monitoring wells MW-7 and MW-8 are historically non-detect, and hydrocarbon concentrations are non-detect for three of the four most recent quarters in cross-/downgradient monitoring well MW-6. The detection in well MW-7 during the most recent quarter may be anomalous. Future sampling events will confirm or refine this result. The extent of the plume has remained essentially stable since the ground water monitoring program began in 1989.

Criterion b. *Ground water pollutant concentrations have reached an asymptotic level (the mass removed from the groundwater is no longer significant) using appropriate technology.*

The ground water extraction and treatment system was operational between March and December 1993. Monitoring data demonstrates that natural processes, along with the ground water extraction system, have reduced hydrocarbon concentrations in ground water in the vicinity of extraction well MW-5. TPH-G concentrations in this well decreased from 38,000 ppb on December 23, 1992 to 8,900 ppb on September 10, 1993. However, it is unlikely that the extraction system is responsible for the decreasing concentrations observed in the other monitor wells due to the low flow rates and small apparent capture of the system. The observed decrease in the other wells is most likely due to attenuation and/or other natural decay mechanisms. The potentiometric data gathered since startup of the extraction system indicate that the small capture

zone induced by the system is not the operative mechanism preventing the migration of hydrocarbons in ground water. The tight clay and silt lithology beneath the site appear to be providing natural containment and migration control of the hydrocarbons.

Criterion c. *Best available technologies are not technically or economically feasible to achieve further significant reduction in pollutant concentrations.*

The best available remedial technologies have been applied to the extent feasible as discussed below.

Excavation: As discussed above, a large portion of the site was excavated during station demolition. Any residual hydrocarbon-impacted soil is located under the sidewalks bordering the site boundary. Additional onsite excavation would not be effective because the sediments encountered beneath the site are predominately low permeability clayey sediments (see boring logs in Appendix C).

Innovative Technologies: Technologies for increasing benzene mobility and/or degradation are not proven, and would not be appropriate or cost-effective at this site. All data indicate that the amount of benzene remaining in soils is quite small, and does not warrant the expense and uncertainty associated with technologies to increase mobility.

Ground Water and Soil Vapor Extraction: Ground water extraction and treatment combined with soil vapor extraction and treatment is the most common and often most effective technology for controlling and remediating hydrocarbons in ground water. However, monitoring data indicates that impacted ground water remains in the vicinity of the original source, and that engineered containment is not necessary to prevent further migration. The stable plume does not warrant the expense or uncertainty associated with any technologies to extract hydrocarbons from impacted soil or ground water at this site. Data collected at this site indicate that the remediation performed at the site to date has removed as much of the hydrocarbons as is technically and economically

feasible. Furthermore, natural processes are effectively controlling and remediating the residual ground water plume.

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

Our plan for containing and managing the remaining risks posed by residual hydrocarbons at this site includes: 1) notifying Alameda County Flood Control and Water Conservation District (Zone 7) of the existence of a residual plume; 2) continued ground water monitoring for hydrocarbons within the plume for a limited period of time; and 3) implementing a contingency plan if monitoring indicates significant migration and/or increasing concentrations in the plume.

Zone 7 Notification: Zone 7 regulates the installation and permitting of drinking water wells in this area. Notification will ensure that the potential risks from the remaining hydrocarbon plume are considered before a water supply well permit is issued for this site or for adjacent sites.

Our proposed ground water monitoring schedule and contingency plan are presented in the Future Action Plan below.

FUTURE ACTION PLAN

Continued operation of the ground water extraction and treatment system is not cost effective because it does not appear to be responsible for decreasing levels of hydrocarbons observed in wells other than extraction well MW-5. Therefore, Chevron proposes to permanently discontinue operation of the ground water extraction and treatment system while continuing to monitor ground water at the site to verify the historical stability and attenuation of the residual plume.

Our plan for shutting down the remediation system will include:

- Discontinue ground water extraction in well MW-5; and
- Continued monitoring of selected wells as discussed in the 'Continued Ground Water Monitoring' below.

Continued Ground Water Monitoring: The hydrocarbon plume at this site has remained stable since monitoring was first performed in 1989. Currently, eight site wells are monitored quarterly for hydrocarbons. Hydrocarbon concentrations have been either low or non-detect in cross-/downgradient well MW-6 with the exception of the most recent quarter. Hydrocarbons have been detected only once-in cross-/downgradient well MW-3 and have never been detected in cross-/downgradient well MW-7, indicating that the plume remains stable. In addition, hydrocarbons have never been detected in cross-gradient wells MW-8 and MW-9, and have only been detected three times in upgradient well MW-1. Continued quarterly monitoring of all the wells will not yield significant additional information concerning hydrocarbon concentrations in ground water at the Chevron site. Therefore, to ensure compatibility with health risk concerns while reducing monitoring at this site, Chevron plans to:

1) Continue gauging the depth to water during sampling to verify the direction of hydraulic gradient. Frequency of gauging will follow the frequency of monitoring proposed in item 3) below.

2) Discontinue ground water sampling in wells MW-1, MW-8 and MW-9 because no hydrocarbons have been detected in these wells for past 8 quarters.

3) Sample wells MW-3, MW-4, MW-5, MW-6 and MW-7 semi-annually through 1995 then annually at the seasonal high water table through 1997. After two years of annual sampling, cease gauging and sampling at the beginning of 1998, unless the contingency plan has been implemented. Monitoring these wells will confirm that the current configuration of the plume remains stable.

Proposed Monitoring and Sampling Schedule. Chevron Service Station #9-0019

	1995				1996				1997			
Well ID	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
MW-3	G&S	---	G&S	---	G&S	---	---	---	G&S	---	---	---
MW-4	G&S	---	G&S	---	G&S	---	---	---	G&S	---	---	---
MW-5	G&S	---	G&S	---	G&S	---	---	---	G&S	---	---	---
MW-6	G&S	---	G&S	---	G&S	---	---	---	G&S	---	---	---
MW-7	G&S	---	G&S	---	G&S	---	---	---	G&S	---	---	---

G&S = Gauging and Sampling

5) Cease VOC sampling by EPA Method 601 at the site. ok

Contingency Plan: For each of these five 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:

- Ground water samples have been collected from monitoring wells MW-1 through MW-5 since March 1989 and from monitoring wells MW-6 through MW-9 since July 1990. Hydrocarbon concentrations in wells MW-1, MW-2, MW-3, MW-7, MW-8 and MW-9 have been low or non-detect since monitoring of these wells began.
- Based on final excavation samples, it appears that no unacceptable levels of hydrocarbon contamination exist beneath the site and therefore no further soils remediation is warranted.
- Subsurface investigations conducted between 1989 and 1991 have fully assessed the extent of hydrocarbons in soil and ground water.
- The sediments encountered beneath the site are predominantly clay and silty clay.
- No significant plume migration occurs with or without ground water extraction.
- No VOCs have been indicated by EPA Method 601 based on several years of ground water analytical data..
- Hydrocarbons have been present in the subsurface at this site for at least 5 years. In that time, significant hydrocarbon concentrations have not been detected in samples from cross- and downgradient wells located less than 50 ft from the site's potential source areas. Therefore, it appears that dissolved hydrocarbon migration is adequately controlled.
- No cost-effective technologies exist that would significantly accelerate cleanup of hydrocarbons.

Based on these findings, no additional remedial measures are necessary. Declaring the downgradient plume boundary wells as the attainment points for achievement of maximum contaminant levels (MCLs) will allow natural processes to continue to contain and degrade the plume. The proposed monitoring and contingency plan will ensure that the risks posed by the residual plume are contained and managed.

Chevron requests that ACDEH and the RWQCB accept that drinking water standards cannot be attained in the southern portion of this property and consider redefining the area of attainment of MCLs to exclude the onsite plume. Chevron recommends discontinuing the remediation system while carefully monitoring at cross-/downgradient wells MW-3, MW-6 and MW-7 for three more years to confirm the stability of this plume.

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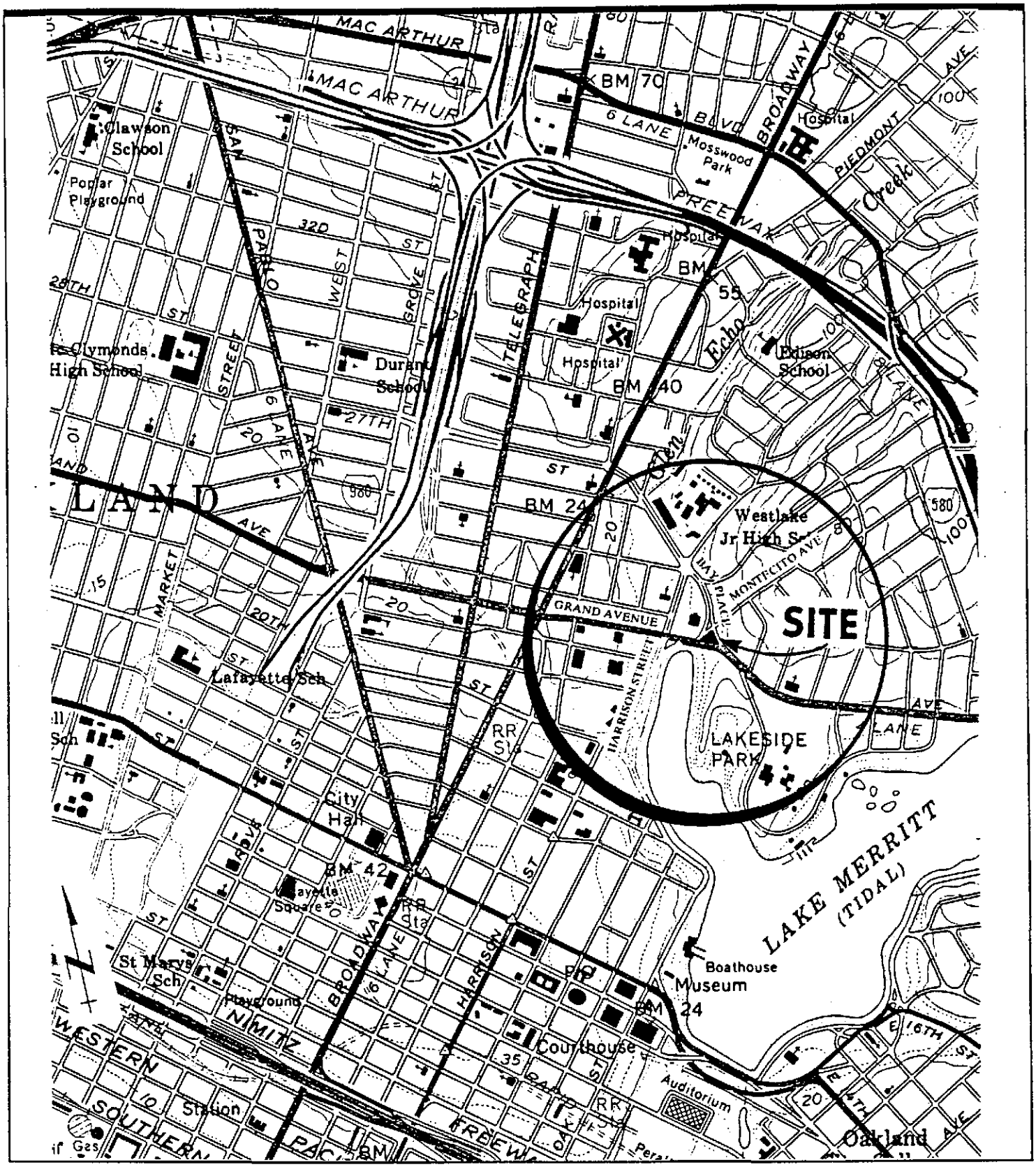
RWQCB, August 1994. Ground Water Basin Plan Amendments, 23 pp. plus tables and attachments.



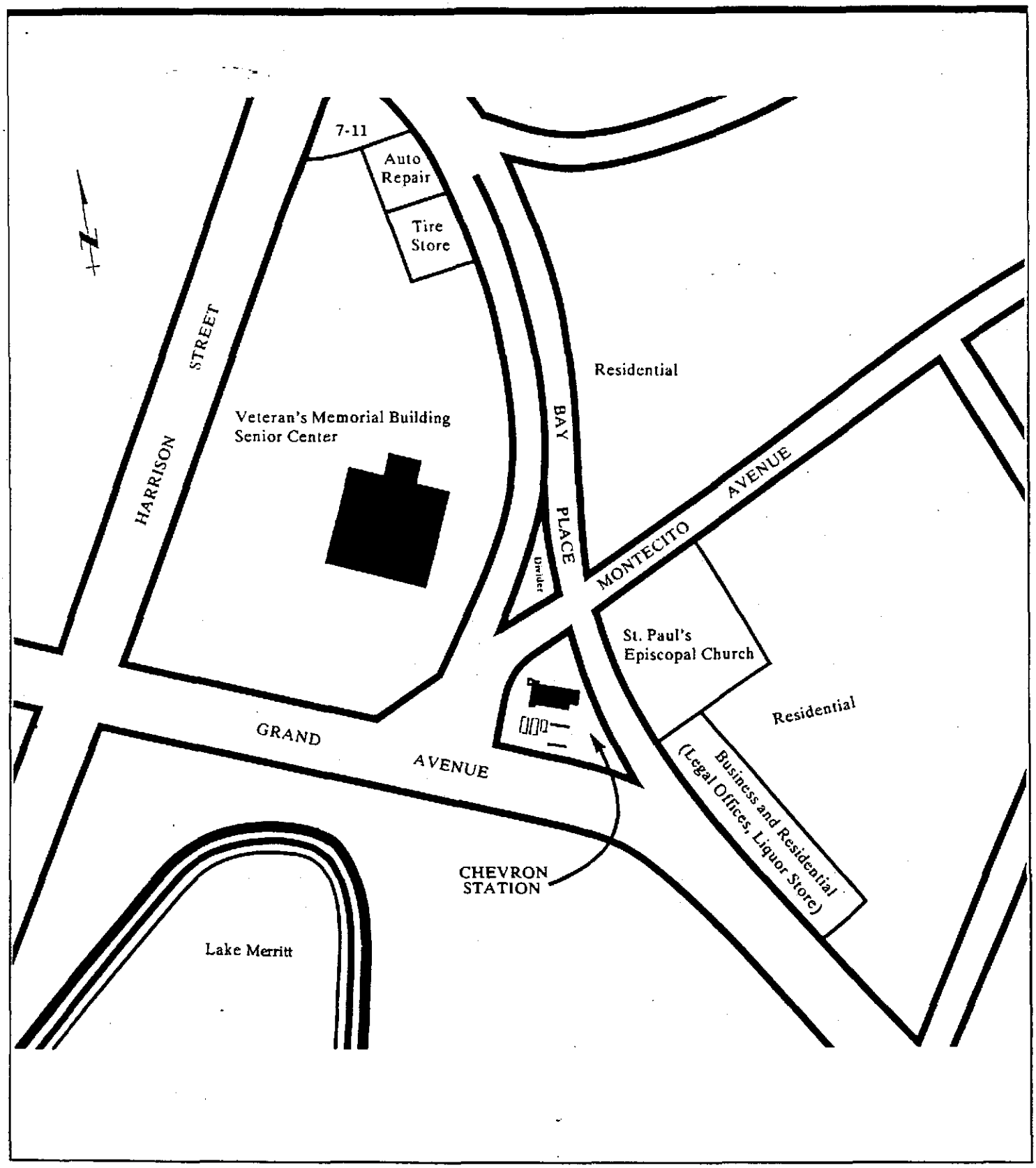
Site Location Map
Chevron SS #90019, Oakland, California

June 1989

FIGURE
1

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02



Approximate Scale : 1" = 135'

Vicinity Map
Chevron SS #90019, Oakland, California

June 1989

FIGURE
2

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02

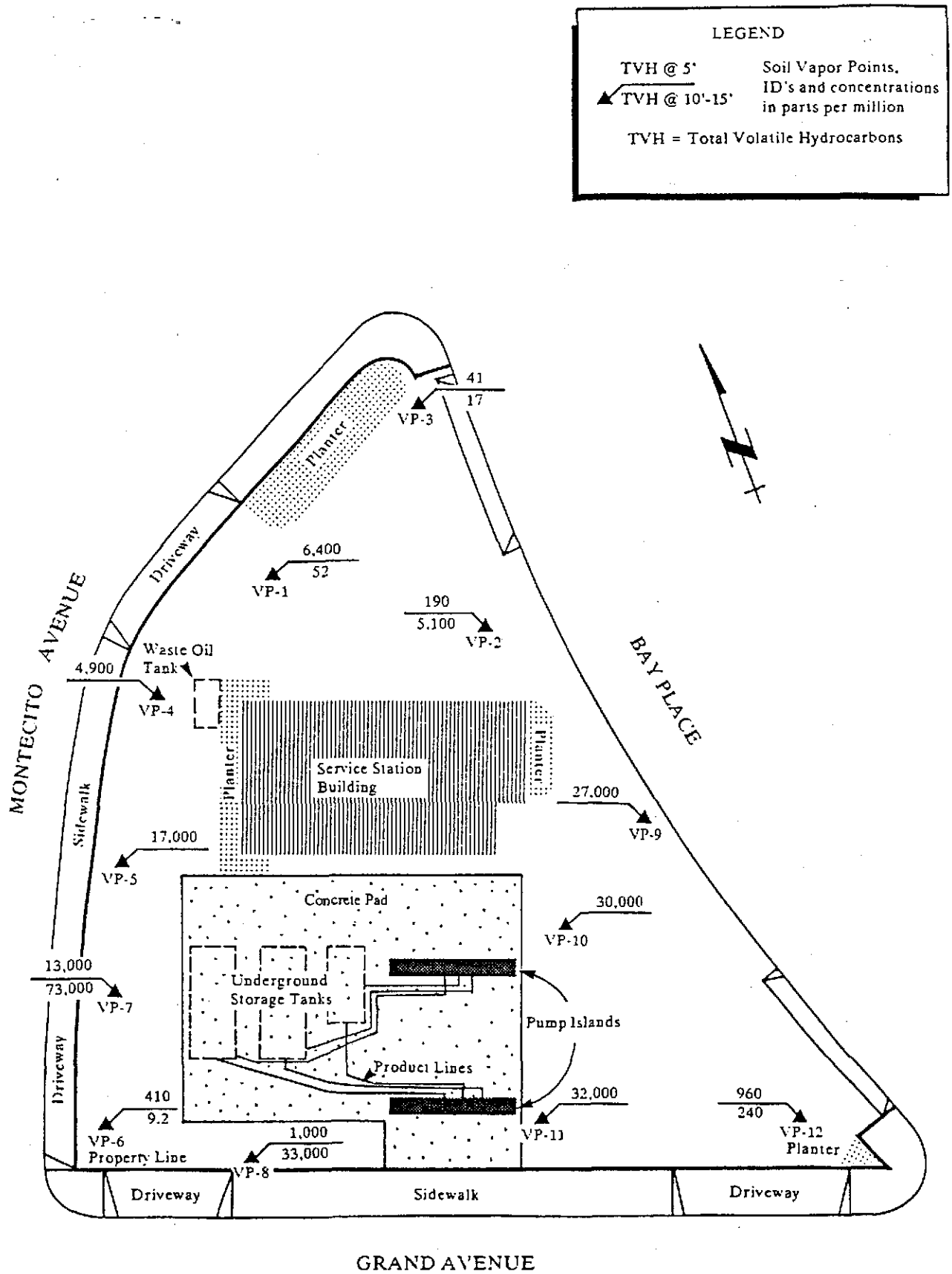
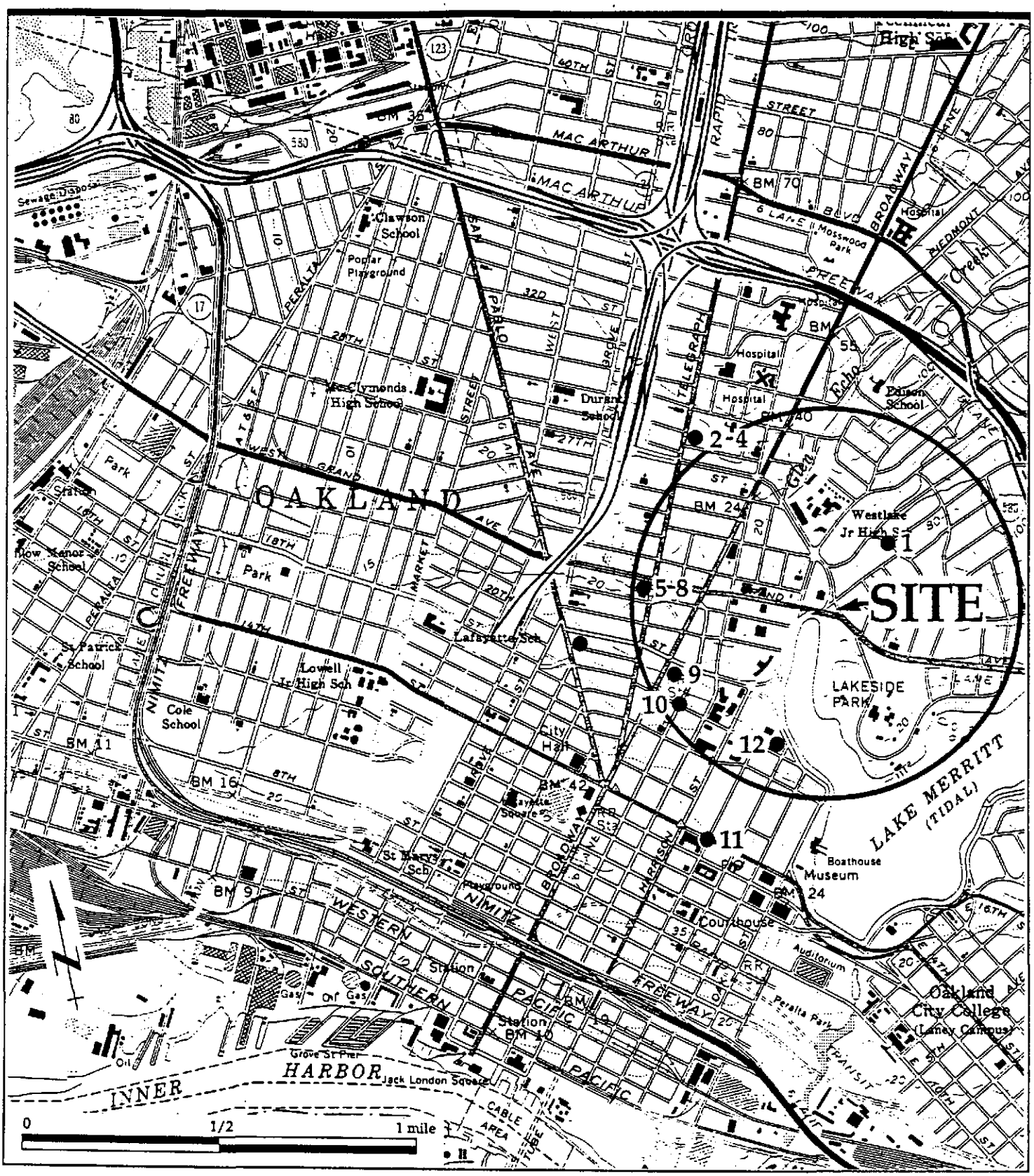


Figure 2. Soil Vapor Point Locations, Chevron SS# 90019
Oakland, California



LEGEND

●1 Wells

Site Location Wells within 1/2 Mile Radius
Chevron SS #90019, Oakland, California

June 1989

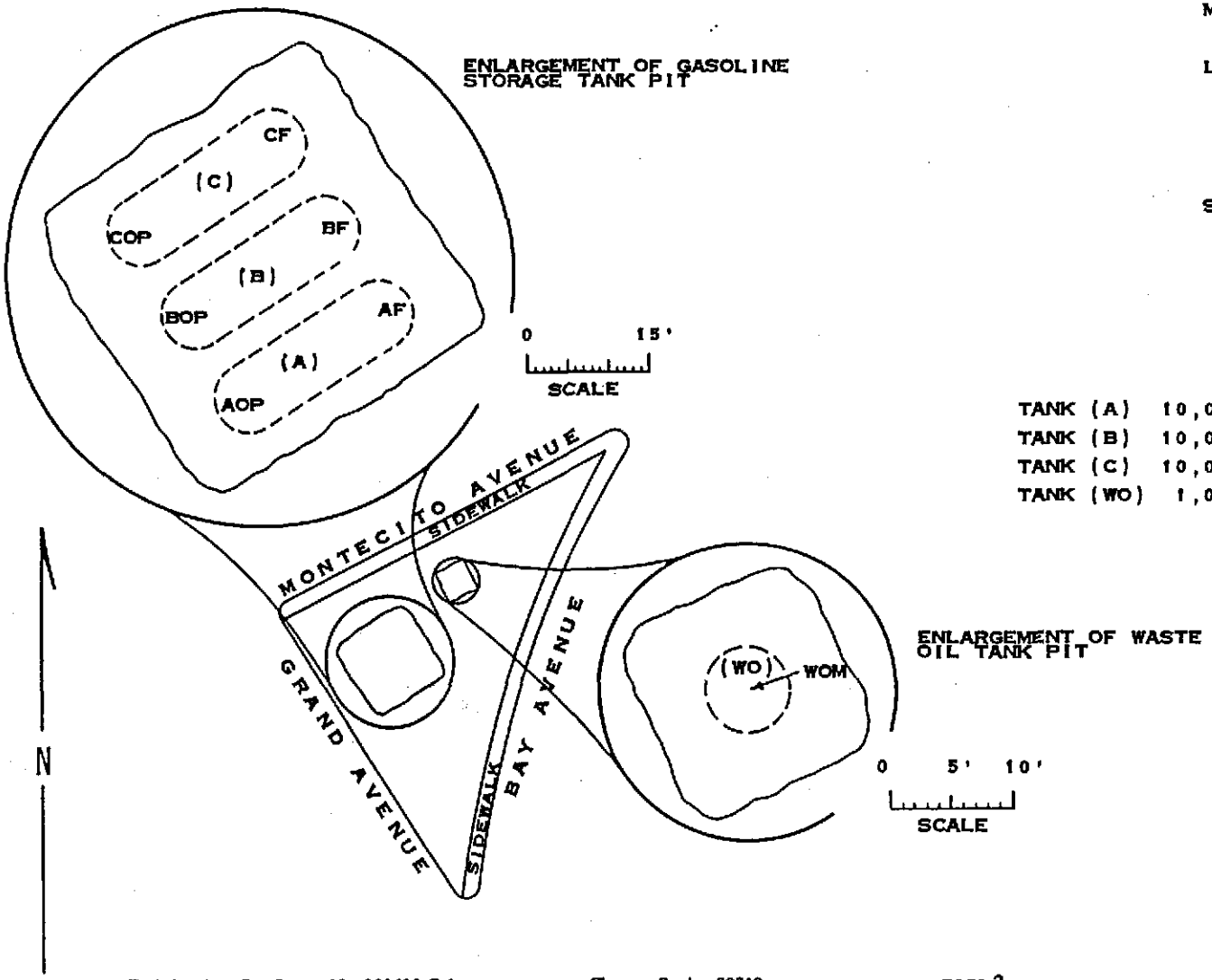
FIGURE 4

WESTERN GEOLOGIC RESOURCES, INC.

1-101.02

MASTER SITE DIAGRAM

Chevron Station 90019



MAP REF: THOMAS BROS., ALAMEDA COUNTY P. 9 C-10

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

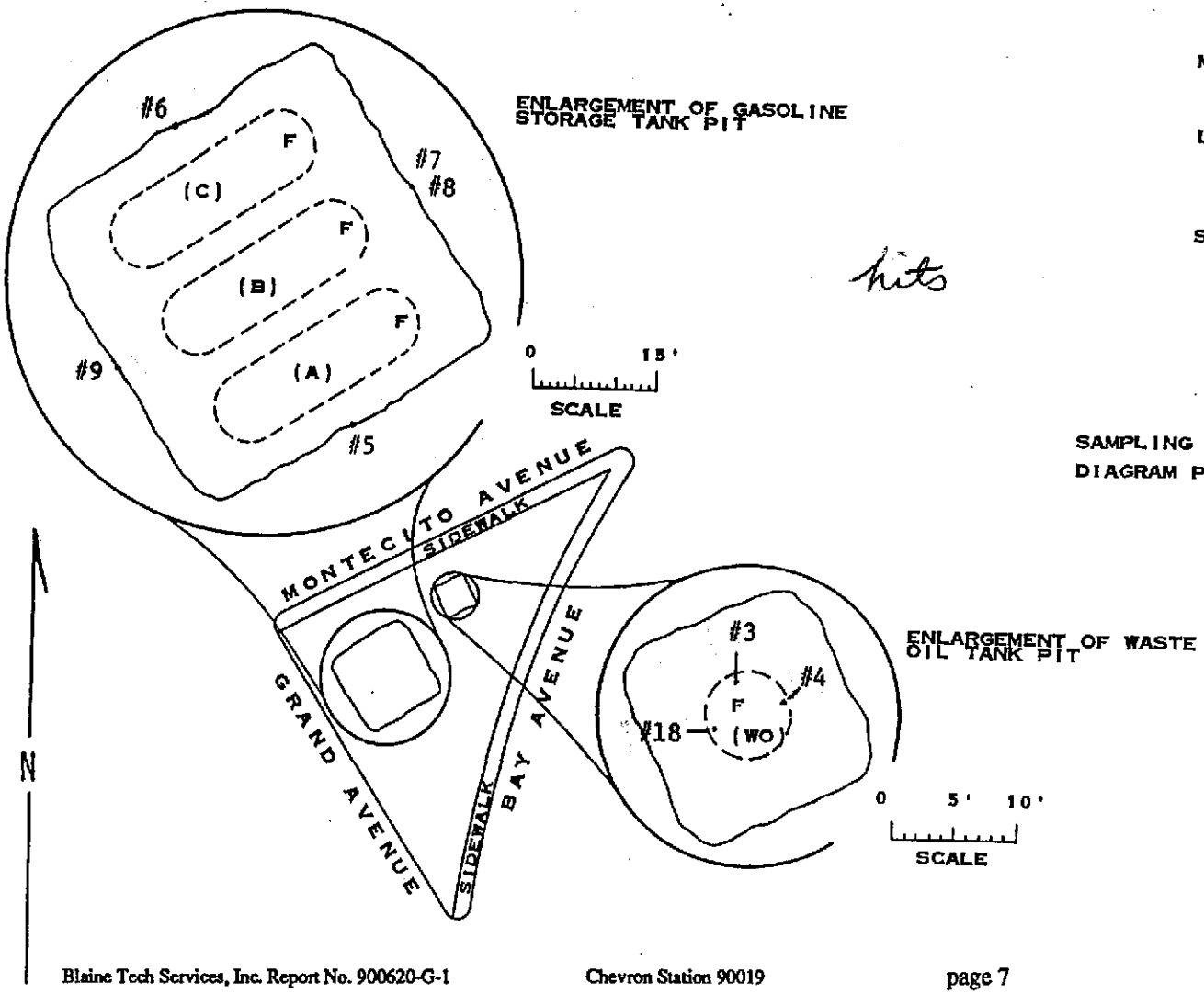
SCALE: 0 75'

TANK (A) 10,000 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

TANK REMOVAL DIAGRAM

June 20, 1990 / 900620-G-1

DIAGRAM ONE



MAP REF: THOMAS BROS., ALAMEDA COUNTY P, 9 C-10

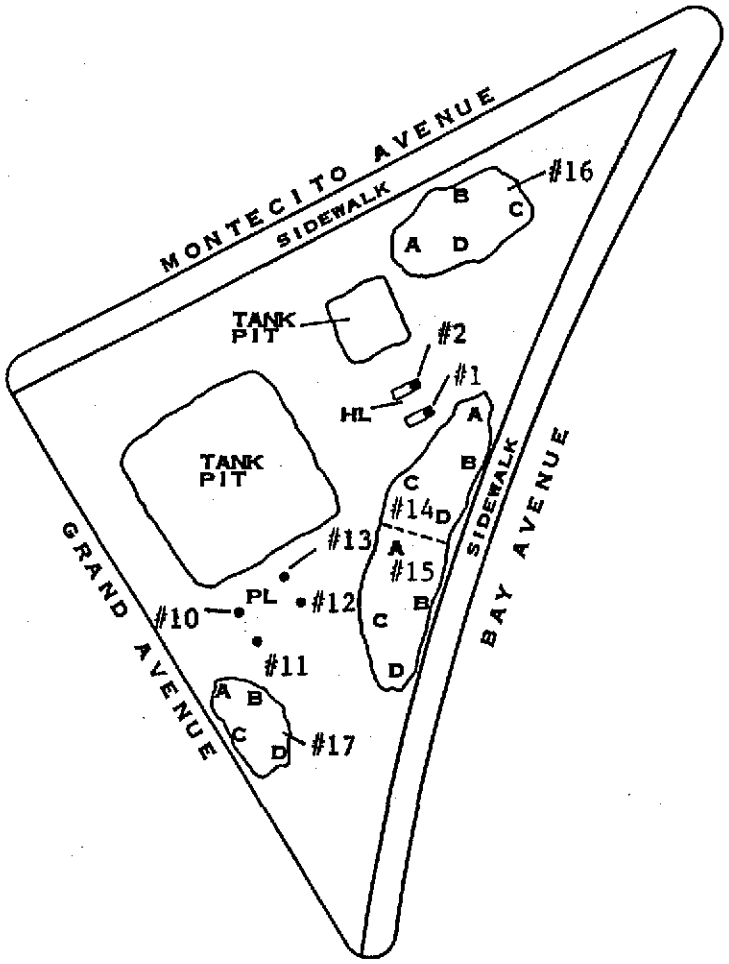
LEGEND: F = FILL END

SCALE: 0 75'

SAMPLING PERFORMED BY CHUCK GRAVES
DIAGRAM PREPARED BY BRENT ADAMS

TANK REMOVAL DIAGRAM

June 20, 1990 / 900620-G-1



hits

N

DIAGRAM TWO

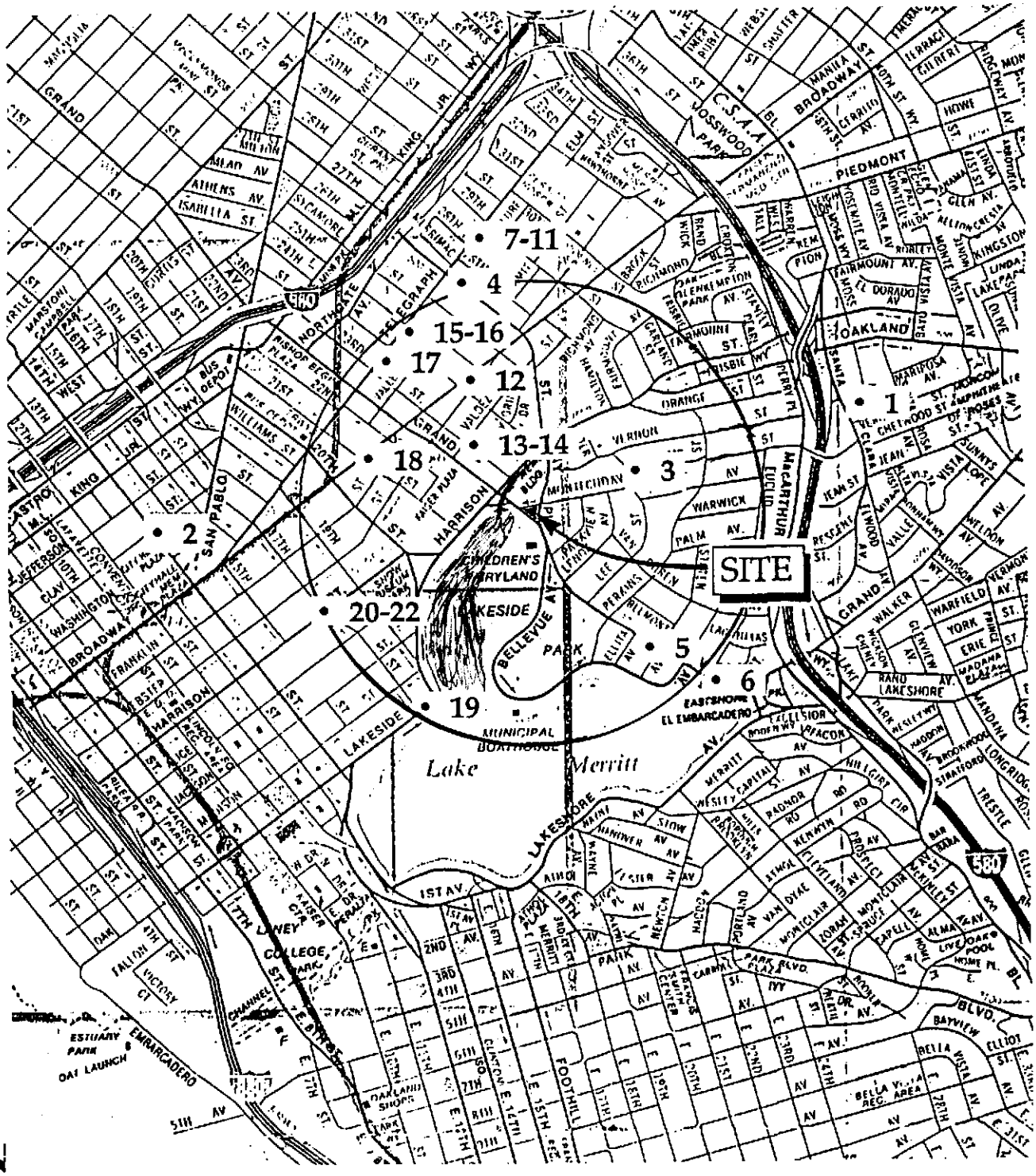
MAP REF: THOMAS BROS.
ALAMEDA COUNTY
P, 9 C-10

.0 75'

SCALE:

LEGEND: HL = HYDRAULIC LIFT
PL = PRODUCT LINE

SAMPLING PERFORMED BY CHUCK GRAVES
DIAGRAM PREPARED BY BRENT ADAMS

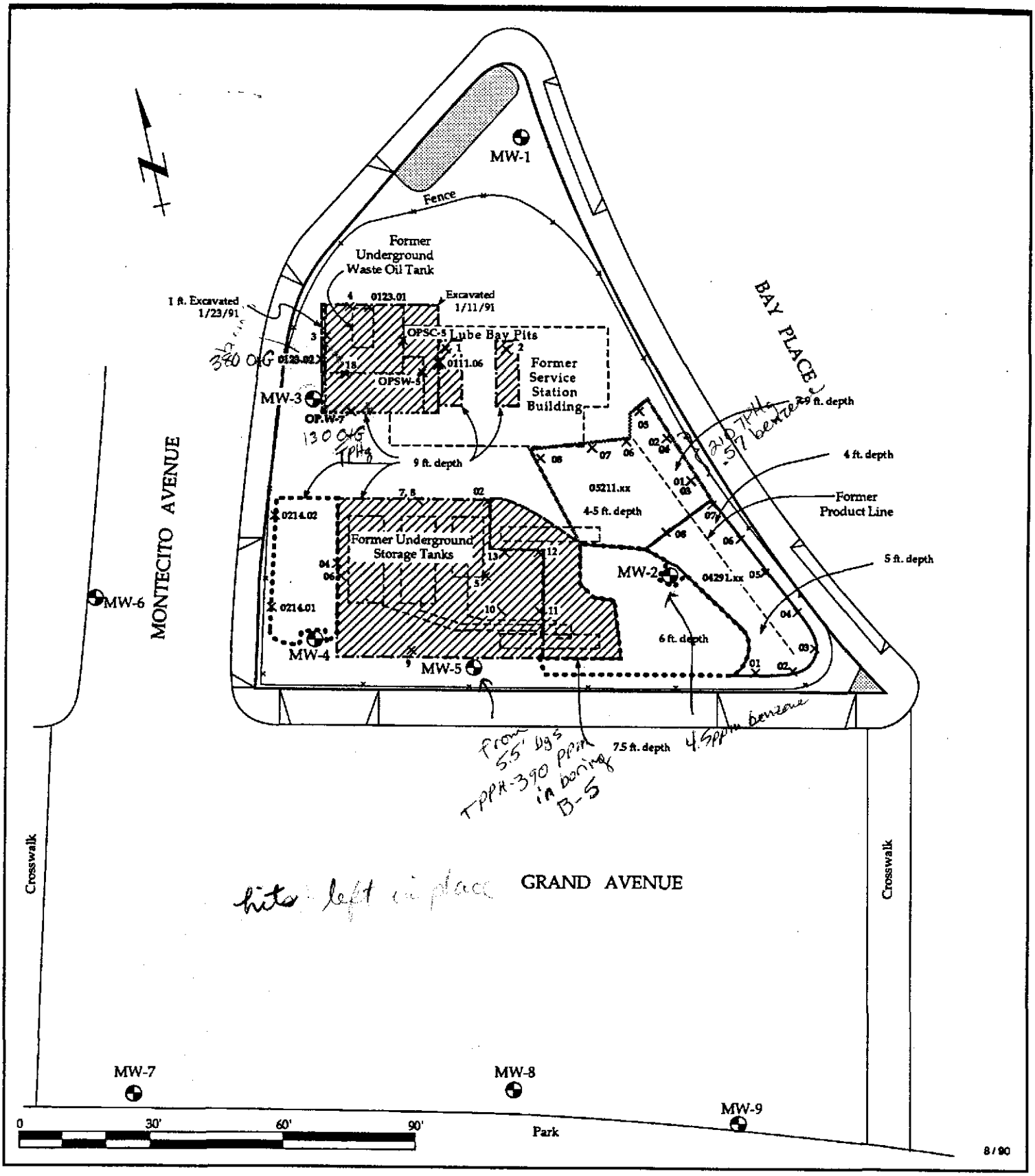


Wells Located Within 1/2 Mile Radius of
Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

FIGURE
9

Road Map Reference: CSAA map of Oakland, California

1-101.01



EXPLANATION

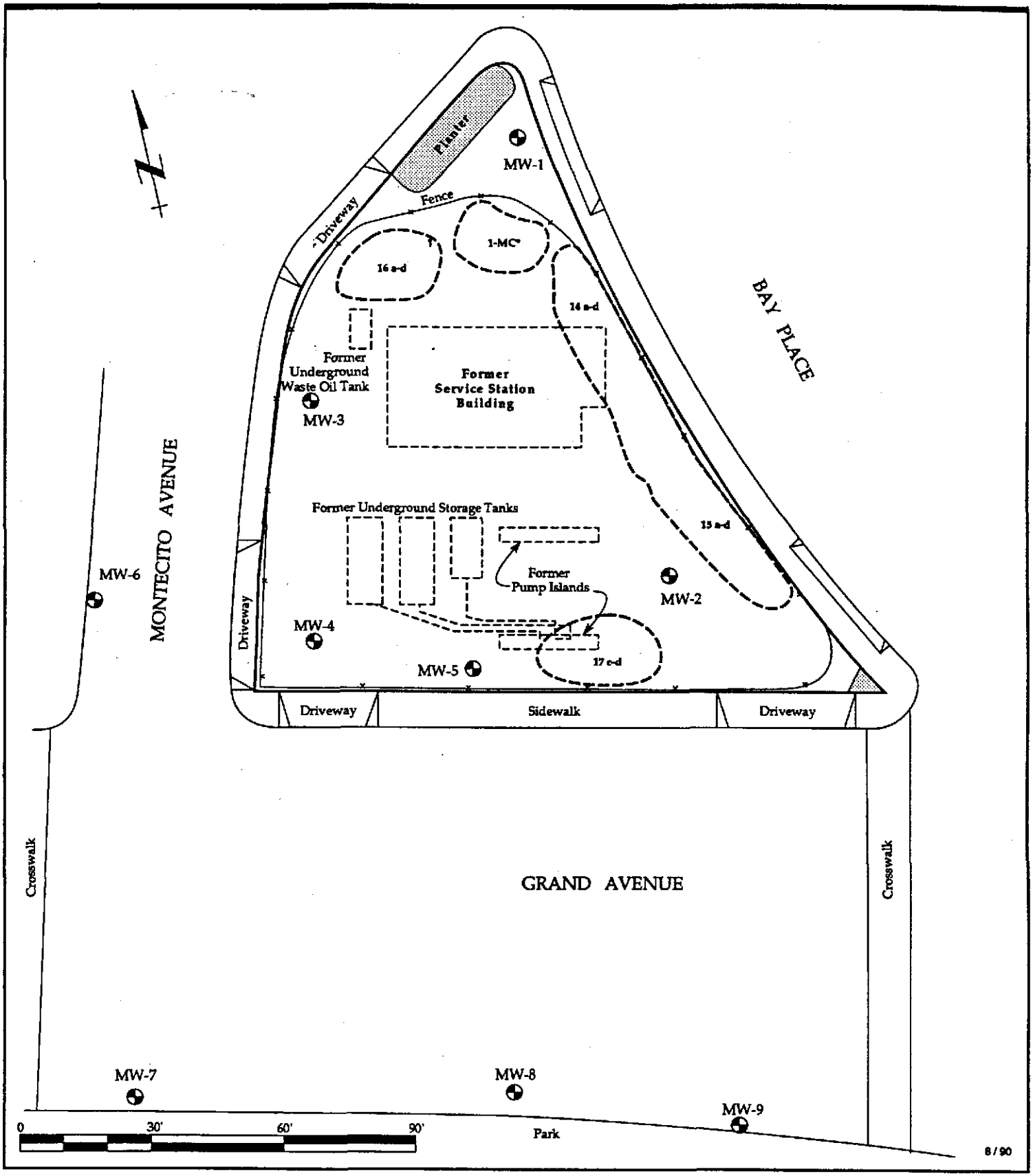
- MW-7 — Monitor Well Location
- × 0214.01 — Soil Sample Location
- Excavation, Blaine Tech Services, 6/20/90
- Excavation, WGR/Armer Norman, 7/2/90
- Excavation, WGR, 11/19/90 & 12/6/90
- Excavation, WGR, 1/11/91 & 1/23/91
- Excavation, WGR, 2/14, 2/15 and 2/19/91
- Excavation, WGR, 4/29/91
- Excavation,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

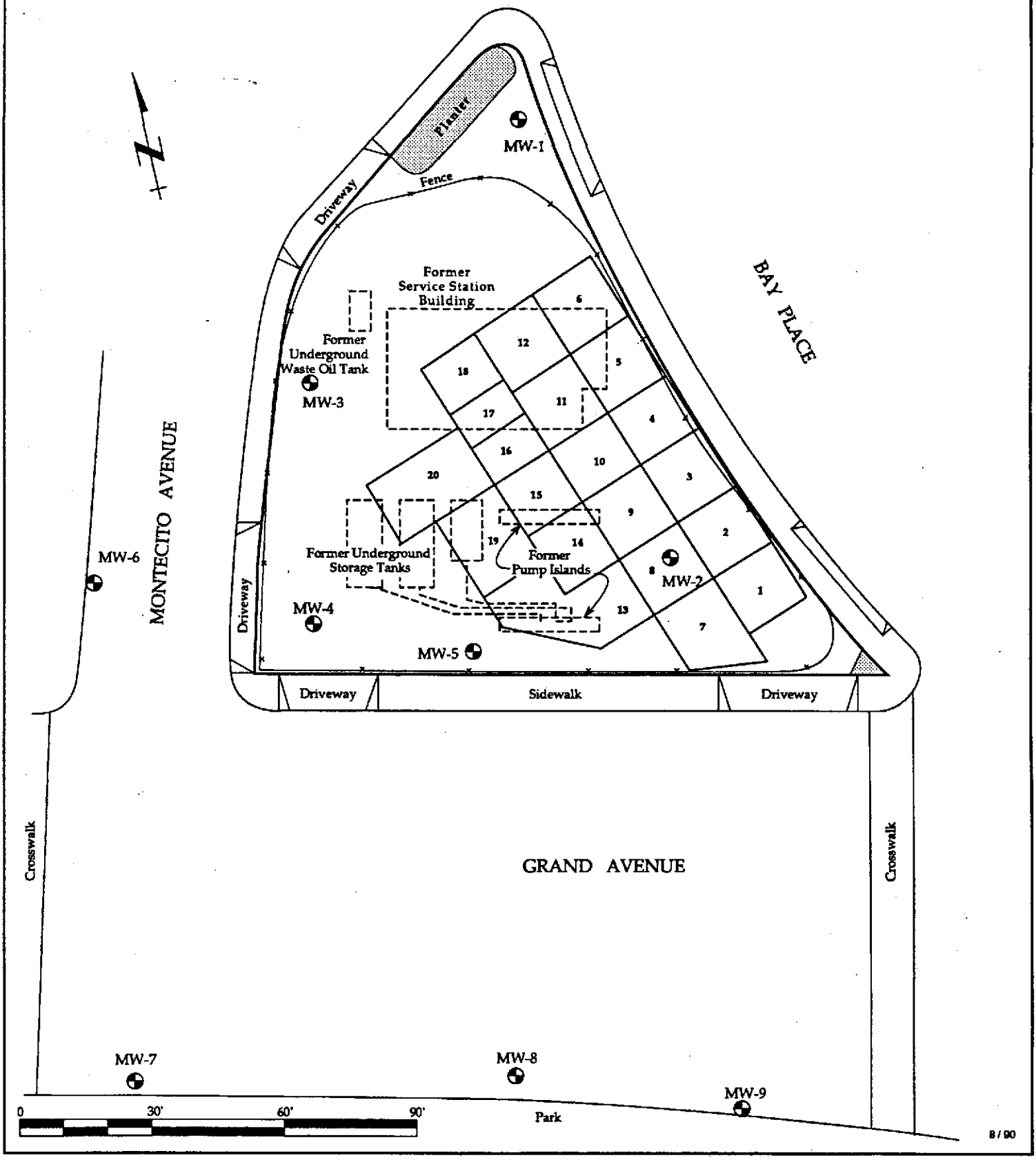
- MW-7 — Monitor Well location
- Stockpile location
- 14 a-d — Composite soil stockpile sample location, collected 20 June 1990 by BTS
- 1-MC* — Soil stockpile sample location, collected 2 July 1990 by WGR

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

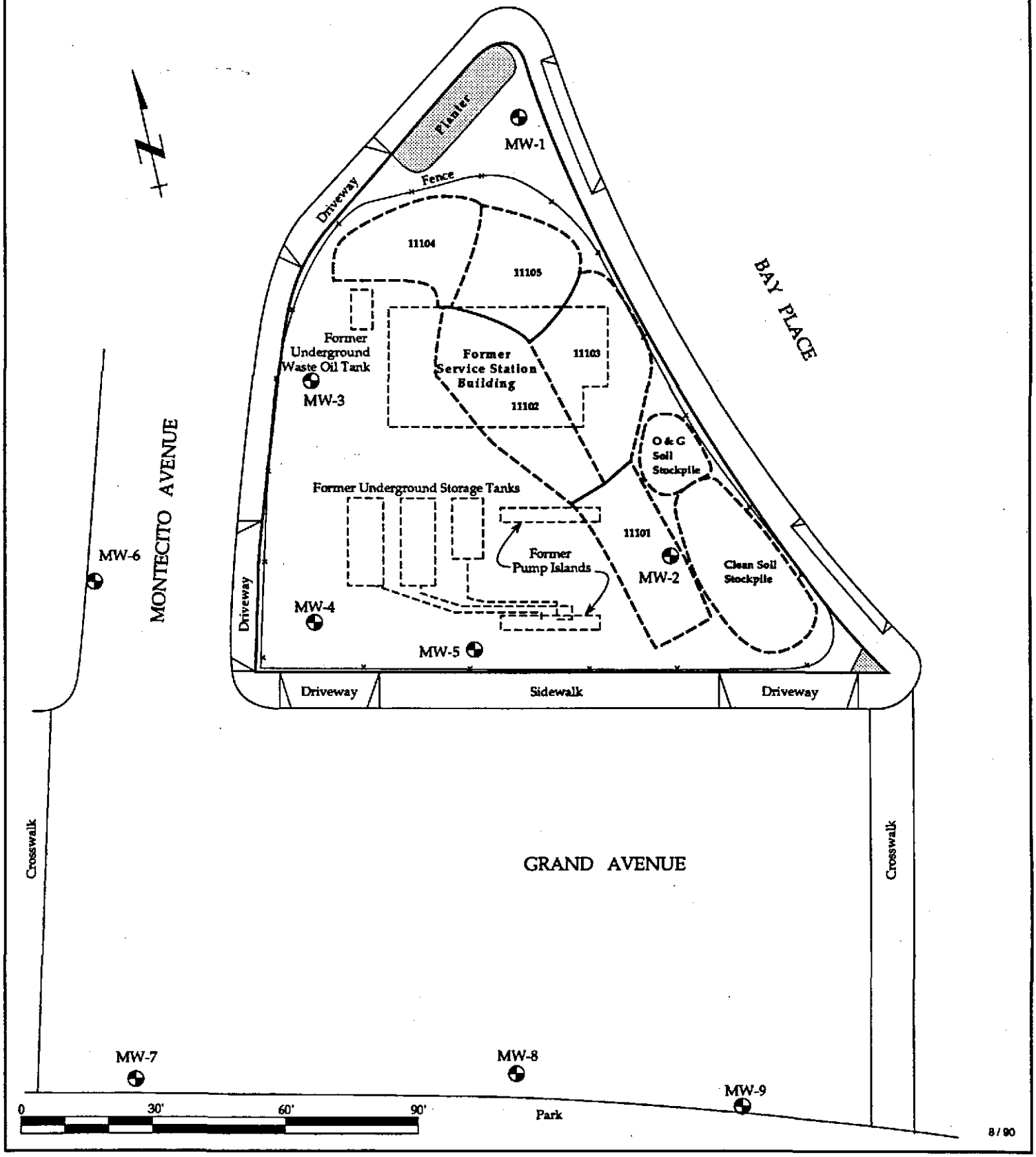
8 Stockpile Composite Sampling Grid and Number

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

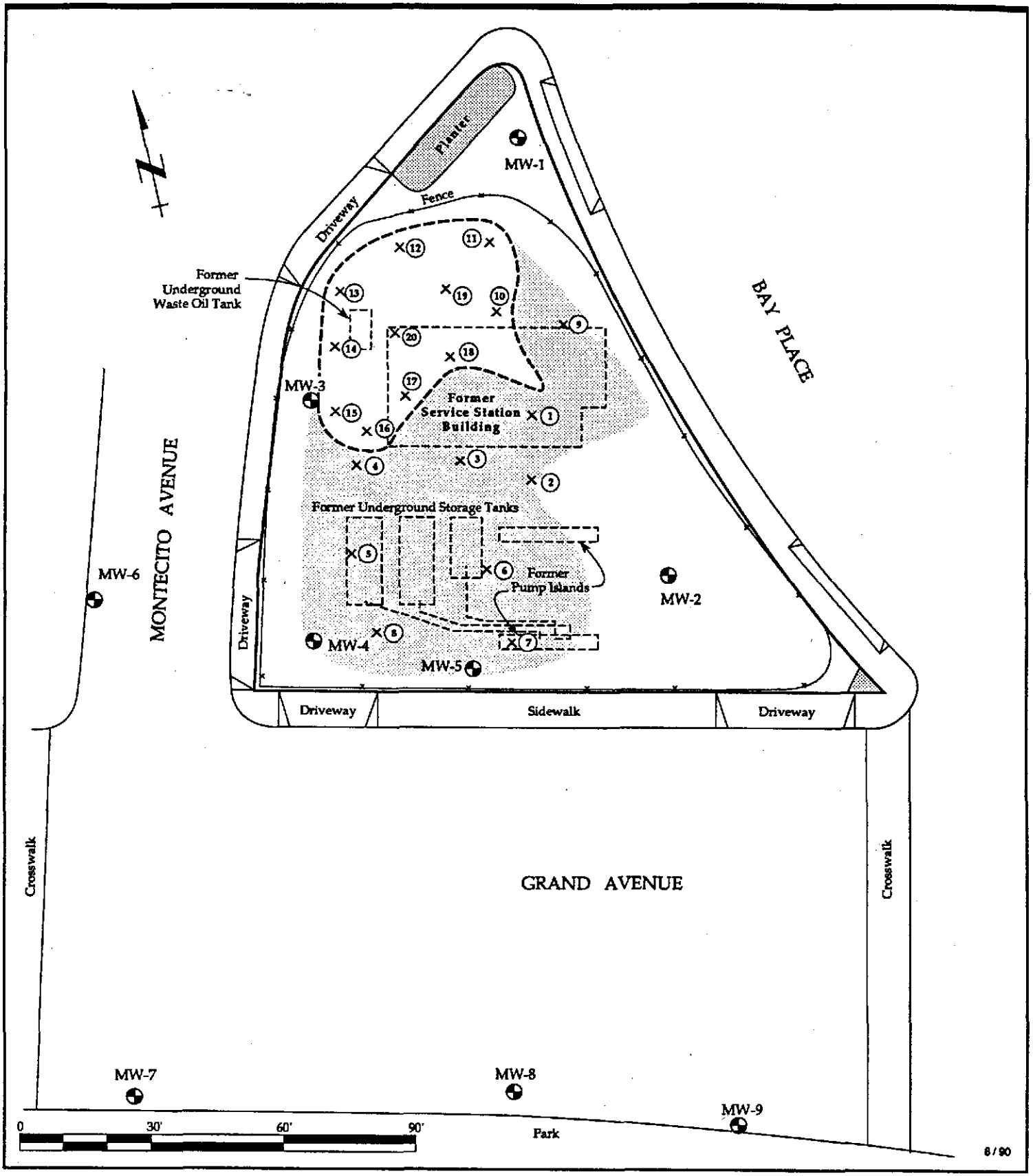
11103 Stockpile location and composite soil stockpile sample location, collected 11 January 1991

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

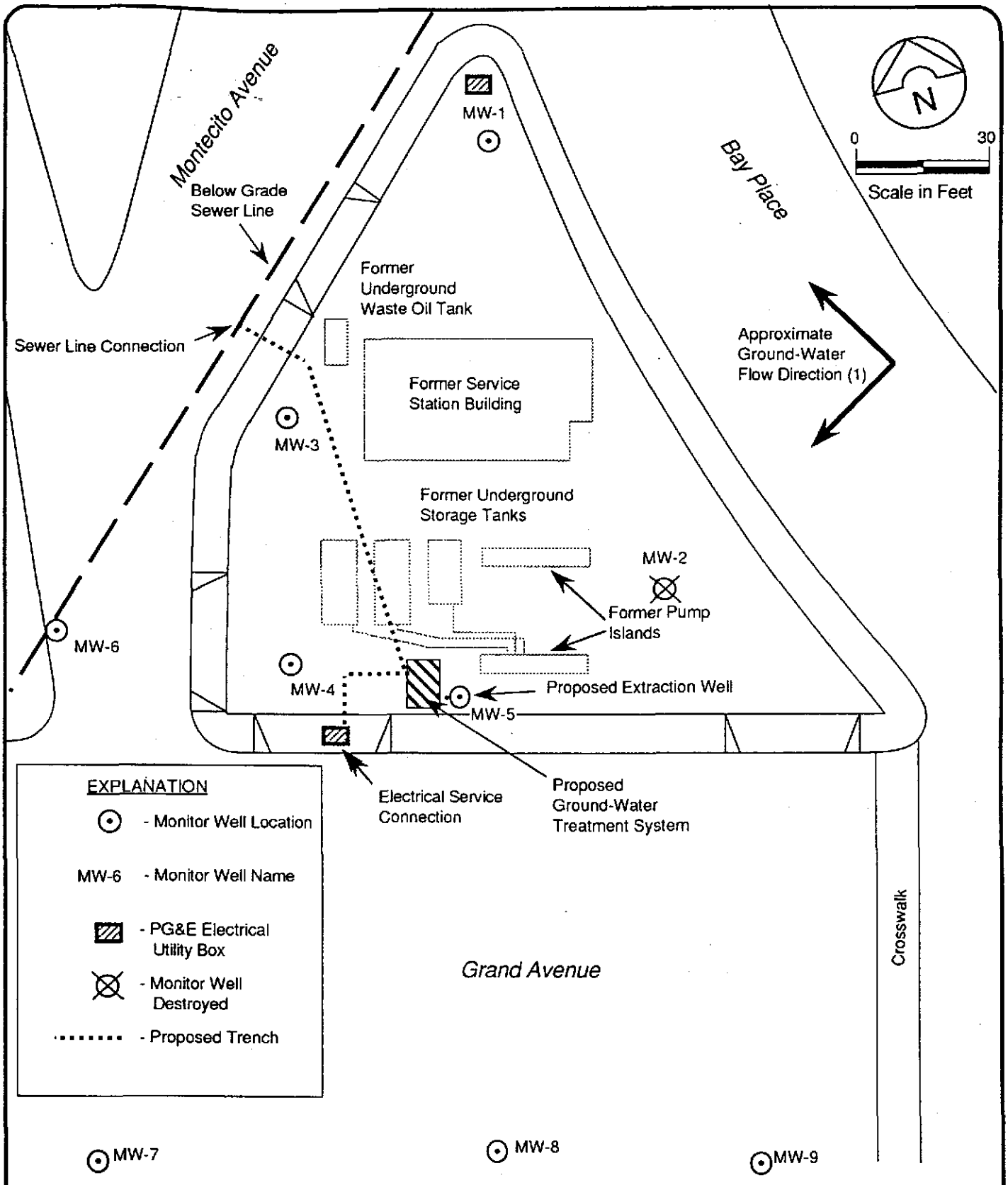
- MW-7 — Monitor Well Location
- (1) — Stockpile location and composite soil stockpile sample location, collected 2,3 July 1991
- Spread out soil

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



GERAGHTY & MILLER, INC.
Environmental Services

Project No. RC11000

Proposed Treatment System and Utility Locations
Former Chevron Service Station #9-0019
210 Grand Avenue
Oakland, California

FIGURE
3

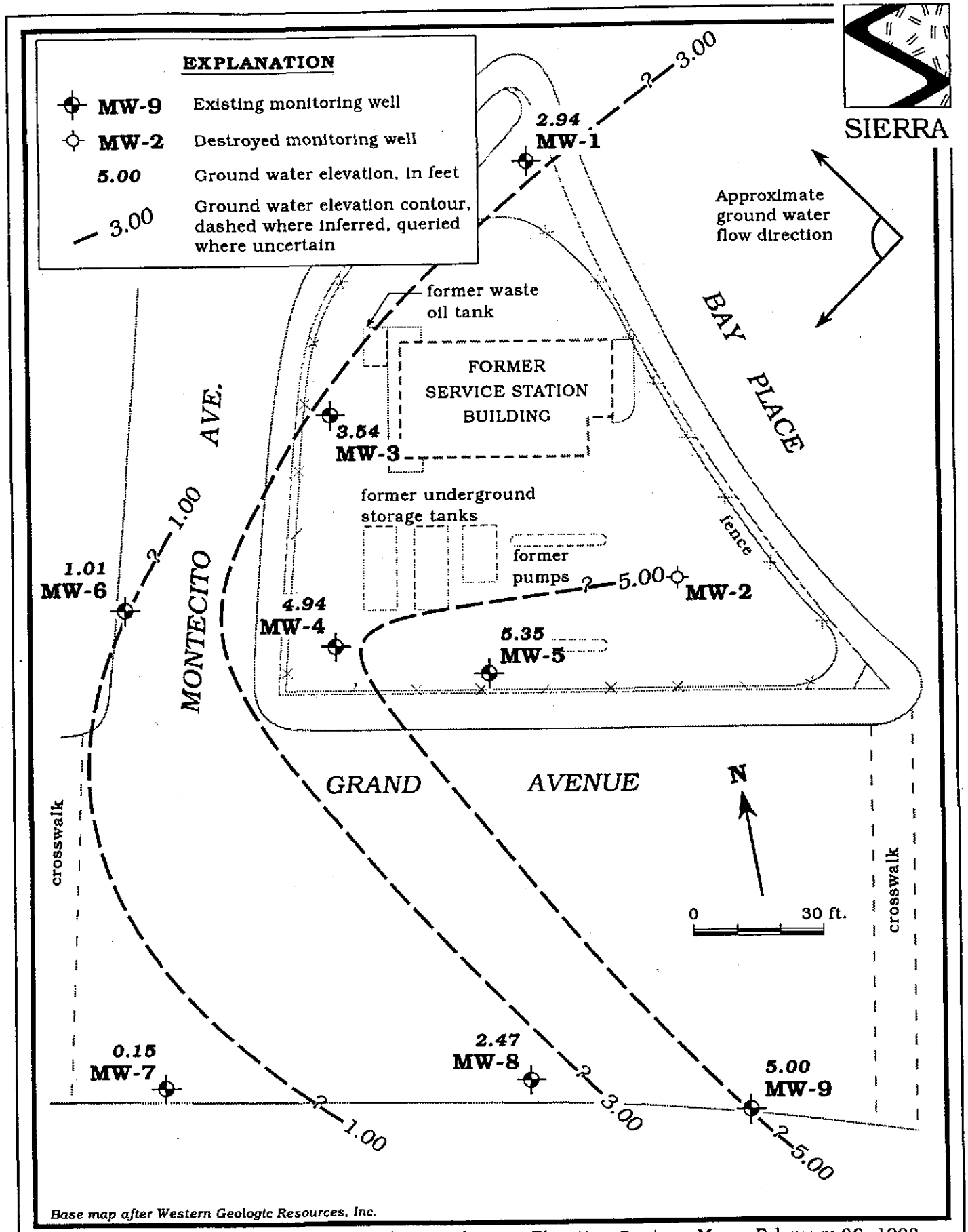
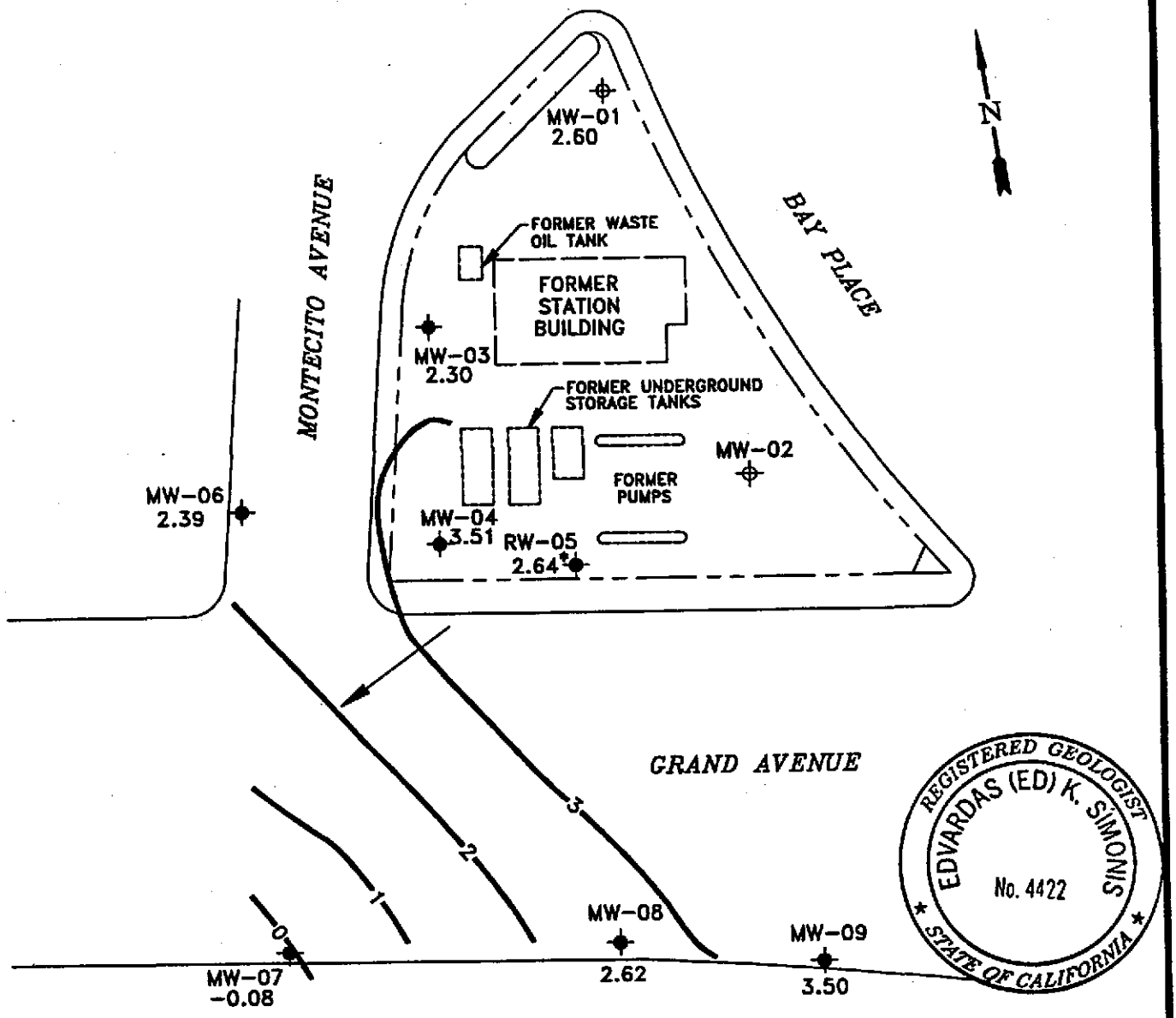


Figure 2. Monitoring Well Locations and Ground Water Elevation Contour Map – February 26, 1992 – Former Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California



LEGEND

- PROPERTY LINE
- MONITORING WELL
- ABANDONED MONITORING WELL
- X.XX — POTENTIOMETRIC SURFACE ELEVATION (FT)
- * — ANOMALOUS DATA; NOT USED IN CONTOURING
- POTENTIOMETRIC SURFACE CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTE:
1. CONTOURS REPRESENT APPROXIMATE ELEVATIONS RELATIVE TO MEAN SEA LEVEL.

GROUNDWATER TECHNOLOGY

0 FEET 40
SCALE

POTENTIOMETRIC SURFACE MAP (6/23/94)

CLIENT: CHEVRON U.S.A. PRODUCTS CO. SERVICE STATION No. 9-0019	FILE: 4096PSM, (1:40)	PROJECT NO.: 02010-4096	PM KJ	PE/RG EDS
	REV.			FIGURE: 1
LOCATION: 210 GRAND AVENUE OAKLAND, CALIFORNIA	DES. SS	DET. SS	DATE: 6/23/94	

WGR

TABLE 1. SOIL VAPOR SURVEY DATA
Chevron SS #90019
Oakland, California

ID#	DATE	DEPTH (ft)	BENZENE	TOLUENE	XYLENES	TVH
			<----------ppm---------->			
VP-1(A)	2 FEB 89	5.0	OP	200.0	160.0	6400.0
VP-1(B)	2 FEB 89	15.0	OP	ND	ND	52.0
VP-2(A)	2 FEB 89	5.0	43.0	31.0	6.7	190.0
VP-2(B)	2 FEB 89	15.0	OP	29.0	ND	5100.0
VP-3(A)	2 FEB 89	5.0	OP	ND	ND	41.0
VP-3(B)	2 FEB 89	15.0	ND	ND	ND	17.0
VP-4	2 FEB 89	5.0	OP	4700.0	180.0	4900.0
VP-5	2 FEB 89	5.0	OP	OP	OP	17000.0
VP-6(A)	2 FEB 89	5.0	29.0	120.0	160.0	410.0
VP-6(B)	2 FEB 89	15.0	ND	ND	ND	9.2
VP-7(A)	2 FEB 89	5.0	OP	OP	OP	13000.0
VP-7(B)	2 FEB 89	10.0	OP	OP	ND	73000.0
VP-8(A)	2 FEB 89	5.0	220.0	460.0	170.0	1000.0
VP-8(B)	2 FEB 89	13.0	OP	OP	ND	33000.0
VP-9	3 FEB 89	5.0	OP	OP	390.0	27000.0
VP-10	3 FEB 89	5.0	OP	OP	190.0	30000.0
VP-11	3 FEB 89	5.0	OP	OP	300.0	32000.0

TABLE 1 Continued

ID#	DATE	DEPTH (ft)	BENZENE	TOLUENE	XYLENES	TVH
			<----------ppm---------->			
VP-12(A)	3 FEB 89	5.0	OP	37.0	7.4	960.0
VP-12(B)	3 FEB 89	14.0	OP	20.0	ND	240.0

Notes:
ND = Not Detected (less than 6 ppm method detection limit)
OP = Overlapping Peaks (unable to resolve)
TVH = Total Volatile Hydrocarbons

TABLE 1 - ANALYTIC RESULTS: SOIL
Chevron SS #90019, Oakland, CA

SOIL RESULTS BY: EPA METHOD 8260 - "FUEL FINGERPRINT ANALYSIS"

SAMPLE ID#	DATE	DEPTH (FT)	BENZENE	TOLUENE	ETHYLBENZ	XYLENES	EDC	EDB	TPPH (G)
			<------			ppm			------>
B-1-5.0	8 Mar 89	5.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-1-10.0	8 Mar 89	10.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-1-13.0	8 Mar 89	13.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-2-5.0	8 Mar 89	5.0	4.5	16.0	8.4	32.0	0.2	<0.1	340.0
B-2-10.0	8 Mar 89	10.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-2-13.5	8 Mar 89	13.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-2-16.5	8 Mar 89	16.5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.5
B-4-5.0	9 Mar 89	5.0	0.2	1.1	1.0	4.0	<0.1	<0.1	30.0
B-4-5.0 (dup.)	9 Mar 89	5.0	0.4	1.3	0.83	4.4	<0.1	<0.1	30.0
B-4-8.5	9 Mar 89	8.5	<0.05	0.05	0.05	0.13	<0.05	<0.05	240.0
B-4-13.5	9 Mar 89	13.5	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.5
B-4-16.5	9 Mar 89	16.5	0.031	0.037	0.014	0.057	<0.005	<0.005	6.0
B-5-5.5	9 Mar 89	5.5	3.4	13.0	8.3	29.0	0.06	<0.05	390.0
B-5-10.0	9 Mar 89	10.0	2.0	0.12	0.27	0.43	<0.05	<0.05	30.0
B-5-13.0	9 Mar 89	13.0	0.43	0.07	0.20	0.46	<0.05	<0.05	52.0
B-5-15.0	9 Mar 89	15.0	0.12	0.03	0.04	0.15	<0.05	<0.05	28.0

Notes:

Analyses by Central Coast Analytical Services, Inc.
< = Less than indicated detection limit
ETHYLBENZ = Ethylbenzene
EDC = 1,2-Dichloroethane
EDB = Ethylene Dibromide
TPPH (G) = Total Purgeable Petroleum Hydrocarbons characterized as gasoline
(dup.) = Duplicate sample

TABLE 2 - ANALYTIC RESULTS: SOIL
Chevron SS #90019, Oakland, CA

SOIL RESULTS BY: EPA METHOD 8260 - "FULL-SCAN ANALYSIS"
CS METHOD 503E - OIL AND GREASE (O & G)

SAMPLE ID#	DATE	DEPTH (FT)	BENZENE	TOLUENE	E-BEN	XYLENES	EDC	ACETONE	TPPH(G)	O & G
			ppb							ppm
B-3-5.0:	9 Mar 89:	5.0	860.0:	2500.0:	2300.0:	10000.0:	61.0:	770.0:	130000.:	---
B-3-5.0:	9 Mar 89:	5.0	---	---	---	---	---	---	---	<50.0:
B-3-10.0:	9 Mar 89:	10.0	5.0:	7.0:	<5.0:	<5.0:	<5.0:	<100.0:	<100.0:	---
B-3-10.0:	9 Mar 89:	10.0	---	---	---	---	---	---	---	<50.0:
B-3-15.0:	9 Mar 89:	15.0	<3.0:	<5.0:	<5.0:	<5.0:	<5.0:	<100.0:	<100.0:	---
B-3-15.0:	9 Mar 89:	15.0	---	---	---	---	---	---	---	160.0:
B-3-18.0:	9 Mar 89:	18.0	<3.0:	<5.0:	<5.0:	<5.0:	<5.0:	<100.0:	<100.0:	---
B-3-18.0:	9 Mar 89:	18.0	---	---	---	---	---	---	---	360.0:

Notes:

Analyses by Central Coast Analytical Services, Inc.
CS METHOD = California Standard Method
< = Less than indicated detection limit
E-BEN = Ethylbenzene
EDC = 1,2-Dichloroethane
TPPH (G) = Total Purgeable Petroleum Hydrocarbons characterized as gasoline
O & G = Oil and Grease reported in parts-per-million (ppm)

Table 5. Water Wells Within a One-Half Mile Radius of Chevron SS# 90019
Oakland, CA

No.	Owner	Owner's Address	Well Location	Year Drilled	Use
1.	PG&E	4801 Oakport Street Oakland, CA	Adams & Lee Streets Oakland, CA	1974	Cathodic Protection
2-4.	Shell Oil Company	2800 Telegraph Ave. Oakland, CA	NE corner of Telegraph and 28th Street Oakland, CA	1988	Monitoring
5-8.	Texaco USA	10 Universal City Plaza Los Angeles, CA	W Corner of Intersection of Grand & Telegraph	1988	Monitoring
9.	B.P.O.E.	SE corner of 20th and Broadway	same	?	?
10.	Leamington Hotel	19th & Franklin	same	?	?
11.	Raymond Hotel	1461 Alice Street	same	?	?
12.	Lakeside Corp (Bechtel)	244 Lakeside	100'NW of Jackson 200'SW of Lakeside	1977	Irrigation

Table 2: **Groundwater Analytical Results**
Former Chevron Service Station #9-0019
210 Grand Avenue, Oakland, California

Sample	Date	TPH as Gasoline (µg/L) (a)	Benzene (µg/L) (b)	Toluene (µg/L) (b)	Ethylbenzene (µg/L) (b)	Xylenes (µg/L) (b)
Influent	22-Mar-93	6,700	3,900	590	130	600
	30-Mar-93	15,000	2,900	610	83	610
	20-Apr-93	6,000	970	260	26	400
	12-May-93	3,900	620	140	20	180
	10-Jun-93	2,000	430	46	ND(<5)	110
	21-Jul-93	2,200	480	68	15	94
	29-Jul-93	3,600	560	52	6.7	120
	18-Aug-93	550	27	3.5	2.6	9.3
	9-Sep-93	650	ND(<0.5)	3.8	ND(<0.5)	9.1
	14-Oct-93	2,800	1,100	250	39	110
	15-Nov-93	2,800	300	55	14	56
	13-Dec-93	6,500	1,300	270	75	180
Intermediate	22-Mar-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	30-Mar-93	ND(<50)	0.5	ND(<0.5)	ND(<0.5)	ND(<1.5)
	20-Apr-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	12-May-93	ND(<50)	1.4	0.7	ND(<0.5)	ND(<1.5)
	10-Jun-93	71	7.2	2.7	ND(<0.5)	8.9
	21-Jul-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	29-Jul-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	18-Aug-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	9-Sep-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	2.3
	14-Oct-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	15-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	13-Dec-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
Effluent	22-Mar-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	30-Mar-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	20-Apr-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	12-May-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	10-Jun-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	21-Jul-93	61	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	29-Jul-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	18-Aug-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	9-Sep-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	14-Oct-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	15-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	13-Dec-93	NS	NS	NS	NS	NS

Table 1: **Flow Totalizer Readings**
Former Chevron Service Station #9-0019
210 Grand Avenue, Oakland, California.

Date	Totalizer Reading (Gallons)		Gallons Discharged This Period	Cumulative Gallons	Days Since Previous Reading	Average Discharge Rate (GPM)	Notes
1-Jan-93	0		0	0		0	System nonoperational
11-Mar-93	16	(a)	0	0		0	Startup
12-Mar-93	16		0	0	1	0.00	Low flow; no sample taken
22-Mar-93	16		0	0	10	0.00	Sampling
30-Mar-93	300		284	284	8	0.02	Sampling
20-Apr-93	793		493	777	21	0.02	
12-May-93	1,204		412	1,188	22	0.01	
10-Jun-93	1,713		509	1,697	29	0.01	1,413 gal. discharged this quarter
29-Jul-93	1,762		49	1,746	49	0.001	Sampling
18-Aug-93	1,900		138	1,884	20	0.005	Sampling
9-Sep-93	2,113		213	2,097	22	0.01	400 gal. discharged this quarter
14-Oct-93	2,229		116	2,213	35	0.002	Sampling
15-Nov-93	2,380		151	2,364	32	0.003	Sampling
13-Dec-93	2,502		122	2,486	28	0.003	**389 gal. discharged this quarter**

GPM = Gallons per minute
(a) Meter not zeroed when system began operation.

Table 2: **Groundwater Analytical Results**
Former Chevron Service Station #9-0019
210 Grand Avenue, Oakland, California

Sample	Date	TPH as Gasoline (µg/L) (a)	Benzene (µg/L) (b)	Toluene (µg/L) (b)	Ethylbenzene (µg/L) (b)	Xylenes (µg/L) (b)
Trip Blank	22-Mar-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	30-Mar-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	20-Apr-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	12-May-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	10-Jun-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	18-Aug-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	9-Sep-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)
	14-Oct-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)
	15-Nov-93	ND(<50)	ND(<0.5)	ND(<0.5)	ND(<0.5)	ND(<1.5)

(a) Analyzed by USEPA Method 8015, modified.
(b) Analyzed by USEPA Method 8020.

TPH Total petroleum hydrocarbons
µg/L Micrograms per liter
ND( ) Laboratory method detection limit; limit in parentheses
NS Not sampled

TABLE OF SAMPLING LOCATIONS AND ANALYTICAL RESULTS

NOTE: Analytical results are reported in Parts Per Million or Parts Per Billion

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM TPH AS GAS	PPM BEN-ZENE	PPM TOL-UENE	PPM ETHYL BEN-ZENE	PPM XY-LENES
TANK PIT														
WALL	7.5	LIA	CAPILLAR	SOIL	06/20/90	900620-G-1	#5	SEQUOIA	006-3052	ND	ND	ND	ND	ND
	7.0	LIA	CAPILLAR	SOIL	06/20/90	900620-G-1	#6	SEQUOIA	006-3053	3.3	0.075	0.012	0.033	0.051
	6.5	LIA	CAPILLAR	SOIL	06/20/90	900620-G-1	#7	SEQUOIA	006-3054	ND	ND	ND	ND	ND
	4.0	ELECTIVE	EXPLOR	SOIL	06/20/90	900620-G-1	#8	SEQUOIA	006-3055	ND	0.011	ND	0.025	0.0054
	7.0	LIA	CAPILLAR	SOIL	06/20/90	900620-G-1	#9	SEQUOIA	006-3056	13	0.10	0.30	0.18	0.54
PRODUCT LINES														
PL	3.0	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#10	SEQUOIA	006-3057	160	2.9	13	4.4	19
	3.0	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#11	SEQUOIA	006-3058	100	1.7	0.36	5.1	2.9
	3.0	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#12	SEQUOIA	006-3059	67	2.8	7.7	1.4	9.0
	3.0	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#13	SEQUOIA	006-3060	5.1	0.84	0.43	0.19	0.74
STOCK	12"	STANDARD	BAAQMD-M	SOIL	06/20/90	900620-G-1	#14A-D	SEQUOIA	0063062 A-D	3.1	ND	0.0097	0.0086	0.025
	12"	STANDARD	BAAQMD-M	SOIL	06/20/90	900620-G-1	#15A-D	SEQUOIA	0063063 A-D	11	ND	0.061	0.078	0.47
	12"	STANDARD	BAAQMD-M	SOIL	06/20/90	900620-G-1	#17A-D	SEQUOIA	0063061 A-D	290	0.33	6.3	4.7	31

Standard - The location conformed to established (professional or regulatory) definitions for the type of sample being collected. Example: a standard RWQCB interface sample.

LIA - The local implementing agency inspector chose a sampling location that was different from a standard (pre-defined) location.

Elective - Elective samples are not taken to comply with regulatory requirements, but to obtain information. Sampling locations may be chosen by the property owner, the contractor, a consultant, etc. The samples may or may not be analyzed.

TABLE OF SAMPLING LOCATIONS AND ANALYTICAL RESULTS

NOTE: Analytical results are reported in Parts Per Million or Parts Per Billion

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM TPH AS GAS	PPM BENZENE	PPM TOLUENE	PPM ETHYL BENZENE	PPM XYLENES
WoF	11.5	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#3	SEQUOIA	006-3049	41	0.085	0.33	0.20	1.6
	10.0	ELECTIVE	EXPLOR	SOIL	06/20/90	900620-G-1	#4	SEQUOIA	006-3050	ND	ND	ND	ND	ND
	12.0	ELECTIVE	EXPLOR	SOIL	06/20/90	900620-G-1	#18	SEQUOIA	006-3051	69	0.29	2.1	1.2	4.0
WoSTK	12"	STANDARD	BAAQMD-M	SOIL	06/20/90	900620-G-1	#16A-D	SEQUOIA	0063064 A-D	960,000	14,000	99,000	31,000	120,000

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM TPH-HBF DIESEL	PPM TOTAL OIL & GREASE	PPB EPA 8010 COMPOUNDS
WoF	11.5	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#3	SEQUOIA	006-3049	190	3,600	SEE LAB REPORT
	10.0	ELECTIVE	EXPLOR	SOIL	06/20/90	900620-G-1	#4	SEQUOIA	006-3050	ND	170	SEE LAB REPORT
	12.0	ELECTIVE	EXPLOR	SOIL	06/20/90	900620-G-1	#18	SEQUOIA	006-3051	140	650	ND
WoSTK	12"	STANDARD	BAAQMD-M	SOIL	06/20/90	900620-G-1	#16A-D	SEQUOIA	0063064 A-D	510	6,400	ND
HYDRAULIC LIFTS												
HL	8.0	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#1	SEQUOIA	006-3047	ND	100	--
	8.0	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#2	SEQUOIA	006-3048	180	1,300	--

I.D. GIVEN THIS SAMPLE AREA	SAMPLE DEPTH IN FT. BELOW GRADE	SAMPLING LOCATION DICTATED BY	TYPE & METHOD FOR THE SAMPLE OBTAINED	SAMPLE MATRIX	DATE SAMPLED	BTS CHAIN OF CUSTODY I.D.	BTS SAMPLE I.D.	NAME OF DOHS HMTL LABORATORY	LABORATORY SAMPLE I.D.	PPM CADMIUM	PPM CHROMIUM	PPM LEAD	PPM ZINC
WoF	11.5	LIA	INTRFACE	SOIL	06/20/90	900620-G-1	#3	SEQUOIA	006-3049	ND	39	20	43
	10.0	ELECTIVE	EXPLOR	SOIL	06/20/90	900620-G-1	#4	SEQUOIA	006-3050	ND	41	3.1	26
	12.0	ELECTIVE	EXPLOR	SOIL	06/20/90	900620-G-1	#18	SEQUOIA	006-3051	ND	22	2.6	15
WoSTK	12"	STANDARD	BAAQMD-M	SOIL	06/20/90	900620-G-1	#16A-D	SEQUOIA	0063064 A-D	ND	26	18	44

Standard - The location conformed to established (professional or regulatory) definitions for the type of sample being collected. Example: a standard RWQCB interface sample.

LIA - The local implementing agency inspector chose a sampling location that was different from a standard (pre-defined) location.

Elective - Elective samples are not taken to comply with regulatory requirements, but to obtain information. Sampling locations may be chosen by the property owner, the contractor, a consultant, etc. The samples may or may not be analyzed.

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

Swall w oil left in place?

no

1-101.06\S1AG1.wk1

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							
W wall w. oil	123-01	23 Jan 91	<1	<0.005	<0.005	<0.005	<0.005	<50	SAL	EPA 8015/8020; SM 503 D&E
W wall w. oil	123-02	23 Jan 91	<1	<0.005	<0.005	<0.005	<0.005	380	SAL	EPA 8015/8020; SM 503 D&E
W wall gas pit	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
Left in place >	04291.07, 08 Comp	29 Apr 91	1,100	4.2	48	24	84	---	SAL	EPA 8015/8020
Bay Pl. piping	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
Oakaind, 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

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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 3. Analytic Results: Groundwater Samples - Metals
Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

Well ID #	Date	Cadmium	Chromium	Lead	Zinc
		<----------ppb---------->			
MW-6	---	---	---	---	---
MW-7	6 Jul 90	37	190	5	<40
MW-8	6 Jul 90	79	960	100	790
MW-9	6 Jul 90	<20	48	18	180

NOTES:

ppb = parts-per-billion
--- = Not analyzed
< = Less than listed detection limit
All samples analyzed by GTEL Environmental Laboartories, Inc., Concord, California by EPA Method 3005/6010 for total threshold limit concentration in water.

TABLE 4. Analytic Results: Soil Samples
Former CHevron Service Station #90019
210 Grand Avenue
Oakland, California

Sample ID #	Date	Depth (ft)	TPPH/TPH	Benzene	Toluene	E-Benzene	Xylenes	O&G	Cd	Cr	Pb	Zn	EPA Methods
			<--------				ppm						-------->
MW-6-5.5	29 Jun 90	5.5	<10	<0.005	<0.005	0.01	<0.015	<5	1	29	6	22	8015/8020/8010/413.2/6010
MW-6-8.7	29 Jun 90	8.7	<10	<0.005	<0.005	0.01	<0.015	<5	3	26	15	46	8015/8020/8010/413.2/6010
MW-6-11.7	29 Jun 90	11.7	<10	<0.005	<0.005	<0.005	<0.015	<5	3	24	15	51	8015/8020/8010/413.2/6010
MW-7-4.5	27 Jun 90	4.5	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020
MW-7-6.5	27 Jun 90	6.5	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020/8010
MW-7-10.3	27 Jun 90	10.3	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020
MW-8-4.8	27 Jun 90	4.8	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020
MW-8-7.0	27 Jun 90	7.0	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020/8010
MW-8-12.0	27 Jun 90	12.0	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020
MW-9-5.0	28 Jun 90	5.0	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020
MW-9-6.8	28 Jun 90	6.8	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020/8010
MW-9-10.3	28 Jun 90	10.3	<10	<0.005	<0.005	<0.005	<0.015	---	---	---	---	---	8015/8020

NOTES:

TPPH/TPH = Total Purgeable Petroleum Hydrocarbons as gasoline/
Total Petroleum Hydrocarbons as gasoline, diesel and waste oil
E-Benzene = Ethylbenzene
O&G = Oil and Grease
Cd = Cadmium, total threshold limit concentration in soil
Cr = Chromium, total threshold limit concentraton in soil
Pb = Lead, total threshold limit concentration in soil
Zn = Zinc, total threshold limit concentration in soil
ppm = parts-per-million
< = Less than listed detection limit
--- = Not analyzed

1-101.04/S4AG0.WK1

TABLE 5. Wells Located Within One-Half Mile Radius
of Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

Map Location Number	Well Owner	Well Address	City	No. of Wells	Date Drilled	Use
1	Eagan & Co.	172 Santa Clara Street	Oakland	1	6/89	Mon.
2	Five City Center, City of Oakland	Crn of Clay & 14th Street	Oakland	3	9/88	Des.
3	PG&E	Adams & Lee Street	Oakland	1	8/74	Cat.
4	Ehler Contractors	225 27th Street	Oakland	3	6/89	Mon.
5	Quick Stop Mkts.	363 Grand Avenue	Oakland	4	11/88, 12/88	Mon.
6	Texaco Inc.	500 Grand Avenue	Oakland	2	3/89	Mon.
7	Shell Oil Co.	2800 Telegraph Avenue	Oakland	3	4/88	Mon.
8	Shell Oil Co.	2800 Telegraph Avenue	Oakland	4	10/88	Mon.
9	Shell Oil Co.	2800 Telegraph Avenue	Oakland	3	9/89	Mon.
10	Shell Oil Co.	2800 Telegraph Avenue	Oakland	3	7/89	Mon.
11	Shell Oil Co.	2800 Telegraph Avenue	Oakland	1	10/89	Mon.
12	Broadway VW	2740 Broadway	Oakland	3	1/89	Mon.
13	Oakland Tribune	23rd & Valdez	Oakland	3	8/88	Mon.
14	Morrison & Forestor	2302 Valdez Street	Oakland	4	8/89	Mon.
15	Texaco Station #62488000195	2225 Telegraph Avenue	Oakland	6	7/88	Mon.
16	Texaco Station #62488000195	2225 Telegraph Avenue	Oakland	6	12/88	Mon.
17	Carter-Hawley-Hale	1911 Telegraph Avenue	Oakland	1	3/88	Test
18	Bank of America	21st Street & Broadway	Oakland	1	11/88	Mon.
19	Lakeside Corp (Bechtel)	244 Lakeside	Oakland	1	77	Irr.
20	Chevron	17th & Harrison NW	Oakland	3	10/88	Mon.
21	Chevron	17th & Harrison NW	Oakland	4	6/90	Mon.
22	Chevron	17th & Harrison NW	Oakland	5	4/89	Mon.

TABLE 5. Wells Located Within One-Half Mile Radius (continued)
of Former Chevron Service Station #90019
210 Grand Avenue
Oakland, California

NOTES:

Wells = 40 in 1/2-mile radius
Total = 58
Mon. = Monitor well
Cat. = Cathodic Protection
Test = Test well
Irr. = Irrigation well
Des. = Destroyed

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-1	03/14/89	6.74	0.00	2.89
9.63	06/08/89	7.14	0.00	2.49
	09/14/89	7.21	0.00	2.42
	12/08/89	7.29	0.00	2.34
	03/19/90	7.00	0.00	2.63
	07/06/90	7.13	0.00	2.50
	10/03/90	7.53	0.00	2.10
	08/23/91	7.06	0.00	2.57
	11/22/91	7.47	0.00	2.16
	02/26/92	6.69	0.00	2.94
	05/22/92	6.96	0.00	2.67
	09/29/92	7.19	0.00	2.44
	12/23/92	7.03	0.00	2.60
	03/22/93	6.60	0.00	3.03
	06/07/93	6.97	0.00	2.66
	09/10/93	7.08	0.00	2.55
	03/07/94	6.83	0.00	2.80
	06/16/94	7.03	0.00	2.60
	09/08/94	7.10	0.00	2.53
MW-2	03/14/89	6.08	0.00	2.91
8.99	06/08/89	5.22	0.00	3.77
	09/14/89	5.95	0.00	3.04
	12/08/89	9.25	0.00	-0.26
	03/19/90	5.92	0.00	3.07
9.01	07/06/90	6.79	0.00	2.22
	10/03/90	---	---	---
	08/23/91	---	---	---
	03/22/93	---	---	---
	11/22/91	Well destroyed (11/15/91)		

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-3	03/14/89	6.02	0.00	2.16
8.19	06/08/89	5.88	0.00	2.30
	09/14/89	6.30	0.00	1.88
	12/08/89	9.52	0.00	-1.34
	03/19/90	6.17	0.00	2.01
8.19	07/06/90	7.52	0.00	0.67
	10/03/90	7.31	0.00	0.88
	08/23/91	5.65	0.00	2.53
	11/22/91	6.78	0.00	1.41
	02/26/92	4.65	0.00	3.54
	05/22/92	5.56	0.00	2.63
	09/29/92	6.23	0.00	1.96
	12/23/92	5.82	0.00	2.37
	03/22/93	4.92	0.00	3.27
	06/07/93	5.69	0.00	2.50
	09/10/93	6.04	0.00	2.15
	03/07/94	5.15	0.00	3.04
	06/16/94	5.89	0.00	2.30
	09/08/94	6.06	0.00	2.13
MW-4	03/14/89	5.52	0.00	2.08
7.60	06/08/89	4.19	0.00	3.41
	09/14/89	4.80	0.00	2.80
	12/08/89	4.86	0.00	2.74
	03/19/90	4.65	0.00	2.95
7.59	07/06/90	6.42	0.00	1.17
	10/03/90	6.39	0.00	1.20
	08/23/91	4.42	0.00	3.17
	11/22/91	5.38	0.00	2.21
	02/26/92	2.65	0.00	4.94
	05/22/92	3.96	0.00	3.63
	09/29/92	4.68	0.00	2.91
	12/23/92	3.63	0.00	3.96
	03/22/93	2.90	0.00	4.69
	06/07/93	3.89	0.00	3.70
	09/10/93	4.52	0.00	3.07
	03/07/94	3.15	0.00	4.44
	06/16/94	4.08	0.00	3.51
	09/08/94	4.55	0.00	3.04

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
RW-5	03/14/89	6.98	0.00	1.37
8.35	06/08/89	4.73	0.00	3.62
	09/14/89	5.37	0.00	2.98
	12/08/89	9.13	0.00	-0.78
	03/19/90	5.12	0.00	3.23
	07/06/90	5.81	0.00	2.54
	10/03/90	6.90	0.00	1.45
	08/23/91	5.05	0.00	3.30
	11/22/91	6.25	0.00	2.10
	02/26/92	3.00	0.00	5.35
	05/22/92	4.49	0.00	3.86
	09/29/92	4.85	0.00	3.50
	12/23/92	3.58	0.00	4.77
	03/22/93	---	---	---
	06/07/93	12.17	0.00	-3.82
	09/10/93	8.50	0.00	-0.15
	03/07/94	3.05	0.00	5.30
	06/16/94	5.71	0.00	2.64
	07/08/94	5.92	0.00	2.43
	09/08/94	5.31	Sheen	3.04
MW-6	07/06/90	9.09	0.00	-2.53
6.56	10/03/90	5.78	0.00	0.78
	08/23/91	7.49	0.00	-0.93
	11/22/91	7.63	0.00	-1.07
	02/26/92	5.55	0.00	1.01
	05/22/92	6.94	0.00	-0.38
	09/29/92	6.80	0.00	-0.24
	12/23/92	5.99	0.00	0.57
	03/22/93	7.07	0.00	-0.51
	06/07/93	7.61	0.00	-1.05
	09/10/93	4.68	0.00	1.88
	03/07/94	5.22	0.00	1.34
	06/16/94	4.17	0.00	2.39
	09/08/94	4.60	0.00	1.96

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-7	07/06/90	5.85	0.00	-0.86
4.99	10/03/90	6.25	0.00	-1.26
	08/23/91	5.50	0.00	-0.51
	11/22/91	5.73	0.00	-0.74
	02/26/92	4.84	0.00	0.15
	05/22/92	4.89	0.00	0.10
	09/29/92	5.55	0.00	-0.56
	12/23/92	4.87	0.00	0.12
	03/22/93	4.05	0.00	0.94
	06/07/93	4.63	0.00	0.36
	09/10/93	5.56	0.00	-0.57
	03/07/94	4.65	0.00	0.34
	06/16/94	5.07	0.00	-0.08
	09/08/94	5.33	0.00	-0.34
MW-8	07/06/90	3.98	0.00	2.79
6.77	10/03/90	4.73	0.00	2.04
	08/23/91	4.76	0.00	2.01
	11/22/91	5.73	0.00	1.04
	02/26/92	4.30	0.00	2.47
	05/22/92	3.66	0.00	3.11
	09/29/92	---	---	---
	12/23/92	2.83	0.00	3.94
	03/22/93	4.38	0.00	2.39
	06/07/93	5.17	0.00	1.60
	09/10/93	5.16	0.00	1.61
	03/07/94	4.71	0.00	2.06
	06/16/94	4.15	0.00	2.62
	09/08/94	5.11	0.00	1.66

TABLE 1
GROUNDWATER MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well ID/ Elevation	Date	DTW (ft)	SPT (ft)	WTE (ft)
MW-9	07/06/90	4.61	0.00	3.02
7.63	10/03/90	5.14	0.00	2.49
	08/23/91	5.45	0.00	2.18
	11/22/91	5.48	0.00	2.15
	02/26/92	2.63	0.00	5.00
	05/22/92	4.00	0.00	3.63
	09/29/92	4.70	0.00	2.93
	12/23/92	3.76	0.00	3.87
	03/22/93	2.11	0.00	5.52
	06/07/93	3.28	0.00	4.35
	09/10/93	5.18	0.00	2.45
	03/07/94	3.02	0.00	4.61
	06/16/94	4.13	0.00	3.50
	09/08/94	4.79	0.00	2.84

DTW = Depth to water
SPT = Separate-phase hydrocarbon thickness
WTE = Water-table elevation
— = Not applicable, not sampled, not measured

Measurements referenced relative to mean sea level

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
MW-1	03/14/89	600	<0.2	<0.2	3.2	1.7	<3,000	1.0	<0.2	<20.0	<0.2
	06/08/89	<50	<0.1	<0.5	<0.1	<0.2	---	<0.5	<0.1	<20.0	<0.1
	09/14/89	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<1.0	0.7
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	03/19/90	190	0.8	<0.3	7	3	---	<0.5	<0.5	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	150	5.0	11	3.5	10	---	<0.5	<0.5	---	<0.5
	11/22/91	86	7.2	11	2.9	13	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	1.4	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	1	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/08/94	<50	1.3	1.5	<0.5	1.7	---	---	---	---	---
MW-2	03/14/89	<100	6.7	7.1	0.5	4.6	<3,000	<1.0	0.7	<20.0	<0.2
	06/09/89	<100	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<20.0	<0.2
	09/14/89	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	<0.2	<1.0	<0.2
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	03/19/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90[e]	---	---	---	---	---	---	---	---	---	---
	08/23/91[e]	---	---	---	---	---	---	---	---	---	---
	11/22/91[f]	---	---	---	---	---	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
MW-3	03/14/89	<100	2.1	0.8	<0.2	2	<3,000	<1	3	<20	<0.2
	06/09/89	<100	<0.5	<1.0	<0.2	<0.4	---	<1	3.3	<20	<0.2
	09/14/89	<50	<0.2	<1.0	<0.2	<0.4	---	<1.0	2.2	<1	<0.2
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	1.3	---	<0.5
	03/19/90	<50	<0.3	<0.3	<0.3	<0.6	---	0.5	1.3	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	0.83	---	<0.5
	08/23/91	220	16	22	5.5	16	---	<0.5	0.6	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	0.6	---	0.6	1.0	<0.5	<0.5
	02/26/92	<50	4.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	03/22/93	<50	7	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	03/07/94	<50	1	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	09/08/94	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5[o]

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
MW-4	03/14/89	3,000	810	200	30	130	<3,000	<20.0	<5.0	<20	<5
	06/09/89	900	440	13	22	40	---	<20.0	<5.0	60	<5
	09/14/89	540	220	2	6.1	9.3	---	<1.0	2.3	<1	<0.2
	12/08/89	150	18	<0.3	1	<0.6	---	<0.5	1.9	---	<0.5
	03/19/90	270	50	<0.3	0.7	<0.6	---	<0.5	0.8	---	<0.5
	07/06/90	140	0.7	<0.3	0.5	<0.6	---	<0.5	0.79	---	<0.5
	10/03/90	180	<0.3	<0.3	2	<0.6	---	<0.5	0.5	---	<0.5
	08/23/91	400	9.9	6.8	3.1	7.1	---	<0.5	<0.5	---	<0.5
	11/22/91	130	3.4	1.3	3.5	6	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	520	15	2.7	6.1	8.6	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	460	20	2.8	5	6.9	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	160	1.1	1.7	0.8	2.8	---	<0.5	<0.5	---	<0.5
	12/23/92	110	0.7	0.5	0.9	1.7	---	---	---	---	---
	03/22/93	930	9	3	7	8	---	---	---	---	---
	06/07/93	240	2	0.9	3	3	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	0.8	<0.5	---	---	---	---	---
	03/07/94	550	3	3	8	12	---	---	---	---	---
	06/16/94	150	<0.5	0.6	1.5	0.7	---	---	---	---	---
	09/08/94	<50	<0.5	<0.5	<0.5	1.2	---	---	---	---	---

GROUNDWATER TECHNOLOGY

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
RW-5	03/14/89	20,000	6,600	1,600	270	1,100	<3,000	<100	<20	<20	<20
	06/09/89	15,000	>2,800	270	240	640	---	<20	28	<20	<5
(D)	06/09/89	12,000	5,100	300	240	700	---	<200	<50	<20	<50
	09/14/89	15,000	>730	>320[b]	>290[b]	440	---	<10	<2	<20	<2
(D)	09/14/89	15,000	3,300	450	490	730	---	<100	<20	100	<20
(T)	09/14/89	16,000	3,100	550	400	690	---	<50	<10	<50	<10
	12/08/89	20,000	4,600	640	390	1,300	---	<0.5	27	---	<0.5
	03/19/90	25,000	6,500	1,200	450	2,200	---	<0.5	10	---	0.7
	06/06/90	30,000	5,600	890	210	1,400	---	<0.5	<0.5	---	<0.5[e]
	10/03/90	29,000	6,000	790	270	1,500	---	<0.5	<0.5	---	<0.5[d]
	08/23/91	36,000	6,100	1,200	460	2,600	---	<0.5	3.9	---	<0.5[e]
	11/22/91	21,000	8,000	1,500	530	2,600	---	<0.5	3.9	<0.5	<0.5[f,m]
	02/26/92	43,000	14,000	1,600	640	4,700	---	<0.5	2.0	<0.5	<0.5
	05/22/92	72,000	18,000	8,100	920	10,000	---	<0.5	6.8	<0.5	<0.5
	09/29/92	54,000	14,000	1,400	740	8,100	---	<0.5	4.4	---	<0.5
	12/23/92	38,000	8,400	910	530	5,300	---	<0.5	2.9	---	<0.5
	03/22/93	---	---	---	---	---	---	---	---	---	---
	06/07/93	24,000	3,000	260	360	1,200	---	<0.5	<0.5	---	<0.5
	09/10/93	8,900	860	160	100	320	---	<5	<5	---	<5
	03/07/94	9,600	2,100	380	120	290	---	<12.5	<12.5	---	<12.5
	06/16/94	---	---	---	---	---	---	---	---	---	---
	07/08/94	10,000	3,600	360	210	460	---	<0.5	<0.5	---	<0.5[n]
	09/08/94	14,000	2,800	270	170	360	---	<0.5	2.8	---	<0.5[e]

GROUNDWATER TECHNOLOGY

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
MW-6	07/06/90	210	<0.3	<0.3	3	7	---	<0.5	<0.5	---	<0.5
	10/03/90	320	<0.3	0.3	1	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	320	1.7	<0.5	2.1	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	190	1.9	2.2	5.4	7.7	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	120	2.0	1.5	3.5	5.1	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	160	1.1	0.6	0.9	1	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	65	0.5	1.4	0.5	0.64	---	<0.5	<0.5	---	<0.5
	12/23/92	140	0.7	0.7	0.9	2.1	---	---	---	---	---
	03/22/93	71	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	85	<0.5	<0.5	2	1	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	1	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	0.8	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/08/94	70	<0.5	0.6	<0.5	2.3	---	---	---	---	---
MW-7	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/03/90	<50	<1.5	<1.5	<1.5	<3	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	0.6	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/08/94	250	34	40	4.4	26	---	---	---	---	---

GROUNDWATER TECHNOLOGY

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
MW-8	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	---	---	---	---	---	---	---	---	---	---
	12/23/92	<50	<0.5	7.2	0.6	2.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/08/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-9	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	<1,000	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	<0.5	<0.5
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	<0.5	<0.5	---	<0.5
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/08/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
TBLB	12/08/89	<100	<0.1	<0.2	<0.1	<0.2	---	<0.5	<0.1	---	<0.1
	06/09/89	<50	<0.5	<0.5	<0.1	<0.2	---	<0.5	<0.1	<20.0	<0.1
	09/14/89	<50	<0.1	<0.5	<0.1	<0.2	---	<0.5	<0.1	<0.5	<0.1
	12/08/89	<50	<0.3	<0.3	<0.3	<0.6	---	4.4	<0.5	---	1.9
	03/19/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	07/06/90	<50	<0.3	<0.3	<0.3	<0.6	---	<0.5	<0.5	---	<0.5
	10/03/90	<50	<0.3	<0.3	<0.3	1	---	<0.5	<0.5	---	<0.5
	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	<0.5	g,h,l
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/29/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	12/23/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/22/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/07/93	<50	<0.5	<0.5	<0.5	1	---	---	---	---	---
	09/10/93	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	03/07/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	06/16/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	09/08/94	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

TABLE 2
HISTORICAL GROUNDWATER ANALYTICAL RESULTS AND MONITORING DATA
Chevron Service Station No. 9-0019
210 Grand Avenue, Oakland, California

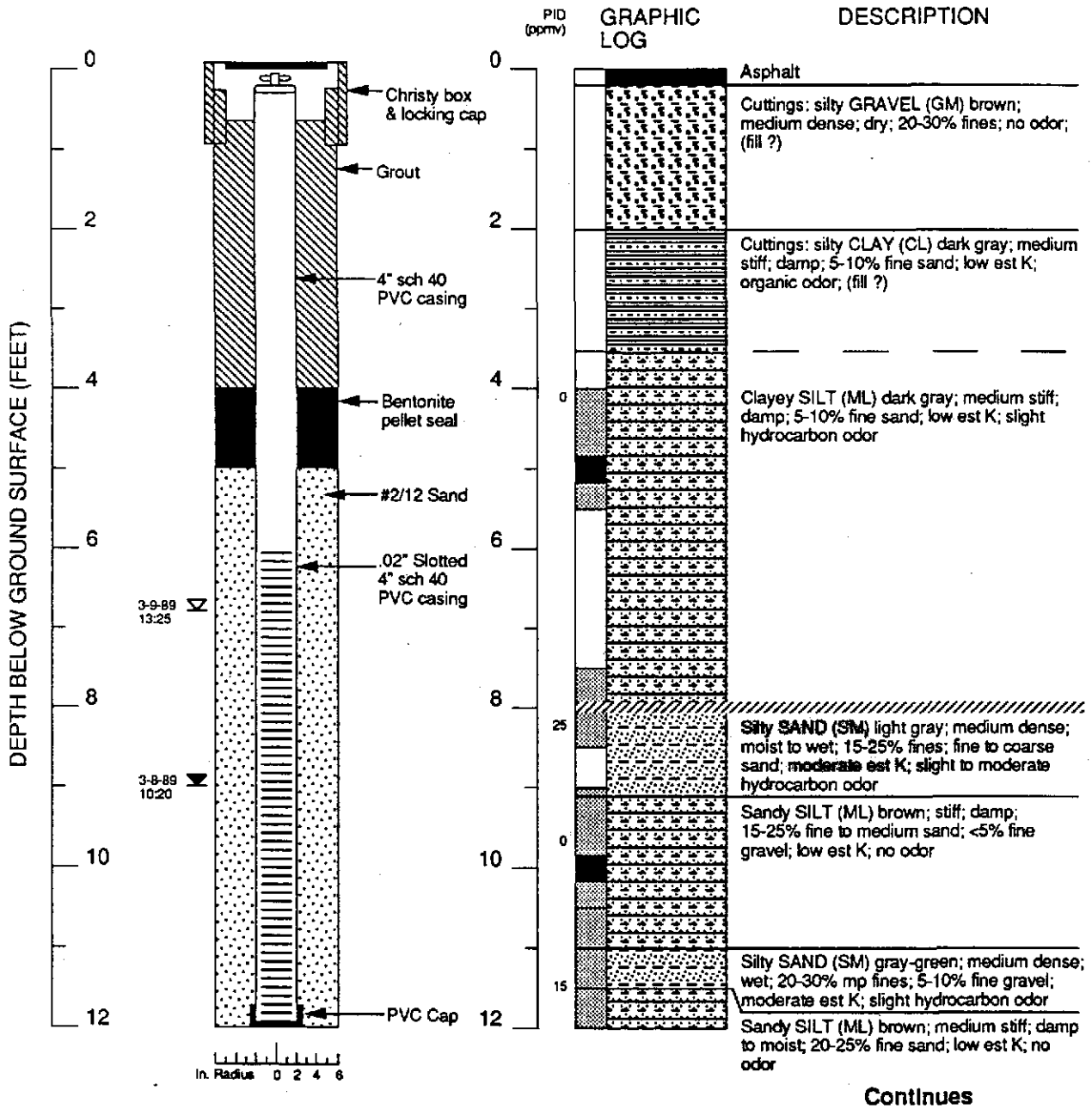
Well	Date	TPH-G	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG	Chloro-form	1,2-DCA	F113	TCA
Bailer Blank	08/23/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	11/22/91	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	<0.5	g,j,k
	02/26/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---
	05/22/92	<50	<0.5	<0.5	<0.5	<0.5	---	---	---	---	---

TPH-G = Total petroleum hydrocarbons-as-gasoline
TOG = Total oil and grease
1,2-DCA = 1,2-Dichloroethane
F113 = Trichlorotrifluoroethane (Freon 113)
TCA = 1,1,1-Trichloroethane
TB-LB = Trip blank/Laboratory blank
--- = Not analyzed, not applicable
(D) = Duplicate sample
(T) = Triplicate sample

Data before May 22, 1992, were taken from a report prepared by Sierra Environmental Services, March 13, 1992.
Results in parts per billion.

a = Well obstructed during site demolition.
b = Saturated column.
c = 1,2-Dichloropropane was detected at 1.2 ppb.
d = 1,2-Dichloropropane and trichloroethane were detected at 2 ppb and 0.74 ppb, respectively.
e = 1,2-Dichloropropane was detected at 0.9 ppb.
f = Well destroyed November 15, 1991.
g = Bromodichloromethane was detected at 2.4 ppb.
h = Dibromochloromethane was detected at 2.4 ppb.
i = Bromoform was detected at 4.8 ppb.
j = Dibromochloromethane was detected at 2.2 ppb.
k = Bromoform was detected at 4.8 ppb.
l = TCE was detected at 1.0 ppb.
m = 1,2-Dichloropropane was detected at 0.8 ppb.
n = 1,2 Dichloroethene was detected at 2 ppb.
o = Tetrachloroethene detected at 1.0ppb in MW-3 and 1.2ppb in RW-5.

MONITOR WELL MW-1



EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

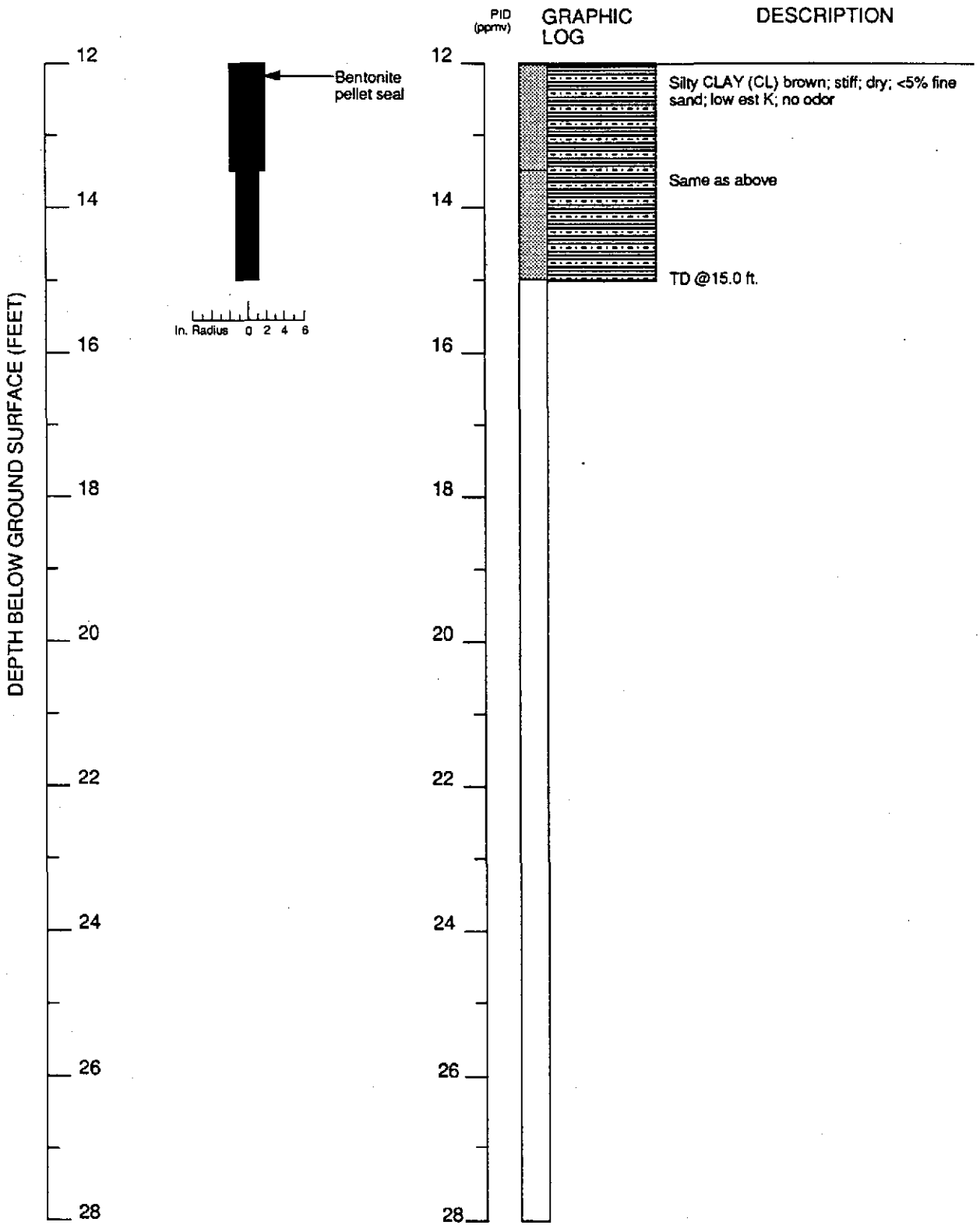
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/8/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 15.0 ft.

Boring Log and Well Completion Details MW-1
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

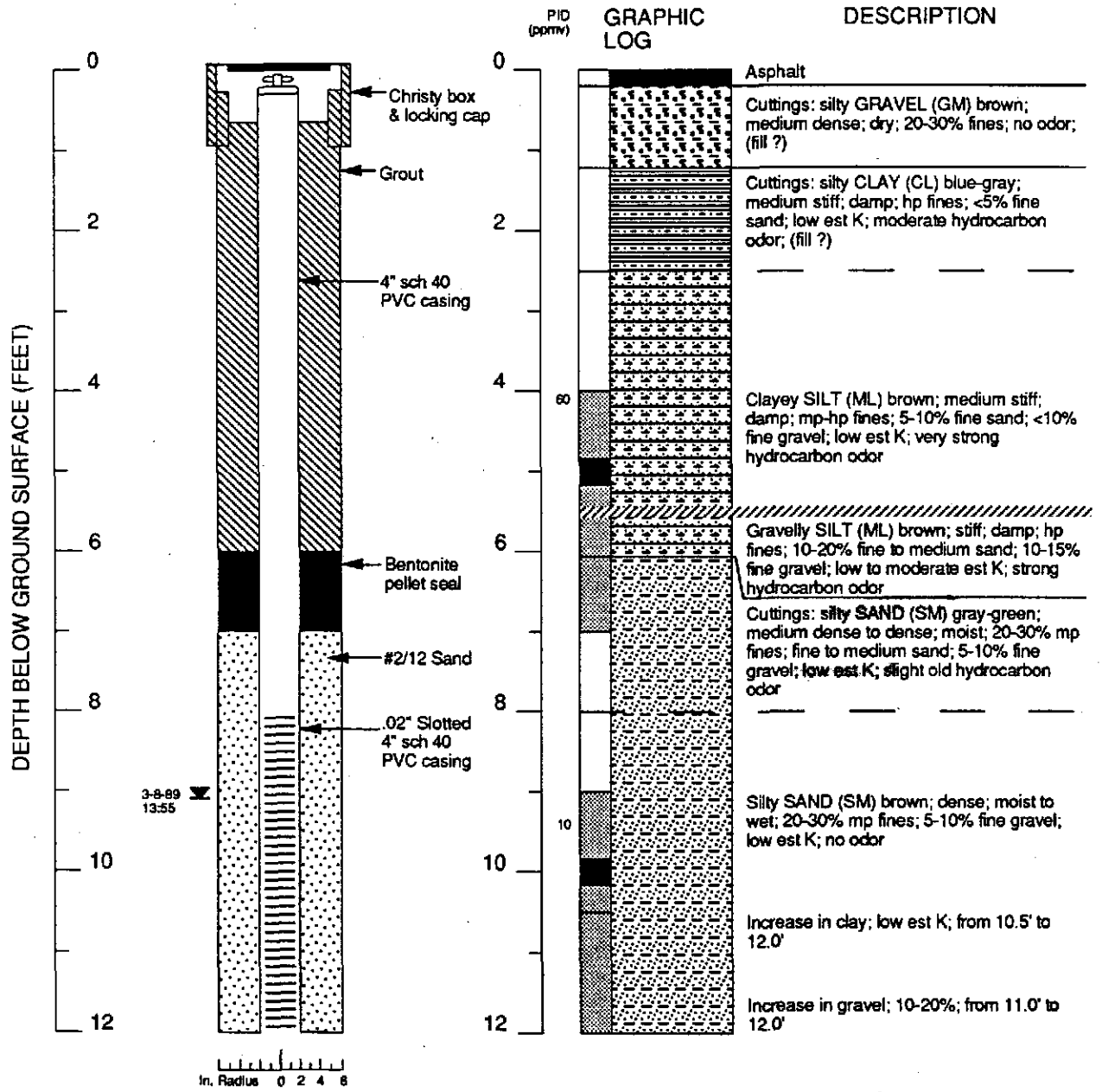
MONITOR WELL MW-1 (cont.)



Boring Log and Well Completion Details MW-1 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-2



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

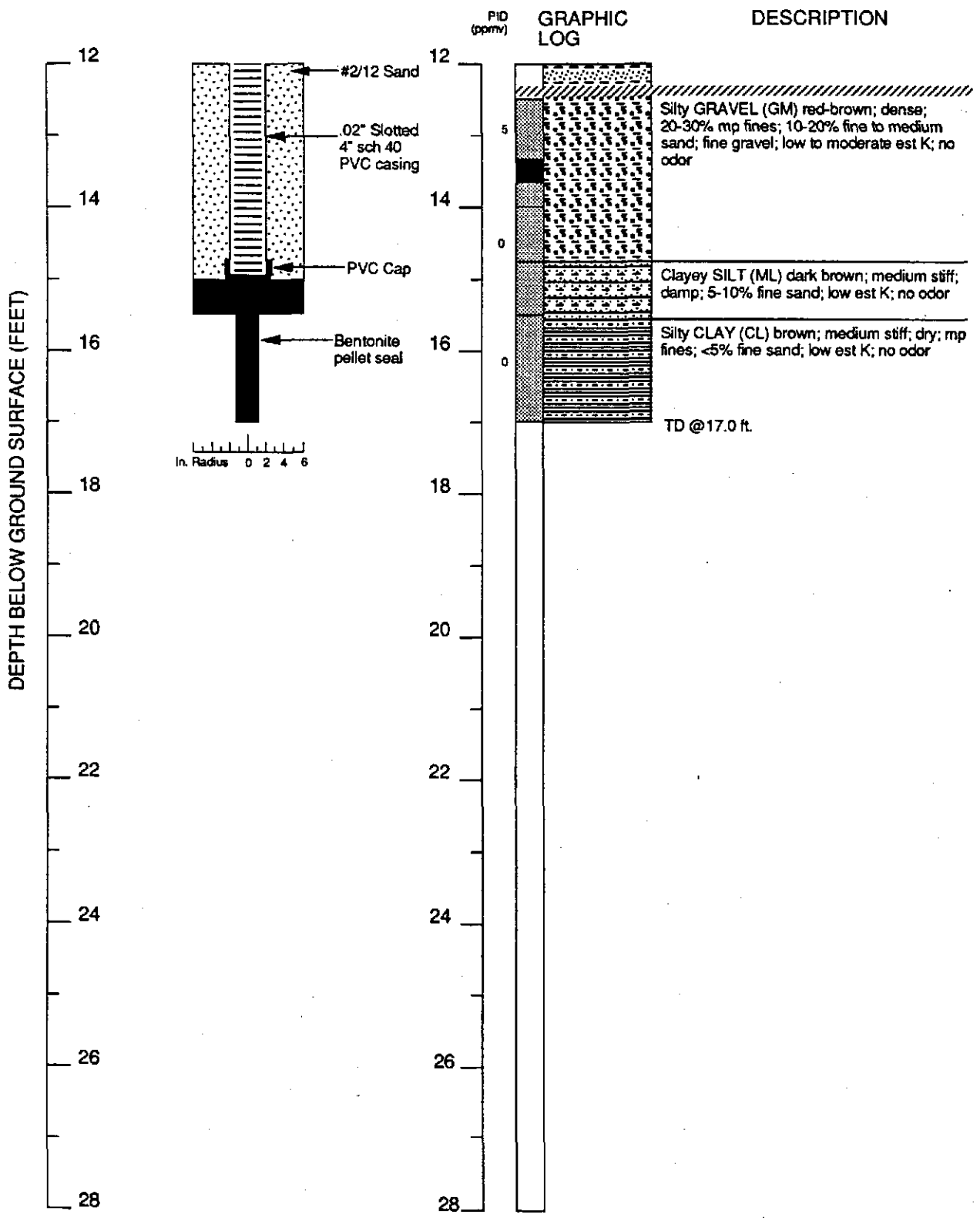
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/8/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 17.0 ft.

Boring Log and Well Completion Details MW-2
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

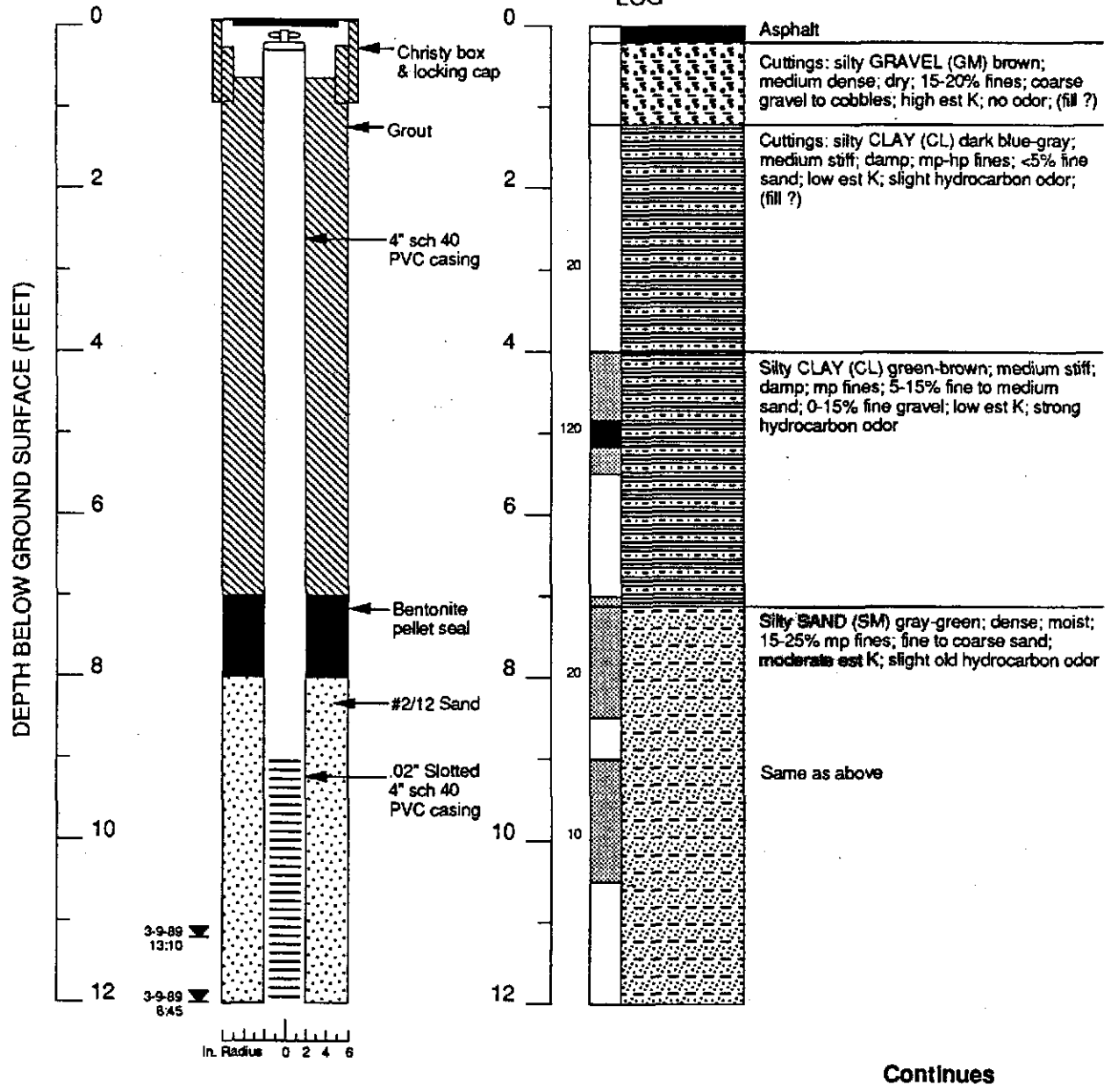
MONITOR WELL MW-2 (cont.)



Boring Log and Well Completion Details MW-2 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-3



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

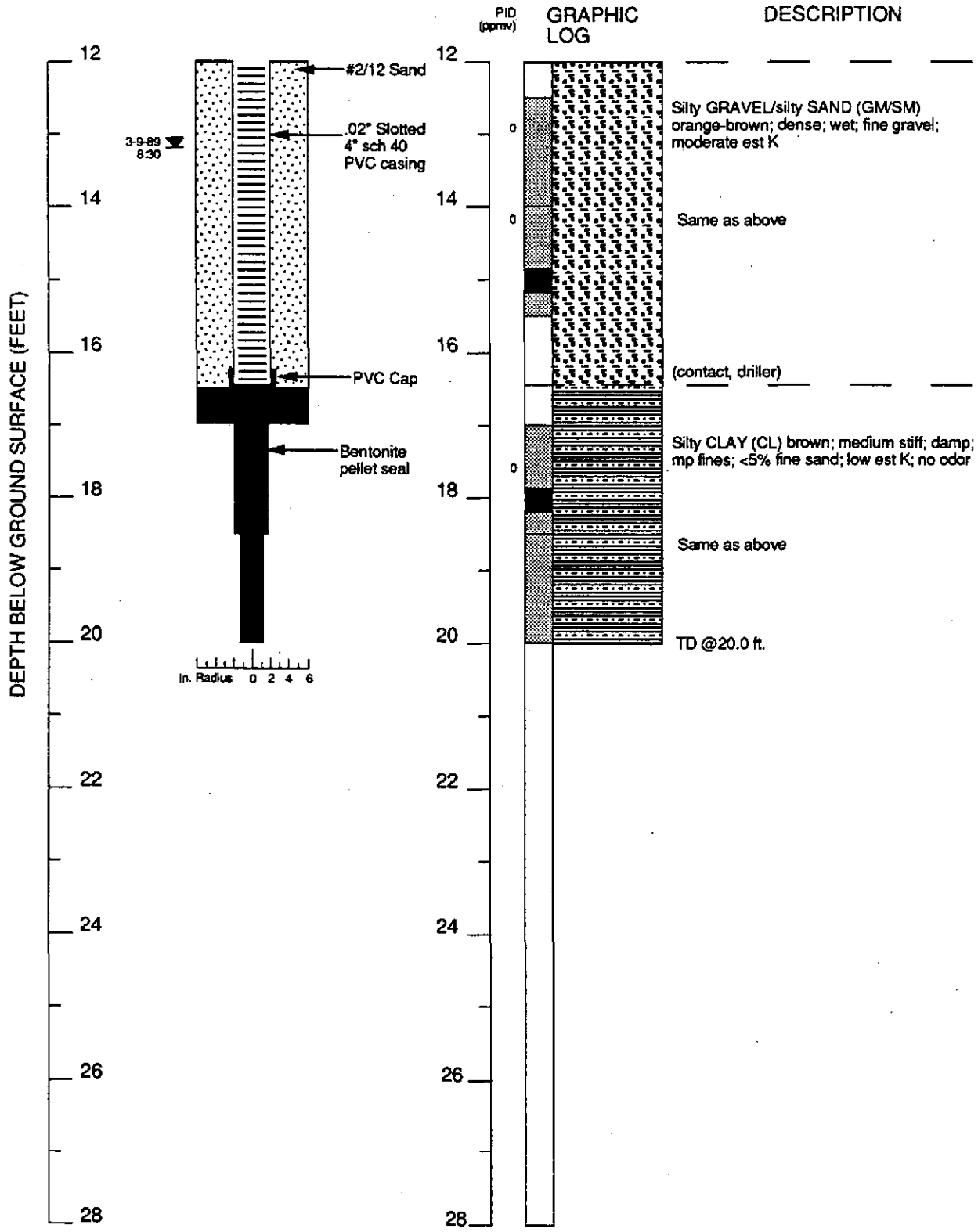
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/9/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 20.0 ft.

Boring Log and Well Completion Details MW-3
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

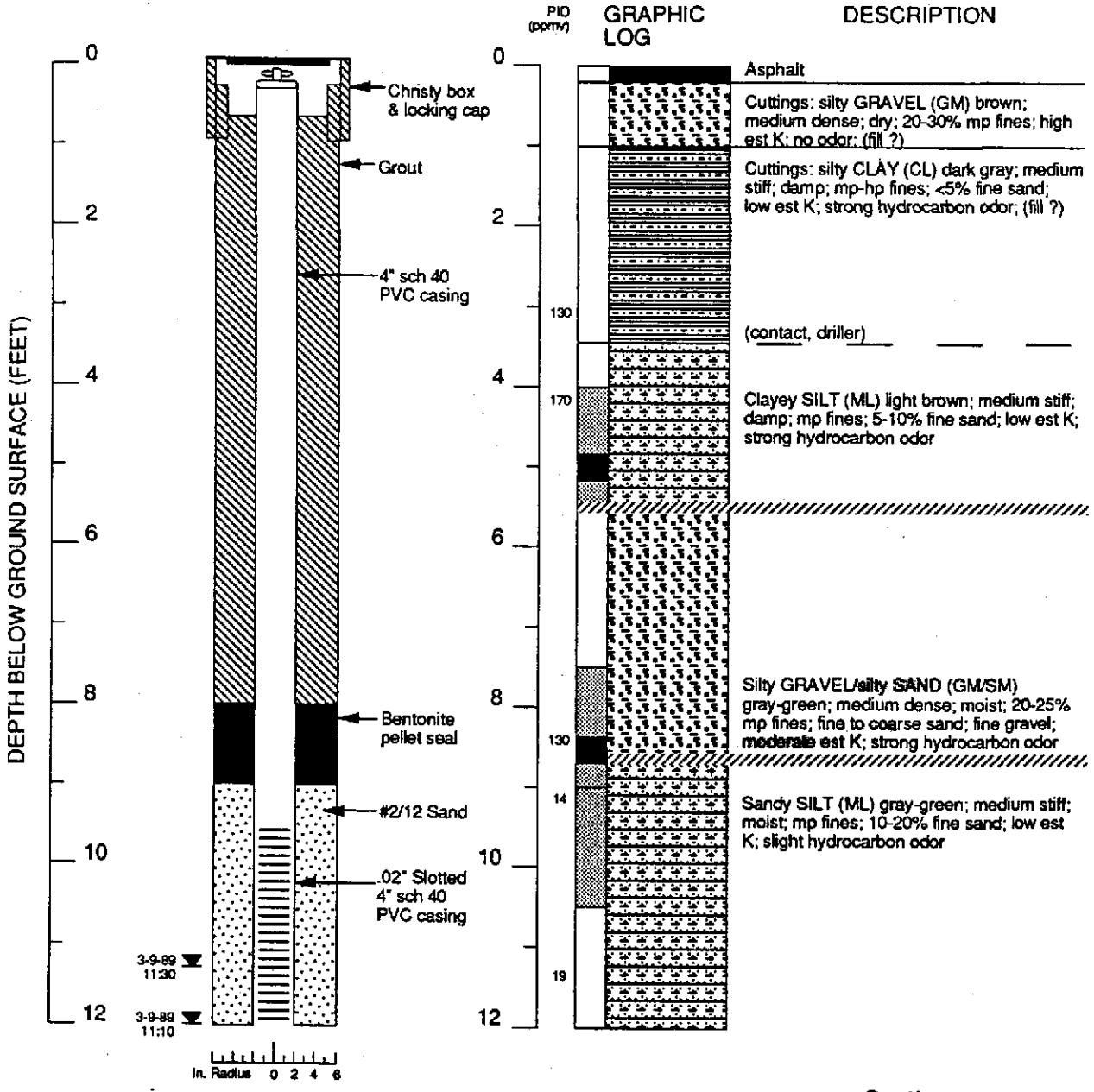
MONITOR WELL MW-3 (cont.)



Boring Log and Well Completion Details MW-3 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-4



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

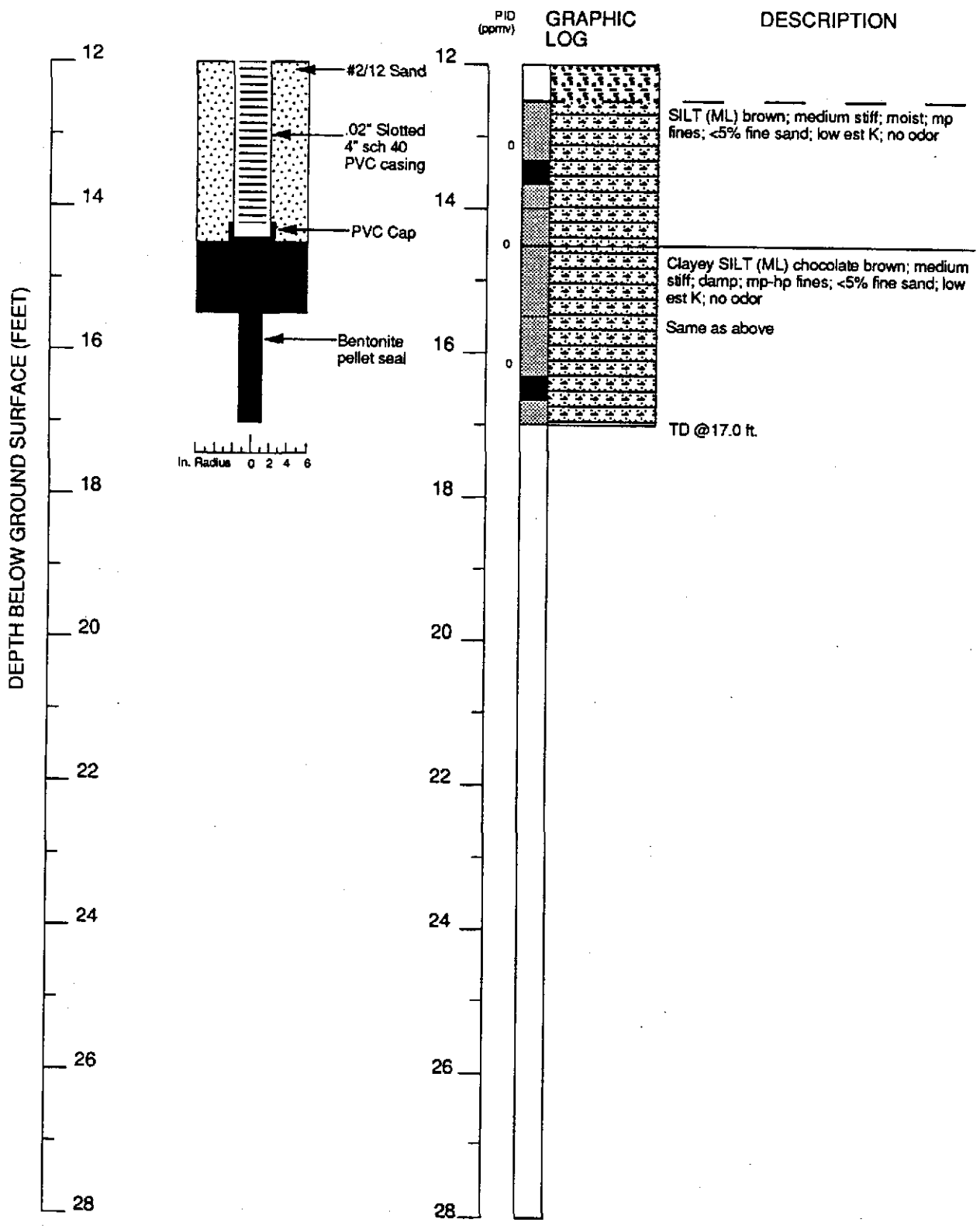
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/9/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 17.0 ft.

Boring Log and Well Completion Details MW-4
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

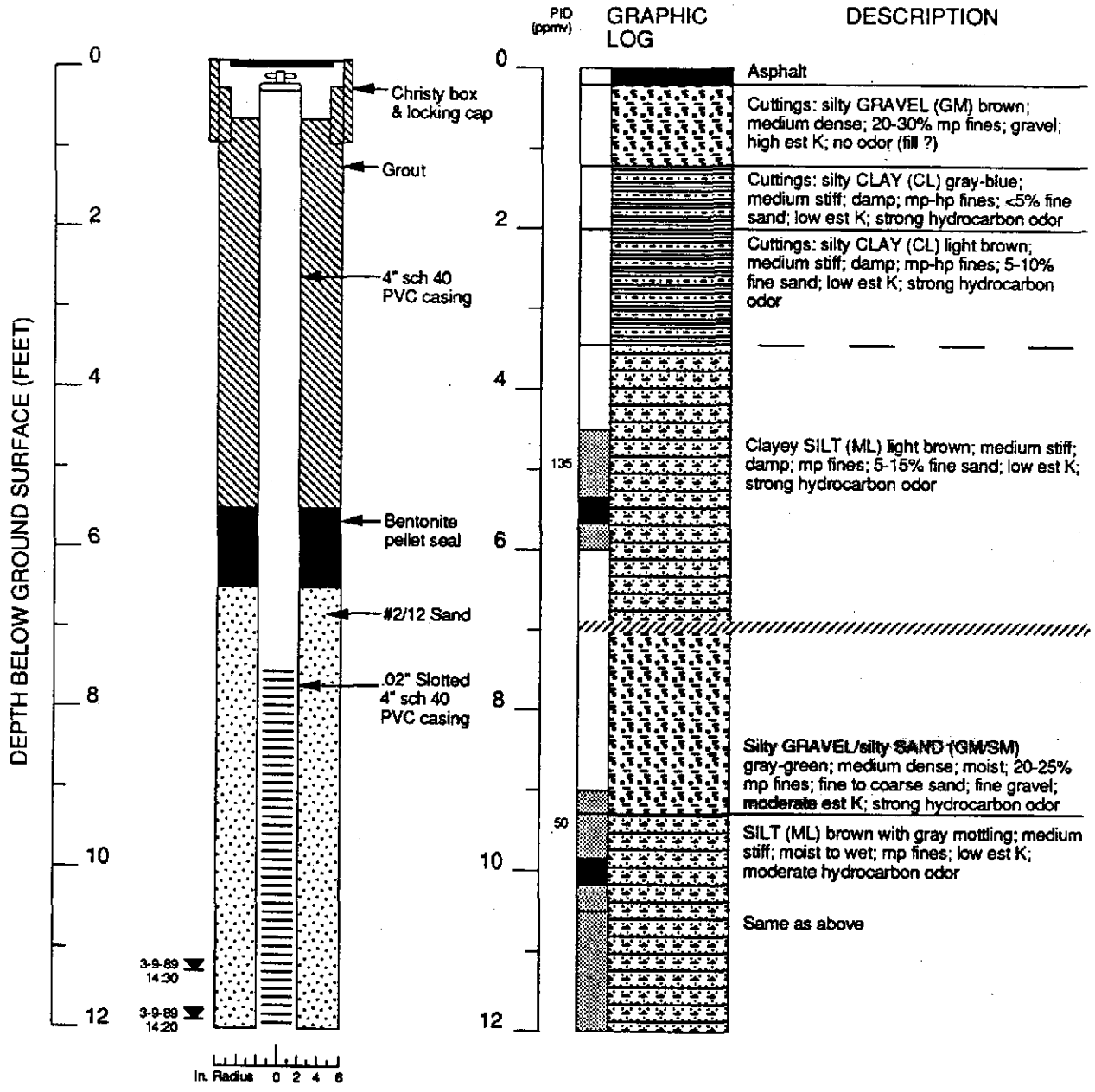
MONITOR WELL MW-4 (cont.)



Boring Log and Well Completion Details MW-4 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-5



Continues

EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Gradational (hachured), uncertain (dashed) contact
- Location of recovered drive sample
- NR — No recovery
- Location of drive sample sealed for chemical analysis
- Grab sample

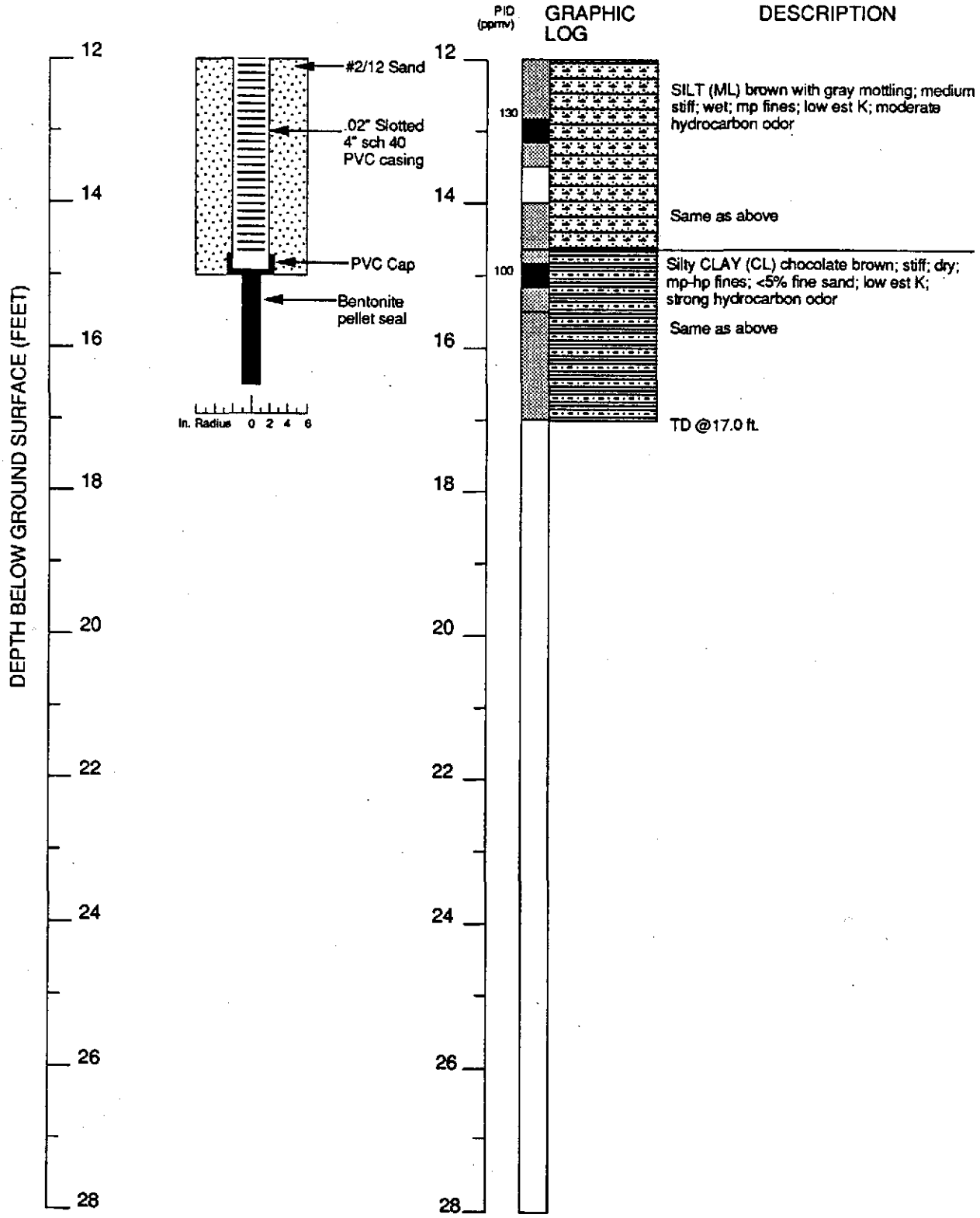
est K = Estimated permeability (hydraulic conductivity)

Logged by: Mike Edmonson
Supervisor: Doug Sheeks
Drilling Company: Exploration Geoservices
Driller: Dave Yeager
Drilling Method: 12" Hollow stem auger
Dates Drilled: 3/9/89
Well Head Completion: Christy box & locking cap
Type of Sampler: 2" split barrel
TD: Total depth= 17.0 ft.

Boring Log and Well Completion Details MW-5
WGR Project No.: 1-101.01

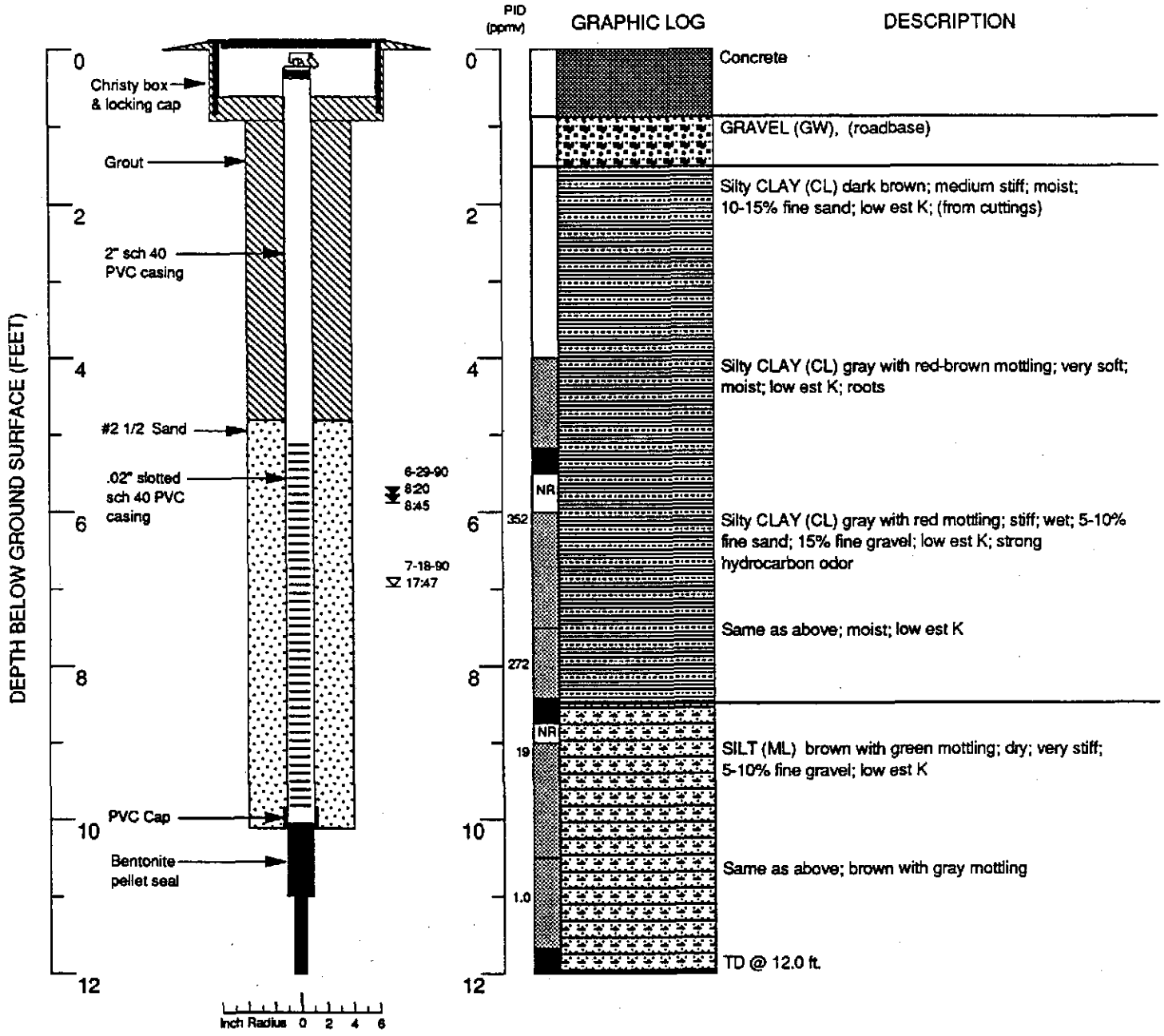
Chevron Facility # 90019
Oakland, CA

MONITOR WELL MW-5 (cont.)



Boring Log and Well Completion Details MW-5 (cont.)
WGR Project No.: 1-101.01

Chevron Facility # 90019
Oakland, CA



Logged by:	Justin Power	Drilling Company:	B & F Drilling	Well Head Completion:	Christy box & locking cap
Project Mgr:	Len Niles	Drilling Method:	8" Hollow stem auger	Type of Sampler:	2" split barrel
Dates Drilled:	6/29/90	Driller:	Bruce Cox	TD (Total Depth):	12.0 ft.

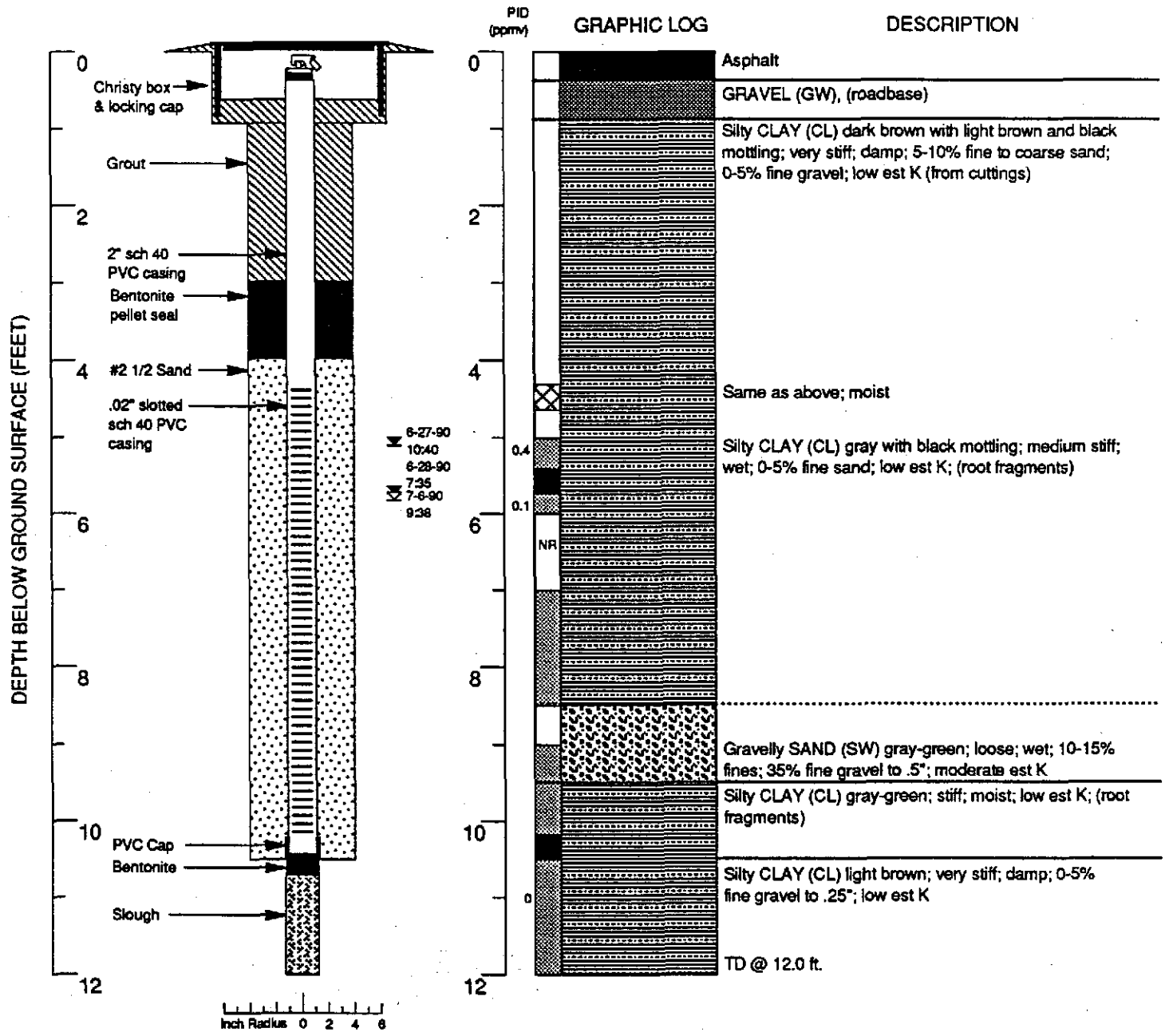
EXPLANATION

- Water level during drilling
- Water level in completed well
- Location of recovered drill sample
- Location of sample sealed for chemical analysis
- Sieve sample
- Grab sample
- Contacts: Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K — Estimated permeability (hydraulic conductivity) 1K = primary 2K = secondary
- NR — No recovery

Boring Log and Well Completion Details
MW-6 (Boring B-6)

Chevron Service Station #90019
Oakland, California

MONITOR WELL
6



Logged by:	Justin Power	Drilling Company:	B & F Drilling	Well Head Completion:	Christy box & locking cap
Project Mgr:	Len Niles	Drilling Method:	8" Hollow stem auger	Type of Sampler:	2" split barrel
Dates Drilled:	6/27/90	Driller:	Bruce Cox	TD (Total Depth):	12.0 ft.

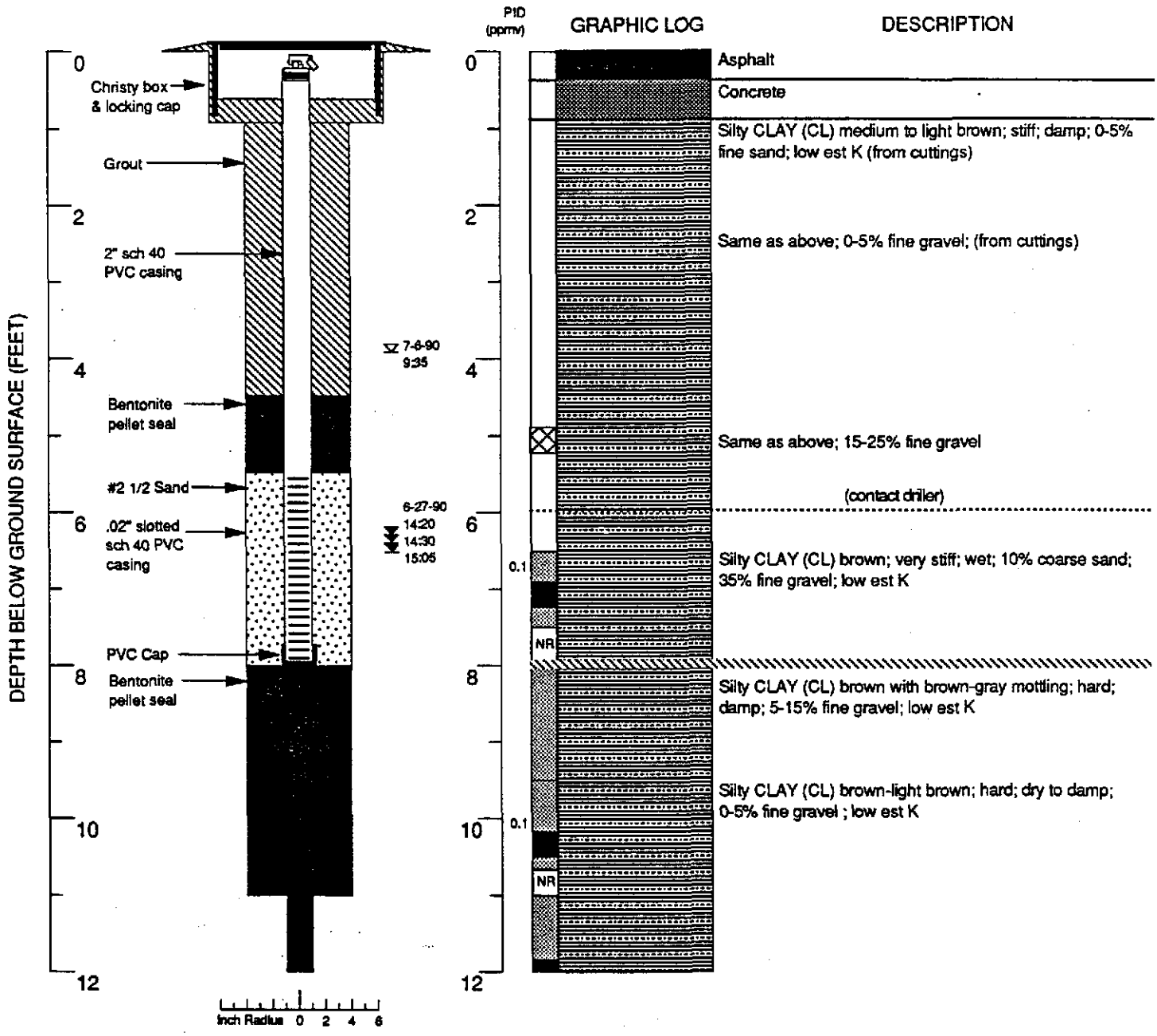
EXPLANATION

- Water level during drilling
- Water level in completed well
- Location of recovered drill sample
- Location of sample sealed for chemical analysis
- Sieve sample
- Grab sample
- Contacts: Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K — Estimated permeability (hydraulic conductivity) 1K = primary 2K = secondary
- NR — No recovery

Boring Log and Well Completion Details
MW-7 (Boring B-7)

Chevron Service Station #90019
Oakland, California

MONITOR WELL
7



Continues

Logged by:	Justin Power	Drilling Company:	B & F Drilling	Well Head Completion:	Christy box & locking cap
Project Mgr:	Len Niles	Drilling Method:	8" Hollow stem auger	Type of Sampler:	2" split barrel
Dates Drilled:	6/27/90	Driller:	Bruce Cox	TD (Total Depth):	14.0 ft.

EXPLANATION

- Water level during drilling
- Water level in completed well
- Location of recovered drill sample
- Location of sample sealed for chemical analysis
- Sieve sample
- Grab sample
- Contacts: Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K — Estimated permeability (hydraulic conductivity) 1K = primary 2K = secondary
- NR — No recovery

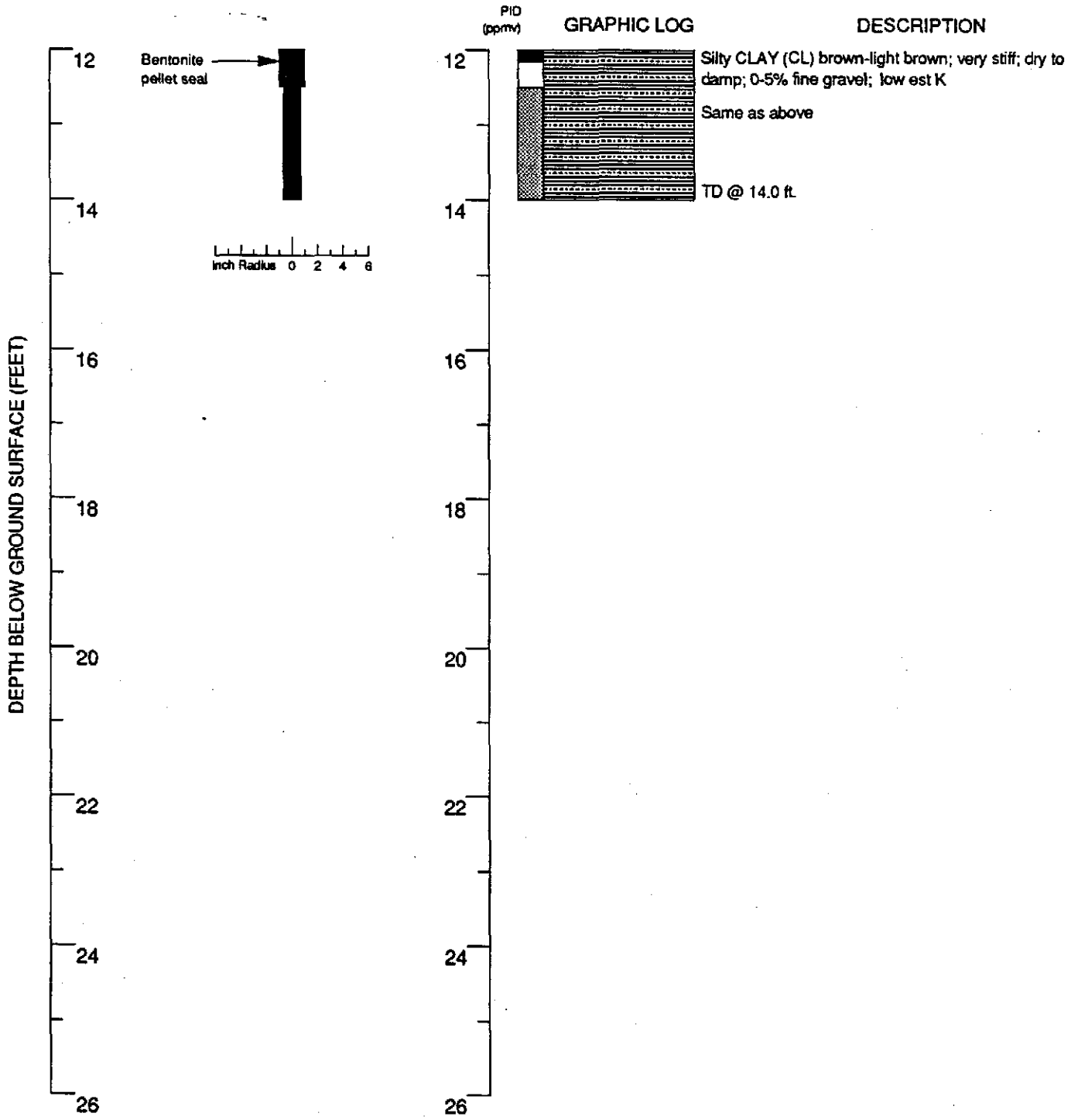
Boring Log and Well Completion Details
MW-8 (Boring B-8)

Chevron Service Station #90019
Oakland, California

MONITOR WELL
8

WESTERN GEOLOGIC RESOURCES, INC.

1-101.04



EXPLANATION

- Water level during drilling
- Water level in completed well
- Location of recovered drill sample
- Location of sample sealed for chemical analysis
- Sieve sample
- Core sample

Contacts:
- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational

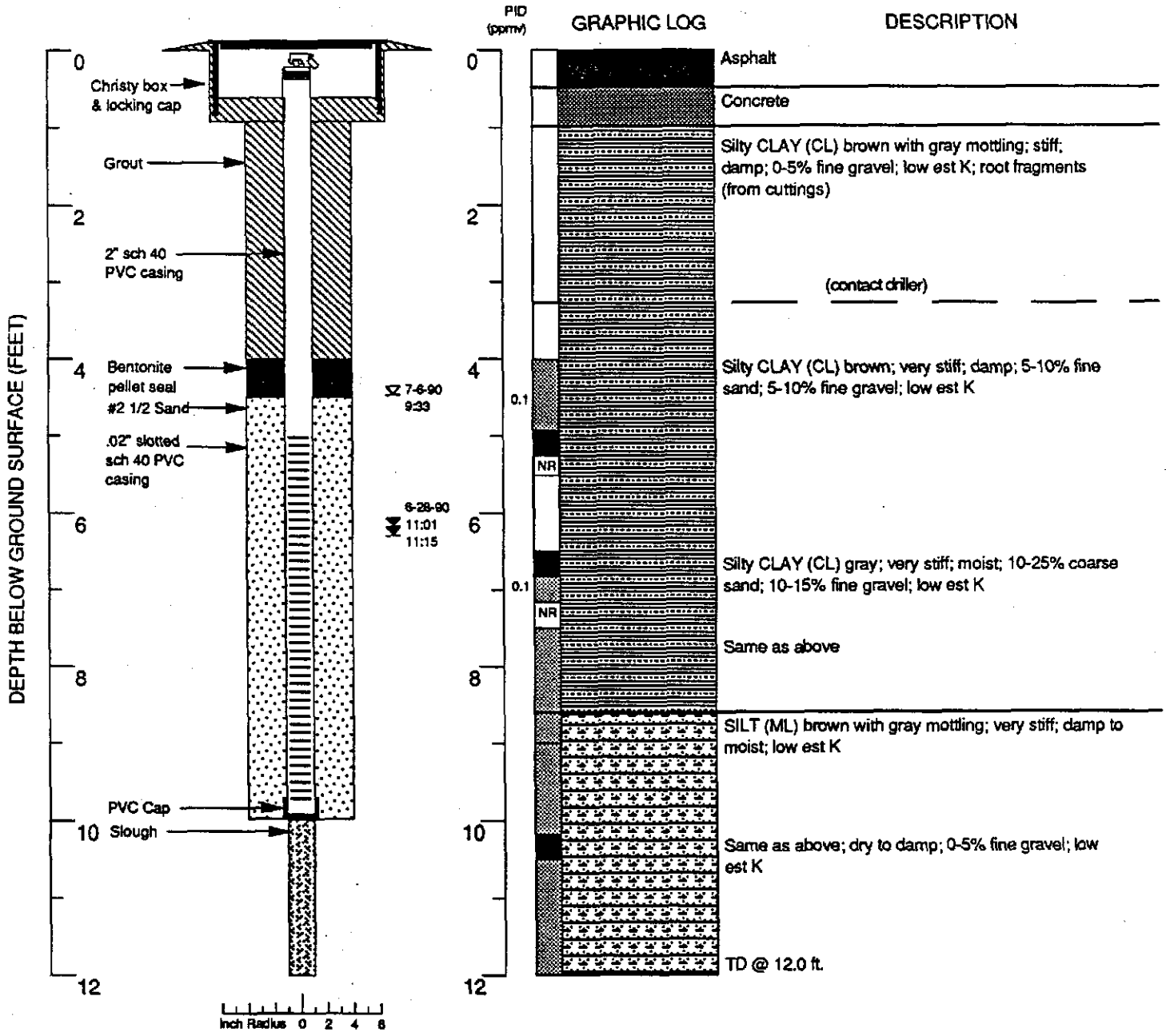
est K — Estimated permeability (hydraulic conductivity) 1K = primary 2K = secondary

NR — No recovery

Boring Log and Well Completion Details
MW-8 (Boring B-8)

Chevron Service Station #90019
Oakland, California

MONITOR WELL
8



Logged by:	Justin Power	Drilling Company:	B & F Drilling	Well Head Completion:	Christy box & locking cap
Project Mgr:	Len Niles	Drilling Method:	8" Hollow stem auger	Type of Sampler:	2" split barrel
Dates Drilled:	6/28/90	Driller:	Bruce Cox	TD (Total Depth):	12.0 ft.

EXPLANATION

- Water level during drilling
- Water level in completed well
- Location of recovered drill sample
- Location of sample sealed for chemical analysis
- Sieve sample
- Grab sample
- Contacts: Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K — Estimated permeability (hydraulic conductivity) 1K = primary 2K = secondary
- NR — No recovery

Boring Log and Well Completion Details
MW-9 (Boring B-9)

Chevron Service Station #90019
Oakland, California

MONITOR WELL
9

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1-101.04

APPENDIX D
CONTINGENCY PLAN

This contingency plan will ensure the protection of beneficial uses of ground water outside the plume. To document compliance with this plan Chevron will monitor hydrocarbon concentrations near the plume downgradient boundary. These analyses will ensure that cleanup goals are not exceeded outside the non-attainment area.

Wells MW-4 and MW-5 (Table D-1) will serve as "guard points" to monitor whether concentrations within the plume remain stable. Wells MW-3, MW-6 and MW-7 will serve as "boundary wells" and will be used to confirm that the plume is not migrating. Ground water from these wells will be sampled and analyzed for hydrocarbons semi-annually through 1995, then annually for two years through 1997. In 1998, if cleanup goals continue to be maintained at the boundary wells, monitoring will cease in all wells.

If ground water monitoring indicates that certain trigger concentrations occur, this contingency plan will be implemented. The trigger concentrations and Contingency Plan responses are summarized in Table D-1. A "baseline" benzene concentration was determined for each well based on trends over the last several years. A "trigger" concentration was determined to represent a significant concentration increase that may indicate possible future non-compliance with cleanup goals. As Table D-1 shows, the baseline hydrocarbon concentration for downgradient boundary wells is <0.5 ppb benzene, and the trigger concentration is 2 ppb. When a trigger concentration occurs in any well for two consecutive monitoring periods 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 be implemented.

When triggered, this Contingency Plan calls for three responses:

1) The ACDEH will be notified;

2) Ground water monitoring will be performed at the triggered well the next quarter; and

3) If elevated concentrations are again detected, quarterly monitoring of that well will continue until an appropriate course of action, identified by Chevron and accepted by the ACDEH, is implemented.

Table D-1. Contingency Plan for Maintaining Compliance, Chevron Service Station #9-0019, 210 Grand Avenue, Oakland, California. All concentrations are for benzene unless otherwise noted.

	Monitoring Well	Baseline Concentration (benzene)	Trigger Concentration (benzene)	Response to Trigger Concentration[1]
Guard Well	MW-4	2 ppb	5 ppb	
	MW-5	3,500 ppb	7,000 ppb	1. Notify ACDEH
				2. Sample trigger well in the next quarter
Boundary Wells	MW-3	<0.5 ppb	2 ppb	
	MW-6	<0.5 ppb	2 ppb	3. Identify an appropriate course of action based upon determination of source
	MW-7	<0.5 ppb	2 ppb	

Footnotes:

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