May 20, 2009

Ms. Barbara Jakub
Hazardous Materials Specialist
Alameda County Environmental Health
Environmental Cleanup Oversight
1131 Harbor Bay Parkway
Alameda, California 94502

RE: Case No. RO-0000413
Grimit Auto Repair & Service
1970 Seminary Avenue, Oakland, California

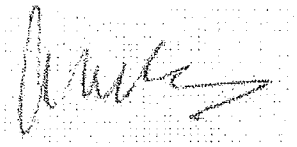
Dear Ms. Jakub:

Enclosed please find one copy (by electronic submission) of the following Supplemental Subsurface Investigation Work Plan prepared by Hoexter Consulting, Inc. for the above-referenced site. The plan is dated May 20, 2009.

I declare, under penalty of perjury, that the information and/or recommendations contained in the referenced documents or reports is true and correct to the best of my knowledge.

Please feel free to contact Mr. David Hoexter or myself directly if you have any questions.

Sincerely,



Angel LaMarca (on behalf of the Grimit Family Trust)
945 S. Lehigh Drive
Anaheim Hills, California 92807
714-282-7475 (home)
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Copy: Hoexter Consulting, Inc. (David F. Hoexter)

SUPPLEMENTAL SUBSURFACE INVESTIGATION WORK PLAN

FOR
RO 413 / STID 553 - GRIMIT AUTO AND REPAIR
1970 SEMINARY AVENUE
OAKLAND, CALIFORNIA

E-10-1G-772G

May 20, 2009

Prepared by

HOEXTER CONSULTING, INC.
734 Torreya Court
Palo Alto, California 94303-4160

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Geology / Engineering Geology / Environmental Studies

HOEXTER CONSULTING, INC.
David F. Hoexter, PG-3536/CEG-1158/REA1-762

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May 20, 2009

E-10-1G-772G
HCWorkPlans:1970SeminarySCM/WP3-09

Ms Angel La Marca
945 S. Lehigh St.
Anaheim Hills, California 92807

RE: SUPPLEMENTAL SUBSURAFCE INVESTIGATION WORK PLAN,
RO 413 / STID 553 - GRIMIT AUTO AND REPAIR
1970 SEMINARY AVENUE
OAKLAND, CALIFORNIA

Dear Ms La Marca:

Enclosed is our Supplemental Subsurface Investigation Work Plan for the property located at 1970 Seminary Avenue, Oakland, California (the Site). This work plan has been prepared in response to the Alameda County Health Care Services Agency Environmental Health Services Environmental Protection (ACH) request as set forth in its letter dated December 5, 2008.

The Site is a former gasoline service station. The contaminants of concern are petroleum hydrocarbons, particularly gasoline, and halogenated volatile organic compounds (HVOC). The former fuel and waste oil underground storage tanks (USTs) and hydraulic lift have been removed. The Site is currently operated by a tenant, who conducts automotive electrical repairs.

We recommend that copies of this plan be submitted to ACH. We appreciate the opportunity to provide services to you on this project and trust this plan meets your needs at this time. If you have any questions, or require additional information, please do not hesitate to call.

Very truly yours,

HOEXTER CONSULTING, INC.

David F. Hoexter, RG/CEG/REA
Principal Geologist, Hoexter Consulting, Inc.

Copies: Addressee (1)
Electronic submittal to ACH and California GeoTracker

SUPPLEMENTAL SUBSURAFCE INVESTIGATION
WORK PLAN

For

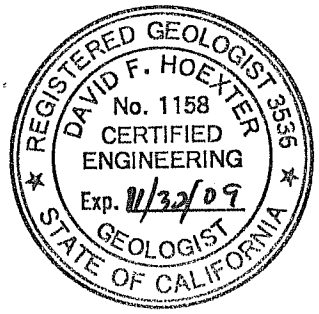
RO 413 / STID 553 - Grimit Auto and Repair
1970 Seminary Avenue
Oakland, California

To

Estate of Doyle Grimit
c/o Angel La Marca
945 S. Lehigh St.
Anaheim Hills, California 92807

E-10-1G-772G

May 20, 2009



Report prepared by:

David F. Hoexter, RG/CEG/REA
Principal Geologist, EG-1158, Exp. 11/30/09

Technical Review by:

Sangeeta Goyal,
Principal Engineer, Pristine Earth, Inc.

TABLE OF CONTENTS

SUPPLEMENTAL SUBSURFACE INVESTIGATION WORK PLAN
FOR
RO 413 / STID 553 - GRIMIT AUTO AND REPAIR
1970 SEMINARY AVENUE
OAKLAND, CALIFORNIA

1.0 INTRODUCTION

This document proposes supplemental subsurface investigation to evaluate soil and ground water quality at the Grimit Auto and Repair site, 1970 Seminary Avenue, Oakland, California (the Site). The primary contaminants of concern are petroleum hydrocarbons in the gasoline and oil ranges and halogenated volatile organic compounds (HVOCs). The project location is shown on Figure 1, Location Map, and Figure 2, Topographic Map.

Four USTs (three gasoline and one waste oil) were removed in 1989. Fuel has not been dispensed since that time. The former tank excavations have been backfilled to the adjacent grade. An inactive hydraulic lift located within the service building was removed in July 2001.

The Alameda County Health Care Services Agency Environmental Health Services Environmental Protection (ACH) December 5, 2008 letter requested investigation of the Site. A Site Conceptual Model (SCM) and Preferential Pathways Study (PPS) were requested, and various questions were posed (and responded to herein). The proposed investigation includes:

- Soil conductivity and membrane interface probes (SCP and MIP).
- Direct push (DP) soil sampling and grab ground water sampling.
- Soil vapor sampling (SVS) at on- and off-site locations.
- Abandonment and replacement of one existing ground water monitoring well.

2.0 BACKGROUND

2.1 Site Description

The Grimit Auto Repair & Service site is located at 1970 Seminary Avenue, at the southwest corner of the Seminary Avenue - Harmon Avenue intersection, in Oakland, Alameda County, California (Figures 1 and 2). The property is bordered by Seminary Avenue on the northwest and by Harmon Avenue on the northeast, and by residences to the southeast and southwest. The neighborhood generally consists of single family residences and one, two or three- story apartment buildings (Figure 3, Aerial Photograph). A commercial retail shopping district is located along East 14th Street (International Boulevard), approximately one-third mile to the southwest. The Site is currently utilized as an automotive repair facility. The property is owned by The Estate of Doyle Grimit, and is leased to the repair facility.

The Site is 50 by 100 feet in plan dimension. It consists of the service building with attached canopy and a small detached storage building. Figure 4, Site Plan, indicates the locations of pertinent site features, including the existing buildings and former underground storage tank (UST) locations. The Site is paved, with the exception of the former UST locations.

2.2 Site Operation and Ownership

The Site was formerly owned and operated by Grimit Auto Repair & Service. The property is currently owned by the Estate of Doyle Grimit, which is the responsible party. Currently, the investigation and remedial activities at the Site are being implemented by the Grimit Family Trust. The Site is currently occupied by Amor's Auto Electric Repair, an auto electric and general repair facility. Amor's Auto Electric Repair is a tenant at the Site, and is not a responsible party to the release.

According to Mr. Grimit, four - approximately 550 gallon steel tanks were installed on the Site in the 1930's. These or replacement tanks were used until fueling service was discontinued, on September 30, 1989. Three of the tanks were used to store gasoline. The fourth tank was used to store waste oil. To our knowledge, there are currently no operating or additional abandoned underground tanks on the property. There are no known estimates of quantity of fuel or waste oil lost.

2.3 Investigation History

Investigations of soil and ground water quality were initiated in 1990. A summary of these investigations is presented in Section 3.4 of this report. Relevant reports are listed in the References section.

3.0 PRELIMINARY SITE CONCEPTUAL MODEL

This SCM is intended to provide a preliminary understanding of the extent, stability and impact of the documented contamination due to past operations at the Site on the environment and on public health. This section discusses the geology and hydrogeology, contaminant release history, source removal and a summary of the previous investigations conducted at the Site. Data gaps and potential exposure pathways have been identified and presented. A scope of work to address those data gaps has been included in Section 6. The SCM will be updated as site-specific data become available.

3.1 Topography, Geology and Hydrogeology

3.1.1 Topography

The Grimit Auto and Repair site is situated at an elevation of approximately 41 feet MSL (Figure 2). The ground surface slopes gently to the west southwest, at an average gradient of one to 250 (vertical to horizontal).

3.1.2 Geology

The Site is located on the East Bay Plain, a gently westward sloping feature underlain by a sequence of alluvial deposits with a maximum thickness of 1,100 feet. The Site is situated upon deposits of Quaternary age alluvium (Radbruch, 1969; Helley et al 1979). The alluvium ranges from fine sand to silt and clayey silt, with lenses of more relatively permeable fine and medium sand. According to Alameda County Flood Control and Water Conservation District (1988), the shallow alluvium in the general site vicinity is generally from 10 to 50 feet thick.

The previous subsurface investigations of the Site extended to a maximum depth of 36.5 feet and encountered interbedded discontinuous relatively thin lenses of silty and clayey sediments, with relatively limited deposits of sand or gravel. Four cross sections (Figures 8A through 8D, locations shown on Figure 4) represent our interpretation of the stratigraphy. Relatively permeable strata (sand and gravel) are indicated by the symbols GW, SW, and are limited in lateral extent. The apparent lack of continuity of the relatively permeable strata is supported by the very slow equilibration of monitoring wells following removal of the well caps and the slow recovery of monitoring wells when purged and sampled.

3.1.3 Hydrogeology

The 10- to 50-foot thick alluvium in the general site vicinity is mostly unsaturated, with localized perched ground water zones. It thus yields little to wells, and is not a ground water source except locally for generally non-potable domestic use. Ground water in the deeper aquifer of the East Bay Plain is confined, due to the deposition of clay and other fine-grained material over beds of relatively coarse, water-bearing sand and gravel. Ground water underlying the East Bay Plain flows westward from recharge areas along the eastern fringe of the plain, and locally from the central portion, towards San Francisco Bay (Alameda County Flood Control and Water Conservation District, 1988).

The immediate site vicinity is generally not considered to be an area of active ground water recharge. However, some recharge may occur from ephemeral streams in the vicinity following periods of rainfall. The nearest perennial stream is Arroyo Viejo, approximately 5,000 feet southwest of the Site. Local, ephemeral drainages are located approximately 400 feet to the

northwest and 2,000 feet to the southeast. It is possible that additional, buried, stream channels are located in the site vicinity. The Site is approximately 4,000 feet from tidal estuaries connected to San Francisco Bay.

Site-specific ground water depth, elevation and depth data are tabulated in Table 1A, and gradient directions and inclinations are tabulated in Table 1B. Figures 6 and 7 present typical gradient direction plots for the four wells completed to approximately 20 feet (Figure 6) and the five wells completed to approximately 35 feet (Figure 7).

Historic depths to ground water measurements date from August 1990, and currently include all nine monitoring wells (Figure 9). Four of the wells (MW-3, 6, 8, and 9) are screened from either 5 or 10 feet to 20 feet below ground surface (bgs). Five of the wells are screened at greater depth, one (MW-7) from 10 to 32 feet, the other four (MW-1, 2, 4 and 5) from 15 to 35 feet. There is thus some overlap within the interval of 10 to 20 feet bgs in the screened intervals. In general, ground water elevations in the wells completed with more shallow screens have been consistently higher than those completed at deeper intervals.

Historic ground water gradient directions based on the four "shallow completion" wells have been consistently to the northwest, while ground water gradient directions based on the five "deeper completion" wells have been consistently to the southeast. Neither direction is consistent with the generalized gradient direction to the southwest, towards San Francisco Bay. This inconsistency has been identified as a data gap and will be addressed in the next phase of the investigation. The ground water gradient inclination (Table 1B) is commonly on the order of 0.05 to 0.25 feet/feet. Ground water elevations vary seasonally, rising from the January readings and declining following the July readings. The magnitude of this variation is from 1 to 7 feet for different wells. The ground water surface has remained consistent within a relatively limited range; i.e. there has not been an upward or downward trend. Hydrogeologic parameters have not been established for the Site. However, based on the slow equilibration and recovery time following purging, we infer a relatively slow ground water flow rate, despite the unusually steep gradients.

3.2 Contaminant Release History

The former service station at the Site may have started operations as early as the mid 1930s. There are no identified records of release occurrences. However, due to past operations, contaminant releases could have occurred from the three former fuel USTs and ancillary piping, the former waste oil tank, and the former hydraulic lift. These were removed in 1989 (four USTS), 1991 (overexcavation of waste oil UST location); and 2001 (hydraulic lift), as discussed below. Following the removals, release to the ground water may be occurring from residual soil contamination adjacent to the former USTs.

3.3 Source Removal

In 1989, four USTs (three 550-gallon gasoline tanks and one 550-gallon waste oil tank) were removed from the Site under a permit and oversight from the ACH. During the tank removal holes were observed in two of the fuel tanks and soil in the excavation area appeared stained. Low concentrations of petroleum hydrocarbons as gasoline (TPHg) with a maximum concentration of 22 milligrams per kilograms (mg/kg) and benzene (2.4 mg/kg), toluene (2.9 mg/kg), ethyl benzene (0.32 mg/kg), and total xylenes (1.7 mg/kg) (BTEX) were found in confirmation soil samples from the gasoline tanks excavation. Elevated concentrations of oil and grease (O&G) with a maximum concentration of 7,200 mg/kg were detected in soil samples from the waste oil tank excavation.

In May 1991, soil at the location of the former waste oil UST was over excavated to dimensions of approximately 7 feet long, 10 feet wide and 7.5 feet deep. A total of approximately 20 cubic yards of soil was removed, profiled and disposed off-site. Elevated concentrations of oil and grease (15,000 mg/kg) and motor oil (4,400 mg/kg) were detected in confirmation soil samples from the waste oil UST excavation. Further excavation was limited due to the immediate proximity of the adjacent property line and service building. The excavations were backfilled with clean, imported soils. Additional information on the tank removals is included in our March 23, 1994 subsurface investigation report.

The hydraulic lift was removed in July 2001, under the supervision of Erler & Kalinowski (EKI, 2001b). Visible petroleum hydrocarbon contamination was noted at approximately 7.5 to 9 feet below grade. A total of approximately 27 cubic feet of soil was removed from the excavation which measured approximately 7.5 feet in length, 10.5 feet in width and 10 feet deep. Ground water was not observed. The excavated soil was profiled and disposed offsite. The excavation was backfilled with clean, engineered fill material. Soil samples were obtained from each excavation side wall at depths from 8.0 to 9.0 feet. The bottom soil sample was collected from a depth of approximately 9.5 feet bgs and directly beneath the former lift. Concentrations of motor oil remaining in excavation side walls ranged from 310 mg/kg to 3,300 mg/kg. The concentrations of aromatic compounds remaining in soil at this depth are generally less than several milligrams per kilogram (benzene at 2.4 mg/kg, naphthalene up to 5.3 mg/kg and trimethylbenzene up to 6.4 mg/kg). The bottom excavation soil sample, collected from a point 1.5 feet below and directly under the base of the former lift, did not contain elevated concentrations of motor oil or aromatic compounds.

EKI concluded that "Given the relatively low concentrations of motor oil detected in excavation confirmation soil samples, the hydraulic lift release does not appear to be a significant source, if any, to hydrocarbons detected in ground water on the Site". Further information on the lift removal is included in the EKI report.

3.4 Summary of Prior Site Investigations

Since 1989, subsequent to the removal of four USTs, several phases of subsurface investigation have been implemented at the Site. A summary of those investigations is presented in this section. Figure 4 shows locations of all previous borings, monitoring wells, and approximate excavation footprints. Soil analytical test results obtained to-date are included in Tables 2A and 2B. Ground water analytical test results obtained to-date are included in Tables 3A through 3F.

As discussed above, in 1989, low concentrations of TPHg and BTEX were found in confirmation soil samples from the gasoline tanks excavation. Elevated concentrations of O&G were detected in soil samples from the waste oil tank excavation.

In 1990, Kaldveer advanced three boreholes on the Site; one within the backfill of the former gasoline USTs (EB-1), and two in the vicinity of the former waste oil UST (EB-2 and EB-3). Low concentrations of TPHg (up to 50 mg/kg) were detected in soil in borehole EB-1. Elevated concentrations of O&G were detected in soil samples from the 11-foot depth in boreholes EB-2 (4,200 mg/kg) and EB-3 (2,800 mg/kg). A ground water monitoring well, MW-1, was also installed during this phase of the work with a screen interval from 18 feet to 35 feet bgs. The ground water sample collected from Monitoring Well MW-1 was found to contain 54 milligrams per liter (mg/l) TPHg, and 7.6 mg/l total O&G.. Benzene, toluene, xylenes and ethylbenzene (BTXE) levels were measured at 3.5 mg/l, 3.2 mg/l, 9.4 mg/l, and 1.9 mg/l, respectively. A slight hydrocarbon product sheen was present on the samples bailed from the well, but free-floating product was not detected.

In May 1991, soil at the location of the former waste oil UST was over excavated. Elevated concentrations of O&G were detected in confirmation soil samples from the waste oil UST excavation, as discussed above.

MW-1 was sampled three times in 1992 by Hoexter Consulting. Elevated concentrations of TPHg, BTEX, and O&G were detected in ground water in MW-1 during each of the three sample events.

In January 1994, Hoexter Consulting installed two additional ground water monitoring wells on the Site, MW-2 and MW-3, with screen intervals of 15 feet to 35 feet and 10 feet to 20 feet bgs, respectively (Figure 4). Soil samples were collected from the two borings. Petroleum hydrocarbons were detected primarily in the 10.5-11.0 foot soil sample from boring MW-2. TPHg and O&G were detected at concentrations of 910 mg/kg and 38 mg/kg, respectively. Benzene was not detected. The other purgeable aromatic compounds, toluene, xylenes, and ethylbenzene, were detected at concentrations from 0.76 to 6.1 mg/kg. Low levels of TPHg, benzene, toluene, and xylenes were detected in the 20.5 – 21.0-foot soil sample at boring MW-3. Following installation of the monitoring wells MW-2 and MW-3, three ground water sampling events were conducted in 1994. Low concentrations of TPHg and BTEX were detected in ground water samples from well MW-2 and MW-3. O&G was detected only once in well MW-2 during the three 1994 sampling events.

The three monitoring wells were sampled by Hoexter Consulting twice in 1995, with analytical results fairly consistent with prior sample results.

In March 1996, four soil borings (EB-4, EB-5, EB-6, and EB-7) were advanced on the Site. The borings were completed to depths of 22, 22, 7 and 23.5 feet, respectively. EB-4 was located adjacent to the hydraulic lift; EB-5 and EB-6 were located within the former service island; EB-7 was located west of the service bays, and was intended primarily for grab ground water sampling. Elevated concentrations of TPHg were detected in soil samples from the 7.5-8.0 foot zone in borings EB-4 and EB-5 and from 12.5-13.0 feet in boring EB-5, corresponding to relatively permeable sand and gravel strata. Elevated O&G was detected in EB-4 at 820 and 3,600 mg/kg at depths of 7.5-8.0 and 14.5-15.0 feet. The boring was not sampled at greater depth. Samples from boring EB-6, completed only to 7 feet, were not analyzed, although the soil was odiferous. O&G was detected in a EB-7 composite sample from 20.0-20.5 and 23.0-23.5 feet, at a concentration of 620 mg/kg; TPH-g was detected at a concentration of 130 mg/kg. There were no TPH detections as gasoline or as O&G at shallower depths. Free water was not observed in boring EB-7 one hour after reaching the depth of 23.5 feet, and thus a grab water sample was not obtained.

During the same month, wells MW-4, MW-5, and MW-6 were installed. Screened intervals were approximately 15 to 35 feet in wells MW-4 and MW-5, and 10 to 20 feet in well MW-6. Relatively low levels (maximum 68 ppm) TPH-G were detected in soil samples ranging from depths of 11.0 to 36.5 feet. Purgeable aromatic compounds were detected, as well. Initial ground water sampling indicated the presence of elevated petroleum hydrocarbons in all three wells. The maximum detections were in well MW-4, with 9,900 ug/l TPHg, 4,000 ug/l benzene, and corresponding concentrations of the other purgeable aromatic compounds.

Terravac Corporation conducted a dual vapor extraction pilot study in January 1997 (Terravac, 1997). The test was conducted on one well, MW-1, with two observation points. Terravac identified a radius of influence of at least 14 feet and a trace influence at approximately 25 feet from MW-1, and concluded that dual vapor extraction was feasible at the site.

Three additional wells, MW-7, MW-8 and MW-9, were installed in June 1997. Screened intervals were 10-32, 5-20 and 5-20 feet, respectively. One soil sample, from 9.0-9.5 feet, was tested from each of borings MW-7 and MW-8. Low TPHg was detected in MW-8 (71 mg/kg). O&G was detected at 9.0-9.5 feet at a concentration of 2,400 mg/kg, confirming the detections in borings EB-2 and EB-3. Initial TPHg ground water concentrations were 8,700, 610 and 32,000 ug/l in the three wells, respectively, with 950, 25 and 250 ug/l benzene.

All wells on the Site have been sampled generally on a semi-annual basis by Hoexter Consulting since 1997. These results are shown on Tables 3A through 3F. In addition to TPHg and O&G, the ground water has been tested for halogenated volatile organic compounds (HVOC) since 1996; fuel additive compounds since 2008; and minimally for polynuclear aromatic hydrocarbons (PNA/PAH). TPHg and BTEX concentrations have generally declined over time. The most recent maximum detections at the Site (January 2009) included 52,000 ug/l TPHg and 420 ug/l benzene in well MW-1. HVOCs have been detected in all nine wells, at varying concentrations. Maximum detections of selected HVOCs include the following: 41 ug/l 1,2DCB (MW-4); 18 ug/l 1,2DCA (MW-2); 620 ug/l cis1,2DCA (MW-4); 249 ug/l TCE (MW-4); and 460 ug/l VCL (MW-4). The most recent maximum detections include the following: 27 ug/l 1,2DCB (MW-4); 7.8 ug/l 1,2DCA (MW-2); 190 ug/l cis1,2DCA (MW-7); 16 ug/l TCE (MW-2); and 190 ug/l VCL (MW-4).

Free-phase petroleum product has been observed in well MW-1, only, ranging from a "sheen" to the maximum observed in the initial bailer purge, 0.42 feet. Observations of free-phase product are included in Table 1A. In general, the presence of free-phase product appears to have increased, particularly since 2004.

Ground water fuel fingerprint evaluations were conducted on the February 2002 ground water samples from all wells and a July 2008 MW-1 sample of free phase product (Table 3F). The indicated fingerprints were primarily fresh gasoline, with additional fingerprints of oil in MW-1 and MW-4, and (apparently) of stoddard solvent in MW-1 and MW-4. The 2008 MW-1 product sample consisted primarily of gasoline, with both diesel and motor oil range detections as well.

In July 2001, a former hydraulic lift was removed from the Site and soil at the location of the former hydraulic lift was excavated. Elevated concentrations of motor oil were detected in confirmation soil samples from the excavation sidewall, as discussed above in Section 3.3.

Over time, well yields during purging, excepting MW-8, have declined. All wells, with the exception of MW-8, were thus redeveloped in May 2008. The wells have been sampled on two occasions since that time. There has not been an obvious increase in well productivity.

3.5 Nature of Contamination

As discussed above, various phases of investigation conducted to-date indicate the presence of elevated concentrations of TPHg, O&G, benzene and HVOCs in soil and ground water beneath the Site. The nature of contamination in the eastern portion of the Site, which is the source area and the western portion of the Site, which is potentially the downgradient area, is discussed below.

3.5.1 Source Area

Soil

Following soil removal during over excavations in the former waste oil tank area (excavation depth 7.5 ft. bgs) and the hydraulic lift (excavation depth 10 ft. bgs), maximum soil concentrations of

TPHg and O&G were detected at 270 mg/kg and 15,000 mg/kg, respectively, in the former waste oil tank area, and at 490 mg/kg and 3,300 mg/kg, respectively, in the former hydraulic lift area. In the former waste oil tank area, O&G and HVOCs were also detected at depths between 9.0-9.5 ft. bgs (MW-8), in the former hydraulic lift area at depths between 14.5-15.0 ft. bgs (EB-4), and at depths between 18.0-20.0 ft. bgs (EB-5), as shown on Tables 2A and 2B.

Ground Water

The results of ground water sampling indicate the presence of TPHg, O&G and BTEX in source area wells (MW-1, MW-4, and MW-7) at the Site. The concentrations, however, have declined over the years. Current maximum concentrations of these constituents were detected in MW-1 during the most recent ground water sampling event (January 2009). These concentrations are discussed in Section 3.4. HVOCs have also been detected in these wells and in MW-8 at the Site with maximum concentration of 1,2-DCE and vinyl chloride in MW-4 during the most recent ground water sampling event (January 2009). Detections of vinyl chloride indicate that natural degradation of HVOCs may be occurring.

Free-phase product has been observed in monitoring well MW-1, ranging from visible sheen to a maximum of 0.42 feet in July 2008 (measured in a bailer on initial well purge observation). The observed free product thickness has been highly variable. Measurements, summarized in Table 1A, indicate an overall increase in free product in this well.

3.5.2 Downgradient Area

Soil

Soil samples were collected from various borings (MW-2, MW-3, MW-5, MW-6 and EB-7) in the downgradient area. An elevated concentration of TPHg at 910 mg/kg was detected in one sample from boring MW-2 at 10.5-11.0 ft bgs.

Ground Water

The results of ground water sampling indicate the presence of TPHg and BTEX in downgradient area wells (MW-2, MW-3, MW-5, MW-6 and MW-9) at the Site. The concentrations, however, have declined over the years with detections below laboratory reporting limits in wells MW-2 and MW-3 during the July 2008 and January 2009 sampling events, with the exception of benzene in MW-2 at a low concentration of 0.66 ug/l. O&G was detected occasionally, but has not been detected in any of these wells since 2001. Maximum concentrations of these constituents were detected in MW-5 during the most recent ground water sampling event. Historically, low levels of HVOCs have also been detected in these wells. Maximum concentration of TCE at 16 ug/l was detected in MW-2.

3.6 Contaminant Transport

Although soil removal was performed at the Site in the source area, impacted soil was left in-place due to physical constraints with over excavation. There is a potential for transport of soil vapor due to existing soil contaminants resulting in vapor intrusion for buildings and structures at and in the Site vicinity. In addition, the existing soil contaminants may also be leaching into ground water, particularly as the UST excavation area is unpaved. Contaminants sequestered in saturated silty and clayey sediments may slowly be released to the ground water due to desorption.

The subsurface investigations to-date indicate complex soil and ground water conditions consisting of interbedded discontinuous relatively thin lenses of silty and clayey sediments, with relatively limited deposits of sand and gravel (Figures 8A through 8D). However, elevated concentrations of TPHg detected in ground water monitoring wells MW-1, MW-5, MW-6 and MW-9 indicate contaminant migration towards the west and southwest. Ground water was not observed in the UST removals and waste oil UST overexcavation. Excepting wells MW-3 and MW-8 (which may be impacted by perched water in the former waste oil UST excavation), ground water is generally deeper than 10 feet (see Figure 9). It is likely that contaminants were discharged from the former gasoline and waste oil USTs and associated piping directly into sediments saturated with perched ground water.

Subdynamic Locating Services of San Jose, California was retained to locate underground utilities within the property. A description of the utility locating is included in Section 4.1 The survey did not detect man-made preferential pathways for contaminant transport.

3.7 Contaminant Exposure Pathways

Based on the nature of contaminants known to-date, the following potential exposure pathways that may cause risks to human health and the environment are anticipated:

- Dermal contact/ingestion of soil (primarily on-site construction exposures).
- Dermal contact of ground water (primarily on-site construction exposures).
- Soil gas volatilization to indoor/outdoor air (on and off-site).
- Gas volatilization from water to indoor/outdoor air (on and off-site).
- Ground water ingestion (off-site) from wells (potential off-site production wells).

3.8 Data Gaps

As part of this preliminary SCM, the following data gaps have been identified:

- On-site and off-site lithology: Lithology of the Site and its vicinity need to be further defined to obtain better understanding of the stratigraphy and ground water flow. This data will provide further clarity on contaminant transport.
- Soil impact in the western portion of the Site: Elevated concentration of TPHg at 910 mg/kg was detected in one sample from boring MW-2 at 10.5-11.0 ft bgs. This may be due to another potential source in that area.
- Lateral extent of ground water impact: Contaminants in the off-site area need to be defined. Elevated contaminant concentrations exist in ground water monitoring wells located along the Site boundary.
- Vertical extent of ground water impact: Contaminants at depths greater that 35.5 ft need to be defined in the on-site area. Currently, ground water monitoring wells with screen intervals to maximum depths of 35.5 ft bgs indicate elevated levels of contaminants.
- Soil vapor pathway: Soil gas sampling needs to be performed in the on-site and off-site area to assess soil vapor pathway. Due to elevated contaminant concentrations both in soil and ground water vapor intrusion into existing structures and buildings causing risks to human health may be a concern.

These data gaps will be addressed in the next phase of the investigation as detailed in the proposed work plan presented in Section 6.0.

4.0 PREFERENTIAL PATHWAY STUDY

4.1 Utility Survey

We contacted Underground Services Alert (UST), to request member utilities mark underground utility locations. There is no gas service to the Site, and both telephone and electricity service are by overhead lines. The public utility agencies did not mark within the property.

Subdynamic Locating Services of San Jose, California was retained to locate underground utilities within the property. Subdynamic conducted its survey on March 16, 2009. Water and sanitary sewer line locations were identified, and were traced from the existing service building to their connections with public agency pipes, by surface marking and by plotting on a site plan (Figure 5, Utility Survey). Subdynamic determined that the water line was approximately 1.5 feet below grade, and that the sewer line was a maximum of 4 feet below grade at the property line. In addition, a buried electrical line from the service building to an abandoned light post near the Seminary/Harmon corner of the property was identified. The line had been cut, apparently by excavation of the former USTs, and could only be traced a short distance from the light standard towards the service building.

A record of depth to ground water readings from 1990 to the present is documented in Table 1A. The most recently completed wells were installed in 1997, and there are 22 depth to water readings of the most recently completed wells since that time. We compared these readings with the utility line depths. Measured depth to water in well MW-8, close to the water line, is commonly in the 4 to 5 foot range below grade, with the most shallow measurement, 3.01 feet (corresponding to approximately 3.5 feet below grade), in 2001. This is the most shallow of measurements in all wells at the Site, and may represent accumulation of perched ground water within the former waste oil tank backfill, at the location of well MW-8. MW-8 is close to the existing water service line, which is 1.5 feet below grade. Thus, the water line is unlikely to be a preferential contaminant pathway.

The sanitary sewer line is located in the vicinity of wells MW-2, 3, 7 and 9. The shallowest depth to ground water in all wells at the site except MW-8, 6.24 feet (corresponding to approximately 6.75 feet below grade), was recorded in well MW-3 in 2005. The sewer line is a maximum of 4 feet deep on the property, and thus is also unlikely to be a preferential contaminant pathway.

The depth of the abandoned overhead light electrical line near the north property corner at Harmon and Seminary Avenues is unknown. It is unlikely that this line is more than 2 feet below the ground surface. Thus, it also is unlikely to be a preferential contaminant pathway.

Based on the utility line depths and measured depths to water over a minimum of 12 years, it is our opinion that underground utility lines at the site are not potential preferential contaminant pathways.

Underground utilities beyond the property line may be present at greater depth. It is uncommon for utility lines to be installed at greater than 5 feet depth. In addition, they would for the most part be located distant and down or lateral-gradient from the release source, and thus contaminant concentrations would be minimal even if they are located below the ground water surface. Thus, these lines are unlikely to be a preferential contaminant pathway.

4.2 Well Survey

A survey of registered wells within a 0.5 mile (2,640 feet) radius of the Site was conducted in 1994 by the Alameda County Public Works Agency, Water Resources Section (Hoexter Consulting, March 1994). The 1994 survey consisted of a computer search of registered wells. A total of 29 wells located at nine sites, including Monitoring Well MW-1 at the subject site, were identified. The wells in the site vicinity are primarily cathodic protection and monitoring wells located along and southwest of East 14th Street, and are generally more than 1500 feet from the site. One up-gradient irrigation and one down-gradient abandoned production well were identified.

An additional search was conducted March 31, 2009 by the County at our request. This search identified currently registered wells within a radius of 1,000 feet, the distance specified by ACH. The 2009 survey consisted of a computer search of registered wells. A total of 18 wells and two soil borings located at six sites, including the nine Grimit site monitoring wells, were identified.

The identified wells are summarized as follows:

Well Survey (1994 and 2009)

ID	Location	Distance and Direction (feet)	Comments (depths in feet)
1994			
1	1970 Seminary	0	Site: currently 9 monitoring wells, maximum depth 35.5'
2	2232 Seminary	500' NE	150' deep 4" diameter irrigation well, up-gradient; reported DTW 61'.
3	62nd Ave and Hilton	1000' E	120' deep cathodic protection well, up-gradient
4	5525 Bancroft	1500' NW	20-37' deep up-gradient boring and monitoring wells
5	55th and E. 15th St.	1500' WSW	120' deep down-gradient cathodic protection
6A	5725 E. 14th St.	1800' SW	204' deep down-gradient abandoned production well; dtw 79'
6B	5725 E. 14th St.	1800' SW	15-30' deep monitoring wells and one soil boring, dtw 5-17', down-gradient
7	5725 E. 14th St.	2000' SW	20-24' deep monitoring wells, down-gradient
8	6630 E. 14th St	2000' SSE	23-51' deep monitoring wells and 202 ft deep boring, down-gradient
9	Tevis and 62nd Ave	2200' SSW	120' deep down-gradient cathodic protection
2009*			
			No additional well locations

Note: * additional wells only, not identified or subsequent to the 1994 survey.

There is thus only one permitted active irrigation/production well within a one-half mile radius of the Site. This well, located at 2232 Seminary Avenue, is situated in the regional up-gradient direction from the Site. There is an abandoned production well located approximately 1,800 feet

down gradient. There were no wells identified in the 2009 survey which were not identified in the previous 1994 survey.

It should be noted that one additional well located approximately 250 feet west of the Site was brought to our attention in 1994 during the course of an early site investigation. The well is apparently not on the County data base. The well was reported by the owner to be approximately 80 feet deep. There was no available information on the screened interval. Additional information is provided in Section 4.3.

4.3 Sampling of Nearby Well

An irrigation well located approximately 250 feet west of the Site at 1955 Seminary Avenue was sampled February 11, 1994 with consent of the owner (Hoexter Consulting, 1994a). The well is down- to lateral-gradient of the apparent shallow water zone and up-gradient of the apparent deeper ground water zone of the subject site. It is located between the Site and the nearest open stream/drainage. According to the owner at the time we sampled this well (who no longer lives at the site), the well is 80 feet deep[1]. The sample was tested for gasoline and BTEX compounds. These compounds were not detected at reporting limits of 50 ppb for gasoline and 0.5 ppb for the BTEX compounds.

Resampling of this well is not contemplated at this time. A recommendation for resampling will be included in the planned subsurface investigation report, and will be based on results of the planned lateral contaminant extent investigation, which will include one boring and grab ground water sample between the Site and the well.

[1] The well appeared to be four inches in diameter. The well was initially purged by flowing the well, and recording ground water parameters. The depth to water could not be measured, and so an assumed depth of 20 feet was utilized to calculate a well volume. Four well volumes were removed by flow through a discharge hose, prior to valving the flow to a minimal flow, and filling the sample bottles.

5.0 RESPONSES TO ACH LETTER

The December 5, 2008 ACH letter requested responses on two additional topics. Our responses follow.

5.1 Ground Water Elevation Data Table

The ACH letter requested that ground water elevation data tables and derived ground water contour maps reflect the presence of free product. One well, MW-1, intermittently exhibits free product. A maximum of 0.42 feet of free product has been measured in the initial pre-purge bailer interface withdrawal. On many occasions there is little or no free product except for a visible sheen.

We have modified Table 1A to reflect free product measurements. Future ground water monitoring reports from the date of this document will include the adjusted ground water elevation on the table and in ground water gradient contour maps.

5.2 Site Survey (GeoTracker)

The ACH letter requested evaluation of the vertical survey datum used for well reference point measurements. Virgil Chavez, land surveyor, has responded to this enquiry; his letter is included in Appendix C. In summary, the letter confirms that the survey utilized NAVD 29 as opposed to NAVD 88 for Vertical Datum. The City of Oakland benchmark used for the survey is referenced to NAVD 29. However, the Chavez letter indicates that NAVD 88, although preferred in current GeoTracker Guidelines, was not previously and is not currently required.

A correction factor of approximately 0.6 to 0.85 meters for the differing data could be employed to modify the NAVD 29 elevations. However, future ground water contour maps would then differ by 0.6 to 0.85 meters from previously completed maps, which could result in confusion and additional costs. For this reason, we do not propose modification of previously obtained data at this time.

Our recommendations for future surveying are included in Section 6.2.5.

6.0 SUPPLEMENTAL SUBSURFACE INVESTIGATION WORK PLAN

6.1 Objectives and Approach

The proposed investigation is intended to provide data on both the lateral and vertical distribution of soil and of ground water contamination, as well as soil vapor concentrations and pathways. To date, there are no soil or ground water or data from beyond the property boundaries, or from a depth greater than 35 feet, and there are no soil vapor measurements. Field work will include developing depth profiles of relative VOC concentrations in the subsurface using Direct Push (DP) technology. Recently developed high resolution, real-time data collection tools compatible with the DP technology such as the Soil Conductivity Probe (SCP) and the Membrane Interface Probe (MIP) will be used to provide high resolution information on the lithology and the distribution of VOCs in the subsurface. DP sampling in conjunction with the SCP and MIP will be used initially to identify intervals of possible soil and ground water contamination. The MIP probes will be terminated at a depth of 50 feet unless they indicate the presence of contamination at that depth. MIP locations (and subsequent soil/grab ground water sampling locations) are situated to provide information within the depths previously investigated, as well as at greater depths both on- and off-site.

6.1.1 Soil Conductivity Probe

The SCP is an electrical sensor that provides information on soil conditions (i.e., lithology). The SCP equipment includes a truck-mounted hydraulic-push tool (an instrumented penetrometer) or DP drilling rig that is advanced downwards to the desired depth. The SCP tool continuously measures electrical conductivity, which is a physical property of the soil matrix and is primarily controlled by the clay mineral content. Soils with relatively high clay mineral content are generally more electrically conductive than soils with low clay mineral content (for example, a sand or gravel with less than 5 percent fines would have a low electrical conductivity). SCP profiles are obtained by measuring the electrical potential across electrodes attached to the DP drilling tool; the electrodes are in direct contact with soil as the tool is advanced through the subsurface. This information, in conjunction with the MIP, can be used to assess VOC concentrations in clayey soil versus sandy soil, both above and below the water table.

6.1.2 Membrane Interface Probe

The MIP is a tool equipped with a heated, semi-permeable membrane that volatilizes VOCs in the soil and ground water adjacent to the tool as it is advanced through the soil using a DP drilling rig. VOCs that diffuse through the membrane are delivered to an instrument at the ground surface via a carrier gas, where the instrument analyzes VOCs in the carrier gas using one or a series of detectors, including a Flame Ionizing Detector (FID), a Photoionizing Detector (PID), and an Electron Capture Detector (ECD). The FID responds to most organic chemicals, particularly hydrocarbons, and is best suited for detecting straight-chained hydrocarbons, or compounds that combust in a hydrogen flame. PID is best suited for aromatic hydrocarbons, or compounds that can be ionized by a light source. ECD responds to chlorine atoms, and is best suited for detecting chlorinated compounds. Non-chlorinated compounds, such as aromatics and ethene, can be detected by the PID and FID, but not the ECD.

The MIP system provides a nearly continuous, real-time, depth-response profile with semi-quantitative/qualitative information on total VOC readings. The resulting high resolution profiles of relative VOC concentration with depth are useful in determining the source or relatively high concentration areas of VOCs and migration pathways in soil and ground water, in addition to

providing real-time information on the extent of soil and ground water impact to facilitate decision making during the field effort. Results obtained using the MIP can be used to approximate VOC concentrations in the subsurface by comparison of the field results to the results of laboratory analysis of depth-discrete ground water and soil samples. The MIP is paired with the SCP and both types of data are collected concurrently during the same push.

6.1.3 Direct Push Soil Sampling and Logging

Soil cores will be collected from comparison borings with a piston-type sampler or a dual-tube system advanced by a DP drilling rig for lithologic logging and comparison with the SCP results. Soil core samples will be visually logged by the undersigned registered geologist/certified engineering geologist for classification of soil type using the Unified Soil Classification System (USCS) as guidance and field screened for VOCs using an organic vapor meter, such as a PID.

6.1.4 Quantification of Chemicals of Concern in Soil and Ground Water Samples

Select soil cores obtained during the work described above from locations where MIP results suggest the highest concentrations of VOCs will be sampled. To confirm lateral delineation, select soil cores will also be sampled from locations where MIP results indicate minimal VOC concentrations. The actual number and location of soil samples collected for laboratory analysis will vary depending on the results of the MIP.

For correlation purposes, select depth-discrete ground water samples will be collected from companion borings at locations and depth intervals where results obtained from the MIP suggest the highest and lowest concentrations of VOCs. Ground water samples collected from locations where MIP results indicate minimal VOC concentrations are expected to confirm lateral and vertical delineation of the ground water contamination at the Site. Samples will be collected from a depth interval spanning four feet or less using a Hydropunch-type sampling device advanced by a DP drilling rig. The actual number and location of ground water samples collected for laboratory analysis will be determined in the field depending on the results of the MIP investigation.

6.1.5 Soil Vapor Sampling

Soil vapor sampling (SVS) is proposed at the Site to assess soil vapor pathway and potential risk associated with vapor intrusion to indoor air. The soil vapor sampling at the Site will be conducted in general accordance with applicable agency guidance documents, including the revised February 7, 2005 *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*, Interim Final, authored by the California Department of Toxic Substances Control (DTSC), and the January 28, 2003 *Advisory – Active Soil Gas Investigations*, jointly issued by the DTSC and the Regional Water Quality Control Board, Los Angeles Region, hereafter referred to as the Advisory.

Soil vapor (SV) borings will be advanced using DP technology at both on-site and off-site locations. The off-site borings will be located between the Site and the adjacent two residences and as close to the existing adjacent residences as is feasible. The sample collection procedures employed will follow the requirements set forth in the Advisory, including those for probe installation, purge volume, leak testing, purge/sample flow rate, and sampling and analysis of soil vapor samples. The samples will be collected from the coarse-grained strata above the capillary zone and below a depth such that atmospheric interference, for example, effects of changes in barometric pressure, temperature, or breakthrough of ambient air from the surface, may be minimized. Where relevant, the samples will be collected below the base of any subsurface

structures, sources or backfilled materials in the vadose zone. Both residences appear to be primarily situated upon spread or continuous footings (as opposed to concrete slabs), with the surrounding ground surface partially covered with concrete sidewalks and paths. Therefore soil vapor samples are proposed to be collected from approximate depths of 4 and 8 feet at each location, however, the depths may be adjusted based on the SCP and MIP data.

6.2 Subsurface Investigation – Scope of Work

6.2.1 Task 1: Field Work Preparation

We will contact Underground Service Alert (USA) prior to drilling to locate underground utilities. A private utility locator will also be used to clear drilling locations.

A site-specific Health and Safety Plan will be prepared prior to conducting field activities. The plan will be discussed with the drilling crew prior to initiation of the field activities.

A State-licensed (C-57) drilling contractor will be retained. Appropriate drilling permits will be obtained from the Alameda County Public Works Department (ACPWD). Encroachment permits will be obtained from the City of Oakland. Access agreements will be made with off-site private property owners.

6.2.2 Task 2: Soil and Ground Water Investigation

The field work described below will be performed by a C-57-licensed driller under the supervision of a California Professional Geologist. The work will be performed in accordance with the Health & Safety Plan and ACPWD requirements.

A table summarizing the proposed sampling plan is presented in Appendix D. The sampling plan may be modified in the field, as necessary, per the program presented in this section.

SCP/MIP Program

The investigation field work effort will consist of advancing up to 9 SCP/MIP borings at the approximate locations shown on the attached Figure 10. Locations are both within the site as well as in all directions laterally surrounding the site, thus regional up-, lateral-, and down- gradient. The field work will be conducted iteratively utilizing the real-time data obtained in the field from the SCP and MIP tools. Boring locations may be modified in the field based on the results. The total depth of each SCP/MIP boring is assumed to be approximately 50 feet bgs or until refusal is encountered. The final depth of each SCP/MIP boring will be determined in the field, as real-time information on relative VOC concentration is available. If the MIP results suggest that the bottom depth of VOCs has been delineated, or if very high detector readings suggest DNAPL is present, the MIP will be extracted and the boring will be backfilled with neat cement grout.

MIP profiles will be compared with the VOC profiles for soil and ground water samples collected at the Site during previous ground water monitoring events and investigations to assess relative concentrations in the field. In addition, soil and ground water samples will be collected to quantify VOC concentrations at selected locations and depths based on the MIP profiles. The actual number, locations, and depths of these samples will be determined based on the real-time information as it becomes available.

Soil Sampling Program

Based on the SCP/MIP borings, companion soil borings using DP technology will be drilled to a depth of 50 feet to collect depth-discrete soil. Soil borings will be directly adjacent to MIP locations. The soil samples will be collected at targeted depths for laboratory analysis of VOCs to compare MIP data to analytical results and for lithologic logging to compare the SCP data to logged soil types. The samples will be contained in four foot long polyethylene tubes. Soils will be visually classified in accordance with the Unified Soil Classification System using the visual/manual procedures of ASTM Standard D-2488-00 guidance and Munsell Soil Color Chart designations. The work will be supervised by the undersigned registered geologist/certified engineering geologist. Boring logs, indicating applicable subsurface information, such as soil lithologies, depth to ground water, sample locations, and other pertinent information, will be developed in the field and will be included in the subsequent reporting.

Soil samples to be analyzed for VOCs will be collected from the soil sleeves. Each sample will be labeled, sealed in a plastic bag, stored in a cooled ice chest and transported to a State-certified analytical laboratory under chain of custody procedures. The label information will include the date, identification number of the sample, project name, and the name of the person collecting the sample. The Chain of Custody form will include the site name and address, consulting firm name and telephone number, sample identification numbers, date and time of sample collection, type of matrix, preservation method, number and size of containers, and analysis requested. Samples will be submitted to the analytical laboratory within three days of sample collection. Samples will continually be kept cool (on the order of four degrees Celsius) before, during, and after transport to the laboratory. The samples will be analyzed within approximately seven days of their collection date; the sealed samples will be opened only by laboratory personnel.

Although the actual number, locations, and depths of these samples will be determined based on the real-time information as it becomes available with advancing SCP/MIP borings, for planning purposes, we propose to analyze a maximum of two soil samples from each boring.

Ground Water Sampling Program

Depth-discrete grab ground water samples for laboratory analysis of VOCs to compare MIP data to analytical results will be collected from companion borings to the SCP/MIP borings using the Hydropunch type sampling technique. A 1.5-inch diameter drill casing fitted with a 5-foot long disposable PVC screen sampling tool and an expendable drop-off cone tip will be advanced to the target sampling depth. The drill casing will then be retracted two to five feet to expose the screen to the water-bearing unit. The ground water samples will be obtained by lowering a new polyethylene or a stainless steel bailer into the temporary PVC casing and transferred directly into preserved VOA vials supplied by the analytical laboratory. Alternatively, the ground water samples may be obtained by extending polyethylene tubing into the sampler head, or with a peristaltic pump. Each ground water sample will be labeled, sealed in plastic bags, placed in cooled ice chest, and delivered to a State-certified laboratory under chain-of-custody protocol, as discussed above.

For planning purposes, we propose to analyze a maximum of two ground water samples from each boring. As with the soil samples, the actual number, locations, and depths of the ground water samples will also be determined based on the real-time information as it becomes available with advancing SCP/MIP borings.

6.2.3 Task 3: Soil Vapor Sampling

Seven soil vapor borings will be advanced at locations shown on Figure 10. The borings will be advanced by a licensed driller under the supervision of a California registered geologist. A maximum of fourteen soil gas samples, two from each boring, will be collected at an approximate depth of 4 bgs when sampling beneath concrete area and at 8 feet bgs. The sampling depth at 8 feet bgs is proposed to allow samples to be collected above the capillary zone and below a depth such that atmospheric interference may be minimized. The depths may be modified in the field if sufficient vapor flow at the target depth is nor achieved. The samples will be collected using one-liter Summa canisters and will be analyzed using U.S. Environmental Protection Agency (U.S. EPA) Method TO-15. One duplicate sample will also be collected and analyzed. Soil gas samples will be properly documented using field identification and chain of custody procedures and transported to a State-certified analytical laboratory using appropriate sample preservation methods.

Prior to advancing the borings, cores will be cut from concrete slabs for access to the subsurface, where necessary. The proposed soil vapor borings will be advanced with 1-inch diameter steel drive rods fitted with a disposable drive tip using DP technology. Bentonite pellets/powder will be placed around the top few inches of the drill rods and will be hydrated to inhibit surface air migration down the outer portion of the drill rod during vapor sample collection. A rag saturated with rubbing alcohol will be placed around the top of the drill rods and in locations where ambient air may leak into the samples. All vapor samples will be analyzed for isopropyl alcohol to test for air leakage. New disposable polyethylene tubing will be inserted into the rods. Upon reaching the target depth, the drive rods will be retracted approximately six inches to expose the soil vapor probe inlet to the formation. Sample tubing will be attached to a 1-Liter Suma canister fitted with an in-line 30-minute flow regulator and particulate filter. The soil boring will be left to equilibrate for approximately 30 minutes prior to sampling. The sampling apparatus will be purged prior to sample collection using an extra Suma canister under vacuum. Vapor samples will be collected in Summa canisters equipped with a pressure gauge at a flow rate of 100 to 200 milliliters/minute.

Probe installation time, start and stop times, and purge volumes will be recorded in a log book. Each canister will be labeled with pertinent information such as sample identification number, the name of the sample collector, the date and time of collection, the site location, and the type of analysis requested, then shipped to the analytical laboratory under chain of custody.

6.2.4 Task 4: Replacement of Monitoring Well MW-8

Rationale for Well Replacement

Monitoring well MW-8 is completed at a depth of 20 feet bgs with the top of screen at 5 feet bgs (see well log, Appendix A). The top of screen lies within the pea gravel backfill of the former waste oil UST, which is present to the base of the excavation at a depth of approximately 7 feet. The well, therefore, is screened both within the relatively permeable UST backfill and the less permeable naturally occurring underlying strata, creating a potential conduit to the underlying sediments. Perched water appears to have accumulated within the UST excavation backfill and is most likely the reason for the anomalously shallow depth to water measurements from this well. The accumulated water may also be diluting the naturally occurring ground water samples from this well. Therefore, we recommend that monitoring well MW-8 be destroyed under a permit from the ACDPW, and a new monitoring well MW-8R be installed in close proximity of this well with the top of screen at approximately 10 feet bgs and the total depth 20 feet bgs.

Abandonment of Existing Well

Well MW-8 is partially completed in the porous and permeable former UST backfill. It is unlikely that a successful pressure grout abandonment and seal can be achieved, as it is unlikely that grout pressure can be maintained. Therefore, the well will be abandoned by overdrilling.

The work will be conducted by a California C-57 licensed well driller, under the direct oversight of the Registered Geologist. A well destruction permit will be obtained from the Alameda County DPW. Applicable fees will be paid.

The drill rig and hollow-stem augers will be initially aligned over the traffic box and well riser pipe. The traffic box will be removed. A centering device will be placed within the riser pipe, and the hollow-stem augers (8-inch diameter) will be used to drill out the well casing and remaining grout, the bentonite seal, and the sand filter pack. The well will be overdrilled 1 to 2 feet or as required by the SF DPH inspector.

The well casing and screen will be recovered from the resulting boring through the hollow-stem auger. The length of the casing will be compared with the original well log, to assure that the total well casing and screen length was recovered.

The resulting boring will be backfilled to the ground surface with neat cement under the observation of the SF DPH representative. The grout will be placed within the hollow-stem augers due to the presence of ground water, and the augers withdrawn as cement is placed in the boring.

Replacement Well Installation and Development

The work will be conducted by a California C-57 licensed well driller, under the direct oversight of the Registered Geologist. A well construction permit will be obtained from the Alameda County DPW. Applicable fees will be paid.

Drilling will be performed using minimum eight-inch outside diameter, hollow-stem augers. All augers and other down-hole drilling equipment will be thoroughly steam-cleaned prior to their use at the site.

The well will be advanced to a depth of 20 feet bgs. A geologic drilling (boring) log will be maintained, recording the materials encountered and the locations of collected soil samples. The log will include field descriptions of the soil properties and lithologic variations using the Unified Soil Classification System (USCS), penetration rate of the split-spoon sampler (blows per 6-inch interval), moisture conditions, well construction, and any unusual characteristics that may indicate the presence of chemical contamination. Soil samples from this location have been previously obtained, and thus additional soil samples will not be analyzed.

The well will be screened from an approximate depth of 10 feet to approximately 20 feet. The well screen will be two-inch diameter, Schedule 40 PVC pipe, with 0.010-inch continuous slot. Pipe sections will be threaded and screwed together without the use of cement. An end plug will be affixed to the bottom of the well casing. The annulus of the perforated section will be packed with appropriately graded Monterey sand for the length of the screen and approximately one foot above the uppermost slot. One foot of hydrated bentonite clay will be placed on top of the sand pack, in order to create a spacer between the sand and annular seal. An annular seal of cement grout composed of Portland Type I/II cement will be placed immediately above the bentonite layer to approximately one foot below surface grade.

The well will be completed at surface grade with steel casing and a Christy (or equivalent) traffic box. A watertight, lockable cap will be installed on the well-head, and the cap will be secured with a padlock.

The well will be developed no earlier than 48 hours after seal emplacement, using a surge block until water is relatively free of fine-grained sediments. At least five, and up to fifteen, well volumes of water will be removed during development of the well, if sufficient water is produced. Water removal will be accomplished either by bailing with a teflon or acrylic bailer or using a displacement pump. All down-hole tubing will be cleaned with a mixture of detergent (Alconox) and water, rinsed with tap water, then rinsed with distilled water prior to use.

6.2.5 Task 5: Surveying

The proposed monitoring well MW-8R will be surveyed and the elevation will be presented in NAVD88. All existing monitoring wells and the SCP/MIP boring locations will also be surveyed to present elevation in NAVD88.

The ACH letter requested an evaluation of the vertical survey datum currently used for well reference point measurements. Virgil Chavez, land surveyor, has responded to this enquiry; his letter is included in Appendix C. In summary, the letter confirms that the survey utilized NGVD 29 as opposed to NAVD 88 for Vertical Datum. The City of Oakland benchmark used for the survey is referenced to NGVD29. We propose to resurvey the monitoring wells and submit future ground water contour maps representing elevations in NAVD88.

6.2.6 Task 6: Reporting

A report presenting the investigation results will be submitted following completion of the field investigation. The report will be converted to PDF format and uploaded to the California GeoTracker and ACH web site.

6.3 Equipment Decontamination and Disposal of Drilling Spoils and Purge Water

All equipment with a potential to contact soil or ground water samples will be washed in a detergent solution, rinsed with clean water and then purified water, and reassembled. This will minimize the potential of spreading contaminants (if any are present) among samples.

Discarded soil and waste water produced during the drilling and sampling process will be placed within labeled drums and retained on-site. The results of chemical analysis of the soil and ground water samples will be used to evaluate the appropriate disposal of these materials. The property owner will be responsible for disposal of auger cuttings and produced ground water.

6.4 Sealing and Abandonment of the Borings

At the completion of sampling activities, the SCP/MIP, soil and ground water, and soil vapor borings will be backfilled to surface grade with concrete grout, using neat cement grout composed of one sack of Portland Type I/II cement (94 lbs.) to five gallons of clean water. A maximum of 5% bentonite powder may by added to the grout mix. PVC casing will be used to tremie the grout into the boring, to facilitate a proper seal. The casing will be withdrawn as the grout is placed.

6.5 Analytical Testing

The samples will be analyzed by a California Environmental Protection Agency/Department of Health Services certified analytical laboratory to California Regional Water Quality Control Board LUFT Guideline requirements. The testing will consist of the following analyses on select samples, which is based on the site history and previous testing:

Soil and Ground Water

- Total petroleum hydrocarbons as gasoline (TPH-G) using EPA Method 5030/8015.
- Purgeable aromatic compounds (BTEX) and MTBE using EPA Method 8020/8021B.
- Oil and grease (total recoverable petroleum, TRPH) using SM 5520B/F, gravimetric with cleanup.
- Halogenated volatile organic compounds (HVOC) by EPA Method 8260B (EPA 8010 Basic Target List).

Additional Ground Water Analysis

- Petroleum fuel oxygenates/additives: MTBE, TAME, ETBE, DIPE, TBA, 1,2-DCA, EDB, ethanol, and methanol by EPA Method 8260B.

Soil Vapor

- Volatile Organic Compounds (VOC) by EPA Method TO-15.
- Total petroleum hydrocarbons (TPH) by EPA Method TO-3.

6.6 Physical Parameters

Physical testing was previously conducted on two samples from within the property. The following tests will be performed on two additional representative soil samples from near or beyond the property boundaries. The test results will supplement the previous two samples.

- Bulk density.
- Effective permeability or saturated hydraulic conductivity.
- Grain size analysis to determine percentages of clay, silt, and sand.
- Organic carbon content (Walkee Black Method).
- Porosity.
- Water content.

6.7 Expected Field Exploration Date

We anticipate that the field investigation will be conducted within approximately 30 to 45 days after approval by the ACH of this work plan.

7.0 PERSONNEL

Preparation of this work plan was conducted by PG/CEG/REA David F. Hoexter, of Hoexter Consulting, Inc., Palo Alto, California. Mr. Hoexter will supervise the field investigation and will prepare the subsequent technical report. Substantial input and review of this document were provided by Sangeeta Goyal of Pristine Earth, Inc. Ms Goyal, a chemist and environmental/resource engineer, will continue to participate in future phases of the project.

8.0 LIMITATIONS

This document has been prepared according to generally accepted geologic and environmental practices. No other warranty, either expressed or implied as to the methods, results, conclusions or professional advice provided is made. It should be recognized that certain limitations are inherent in the evaluation of subsurface conditions, and that certain conditions may not be detected during an investigation of this type. If you wish to reduce the level of uncertainty associated with this study, we should be contacted for additional consultation.

The analysis, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our investigation; review of previous reports relevant to the site conditions; and laboratory results from an outside analytical laboratory. Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes do occur, we should be advised so that we can review our report in light of those changes.

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ATTACHMENTS

REFERENCES

Correspondence and Reports

Erler & Kalinowski, Inc. (EKI), 2001a, Removal Action Work Plan, 1970 Seminary Avenue, Oakland, California, report dated May 24, 2001 (removal of hydraulic lift).

....., 2001b, Results of Hydraulic Lift Removal, 1970 Seminary Avenue, Oakland, California, report dated September 21, 2001.

....., 2002, Work Plan for Remedial Investigation/Remedial Action, 1970 Seminary Avenue, Oakland, California, report dated August 19, 2002.

Hoexter Consulting, Inc, 1992a, January, 1992 Quarterly Ground Water Sampling Report for 1970 Seminary Avenue, Oakland, California, report dated February 24, 1992.

....., 1992b, April, 1992 Quarterly Ground Water Sampling Report for 1970 Seminary Avenue, Oakland, California, report dated May 29, 1992.

....., 1992c, August, 1992 Quarterly Ground Water Sampling Report for 1970 Seminary Avenue, Oakland, California, report dated August 31, 1992.

....., 1993, Proposed Subsurface Investigation (Work Plan), Former Grimit Auto and Repair, STID 553, 1970 Seminary Avenue, Oakland, California, letter dated December 17, 1993.

....., 1994a, Subsurface Investigation, Former Grimit Auto and Repair, STID 553, 1970 Seminary Avenue, Oakland, California, report dated March 23, 1994.

....., 1994b, September, 1994 Quarterly Ground Water Sampling Report for STID 553 - Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated September 23, 1994.

....., 1995a, December, 1994 Quarterly Ground Water Sampling Report for STID 553 - Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated January 13, 1995.

....., 1995b, Conceptual Work Plan, Status of Investigations and Remediation, STID 553 - Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, letter dated January 26, 1995.

....., 1995c, April, 1995 Quarterly Ground Water Sampling Report for STID 553 - Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated May 29, 1995.

....., 1995d, Abbreviated Work Plan, "Phase III Soil and Ground Water Testing, STID 553, 1970 Seminary Avenue, Oakland, California, dated August 9, 1995.

....., 1995e, November, 1995 'Quarterly" Ground Water Sampling Report for STID 553 - Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated November 17, 1995.

....., 1996a, Work Plan Addendum, "Phase III Soil and Ground Water Testing, STID 553, 1970 Seminary Avenue, Oakland, California, letter dated January 14, 1996.

....., 1996b, Work Plan Addendum No. 2, Proposed Monitoring Well Locations, Phase III Soil and Ground Water Testing, STID 553, 1970 Seminary Avenue, Oakland, California, letter dated March 11, 1996.

....., 1996c, Soil and Ground Water Testing Report for Former Grimit Auto and Repair Site, STID #553, 1970 Seminary Avenue, Oakland, California, report dated April 22, 1996.

....., 1996d, Preliminary Evaluation of Remedial Action Alternatives for Former Grimit Auto And Repair Site, STID #553, 1970 Seminary Avenue, Oakland, California, report dated July 28, 1996.

....., 1996e, October, 1996 'Quarterly' Ground Water Sampling Report for STID #553, 1970 Seminary Avenue, Oakland, California, report dated October 21, 1996.

....., 1997a, January, 1997 'Quarterly' Ground Water Sampling Report for STID #553, 1970 Seminary Avenue, Oakland, California, report dated January 28, 1997.

....., 1997b, Corrective/Interim Remedial Action Plan for STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated February 15, 1997.

....., 1997c, Project Status and Investigation Plan, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, letter dated May 23, 1997.

....., 1997d, Supplemental Subsurface Investigation for STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated July 25, 1997.

....., 1997e, Work Plan, ASTM RBCA Tier Two Evaluation, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated October 24, 1997.

....., 1997f, ASTM RBCA Tier Two Evaluation and Quarterly Ground Water Sampling, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated December 18, 1997.

....., 1998a, Addendum to ASTM RBCA Tier Two Evaluation and Quarterly Ground Water Sampling, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, letter dated January 21, 1998.

....., 1998a, Second Addendum to ASTM RBCA Tier Two Evaluation and Quarterly Ground Water Sampling, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, letter dated July 7, 1998.

....., 1998b, Third Addendum to ASTM RBCA Tier Two Evaluation and Quarterly Ground Water Sampling, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, letter dated September 3, 1998.

....., 1999a, December, 1998 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated January 16, 1999.

....., 1999b, April, 1999 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated May12, 1999.

....., 1999c, December, 1999 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated December 29, 1999.

....., 2000, July, 2000 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated November 30, 2000.

....., 2001a, January, 2001 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated May 28, 2001.

....., 2001b, July, 2001 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated August 23, 2001.

....., 2002a, February, 2002 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated February 26, 2002.

....., 2002b, July, 2002 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated August 6, 2002.

....., 2003a, January, 2003 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated February 10, 2003.

....., 2003b, July, 2003 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated August 17, 2003.

....., 2004a, January, 2004 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated February 18, 2004.

....., 2004b, July, 2004 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated August 31, 2004.

....., 2005a, January, 2005 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated February 16, 2005.

....., 2005b, July, 2005 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated September 6, 2005.

....., 2006a, January, 2006 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated February 21, 2006.

....., 2006b, July, 2006 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated September 26, 2006.

....., 2007a, January, 2007 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated April 16, 2007.

....., 2007b, July, 2007 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated August 15, 2007.

....., 2008a, January/February, 2008 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated March 13, 2008.

....., 2008b, Monitoring Well Re-Development, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, letter report dated May 17, 2008.

....., 2008c, July, 2008 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated August 23, 2008.

....., 2009a, January, 2009 Ground Water Sampling Report, STID 553, Former Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated March 9, 2009.

Kaldveer Associates, Inc. Soil and Ground Water Testing Report, 1970 Seminary Avenue, Oakland, California, September 28, 1990.

Terra Vac Corporation, 1997, Dual Vapor Extraction Pilot Study, Grimit Auto and Repair, 1970 Seminary Avenue, Oakland, California, report dated February 5, 1997 (incorporated as Appendix C of Hoexter Consulting February 15, 1997 report (HC 1997b).

Regulatory Agency Correspondence and Documents

Alameda County Health Care Services Agency, Environmental Health Services, Environmental Protection, 2008, Fuel Leak Case No. RO0000413 and GeoTracker Global ID TO600100667, Grimit Auto Repair & Service, 1970 Seminary Avenue, Oakland, Ca 94621.

Published References

Alameda County Flood Control and Water Conservation District, June, 1988, Geohydrology and Ground Water Quality Overview of the East Bay Plain Area, Alameda County, California, 205 (j) report prepared under contract to the California Regional Water Quality Control Board, San Francisco Bay Region.

California Department of Toxic Substances Control (DTSC), 2005, Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air, Interim Final, December 15, 2004 revised February 7, 2005.

California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board, Los Angeles Region, 2003, Advisory – Active Soil Gas Investigations, January 28, 2003.

Helley, E.J, Lajoie, K.R, Spangle, W.E, and Blair, M. L, 1979, Flatland Deposits of the San Francisco Bay Region, California – Their Geology and Engineering Properties, and Their Importance to Comprehensive Planning, USGS Professional Paper 943.

Radbruch, Dorothy H, 1969, Aerial and Engineering Geology of the Oakland East Quadrangle, California, USGS GQ-769, Scale 1:24,000.

United States Geological Survey, Oakland East Quadrangle, 1959 photorevised 1968 and 1973, 7.5' Topographic Map Series, Scale 1:24,000.

TABLE 1A

GROUND WATER ELEVATION DATA
(All Measurements in Feet)

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water (measured)	Thickness of Free-Phase Petroleum Hydrocarbon (10)	Depth to Water (adjusted for Free-Phase Petroleum Hydrocarbon)	Ground Water Elevation (measured) (2)	Ground Water Elevation (adjusted for Free-phase Petroleum Hydrocarbons)
MW-1 ("deep")						
8/6/90	37.00	21.5	Sheen	21.5	15.5	15.5
1/28/92		21.0	Sheen	21.0	16.0	16.0
4/27/92		20.95	Sheen	20.95	16.05	16.05
8/10/92		22.20	Not recorded	22.20	14.80	14.80
2/11/94		15.93 (3)	Sheen	15.93 (3)	21.07 (3)	21.07 (3)
2/28/94		13.85 (4)	N/A	13.85 (4)	23.15 (4)	23.15 (4)
9/9/94		20.19	Sheen	20.19	16.81	16.81
12/28/94		14.91	Sheen	14.91	22.09	22.09
4/13/95		14.18	Sheen	14.18	22.82	22.82
11/1/95		20.90	Sheen	20.90	16.10	16.10
3/8/96		11.82	N/A	11.82	25.18	25.18
3/25-26/96	36.97	13.54	Sheen	13.54	23.43	23.43
10/7/96		21.78 **(11)**	Sheen	21.78	15.19	15.19
1/15/97		13.34 **(11)**	Sheen	13.34	23.63	23.63
6/23/97	36.99	19.91	Sheen	19.91	17.08	17.08
10/6/97		21.55	Sheen	21.55	15.44	15.44
12/12/98		16.24	Sheen	16.24	20.75	20.75
4/24/99		14.21	Sheen	14.21	22.78	22.78
12/18/99		19.28	0.01	19.28	17.71	17.72
7/22/00		21.93	Sheen	21.93	15.93	15.93
1/29/01		19.49	0.01	19.48	17.50	17.51
7/28/01		19.84	Sheen	19.84	17.15	17.15
2/3/02		16.03	0.01	16.02	20.96	20.97
7/23/02		20.45	0.01	20.44	16.54	16.55
1/20/03		15.08	0.02	15.06	21.91	21.93
7/30/03		19.06	0.02	19.04	17.93	17.95
1/27/04		16.45	Sheen	16.45	20.54	20.54
7/22/04	40.02	20.22	0.08	20.14	19.80 (7)	19.88
1/20/05		13.92	Sheen	13.92	26.10	26.10
7/20/05		16.76	Sheen	16.76	23.26	23.26
1/26/06		14.40	0.01	14.39	25.62	25.63
7/27/06		17.66	Sheen	17.66	22.36	22.36
1/24/07		17.43	0.02	17.41	22.59	22.61
7/18/07		19.31	0.17	19.14	20.71	20.88
2/15/08		14.80	0.02	14.78	25.22	25.24
7/25/08		20.21	0.42	19.79	19.82	20.24
1/23/09		19.71 **(9)**	0.08	19.64	20.31 **(9)**	20.39

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water	Relative Ground Water Elevation (2)
MW-2 ("deep")			
2/11/94	36.40	14.16 (3)	22.24 (3)
2/28/94		16.01 (4)	20.39 (4)
9/9/94		18.96	17.44
12/28/94		21.42	14.98
4/13/95		19.69	16.71
11/1/95		21.91	14.49
3/8/96		14.56 (6)	21.84 (6)
3/25-26/96	36.39	10.84	25.55
10/7/96		18.41	17.98
1/15/97		10.07	26.32
6/23/97	36.40	13.73	22.67
10/6/97		17.03	19.37
12/12/98		11.39	25.01
4/24/99		10.45	25.95
12/18/99		13.22	23.18
7/22/00		13.73	22.67
1/29/01		12.25	24.15
7/28/01		16.73 (6)	19.67 (6)
2/3/02		11.40	25.00
7/23/02		13.42	22.98
1/20/03		10.49	25.91
7/30/03		13.47	22.93
1/27/04		11.72	24.68
7/22/04	39.42	13.86	25.56 (7)
1/20/05		10.24	29.18
7/20/05		12.34	27.08
1/26/06		10.60	28.82
7/27/06		13.02	26.40
1/24/07		15.76	23.66
7/18/07		13.91	25.51
2/15/08		10.94	28.48
7/25/08		14.29	25.13
1/23/09		20.17 **(9)**	19.25 **(9)**
MW-3 ("shallow")			
2/11/94	36.94	6.97 (3)	29.97 (3)
2/28/94		7.74 (4)	29.20 (4)
9/9/94		9.68	27.26
12/28/94		8.15	28.79
4/13/95		8.05	28.89
11/1/95		7.82	29.12
3/8/96		5.69	31.25
3/25-26/96	36.94	6.91	30.03
10/7/96		9.51	27.43
1/15/97		6.23	30.71
6/23/97	36.94	9.65	27.29

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water	Relative Ground Water Elevation (2)
MW-3 ("shallow") cont'			
10/6/97		10.53	26.41
12/12/98		7.12	29.82
4/24/99		7.17	29.77
12/18/99		8.51	28.43
7/22/00		9.41	27.53
1/29/01		7.23	29.71
7/28/01		8.63	28.31
2/3/02		7.99	28.95
7/23/02		10.17	26.77
1/20/03		6.76	30.18
7/30/03		10.13	26.81
1/27/04		7.65	29.29
7/22/04	39.95	11.29	28.66 (7)
1/20/05		6.24	33.71
7/20/05		9.03	30.92
1/26/06		6.49	33.46
7/27/06		8.80	31.15
1/24/07		8.75	31.20
7/18/07		11.29	28.66
2/15/08		6.79	33.16
7/25/08		12.40	27.55
1/23/09		9.72 **(9)**	30.23 **(9)**
MW-4 ("deep")			
3/25-26/96	36.46	14.14	22.32
10/7/96		22.31	14.15
1/15/97		13.78	22.68
6/23/97	36.47	20.90	15.57
10/6/97		22.77	13.60
12/12/98		17.16	19.31
4/24/99		14.55	21.92
12/18/99		20.46	16.01
7/22/00		20.67	15.80
1/29/01		18.06	18.41
7/28/01		20.80	15.67
2/3/02		15.53	20.94
7/23/02		20.26	16.21
1/20/03		15.26	21.21
7/30/03		20.23	16.24
1/27/04		17.15	19.32
7/22/04	39.49	21.28	18.21 (7)
1/20/05		14.20	25.29
7/20/05		17.64	21.85
1/26/06		14.42	25.07
7/27/06		18.51	20.98
1/24/07		18.43	21.06

7/18/07		20.59	18.90
Well Number and Date of Measurement	**Reference Elevation (2)**	**Depth To Water**	**Relative Ground Water Elevation (2)**
MW-4 ("deep") cont'			
2/15/08		15.11	24.38
7/25/08		21.12	18.37
1/23/09		19.99 **(9)**	19.50 **(9)**
MW-5 ("deep")			
3/25-26/96		15.63	21.14
10/7/96		22.86	13.91
1/15/97		17.33	19.44
6/23/97	36.77	21.91	14.86
10/6/97		24.26	12.51
12/12/98		20.66	16.11
4/24/99		17.19	19.58
12/18/99		22.71	14.06
7/22/00		21.42	15.35
1/29/01		20.79	15.98
7/28/01		21.07	15.70
2/3/02		17.67	19.10
7/23/02		20.16	16.61
1/20/03		17.21	19.56
7/30/03		20.32	16.45
1/27/04		18.34	18.43
7/22/04	39.79	20.90	18.89 (7)
1/20/05		15.89	23.90
7/20/05		17.97	21.82
1/26/06		15.49	24.30
7/27/06		18.50	21.29
1/24/07		18.76	21.03
7/18/07		20.12	19.67
2/15/08		16.35 **(9)**	23.44 **(9)**
7/25/08		20.57	19.22
1/23/09		19.42 **(9)**	20.37 **(9)**
MW-6 ("shallow")			
3/25-26/96	36.42	8.52	27.90
10/7/96		12.82	23.60
1/15/97		7.72	28.70
6/23/97	36.42	11.42	25.00
10/6/97		12.67	23.75
12/12/98		9.15	27.27
4/24/99		8.56	27.86
12/18/99		10.53	25.89
7/22/00		11.50	24.92
1/29/01		9.34	27.08
7/28/01		N/A	N/A

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water	Relative Ground Water Elevation (2)
MW-6 ("shallow") cont'			
2/3/02		9.32	27.10
7/23/02		11.33	25.09
1/20/03		8.49	27.93
7/30/03		11.35	25.07
1/27/04		9.20	27.22
7/22/04	39.44	11.13	28.31 (7)
1/20/05		7.65	31.79
7/20/05		10.02	29.42
1/26/06		8.13	31.31
7/27/06		10.59	28.85
1/24/07		10.09	29.35
7/18/07		11.06	28.38
2/15/08		8.17	31.27
7/25/08		11.30	28.14
1/23/09		9.82 **(9)**	29.62 **(9)**
MW-7 ("deep")			
6/23/97	36.83	19.93	16.90
10/6/97		21.43	15.40
12/12/98		16.56	20.27
4/24/99		14.48	22.35
12/18/99		19.40	17.43
7/22/00		19.85	16.98
1/29/01		17.59	19.24
7/28/01		20.05	16.78
2/3/02		15.89	20.94
7/23/02		19.57	17.26
1/20/03		15.36	21.47
7/30/03		19.21	17.62
1/27/04		16.84	19.99
7/22/04	39.84	20.17	19.67 (7)
1/20/05		14.44	25.40
7/20/05		17.26	22.58
1/26/06		14.55	25.29
7/27/06		18.13	21.71
1/24/07		18.03	21.81
7/18/07		19.76	20.08
2/15/08		15.44	24.40
7/25/08		20.50	19.34
1/23/09		19.08 **(9)**	20.76 **(9)**
MW-8 ("shallow")			
6/23/97	36.55	5.74	30.81
10/6/97		5.69	30.86
12/12/98		4.01	32.54
4/24/99		4.40	32.15

Well Number and Date of Measurement	Reference Elevation (2)	Depth To Water	Relative Ground Water Elevation (2)
MW-8 ("shallow") cont'			
12/18/99		4.91	31.64
7/22/00		5.47	31.08
1/29/01		3.01	33.54
7/28/01		4.92	31.63
2/3/02		3.82	32.73
7/23/02		5.11	31.44
1/20/03		3.57	32.98
7/30/03		5.23	31.32
1/27/04		4.26	32.29
7/22/04	39.49	5.42	34.07 (7)
1/20/05		3.39	36.10
7/20/05		5.14	34.35
1/26/06		3.70	35.75
7/27/06		5.63	33.86
1/24/07		4.87	34.62
7/18/07		5.41	34.08
2/15/08		3.77	35.72
7/25/08		5.67	33.82
1/23/09		3.55 **(9)**	35.94 **(9)**
MW-9 ("shallow")			
6/23/97	36.70	17.04	19.66
10/6/97		19.17	20.53
12/12/98		14.18	22.52
4/24/99		12.33	24.37
12/18/99		16.14	20.56
7/22/00		15.78	20.92
1/29/01		14.65	22.05
7/28/01		15.33	21.37
2/3/02		12.59	24.11
7/23/02		15.27	21.43
1/20/03		12.27	24.43
7/30/03		14.85	21.85
1/27/04		11.72	24.98
7/22/04	39.71	15.17	24.54 (7)
1/20/05		10.16	29.52
7/20/05		12.12	27.59
1/26/06		10.12	29.59
7/27/06		12.52	27.19
1/24/07		12.63	27.08 (8)
7/18/07		13.77	25.94 (8)
2/15/08		10.78	28.93
7/25/08		13.93	25.78
1/23/09		13.08 **(9)**	26.63 **(9)**

Notes on following page

Notes

(1) N/A = not applicable.
(2) Elevations from a survey conducted by Andreas Deak, California Licensed Land Surveyor, March 21, 1996 and June 23, 1997, City of Oakland datum; and by Virgil D. Chavez Land Surveying, California Licensed Land Surveyor, July 22, 2004, NGVD 29 datum.
(3) Well under pressure when locking cap removed; water level may not have been stabilized.
(4) Depth to water was measured over a 120 minute period; indicated depths appear to be stabilized readings.
(5) Surveyed elevations of wells MW 1 and MW-2 varied to 0.02 foot on March 21, 1996 survey as compared to February 11, 1994 survey; previously calculated measurements of elevation have **not** been modified to reflect the new survey data. Similar slight survey differences on June 20, 1997 have not been corrected.
(6) Well not stabilized (water level rising).
(7) (Initial elevation to NGVD datum).
(8) Corrected elevation.
(9) Well possibly not equilibrated.
(10) Approximate, measured in bailer
(11) Corrected 3/09

TABLE 1B

SUMMARY OF GROUND WATER GRADIENT INFORMATION

Date	Shallow Wells		Deep Wells	
	Direction	Inclination	Direction	Inclination
8/6/90	N/A	N/A	N/A	N/A
1/28/92	N/A	N/A	N/A	N/A
4/27/92	N/A	N/A	N/A	N/A
8/10/92	N/A	N/A	N/A	N/A
2/11/94	N/A	N/A	N/A	N/A
2/28/94	N/A	N/A	N/A	N/A
9/9/94	N/A	N/A	N/A	N/A
12/28/94	N/A	N/A	N/A	N/A
4/13/95	N/A	N/A	N/A	N/A
11/1/95	N/A	N/A	N/A	N/A
3/8/96	N/A	N/A	N/A	N/A
3/25-26/96 (2)	N/A	N/A	N/A	0.01
10/7/96 (2)	N/A	N/A	N/A	0.02
1/15/97 (2)	N/A	N/A	S 33 E	0.13
6/23/97 (3)	N 44 W	0.24	S 68 E	0.07
10/6/97 (3)	N 47 W	0.29	S 55 E	0.11
12/12/98 (3)	N 33 W	0.32	S 47 E	0.05
4/24/99 (3)	N 59 W	0.17	S 44 E	0.07
12/18/99 (3)	N 55 W	0.26	S 44 E	0.07
7/22/00 (3)	N 56 W	0.24	S 65 E	0.19
1/29/01 (3)	N 47 W	0.30	S 65 E	0.20
7/28/01 (3)	N 51 W	0.24	S 65 E	0.05
2/3/02 (3)	N 50 W	0.23	S 65 E	0.05
7/23/02 (3)	N 51 W	0.24	S 85 E	0.11
1/20/03 (3)	N 50 W	0.22	S 50 E	0.19
7/30/03 (3)	N 62 W	0.23	S 66 E	0.10
1/27/04 (3)	N 60 W	0.19	S 77 E	0.10
7/22/04 (3)	N 60 W	0.22	S 67 E	0.08
1/20/05 (3)	N 45 W	0.17	S 30 E	0.04
7/20/05 (3)	N 70 W	0.14	S 68 E	0.08
1/26/06 (3)	N 52 W	0.14	S 55 E	0.04
7/27/06 (3)	N 68 W	0.15	S 72 E	0.09
1/24/07 (3)	N 57 W	0.19	S 65 E	0.08
7/18/07 (3)	N 52 W	0.26	S 57 E	0.11
2/15/08 (3)	N 63 W	0.14	S 55 E	0.06
7/25/08 (3)	N 65 W	0.17	S 76 E	0.11
1/23/09 (3)	N 62 W (4)	0.21 (4)	N/A (5)	N/A (5)

Notes

(1) N/A = not applicable.
(2) Six wells.
(3) Nine wells.
(4) Wells probably not equilibrated, but derived gradient information consistent with previous sampling events.
(5) Wells probably not equilibrated, and derived gradient information not consistent with previous sampling events.

TABLE 2A

SUMMARY OF ANALYTICAL TEST RESULTS - SOIL
Petroleum Hydrocarbons
(Results reported in parts per **million** (ppm), mg/kg) (1, 2)

Sample	TPH-Gasoline	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil and Grease (diesel)	HVOC
Initial UST Removal Confirmation Testing							
Gasoline USTs 11/17/89							
South tank W 9.5'	22	<0.025	<0.025	<0.075	<0.075	NA	NA
South tank E 7.5'	<10	<0.025	<0.025	<0.075	<0.075	NA	NA
Center tank 8'	20	<0.025	0.031	<0.075	0.200	NA	NA
North tank N 9.5'	<10	0.068	<0.025	<0.075	<0.075	NA	NA
North tank E 9.5'	21	2.4	2.9	0.320	1.7	NA	NA
Waste Oil UST 11/17/89							
1	NA	0.093	0.510	0.480	1.7	5500/760/360 (6)	**ND**
2	NA	0.160	0.400	0.810	2.4	7200/460 /190(6)	**ND**
Previous Kaldveer Investigation 8/3/90 and 8/13/90							
EB-1							
16.0	4	NA	NA	NA	NA	NA	NA
21.0	0.5	NA	NA	NA	NA	NA	NA
26.0	50	NA	NA	NA	NA	NA	NA
EB-2							
10.0	NA	NA	NA	NA	NA	4,200	NA
16.0	NA	NA	NA	NA	NA	ND	NA
EB-3							
10.0	NA	NA	NA	NA	NA	2,800	NA
16.0	NA	NA	NA	NA	NA	150	NA
Waste Oil Tank Overexcavation Confirmation Testing 5/16/91							
1 (south side)	190	ND	ND	0.58	1.3	15,000/2700/570 (6)	NA
2 (west side)	ND	ND	ND	ND	ND	1,200/61/<1 (6)	NA
3 (east side)	4.4	ND	ND	0.0083	0.021	11,000/4400/<1(6)	NA
4 (north side)	12	0.0042	ND	0.0091	0.021	410/250/<1 (6)	NA
5 (west floor)	270	ND	3.5	1.3	ND	5,500/670/140 (6)	NA
6 (east floor)	260	ND	ND	1.2	2.5	3,500/680/110 (6)	NA
Stockpile	11	0.0031	ND	0.044	0.094	1,500/710/<1 (6)	NA
Initial Hoexter Investigation January 1994							
MW-2							
10.5-11.0	910	ND	0.76	4.2	6.1	38	NA
16.0-16.5	ND	ND	0.022	ND	ND	ND	NA
20.5-21.0							
25.5-26.0 (3)	ND	ND	ND	ND	ND	ND	NA

Sample	TPH-Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil and Grease	HVOC
MW-3								
10.5-11.0	ND	ND	0.020	ND		ND	ND	NA
20.5-21.0	1.2	0.17	0.047	ND		0.085	NA	NA
April, 1996 Hoexter Investigation								
EB-4								
7.5-8.0	300	ND	ND	3.3		8.3	820	ND
14.5-15.0	63	ND	ND	ND		0.82	3600	**Det** (5)
EB-5								
3.5-4.0	ND	ND	ND	ND		ND	NA	NA
7.5-8.0	130	ND	ND	0.55		1.3	NA	NA
12.5-13.0	120	ND	ND	0.84		1.4	NA	NA
18.0-18.5								
19.5-20.0 (3)	4.5	0.025	0.015	0.028		0.078	240	**Det** (5)
EB-7								
9.0-9.5	ND	ND	ND	ND		ND	ND	NA
14.0-14.5	ND	ND	ND	ND		ND	NA	NA
20.0-20.5								
23.0-23.5 (3)	130	ND	0.38	1.9		2.9	620	ND
MW-4								
16.0-16.5	13	NA	0.038	0.015	ND	0.023	NA	NA
26.0-26.5								
31.0-31.5 (3)	68	NA	0.21	0.092	0.15	0.39	190	NA
36.0-36.5	5.4	NA	ND	0.008	0.015	0.011	NA	NA
MW-5								
11.0-11.5	9.7	NA	ND	0.019	ND	0.038	NA	NA
21.0-21.5	ND	NA	ND	ND	ND	ND	NA	NA
21.0-21.5								
35.5-36.0 (3)	NA	NA	NA	NA	NA	NA	ND	NA
MW-6								
11.0-11.5								
16.0-16.5 (3)	10	NA	0.037	0.033	0.18	0.46	ND	NA
June, 1997 Hoexter Investigation								
MW-7								
9.0-9.5	ND	ND	ND	ND	ND	ND	ND	**Det** (5)
MW-8								
9.0-9.5	71	ND	0.095	0.087	0.13	0.28	2400	**Det** (5)
Hydraulic Lift Overexcavation Confirmation Testing EKI July 2001								**TPH-Diesel**
NW 8.5	82 (7)	NA	<0.25	NA	0.79	0.53	490	160 (7)
NE 8.5	110 (7)	NA	2.4	NA	<0.25	3	310	74 (7)
SW 8.0	47 (7)	NA	<0.25	NA	<0.25	<5	790	200 (7)
SE 9.0	490 (7)	NA	<0.5	NA	2,4	4,4	3,300	1,100 (7)
Bottom 9.5	<1	NA	<0.005	NA	<0.005	<0.005	<50	<50

Notes

(1) ND = non-detect
(2) NA = not applicable
(3) Composite
(4) Chromatogram patterns/comments
    G - gas
    WG - weathered gas
    NGM - non-gas mix, > C9
    NDM - non-diesel mix, generally C7 - C12/13
(5) Detected: see Table 2B
(6) TOG/Motor Oil/Diesel
(7) Laboratory reported that the chromatogram patterns did not match gasoline or diesel standards

TABLE 2B

SUMMARY OF ANALYTICAL TEST RESULTS - SOIL
HALOGENATED VOLATILE ORGANIC COMPOUNDS

(Results reported in parts per **million**, mg/kg) (1) (2)

Sample	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trns 1,2 DCE	1,2 DCP	PCE	TCE	VCL
EB-4									
7.5-8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
14.5-15.0	ND	1.7	ND	ND	ND	ND	1.8	0.82	ND
EB-5									
18.0-18.5									
19.5-20.0 (3)	ND	ND	ND	ND	ND	ND	0.52	ND	ND
EB-7									
20.0-20.5									
23.0-23.5 (3)	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-7									
9.0-9.5	ND	ND	ND	ND	ND	ND	ND	0.0081	ND
MW-8									
9.0-9.5	ND	0.055	ND	0.031	ND	ND	1.5	0.22	ND

Notes

(1) ND = non-detect
(2) NA = not applicable
(3) Composite
(4) Abbreviations as follows:

CA	Chloroethane
1,2 DCB	1,2 Dichlorobenzene
1,2 DCA	1,2 Dichloroethane
cis 1,2 DCE	cis 1,2 Dichloroethene
trans 1,2 DCE	trans 1,2 Dichloroethene
1,2 DCP	1,2 Dichloropropane
PCE	Tetrachloroethene (perchloroethene)
TCE	Trichloroethene
VCL	Vinyl chloride

TABLE 3A

SUMMARY OF ANALYTICAL TEST RESULTS - GROUND WATER
Petroleum Hydrocarbons
(Results reported in parts per **billion**, ppb/ug/l) (1)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
MW-1 ("deep")							
8/6/90 (2)	54,000	NA	3,500	3,200	1,900	9,400	7,600
1/28/92	2,000,000	NA	7,400	17,000	28,000	120,000	7,500 (5)
4/27/92 (3)	500,000	NA	3,400	6,400	10,000	45,000	440,000 (6)
4/27/92 (4)	175,000	NA	4,200	4,400	3,200	14,600	N/A
8/10/92	170,000	NA	4,200	4,200	3,300	15,900	120,000 (6)
2/11/94	1,800,000	NA	ND<5,000	5,100	5,200	23,900	16,000 (6)
9/9/94	23,000,000	NA	56,000	61,000	9,100	137,000	880,000 (6)
12/28/94	55,000	NA	3,700	5,300	1,400	5,800	83,000 (6)
4/13/95	45,000	NA	2,800	3,400	1,200	5,100	50,000 (5)
11/1/95	44,000	NA	2,600	3,400	1,400	5,900	52,000 (5)
3/25/96	45,000	NA	3,000	4,100	1,600	6,800	46,000 (5) (7)
10/8/96	55,000	490	3,300	4,500	1,700	7,100	11,000 (5) (7)
1/16/97	48,000	310	2,600	3,200	1,300	5,300	110,000 (5) (7)
6/23/97	40,000	ND<100	2,300	3,500	1,500	6,300	190,000 (5) (7)
10/7/97	45,000	ND<680	2,500	3,600	1,700	6,800	150,000 (5) (7)
12/12/98	39,000	ND<1,500	3,000	100	1,400	5,800	67,000 (5) (7)
4/24/99	33,000	ND<200	2,300	3,300	1,100	4,100	140,000 (5) (7)
4/24/99 **(8)**	41,000	1,100	2,500	3,700	1,500	5,700	N/A
12/18/99	43,000	ND<200	2,600	3,800	1,400	5,800	110,000 (5) (7)
7/22/00	37,000	ND<200	2,200	2,600	1,300	5,200	320,000 (5) (7)
1/29/01	36,000	ND<200	2,100	2,300	1,200	4,500	76,000 (5) (7)
7/28/01	99,000	ND<250	1,500	2,300	1,700	6,600	86,000 (5) (7)
2/3/02	42,000	ND<500	1,200	1,300	1,100	3,900	42,000 (5) (7)
7/23/02	53,000	ND<1,000	1,700	2,800	1,500	5,100	170,000 (5) (7)
1/20/03	33,000	ND<2,000	2,100	2,500	1,300	4,400	65,000 (5) (7)
7/30/03	24,000	ND<500	1,300	1,500	760	2,700	55,000 (5)
1/27/04	21,000	ND<250	1,600	1,500	1,100	3,200	220,000 (5)
7/22/04	31,000	ND<1,000	1,500	1,700	1,200	4,100	780,000 (5) (7)
1/20/05	25,000	ND<270	1,300	1,400	1,000	2,800	72,000 (5) (7)
7/20/05A **(11)**	22,000	ND<150	1,100	1,600	830	2,600	500,000 (5) (7)
7/20/05B **(11)**	24,000	ND<1,000	830	960	670	2,200	N/A
1/26/06	28,000	ND<500	1,600	1,500	1,200	3,500	64,000 (5) (7)
7/27/06 (A) **(12)**	25,000	ND<250	810	1,000	1,100	3,200	N/A
7/27/06 (C) **(12)**	15,000	ND<400	880	1,200	950	2,800	2,500,000 (5) (7)
1/25/07	32,000	ND<700	990	960	1100	3,500	170,000 (5)
7/19/07	32,000	ND<1,200	600	740	950	2,500	1,100,000 (5)
2/15/08	28,000	ND<900	930	780	940	2,500	3,500,000 (5) (7)
7/25/08 (1A) **(13)**	28,000	ND<700	540	580	750	2,000	**(see table 6)**
7/25/08(1D) **(13)**	28,000	ND<1,000	930	1,000	1,200	3,700	N/A
1/23/09	52,000	ND<350	420	350	1,400	3,600	1,000,000 (5) (7)
MW-2 ("deep")							
2/11/94	130	NA	22	1.1	5.2	7.3	ND (6)
9/9/94	1,000	NA	89	ND	ND	6.9	ND (6)
12/28/94	330	NA	100	3.8	5.4	4.7	5100 (6)
4/13/95	1,300	NA	280	6.9	33	23	ND (5)
11/1/95	100	NA	9.9	ND	ND	ND	ND (5)
3/25/96	4,500	NA	470	57	220	280	ND (5) (7)
10/8/96	710	41	1.9	0.54	1.0	1.0	ND (5) (7)
1/16/97	330	12	41	2.4	1.3	9.9	ND (5) (7)
6/23/97	280	10	12	0.69	ND	13	NA (7)
10/7/97	320	ND<35	4.5	ND	ND	ND	NA (7)
12/12/98	290	ND<11	21	0.76	10	19	ND (5) (7)
4/24/99	360	21	36	1.3	9.2	19	ND<5000 (5) (7)
12/18/99	210	ND<200	13	ND	2.9	7.7	ND<5000 (5) (7)
7/22/00	180	ND<5	10	ND	4.5	6.0	ND<5000 (5) (7)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
MW-2 ("deep") continued							
1/29/01	130	ND<5	16	ND	1.9	3.8	ND<5000 (5) (7)
7/28/01	ND<50	ND<5	2.7	ND	0.64	0.69	ND<5000 (5) (7)
2/3/02	140	ND<5	5.5	ND	9.0	12	ND<5000 (5) (7)
7/23/02	780	ND<15	52	2.0	44	6.2	ND<5000 (5) (7)
1/20/03	1,900	ND<50	120	10	120	94	ND<5000 (5) (7)
7/30/03	710	ND<20	43	1.8	24	5.9	ND<5000 (5) (7)
1/27/04	180	ND<5	10	ND<0.5	3.2	10	ND<5000 (5) (7)
7/22/04	ND<50	ND<5	0.90	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/20/05	96	ND<5	1.3	ND<0.5	1.5	1.0	ND<5000 (5) (7)
7/20/05	430	ND<5	17	1.5	2.3	1.2	ND<5000 (5) (7)
1/26/06	120	ND<5	5.3	ND<0.5	0.64	3.3	ND<5000 (5) (7)
7/27/06	89	ND<5	3.1	ND<0.5	1.93.1	ND<5000 (5) (7)	
1/25/07	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
7/19/07	100	ND<5	1.1	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
2/15/08	460	ND<15	25	0.75	3.7	3.2	ND<5000 (5) (7)
7/25/08	ND<50	ND<5	0.66	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/23/09	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
MW-3 ("shallow")							
2/11/94	ND	NA	ND	ND	ND	ND	ND (6)
9/9/94	710	NA	10	ND	ND	3.5	ND (6)
12/28/94	2,300	NA	7.8	ND	130	73	ND (6)
4/13/95	1,700	NA	2.9	ND	61	24	ND (5)
11/1/95	1,100	NA	4.4	ND	27	22	ND (5)
3/25/96	2,300	NA	4.0	0.96	120	65	ND (5) (7)
10/8/96	160	ND	ND	0.5	1.2	0.77	ND (5) (7)
1/16/97	1,800	7.1	2.8	0.68	48	66	ND<5000 (5) (7)
6/23/97	ND	ND	ND	ND	ND	ND	NA (7)
10/7/97	ND	ND	ND	ND	ND	ND	NA (7)
12/12/98	1,900	ND	1.8	0.78	78	42	ND (5) (7)
4/24/99	2,100	ND	1.5	0.85	79	43	ND<5000 (5) (7)
12/18/99	330	ND	0.51	ND	ND	ND	ND<5000 (5) (7)
7/22/00	230	ND	0.89	2.4	ND	ND	ND<5000 (5) (7)
1/29/01	450	ND<5	1.1	1.6	11	3.6	ND<5000 (5)
7/28/01	ND<50	ND<5	ND<0.5	ND	ND	ND	ND<5000 (5)
2/3/02	98	ND<5	ND<0.5	ND	ND	ND	ND<5000 (5)
7/23/02	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
1/20/03	700	ND<5	1.6	0.56	41	21	ND<5000 (5)
7/30/03	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
1/27/04	85	ND<5	ND<0.5	ND<0.5	ND<0.5	0.87	ND<5000 (5)
7/22/04	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
1/20/05	440	ND<5	0.81	0.67	7.1	2.6	ND<5000 (5)
7/20/05	130	ND<5	ND<0.5	1.2	ND<0.5	ND<0.5	ND<5000 (5)
1/26/06	790	ND<5	1.0	1.0	12	3.4	ND<5000 (5)
7/27/06	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
1/25/07	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
7/19/07	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
2/15/08	74	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
7/25/08	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
1/23/09	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5)
MW-4 ("deep")							
3/26/96	9,900	NA	4,000	40	71	100	ND (5) (7)
10/8/96	7,800	140	3,900	33	31	40	ND (5) (7)
1/16/97	4,800	84	1,900	21	2.5	27	5,200 (5) (7)
6/23/97	6,200	160	2,800	20	20	23	ND (5) (7)
10/7/97	4,400	85	1,800	14	18	14	ND (5) (7)
12/12/98	3,500	110	1,500	13	39	14	ND (5) (7)
4/24/99	3,100	ND<10	1,700	22	67	21	7,500 (5) (7)
12/18/99	2,600	33	1,000	12	32	10	ND<5000 (5) (7)
7/22/00	2,700	60	940	14	31	12	7,000 (5) (7)
1/29/01	2,500	ND<5	980	11	35	5	ND<5000 (5) (7)
7/28/01	1,100	27	250	6.3	19	4.8	90,000 (5) (7)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
MW-4 ("deep") continued							
2/3/02	2,100	ND<25	890	23	41	20	7,400 (5) (7)
7/23/02	1,200	ND<17	490	11	22	8.8	ND<5000 (5) (7)
1/20/03	1,900	ND<80	740	11	32	12	ND<5000 (5) (7)
7/30/03	1,700	ND<150	440	8.9	18	6.1	ND<5000 (5) (7)
1/27/04	1,100	ND<10	350	10	17	5.0	31,000 (5) (7)
7/22/04	910	ND<100	210	7.9	19	6.5	54,000 (5) (7)
1/20/05	1,900	ND<200	550	36	63	43	ND<5000 (5) (7)
7/20/05	1,300	ND<25	310	11	36	12	ND<5000 (5) (7)
1/26/06	1,900	ND<75	500	16	40	12	26,000 (5) (7)
7/27/06	980	ND<20	340	13	18	8.8	85,000 (5) (7)
1/25/07	910	ND<120	230	5	15	4	7,100 (5) (7)
7/19/07	960	ND<100	150	3.9	9.9	3.4	ND<5000 (5) (7)
2/15/08	1,500	ND<150	310	12	18	11	12,000 (5) (7)
7/25/08	1,000	ND<110	54	3.1	5.5	2.0	7,800 (5) (7)
1/23/09	1,000	ND<150	200	5	9.3	2.3	ND<5,000 (5) (7)
MW-5 ("deep")							
3/26/96	1,200	NA	43	8.2	83	95	ND (5) (7)
10/8/96	6,700	190	260	92	410	370	ND (5) (7)
1/16/97	3,000	90	150	68	190	180	ND (5) (7)
6/23/97	12,000	150	410	170	920	800	NA (7)
10/7/97	10,000	ND<480	310	62	530	500	NA (7)
12/12/98	11,000	ND<660	400	120	740	480	ND (5) (7)
4/24/99	9,300	ND<100	390	290	820	770	ND<5000 (5) (7)
12/18/99	7,000	ND<100	250	52	500	300	ND<5000 (5) (7)
7/22/00	14,000	ND<100	290	140	770	630	12,000 (5) (7)
1/29/01	8,200	ND<5	180	42	420	250	11,000 (5) (7)
7/28/01	9,100	ND<70	190	67	540	430	ND<5000 (5) (7)
2/3/02	11,000	ND<100	250	160	730	540	ND<5000 (5)
7/23/02	6,400	ND<110	160	67	540	390	ND<5000 (5)
1/20/03	7,300	ND<170	190	80	480	310	ND<5000 (5) (7)
7/30/03	8,700	ND<300	170	35	470	300	ND<5000 (5) (7)
1/27/04	7,600	ND<400	220	50	460	290	ND<5000 (5)
7/22/04	10,000	ND<250	200	38	510	400	ND<5000 (5)
1/20/05	8,500	ND<250	130	63	430	280	ND<5000 (5) (7)
7/20/05	7,900	74	110	47	350	250	ND<5000 (5) (7)
1/26/06	8,000	ND<350	170	53	410	270	ND<5000 (5)
7/27/06	5,300	ND<150	110	35	380	250	ND<5000 (5)
1/25/07	1,300	ND<30	17	6.1	34	46	ND<5,000 (5) (7)
7/19/07	10,000	ND<210	99	15	250	200	ND<5,000 (5) (7)
2/15/08	9,900	ND<200	120	26	290	200	ND<5,000 (5) (7)
7/25/08	5,600	ND<110	120	20	210	190	ND<5,000 (5) (7)
1/23/09	6,600	ND<180	68	18	220	110	ND<5,000 (5) (7)
MW-6 ("shallow")							
3/26/96	9,900	NA	1,000	150	470	720	ND (5) (7)
10/8/96	1,300	57	120	2.3	1.4	4.0	ND (5) (7)
1/15/97	6,500	220	570	65	170	630	ND (5) (7)
6/23/97	3,100	100	410	16	110	140	NA (7)
10/7/97	960	ND<74	78	3.4	1.8	5.8	NA (7)
12/12/98	2,500	ND<160	230	10	92	110	ND (5) (7)
4/24/99	2,900	ND<10	430	33	160	200	ND<5000 (5) (7)
12/18/99	2,300	ND<200	170	6.6	56	63	ND<5000 (5) (7)
7/22/00	2,200	ND<10	290	9.6	80	43	ND<5000 (5) (7)
1/29/01	2,500	ND<10	220	11	150	230	ND<5000 (5) (7)
7/28/01	NA	NA	NA	NA	NA	NA	NA
2/3/02	2,500	ND<50	290	18	88	330	ND<5000 (5) (7)
7/23/02	1,100	ND<20	160	6.5	54	35	ND<5000 (5) (7)
1/20/03	3,800	ND<80	370	33	220	300	ND<5000 (5) (7)
7/30/03	2,000	ND<70	250	4.8	50	24	ND<5000 (5) (7)
1/27/04	2,600	ND<400	420	20	170	180	ND<5000 (5) (7)
7/22/04	1,200	ND<45	110	3.2	36	17	ND<5000 (5) (7)
1/20/05	3,100	ND<25	280	21	180	250	ND<5000 (5) (7)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
MW-6 ("shallow") continued							
7/20/05	730	ND<10	66	4.4	25	26	ND<5000 (5) (7)
1/26/06	1,900	ND<60	180	12	120	140	ND<5000 (5) (7)
7/27/06	670	ND<9	120	5	17	15	ND<5000 (5) (7)
1/25/07	650	ND<15	99	2.7	20	16	ND<5000 (5) (7)
7/19/07	4,200	ND<50	360	18	47	55	ND<5000 (5) (7)
2/15/08	2,100	ND<60	200	10	100	97	ND<5000 (5) (7)
7/25/08	370	ND<10	27	3.1	2.2	2.7	ND<5,000 (5) (7)
1/23/09	330	ND<20	69	3.6	11	8.1	ND<5,000 (5) (7)
MW-7 ("deep")							
6/23/97	8,700	ND<20	950	260	520	380	ND (5) (7)
10/7/97	7,500	ND<310	1,100	86	280	150	ND (5) (7)
12/12/98	5,000	ND<190	640	43	200	55	ND (5) (7)
4/24/99	5,500	ND<10	640	180	290	210	ND<5000 (5) (7)
12/18/99	5,500	ND<10	570	27	91	31	ND<5000 (5) (7)
7/22/00	7,400	ND<80	620	180	240	180	10,000 (5) (7)
1/29/01	4,000	ND<10	410	21	22	21	7,000 (5) (7)
7/28/01	4,200	ND<70	540	120	110	110	ND<5000 (5) (7)
2/3/02	6,300	ND<25	560	110	190	140	ND<5000 (5) (7)
7/23/02	3,400	ND<50	440	6.3	87	61	ND<5000 (5) (7)
1/20/03	4,500	ND<170	380	32	30	36	ND<5000 (5) (7)
7/30/03	5,300	ND<400	460	34	43	52	ND<5000 (5) (7)
1/27/04	3,000	ND<90	350	15	13	18	ND<5000 (5) (7)
7/22/04	3,600	ND<170	440	10	10	25	ND<5000 (5) (7)
1/20/05	3,200	ND<25	320	31	29	34	19,000 (5) (7)
7/20/05	8,400	ND<500	550	230	300	410	ND<5000 (5) (7)
1/26/06	3,300	ND<300	450	31	45	37	32,000 (5) (7)
7/27/06	3,800	ND<240	530	85	38	94	ND<5,000 (5) (7)
1/25/07	2,500	ND<60	320	6.9	3.3	10	ND<5,000 (5) (7)
7/19/07	2,700	ND<90	280	10.0	5.9	18	ND<5,000 (5) (7)
2/15/08	2,900	ND<120	230	15	12	18	27,000 (5) (7)
7/25/08	3,700	ND<100	400	25	26	87	ND<5,000 (5) (7)
1/23/09	2,500	NC<30	230	5.4	2.9	5.6	ND<5,000 (5) (7)
MW-8 ("shallow")							
6/23/97	610	5.9	25	1.4	4.3	2.4	ND (5) (7)
10/7/97	120	ND	6.9	ND	ND	ND	ND (5) (7)
12/12/98	ND	ND	ND	ND	ND	ND	ND (5) (7)
4/24/99	ND	ND	ND	ND	ND	ND	ND<5000 (5) (7)
12/18/99	ND	ND	ND	ND	ND	ND	ND<5000 (5) (7)
7/22/00	ND	ND	ND	ND	ND	ND	ND<5000 (5) (7)
1/29/01	ND	ND<5	0.87	ND	ND	ND	ND<5000 (5) (7)
7/28/01	ND	ND<5	ND	ND	ND	ND	ND<5000 (5) (7)
2/3/02	ND	16	ND	ND	ND	ND	ND<5000 (5) (7)
7/23/02	ND<50	ND<5	0.87	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/20/03	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
7/30/03	ND<50	ND<5	2.0	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/27/04	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
7/22/04	ND<50	ND<5	1.2	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/20/05	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
7/20/05	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/26/06	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
7/27/06	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/25/07	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
7/19/07	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
2/15/08	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
7/25/08	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)
1/23/09	ND<50	ND<5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000 (5) (7)

Well and Date	TPH Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Xylenes	Oil & Grease HVOC (7)
MW-9 ("shallow")							
6/23/97	**32,000**	**250**	**340**	**280**	**1,500**	**4,300**	ND (5) **(7)**
10/7/97	**33,000**	ND<690	**880**	**350**	**1900**	**4,700**	ND (5) **(7)**
12/12/98	**3,400**	ND<78	**160**	**14**	**220**	**210**	ND (5) **(7)**
4/24/99	**3,100**	**22**	**130**	**18**	**220**	**190**	ND (5) **(7)**
12/18/99	**7,500**	**100**	**220**	**44**	**440**	**650**	ND<5000 (5) **(7)**
7/22/00	**4,900**	ND<10	**93**	**15**	**240**	**250**	**71,000** (5) **(7)**
1/29/01	**3,800**	ND<10	**160**	**35**	**260**	**310**	**5,000**
7/28/01	**5,700**	ND<20	**43**	**27**	**210**	**420**	ND<5000 (5) **(7)**
2/3/02	**7,800**	ND<50	**98**	**51**	**450**	**640**	ND<5000 (5) **(7)**
7/23/02	**2,300**	ND<50	**29**	**14**	**120**	**96**	ND<5000 (5) **(7)**
1/20/03	**5,000**	ND<80	**76**	**25**	**350**	**340**	ND<5000 (5)
7/30/03	**570**	ND<5	**7.2**	**1.2**	**14**	**4.8**	ND<5000 (5) **(7)**
1/27/04	**820**	ND<20	**14**	**2.6**	**35**	**35**	ND<5000 (5) **(7)**
7/22/04	**460**	ND<25	**5.3**	**1.2**	**4.0**	**7.2**	ND<5000 (5) **(7)**
1/20/05a	**330**	ND<5	**6.2**	**1.5**	**8.9**	**12**	ND<5000 (5) (7)
1/20/05b **(10)**	**150**	ND<5	**1.5**	**0.55**	**2.6**	**3.7**	N/A
7/20/05	**260**	ND<5	**1.7**	**2.0**	ND<0.5	**1.2**	ND<5000 (5) **(7)**
1/26/06	**260**	ND<5	**1.0**	**2.9**	ND<0.5	**0.64**	ND<5000 (5)
7/27/06	**410**	ND<5	**1.1**	**1.4**	**0.52**	ND<0.5	ND<5000 (5)
1/25/07	**440**	ND<5	**1.4**	**1.5**	**2.9**	**7.5**	ND<5000 (5)
7/19/07	**300**	ND<20	**1.4**	**2.4**	**0.51**	ND<0.5	ND<5000 (5)
2/15/08	**490**	ND<5	**2.8**	**5.2**	**7.1**	**22**	ND<5000 (5)
7/25/08	**520**	ND<20	**1.0**	**4.1**	**0.63**	ND<0.5	ND<5000 (5)
1/23/09	**250**	ND<15	ND<0.5	**3.7**	ND.0.5	**1.5**	ND<5000 (5)
EB-4 ("grab" gw sample)							
3/8/96	**15,000**	NA	**780**	**840**	**1,300**	**590**	**7,500** (5) **(7)**
MCL	NA	**13/5 (9)**	**1**	**150**	**700**	**1,750**	NA

Notes

(1) ND - non-detect; N/A - not applicable
(2) Kaldveer Associates report, September, 1990
(3) Sequoia Analytical Laboratory
(4) Applied Remediation Laboratory
(5) Gravimetric Method
(6) Infrared Method
(7) HVOC detected: see Table 3
(8) Free-phase product observed in bailer (additional sample)
(9) Primary and secondary MCL, respectively.
(10) Supplemental sample following initial bailer volume removal.
(11) Sample discharged from bottom of bailer (**A**); and top of bailer (**B**)
(12) Sample discharged from top of bailer (**A**); and bottom of bailer (**C**)
(13) Sample collected from top of water column below floating phase product (**1A**) and from well depth of 32' (**1D**)

TABLE 3B

SUMMARY OF ANALYTICAL TEST RESULTS - GROUND WATER
Fuel Additive Compounds (Oxygenated Volatile Organics) (3)
(Results reported in parts per **billion** (ppb), ug/l) (1)

Sample	DIPE	ETBE	MTBE	TAME	TBA	EDB	1,2-DCA	Ethanol	Methanol
MW-1 ("deep")									
7/25/08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1/23/09	ND<5.0	ND<5.0	ND<5.0	ND<5.0	**61**	ND<5.0	ND<5.0	ND<500	ND<5000
MW-2 ("deep")									
7/25/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<0.5	**1.3**	ND<50	ND<500
1/23/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**2.4**	ND<0.5	**7.8**	ND<50	ND<500
MW-3 ("shallow")									
7/25/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<0.5	ND<0.5	ND<50	ND<500
1/23/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<0.5	ND<0.5	ND<50	ND<500
MW-4 ("deep")									
7/25/08	ND<2.5	ND<2.5	**12**	ND<2.5	**34**	ND<2.5	ND<2.5	ND<250	ND<2500
1/23/09	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<20	ND<0.5	ND<5.0	ND<500	ND<5000
MW-5 ("deep")									
7/25/08	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<20	ND<0.5	ND<5.0	ND<500	ND<5000
1/23/09	ND<1.0	ND<1.0	ND<1.0	ND<1.0	**16**	ND<1.0	**2.6**	ND<100	ND<1000
MW-6 ("shallow")									
7/25/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**9.1**	ND<0.5	**0.75**	ND<50	ND<500
1/23/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**8.6**	ND<0.5	ND<0.5	ND<50	ND<500
MW-7 ("deep")									
7/25/08	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<20	ND<5.0	ND<5.0	ND<500	ND<5000
1/23/09	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<20	ND<0.5	ND<5.0	ND<500	ND<5000
MW-8 ("shallow")									
7/25/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5	ND<50	ND<500
1/23/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<0.5	ND<0.5	ND<50	ND<500
MW-9 ("shallow")									
7/25/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5	ND<50	ND<500
1/23/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.5	ND<0.5	ND<0.5	ND<50	ND<500

Notes on following page

Notes

1 - **ND** - non-detect.
2 - **N/A** - not applicable.
3 - Explanations of abbreviations:

Abbreviation	Explanation
MTBE	Methyl tertiary-Butyl Ether
Ethanol	Ethanol
Methanol	Methanol
TBA	tertiary-Butanol
DIPE	Di-isopropyl ether
ETBE	Ethyl tertiary-Butyl Ether
TAME	tertiary-Amyl Methyl Ether
EDB	Ethylene Dibromide (1,2-Dibromoethane)
1,2-DCA	1,2-Dichloroethane

TABLE 3C

SUMMARY OF ANALYTICAL TEST RESULTS – GROUND WATER
Halogenated Volatile Organic Compounds (HVOC)
(Results reported in parts per **billion**, ppb/ug/l) (1) (2)

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trns 1,2 DCE	1,2 DCP	PCE	TCE	VCL
MW-1 ("deep")									
3/25/96	ND<5	7.2	5.3	82	ND<5	ND<5	ND<5	7.8	25
10/8/96	ND<20	ND<20	ND<20	45	ND<20	ND<20	ND<20	ND<20	26
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<2	10	4.1	130	3.7	ND<2	5.0	23	54
10/7/97	3.5	7.4	2.2	82	3.8	ND<2	ND<3	9.5	68
12/12/98	ND<2.5	7.4	ND<2.5	26	ND<2.5	ND<2.5	ND<2.7	ND<2.5	7.3
4/24/99 (8)	2.1	9.9	3.5	61	2.8	2.0	ND<4.2	ND<1.5	22
12/18/99 (9)	3.3	8.0	1.2	12	2.8	1.2	ND<0.5	ND<0.5	7.2
7/22/00 (10)	ND<2.5	16.0	ND<2.5	15	ND<2.5	ND<2.5	ND<5.0	ND<2.5	8.2
1/29/01 (11)	ND<10.0	23.0	ND<10	23	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0
7/28/01 (12)	7.4	9.0	0.97	14	6.4	0.95	ND<0.5	ND<0.5	15
2/3/02 (13)	5.5	10.0	1.4	23	5.5	0.59	ND<0.5	ND<0.5	7.4
7/23/02 (14)	ND<10.0	2.5	ND<10.0	15	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0
1/20/03	ND<10.0	11	ND<10.0	36	ND<10.0	ND<10.0	ND<10.0	ND<10.0	11
7/30/03	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0	ND<20.0
1/27/04	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0
7/22/04	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0	ND<50.0
1/20/05 (19)	81	ND<5.0	ND<5.0	27	ND<5.0	ND<5.0	ND<5.0	ND<5.0	32
7/20/05A (21)	ND<5.0	9.8	ND<5.0	14	ND<5.0	ND<5.0	ND<5.0	ND<5.0	15
7/20/05B (21)	17	ND<10.0	ND<10.0	12	ND<10.0	ND<10.0	ND<10.0	ND<10.0	21
1/26/06	ND<25	ND<25	ND<25	ND<25	ND<25	ND<25	ND<25	ND<25	ND<25
7/27/06A (24)	26	ND<10	ND<10	12	ND<10	ND<10	ND<10	ND<10	20
7/27/06C (24)	ND<10	ND<10	ND<10	10	ND<10	ND<10	ND<10	ND<10	42
1/25/07	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
7/19/07	ND<500	ND<500	ND<500	ND<500	ND<500	ND<500	ND<500	ND<500	ND<500
2/15/08	ND<5	ND<5	ND<5	14	ND<5	ND<5	ND<5	ND<5	16
7/25/08 (1C) (29)	ND<50,000	ND<50,000	ND<50,000	ND<50,000	ND<50,000	ND<50,000	ND<50,000	ND<50,000	ND<50,000
7/25/08 (1E) (29)	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100	ND<100
1/23/09	ND<5	ND<5	ND<5	6.4	ND<5	ND<5	ND<5	ND<5	ND<5
MW-2 ("deep")									
3/25/96	ND<0.5	ND<0.5	8.7	11	ND<0.5	1.0	ND<0.5	3.2	0.92
10/8/96	ND<0.5	ND<0.5	15	9.6	ND<0.5	1.1	ND<0.5	6.6	ND<0.5
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<0.5	ND<0.5	9.7	8.0	ND<0.5	0.86	ND<0.5	9.6	ND<0.5
10/7/97	ND<0.5	ND<0.5	18	11	ND<0.5	1.2	ND<0.5	15	ND<0.5
12/12/98	ND<0.5	ND<0.5	16	9.4	ND<0.5	1.1	ND<1	7.5	ND<0.5
4/24/99	ND<0.5	ND<0.5	13	7.8	ND<0.5	0.92	ND<0.5	8.4	ND<0.5
12/18/99	ND<0.5	ND<0.5	15	9.0	ND<0.5	1.5	ND<0.5	ND<0.5	ND<0.5
7/22/00	ND<0.5	ND<0.5	17	10	ND<0.5	1.2	ND<1.0	12.0	ND<0.5
1/29/01	ND<0.5	ND<0.5	12	9.1	ND<0.5	0.9	ND<5.0	12.0	ND<0.5
7/28/01	ND<0.5	ND<0.5	9.7	7.8	ND<0.5	0.95	ND<5.0	12.0	ND<0.5
2/3/02	ND<0.5	ND<0.5	7.1	6.7	ND<0.5	0.72	ND<0.5	9.0	ND<0.5
7/23/02	ND<0.5	ND<0.5	1.7	2.1	ND<0.5	ND<0.5	ND<0.5	0.97	ND<0.5
1/20/03	ND<0.5	ND<0.5	1.6	2.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/30/03	ND<0.5	ND<0.5	1.7	1.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/27/04	ND<0.5	ND<0.5	14	8.9	ND<0.5	ND<0.5	ND<0.5	9.4	ND<0.5
7/22/04	ND<0.5	ND<0.5	6.6	6.5	ND<0.5	ND<0.5	ND<0.5	8.0	ND<0.5
1/20/05	ND<0.5	ND<0.5	8.7	7.8	ND<0.5	0.69	ND<0.5	12.0	ND<0.5
7/20/05	ND<0.5	ND<0.5	2.0	2.1	ND<0.5	ND<0.5	ND<0.5	1.2	ND<0.5
1/26/06	ND<0.5	ND<0.5	10	7.7	ND<0.5	0.69	ND<0.5	13.0	ND<0.5
7/27/06	ND<0.5	ND<0.5	13	10	ND<0.5	0.88	ND<0.5	13.0	ND<0.5
1/25/07	ND<0.5	ND<0.5	5.5	9.1	ND<0.5	0.64	ND<0.5	16.0	ND<0.5
7/19/07	ND<0.5	ND<0.5	5.3	4.6	ND<0.5	ND<0.5	ND<0.5	7.5	ND<0.5
2/15/08	ND<0.5	ND<0.5	ND<0.5	2.0	ND<0.5	ND<0.5	ND<0.5	2.1	ND<0.5
7/25/08	ND<0.5	ND<0.5	1.3	1.5	ND<0.5	ND<0.5	ND<0.5	4.8	ND<0.5
1/23/09	ND<0.5	ND<0.5	7.8	9.4	ND<0.5	0.88	ND<0.5	16	ND<0.5

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trns 1,2 DCE	1,2 DCP	PCE	TCE	VCL
MW-3 ("shallow")									
3/25/96	ND<0.5	ND<0.5	**0.56**	**1.2**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10/8/96	ND<0.5	ND<0.5	**1.1**	**0.87**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<0.5	ND<0.5	**0.54**	**0.76**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
10/7/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12/12/98	ND<0.5	ND<0.5	**0.51**	**0.82**	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5
4/24/99	ND<0.5	ND<0.5	ND<0.5	**0.65**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12/18/99	ND<0.5	ND<0.5	**0.72**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/22/00	ND<0.5	ND<0.5	**0.52**	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5	ND<0.5
1/29/01	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	ND<0.5	ND<0.5
7/28/01	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2/3/02	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/23/02	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/20/03	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/30/03	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/27/04	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/22/04	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/20/05	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/20/05	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/26/06	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/27/06 **(25)**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/25/07	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/19/07	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2/15/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/25/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/23/09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-4 ("deep")									
3/26/96	ND<8	**22**	ND<8	**300**	**9.2**	ND<8	**38**	**150**	**44**
10/8/96	ND<15	**22**	**4.9**	**320**	ND<15	ND<15	**52**	**130**	**60**
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97 **(5)**	**3.6**	**21**	**5.3**	**340**	**10**	ND<3	**11**	**110**	**83**
10/7/97	ND<8.0	**20**	ND<8.0	**380**	**9.9**	ND<8.0	ND<12	**56**	**56**
12/12/98 **(7)**	ND<3.5	**18**	ND<3.5	**150**	**12**	ND<8	ND<4.5	**12**	**57**
4/24/99	ND<8.5	**20**	ND<8.5	**390**	**12**	ND<8.5	**33**	**240**	**43**
12/18/99	ND<10.0	**27**	ND<10.0	**390**	**13**	ND<10.0	ND<10.0	**39**	ND<10.0
7/22/00	ND<10.0	**38**	ND<10.0	**620**	ND<10.0	ND<10.0	ND<10.0	**19**	**97**
1/29/01	ND<5.0	**35**	ND<5.0	**380**	**15**	ND<5.0	ND<5.0	**19**	**97**
7/28/01	ND<7.5	**29**	ND<5.0	**310**	**18**	ND<5.0	ND<5.0	**8.4**	**150**
2/3/02 **(13)**	ND<7.0	**22**	ND<7.0	**310**	**16**	ND<7.0	ND<7.0	**20**	**120**
7/23/02	ND<0.5	**30**	ND<0.5	**240**	**17**	ND<0.5	ND<0.5	ND<0.5	**230**
1/20/03	ND<10.0	**28**	ND<10.0	**200**	**16**	ND<10.0	ND<10.0	**69**	**84**
7/30/03	ND<10.0	**32**	ND<10.0	**230**	**13**	ND<10.0	ND<10.0	**13**	**290**
1/27/04 **(17)**	ND<5.0	**41**	ND<5.0	**370**	**25**	ND<5.0	ND<5.0	**32**	**310**
7/22/04 **(18)**	ND<5.0	**23**	ND<5.0	**120**	**13**	ND<5.0	ND<5.0	**9.6**	**280**
1/20/05 **(19)**	ND<5.0	**28**	ND<5.0	**320**	**23**	ND<5.0	ND<5.0	**81**	**130**
7/20/05 **(22)**	ND<5.0	**32**	ND<5.0	**230**	**18**	ND<5.0	ND<5.0	ND<5.0	**170**
1/26/06 **(23)**	ND<5.0	**31**	ND<5.0	**320**	**22**	ND<5.0	ND<5.0	**39**	**330**
7/27/06 **(25)**	ND<5.0	**24**	ND<5.0	**180**	**24**	ND<5.0	ND<5.0	**19**	**390**
1/25/07	ND<5.0	**25**	ND<5.0	**170**	**15**	ND<5.0	ND<5.0	ND<10	**380**
7/19/07 **(27)**	ND<5.0	**28**	ND<5.0	**180**	**27**	ND<5.0	ND<5.0	**21**	**460**
2/15/08 **(28)**	ND<5.0	**31**	ND<5.0	**200**	**25**	ND<5.0	ND<5.0	**22**	**130**
7/25/08 **(30)**	**5.5**	**18**	ND<2.5	**110**	**17**	ND<2.5	ND<2.5	**21**	**87**
1/23/09 **(31**	ND<5.0	**27**	ND<5.0	**150**	**23**	ND<5.0	ND<5.0	ND<5.0	**190**
MW-5 ("deep")									
3/26/96	**1.4**	ND<0.5	**2.1**	**6.2**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**10**
10/8/96	ND<2.5	ND<2.5	**4.9**	**4.4**	ND<2.5	ND<2.5	ND<2.5	ND<2.5	**9.4**
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97 **(5)**	**2.0**	**2.1**	**2.0**	**7.2**	**0.71**	ND<0.5	ND<0.5	ND<0.5	**13**
10/7/97	**1.9**	**1.4**	**2.8**	**3.4**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	**10**
12/12/98	**1.4**	**2.0**	**1.1**	**3.7**	ND<1	ND<1	ND<1.5	ND<1	**5.8**
4/24/99	ND<1	**1.9**	**1.9**	**4.8**	ND<1	ND<1	ND<1	ND<1	**6.3**

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trns 1,2 DCE	1,2 DCP	PCE	TCE	VCL
MW-5 ("deep") continued									
12/18/99	1.6	1.7	1.8	1.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.9
7/22/00	1.8	2.4	1.4	2.6	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5.0
1/29/01	ND<1.0	2.2	2.6	2.2	ND<1.0	ND<1.0	ND<1.0	ND<1.0	2.2
7/28/01	1.4	1.3	1.7	1.4	ND<1.0	ND<1.0	ND<1.0	ND<1.0	2.6
2/3/02 **(13)**	1.8	2.0	2.1	3.9	0.95	ND<0.5	ND<0.5	ND<0.5	4.6
7/23/02	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
1/20/03	ND<1.0	1.4	1.4	1.6	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1.3
7/30/03	ND<1.0	1.2	1.1	1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	2.0
1/27/04	ND<1.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
7/22/04	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
1/20/05	1.1	0.84	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
7/20/05	ND<1.0	ND<1.0	1.3	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1/26/06	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
7/27/06	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
1/25/07 **(26)**	ND<0.5	ND<0.5	1.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/19/07	ND<0.5	0.51	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2/15/08	ND<0.5	ND<0.5	ND<0.5	0.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/25/08	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
1/23/09	ND<1.0	ND<1.0	2.6	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
MW-6 ("shallow")									
3/26/96	ND<0.5	ND<0.5	3.9	15	ND<0.5	1.9	0.77	2	ND<0.5
10/8/96	ND<0.5	ND<0.5	2.3	9.9	ND<0.5	ND<0.5	ND<0.5	0.57	ND<0.5
1/16/97	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/23/97	ND<0.5	ND<0.5	1.6	10	ND<0.5	ND<0.5	ND<0.5	0.63	0.50
10/7/97	ND<0.5	ND<0.5	3.4	7.9	ND<0.5	ND<0.5	ND<0.5	0.82	ND<0.5
12/12/98 **(7)**	ND<0.5	ND<0.5	1.5	8.4	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5
4/24/99	ND<0.5	ND<0.5	2.3	17	ND<0.5	0.89	ND<1	0.73	0.59
12/18/99	ND<0.5	ND<0.5	2.2	8.3	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.62
7/22/00	ND<0.5	ND<0.5	1.2	9.3	ND<0.5	ND<0.5	ND<1.0	ND<0.5	0.97
1/29/01	ND<0.5	ND<0.5	1.1	11	ND<0.5	ND<0.5	ND<5.0	ND<0.5	0.77
7/28/01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2/3/02	ND<0.5	ND<0.5	1.5	13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/23/02	ND<1.0	ND<1.0	ND<1.0	9.3	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
1/20/03	ND<1.0	ND<1.0	1.8	14	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
7/30/03	ND<1.0	ND<0.5	1.3	7.6	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.7
1/27/04 **(17)**	ND<2.5	ND<2.5	ND<2.5	8.4	ND<2.5	ND<2.5	ND<2.5	ND<2.5	3.2
7/22/04	ND<0.5	ND<0.5	1.3	3.3	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/20/05	ND<0.5	ND<0.5	0.99	8.7	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
720/05	ND<0.5	ND<0.5	0.79	4.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.65
1/26/06	ND<0.5	ND<0.5	0.81	6.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.90
7/27/06	ND<0.5	ND<0.5	0.82	4.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.10
1/25/07	ND<0.5	ND<0.5	ND<0.5	2.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.30
7/19/07	ND<0.5	ND<0.5	0.73	2.2	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.30
2/15/08	ND<0.5	ND<0.5	ND<0.5	4.9	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.79
7/25/08	ND<0.5	ND<0.5	0.75	0.81	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/23/09	ND<0.5	ND<0.5	ND<0.5	0.53	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-7 ("deep")									
6/23/97	0.93	1.6	ND<0.5	2.4	1.2	ND<0.5	9.8	17	1.5
10/7/97	ND<2	ND<2	ND<2	8.5	2.4	ND<2	38	110	ND<2
12/12/98	ND<2	2.2	ND<2	97	ND<2	ND<2	ND<3.5	ND<2	ND<2
4/24/99	ND<2	2.4	ND<2	31	ND<2	ND<2	9.3	82	ND<2
12/18/99 **(9)**	ND<3	5.7	ND<3	120	ND<3	ND<3	ND<3	12	ND<3
7/22/00 **(10)**	ND<5	18	ND<5	170	ND<5	ND<5	ND<5	8	ND<5
1/29/01 **(11)**	ND<5	18	ND<5	170	ND<5	ND<5	ND<5	8	ND<5
7/28/01 **(12)**	ND<5	11	ND<5	170	ND<5	ND<5	ND<5	6.9	6.1
2/3/02	ND<5.0	ND<5.0	ND<5.0	94	ND<5.0	ND<5.0	ND<5.0	30	ND<5.0
7/23/02	ND<10.0	12.0	ND<10.0	180	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0
1/20/03	ND<2.5	ND<2.5	ND<2.5	50	ND<2.5	ND<2.5	11	ND<2.5	ND<2.5
7/30/03	ND<2.5	ND<2.5	ND<2.5	130	ND<2.5	ND<2.5	ND<2.5	ND<2.5	9.5
1/27/04	ND<5.0	ND<5.0	ND<5.0	130	ND<5.0	ND<5.0	ND<5.0	20	24
7/22/04	ND<5.0	ND<5.0	ND<5.0	120	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trns 1,2 DCE	1,2 DCP	PCE	TCE	VCL
MW-7 ("deep") continued									
1/20/05	ND<2.5	2.7	ND<2.5	110	ND<2.5	ND<2.5	ND<2.5	20	28
7/20/05	ND<5.0	ND<5.0	ND<5.0	250	ND<5.0	ND<5.0	ND<5.0	ND<5.0	29
1/26/06	ND<5.0	ND<5.0	ND<5.0	110	ND<5.0	ND<5.0	ND<5.0	19	37
7/27/06	ND<5.0	ND<5.0	ND<5.0	350	ND<5.0	ND<5.0	ND<5.0	ND<5.0	55
1/25/07	ND<0.5	ND<0.5	ND<0.5	29	ND<0.5	ND<0.5	ND<0.5	ND<0.5	5.9
7/19/07 **(27)**	ND<0.5	ND<0.5	ND<0.5	210	ND<0.5	ND<0.5	ND<0.5	ND<0.5	31
2/15/08 **(28)**	ND<0.5	5.5	ND<0.5	220	ND<0.5	ND<0.5	ND<0.5	28	20
7/25/08	ND<5.0	ND<5.0	ND<5.0	99	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
1/23/09	ND<5.0	ND<5.0	ND<5.0	190	ND<5.0	ND<5.0	ND<5.0	ND<5.0	26
MW-8 ("shallow")									
6/23/97	ND<1	5.4	ND<1	64	ND<1	ND<1	97	100	ND<1
10/7/97	ND<0.5	1.1	ND<0.5	16	ND<0.5	ND<0.5	30	27	ND<0.5
12/12/98	ND<0.5	ND<0.5	ND<0.5	3.4	ND<0.5	ND<0.5	4.8	4.7	ND<0.5
4/24/99	ND<0.5	ND<0.5	ND<0.5	1.9	ND<0.5	ND<0.5	3.4	3.4	ND<0.5
12/18/99	ND<0.5	ND<0.5	ND<0.5	5.3	ND<0.5	ND<0.5	5.9	6.4	ND<0.5
7/22/00	ND<0.5	ND<0.5	ND<0.5	1.7	ND<0.5	ND<0.5	2.4	1.6	ND<0.5
1/29/01	ND<0.5	ND<0.5	ND<0.5	10	ND<0.5	ND<0.5	ND<5.0	8.8	ND<0.5
7/28/01	ND<0.5	ND<0.5	ND<0.5	2.6	ND<0.5	ND<0.5	ND<1.5	2.1	ND<0.5
2/3/02	ND<0.5	ND<0.5	ND<0.5	6.6	ND<0.5	ND<0.5	3.3	4.6	ND<0.5
7/23/02	ND<0.5	ND<0.5	ND<0.5	8.4	ND<0.5	ND<0.5	3.5	5.2	ND<0.5
1/20/03	ND<0.5	ND<0.5	ND<0.5	7.3	ND<0.5	ND<0.5	6	6.7	ND<0.5
7/30/03	ND<0.5	ND<0.5	ND<0.5	25	ND<0.5	ND<0.5	15	20	ND<0.5
1/27/04	ND<0.5	ND<0.5	ND<0.5	4	ND<0.5	ND<0.5	3.1	3.1	ND<0.5
7/22/04	ND<0.5	ND<0.5	ND<0.5	20	ND<0.5	ND<0.5	8.3	13	ND<0.5
1/20/05	ND<0.5	ND<0.5	ND<0.5	6.5	ND<0.5	ND<0.5	5.2	5.1	ND<0.5
7/20/05	ND<0.5	ND<0.5	ND<0.5	1.7	ND<0.5	ND<0.5	1.4	1.2	ND<0.5
1/26/06	ND<0.5	ND<0.5	ND<0.5	7.3	ND<0.5	ND<0.5	6.6	6.2	ND<0.5
7/27/06	ND<0.5	ND<0.5	ND<0.5	10	ND<0.5	ND<0.5	6.8	7.3	ND<0.5
1/25/07	ND<0.5	ND<0.5	ND<0.5	11	ND<0.5	ND<0.5	6.3	6.9	ND<0.5
7/19/07	ND<0.5	ND<0.5	ND<0.5	0.52	ND<0.5	ND<0.5	0.94	0.73	ND<0.5
2/15/08	ND<0.5	ND<0.5	ND<0.5	7.5	ND<0.5	ND<0.5	5.6	5.4	ND<0.5
7/25/08	ND<0.5	ND<0.5	ND<0.5	0.58	ND<0.5	ND<0.5	ND<0.5	0.50	ND<0.5
1/23/09	ND<0.5	ND<0.5	ND<0.5	4.9	ND<0.5	ND<0.5	2.7	3.3	ND<0.5
MW-9 (shallow")									
6/23/97 **(5)**	ND<1	2.1	ND<1	7.4	ND<1	ND<1	3.5	1.4	ND<1
10/7/97 **(6)**	ND<0.5	1.6	2.1	21	ND<0.5	0.7	ND<2	0.53	2.7
12/12/98	ND<0.5	0.7	0.53	1.9	ND<0.5	ND<0.5	ND<1	ND<0.5	ND<0.5
4/24/99	ND<0.5	0.81	0.52	3.1	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
12/18/99	ND<0.5	1.1	0.67	3.7	ND<0.5	ND<0.5	ND<0.5	ND<0.5	0.63
7/22/00	ND<1	1.4	ND<1	1.6	ND<1	ND<1	ND<1	ND<1	ND<1
1/29/01	ND<0.5	1.2	0.71	ND<0.5	8.2	ND<0.5	ND<5.0	ND<0.5	0.53
7/28/01	ND<0.5	0.87	ND<0.5	0.92	ND<0.5	ND<0.5	ND<5.0	2.5	ND<0.5
2/3/02	ND<0.5	1.2	ND<0.5	2.4	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/23/02	ND<2.5	3.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
1/20/03	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
7/30/03	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/27/04	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/22/04	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/20/05a **(19)**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/20/05b **(20)**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/20/05	ND<0.5	0.59	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/26/06	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/27/06	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/25/07	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/19/07 **(27)**	ND<0.5	0.68	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
2/15/08	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
7/25/08	ND<0.5	0.52	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
1/23/09	ND<0.5	0.69	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Well and Date	CA	1,2 DCB	1,2 DCA	cis 1,2 DCE	trns 1,2 DCE	1,2 DCP	PCE	TCE	VCL
EB-4 (grab)									
3/8/96	ND	ND	ND	**42**	ND	ND	**130**	**340**	ND
MCL	NA	**600**	**0.5**	**6**	**10**	**5**	**7**	**5**	**0.5**

Notes

(1) ND = non-detect; reporting limit 0.5 ug/l (ppb) unless otherwise stated
(2) N/A = not applicable
(3) Composite
(4) Abbreviations as follows:

CA	Chloroethane	1,2 DCP	1,2 Dichloropropane
1,2 DCB	1,2 Dichlorobenzene	PCE	Tetrachloroethene (perchloroethene)
1,2 DCA	1,2 Dichloroethane	TCE	trichloroethene
cis 1,2 DCE	cis 1,2 Dichloroethene	VCL	vinyl chloride
trans 1,2 DCE	trans 1,2 Dichloroethene		

(5) 6/23/97 additional detections:
MW-4: 4.8 ppb 1,4-Dichlorobenzene
MW-5: 0.53 ppb 1,4-Dichlorobenzene
MW-9: 2.1 ppb chloroform (tetrachloromethane)
(6) 10/7/97 additional detections:
MW-9: 0.65 chloroform (tetrachloromethane)
(7) 12/12/98 additional detections:
MW-4: 6.2 ppb 1,3-Dichlorobenzene
MW-4: 4.8 ppb 1,4-Dichlorobenzene
MW-6: 8.9 ppb 1,1,1-Trichloroethane
(8) 4/24/99 additional detections:
MW-1: 1.6 ppb Chloroform
MW-1: 2.5 ppb 1,4-Dichlorobenzene
(9) 12/18/99 additional detections:
MW-1: 1.3 ppb Dibromochloromethane
MW-1: 1.2 ppb 1,3-Dichlorobenzene
MW-1: 2.2 ppb 1,4-Dichlorobenzene
MW-1: 9.9 ppb 1,4-Dichlorobenzene
(10) 7/22/00 additional detections:
MW-1: 5.0 ppb 1,4 Dichlorobenzene
MW-7: 6.1 ppb 1,4 Dichlorobenzene
(11) 1/29/01 additional detections:
MW-1: 23.0 ppb 1,3 Dichlorobenzene
MW-4: 6.3 ppb 1,3 Dichlorobenzene
MW-4: 9.0 ppb 1,4 Dichlorobenzene
(12) 7/28/01 additional detections:
MW-1: 0.60 ppb 2-Chloroethyl Vinyl Ether
MW-1: 1.2 ppb 1,3 Dichlorobenzene
MW-1: 3.0 ppb 1,4 Dichlorobenzene
MW-4: 26 ppb 1,4 Dichlorobenzene
MW-7: 5.9 ppb 1,4 Dichlorobenzene
(13) 2/3/02 additional detections:
MW-1: 0.73 ppb 2-Chloroethyl Vinyl Ether
MW-1: 1.8 ppb 1,3 Dichlorobenzene
MW-1: 3.8 ppb 1,4 Dichlorobenzene
MW-4: 9.8 ppb 1,4 Dichlorobenzene
MW-5: 0.59 ppb 1,4 Dichlorobenzene
(14) 7/23/02 additional detections:
MW-1: 112 ppb 1,3 Dichlorobenzene
(15) 1/20/03 additional detections: (none)
(16) 7/30/03 additional detections: (none)

Notes to Table continued

(17) 1/27/04 additional detections:
MW-4: 11 ppb 1,3-Dichlorobenzene
MW-4: 9.7 ppb 1,4-Dichlorobenzene
MW-4: 12 ppb 1,1,2-Trichloroethane
MW-6: 13 ppb 1,1,2-Trichloroethane
(18) 7/22/04 additional detections:
MW-4: 6.9 ppb 1,3-Dichlorobenzene
MW-4: 6.2 ppb 1,4-Dichlorobenzene

(19) 1/20/05 additional detections:
MW-1: 60 ppb Chloromethane
MW-4: 5.5 ppb 1,3-Dichlorobenzene
MW-4: 7.4 ppb 1,4-Dichlorobenzene
MW-9: 0.92 ppb Bromodichloromethane
(20) Supplemental sample following initial bailer volume removal
(21) Sample discharged from bottom of bailer (A); and top of bailer (B)
7/20/05 additional detections:
MW-4: 9.3 ppb 1,3-Dichlorobenzene
MW-4: 9.1 ppb 1,4-Dichlorobenzene
(23) 1/26/06 additional detections:
MW-4: 8.2 ppb 1,3-Dichlorobenzene
MW-4: 8.5 ppb 1,4-Dichlorobenzene
(24) Sample discharged from top of bailer (A); and bottom of bailer (C)
(25) 7/27/06 additional detections:
MW-3: 5.0 ppb 1,1,2 Trichloroethane
MW-4: 6.6 ppb 1,3-Dichlorobenzene
MW-4: 6.4 ppb 1,4-Dichlorobenzene
(26) 1/25/07 additional detections:
MW-5: 1.1 ppb Chloroform
(27) 7/19/07 additional detections
MW-4: 11 ppb 1,3-Dichlorobenzene
MW-4: 8.4 ppb 1,4-Dichlorobenzene
MW-7: 41 ppb 1,1,2-Trichloroethane
MW-9: 1.6 ppb bromodichloromethane
(28) 2/15/08 additional detections
MW-4: 10 ppb 1,3-Dichlorobenzene
MW-4: 8.9 ppb 1,4-Dichlorobenzene
MW-7: 6.2 ppb chloromethane
(29) Sample collected from top of water column below floating phase product (**1C**) and from well depth of 32' (**1E**)
(30) 7/25/08 additional detections
MW-4: 7.0 ppb 1,3-Dichlorobenzene
MW-4: 5.6 ppb 1,4-Dichlorobenzene
(31) 1/23/09 additional detections
MW-4: 11 ppb 1,3-Dichlorobenzene
MW-4: 7.3 ppb 1,4-Dichlorobenzene

TABLE 3D

SUMMARY OF ANALYTICAL TEST RESULTS – GROUND WATER
Polynuclear Aromatic Hydrocarbons (PNA/PAH)
(Results reported in parts per **billion**, ppb/ug/l) (1) (2) (3)

Well and Date	Phenanthrene	Naphthalene
MW-1 ("deep")		
6/23/97	**12**	**2200**
10/7/97	ND<100	**810**
7/25/08	N/A	N/A
MW-2 ("deep")		
7/25/08 **(4)**	N/A	ND<0.5
MW-3 ("shallow")		
7/25/08 **(4)**	N/A	ND<0.5
MW-4 ("deep")		
7/25/08 **(4)**	N/A	**4.7**
MW-5 ("deep")		
7/25/08 **(4)**	N/A	**16**
MW-6 ("shallow")		
7/25/08 **(4)**	N/A	ND<0.5
MW-7 ("deep")		
7/25/08 **(4)**	N/A	**10**
MW-8 ("shallow")		
7/25/08 **(4)**	N/A	ND<0.5
MW-9 ("shallow")		
7/25/08 **(4)**	N/A	ND<0.5
MCL	N/A	N/A

Notes

(1) ND = non-detect
(2) N/A = not applicable
(3) Detected compounds only
(4) Analyte included in 8260B target list.

TABLE 3E

SUMMARY OF ANALYTICAL TEST RESULTS – GROUND WATER
Additional Chemical Parameters
(Results reported in parts per **million**, mg/l) (1)

Well and Date	Dissolved Oxygen	Ferrous Iron	Nitrate	Sulfate
MW-1 ("deep")				
10/8/96	**1.5 (3)**	ND	ND	ND
1/16/97	**1.4 (3)**	**3.6**	ND	ND
1/23/09	N/A	N/A	N/A	N/A
MW-2 ("deep")				
10/8/96	**3.7 (3)**	ND	**3**	**25**
1/16/97	**5.4 (3)**	**0.28**	**3**	**25**
1/23/09	N/A	N/A	N/A	N/A
MW-3 ("shallow")				
10/8/96	**3.8 (3)**	ND	ND	**5**
1/16/97	**5.2 (3)**	ND	ND	**5**
1/23/09	**0.01 (4)**	N/A	N/A	N/A
MW-4 ("deep")				
10/8/96	**3.0 (3)**	ND	ND	ND
1/16/97	**4.7 (3)**	**0.75**	ND	**5**
1/23/09	N/A	N/A	N/A	N/A
MW-5 ("deep")				
10/8/96	**2.8 (3)**	ND	ND	**8**
1/16/97	**3.4 (3)**	**0.38**	ND	**9**
1/23/09	N/A	N/A	N/A	N/A
MW-6 ("shallow")				
10/8/96	**2.7 (3)**	ND	ND	**6**
1/16/97	**2.7 (3)**	**0.28**	ND	**8**
1/23/09	**0.54 (4)**	N/A	N/A	N/A
MW-7 ("deep")				
10/8/96	No data: well not in existence at time of testing.			
1/16/97	No data: well not in existence at time of testing.			
1/23/09	N/A	N/A	N/A	N/A
MW-8 ("shallow")				
10/8/96	No data: well not in existence at time of testing.			
1/16/97	No data: well not in existence at time of testing.			
1/23/09 (5.0')	**1.78 (4)**	N/A	N/A	N/A
1/23/09 (11.5')	**1.59 (4)**	N/A	N/A	N/A
MW-9 ("shallow")				
10/8/96	No data: well not in existence at time of testing.			
1/16/97	No data: well not in existence at time of testing.			
1/23/09	N/A	N/A	N/A	N/A

Notes on following page

Notes

(1) ND = non-detect
(2) N/A = not applicable
(3) Sample transmitted to analytical laboratory, measured in lab by EPA Method 360.1
(4) Field measurement (see report text)

TABLE 3F

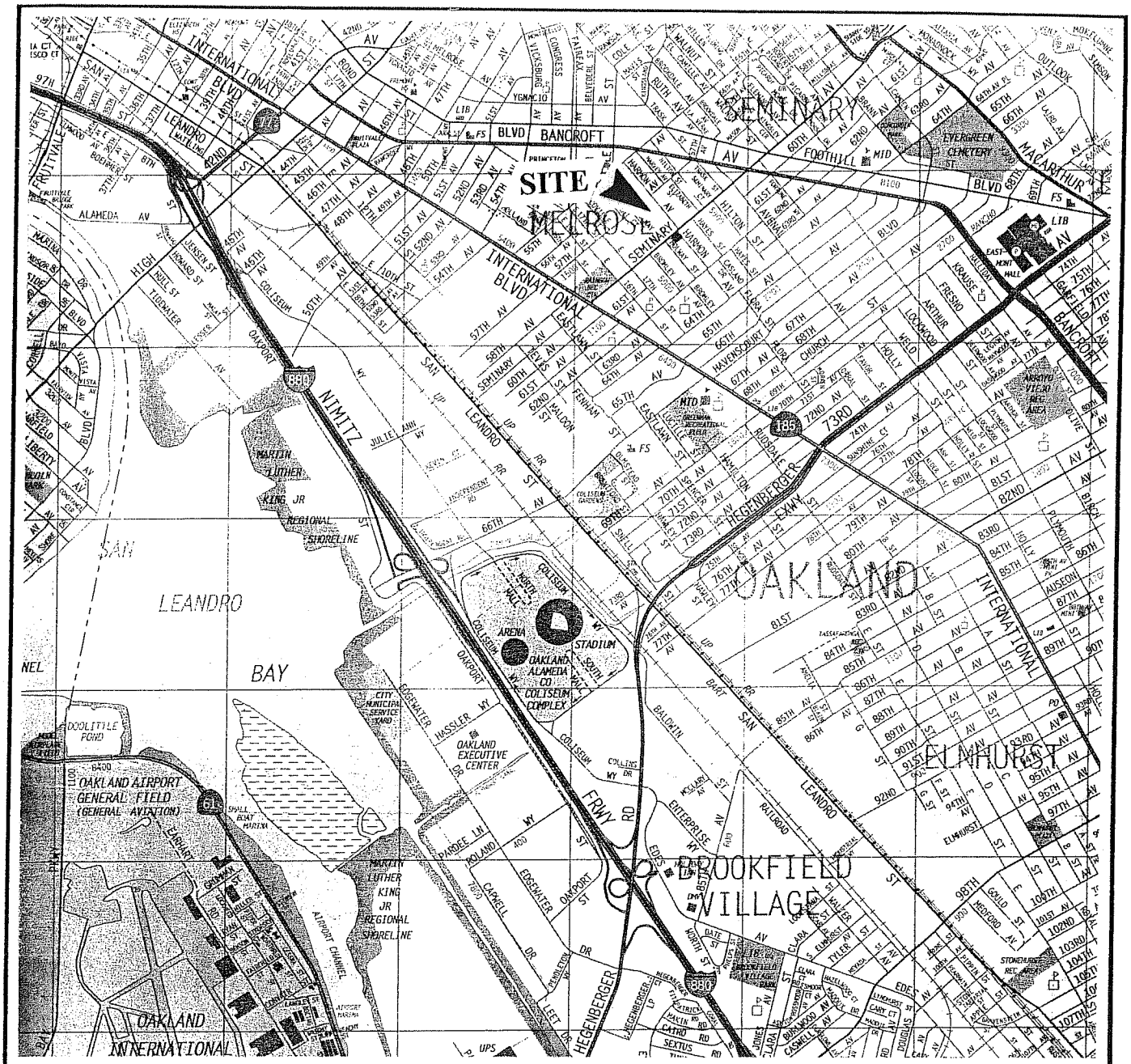
SUMMARY OF ANALYTICAL TEST RESULTS – GROUND WATER
Fuel Fingerprint With Silica Gel Clean Up

Well and Date	Fuel Fingerprint
MW-1 ("deep")	
2/3/02	Significant hydrocarbon pattern between C6 and C12 that resembles gasoline. Also shows a hydrocarbon pattern between C18 and C30 that resembles oil. (See note 2).
7/25/08	Analyzed sample MW-1B (floating phase fuel product). Significant hydrocarbon pattern within the gasoline range (C6-C12) and the stoddard solvent range (C9-C12). To a lesser degree an oil range (C18-C30) pattern is also observed. (See note 3). Analytical results (note: carbon ranges overlap and thus total detection greater than 100 per cent): TPH-G (C6-C12): 920,000 mg/L. TPH-D (C10-C23): 230,000mg/L TPH-MO (C18-C36): 160,000 mg/L.
MW-2 ("deep")	
2/3/02	ND < 50 ug/L
MW-3 ("shallow")	
2/3/02	ND < 50 ug/L
MW-4 ("deep")	
2/3/02	Significant hydrocarbon pattern between C9 and C12 that resembles stoddard solvent. Also shows a hydrocarbon pattern between C18 and C30 that resembles oil. (See note 2).
MW-5 ("deep")	
2/3/02	Significant hydrocarbon pattern between C6 and C12 that resembles fresh gasoline. (See note 2).
MW-6 ("shallow")	
2/3/02	Significant hydrocarbon pattern between C6 and C12 that resembles fresh gasoline. (See note 2).
MW-7 ("deep")	
2/3/02	Significant hydrocarbon pattern between C6 and C12 that resembles fresh gasoline. (See note 2).
MW-8 ("shallow")	
2/3/02	ND < 50 ug/L
MW-9 ("shallow")	
2/3/02	Significant hydrocarbon pattern between C6 and C12 that resembles fresh gasoline. (See note 2).

Notes

(1) ND = non-detect
(2) See laboratory report in February 26, 2002 ground water sampling report for chromatograms.
(3) See laboratory report in July 2008 ground water sampling report for chromatograms.

FIGURES



Source: Thomas Brothers Maps.

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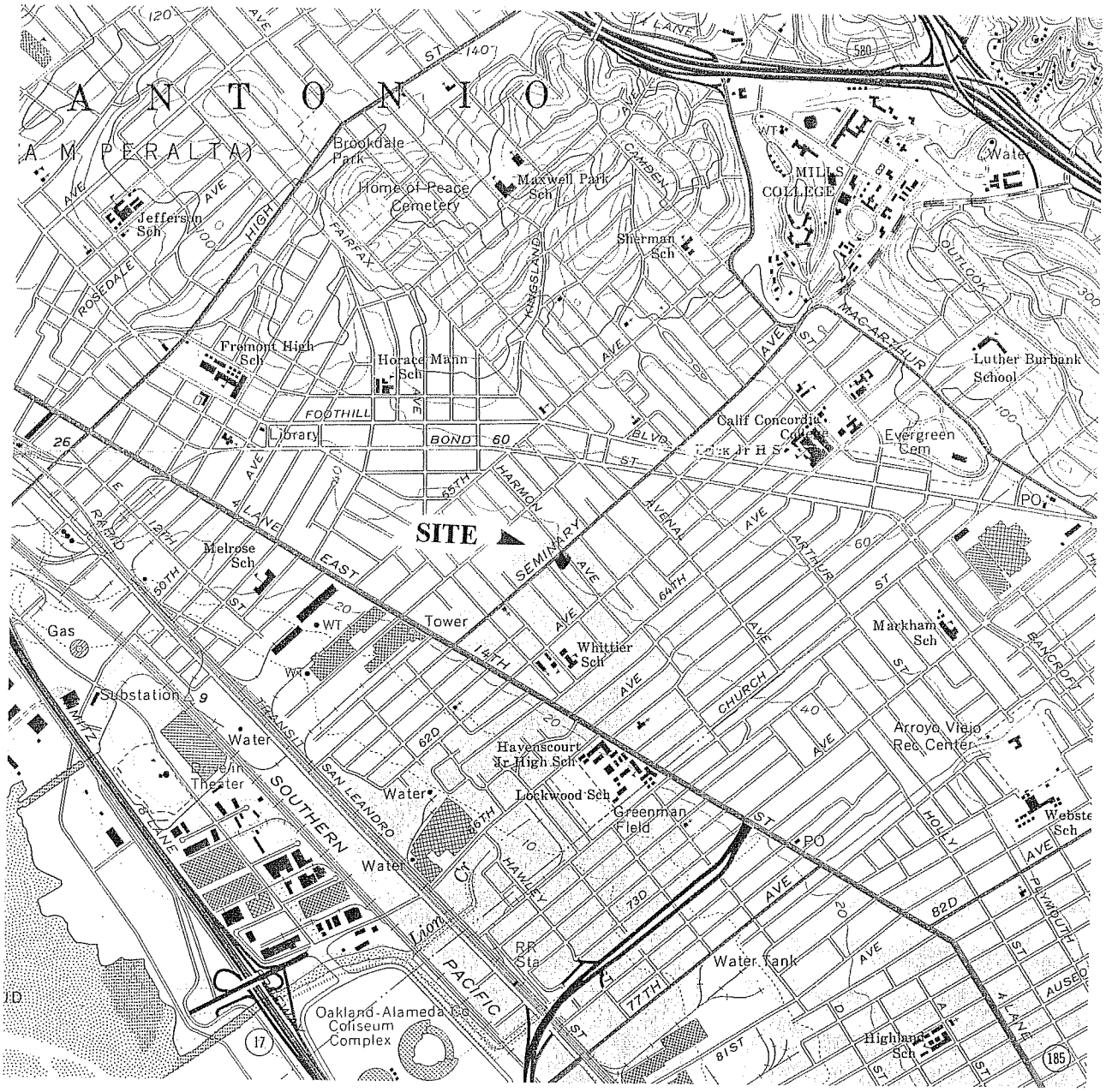
LOCATION MAP

1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 1
E-10-1G-772G	May 2009	



Source: USGS Oakland East Quadrangle, 1959/73

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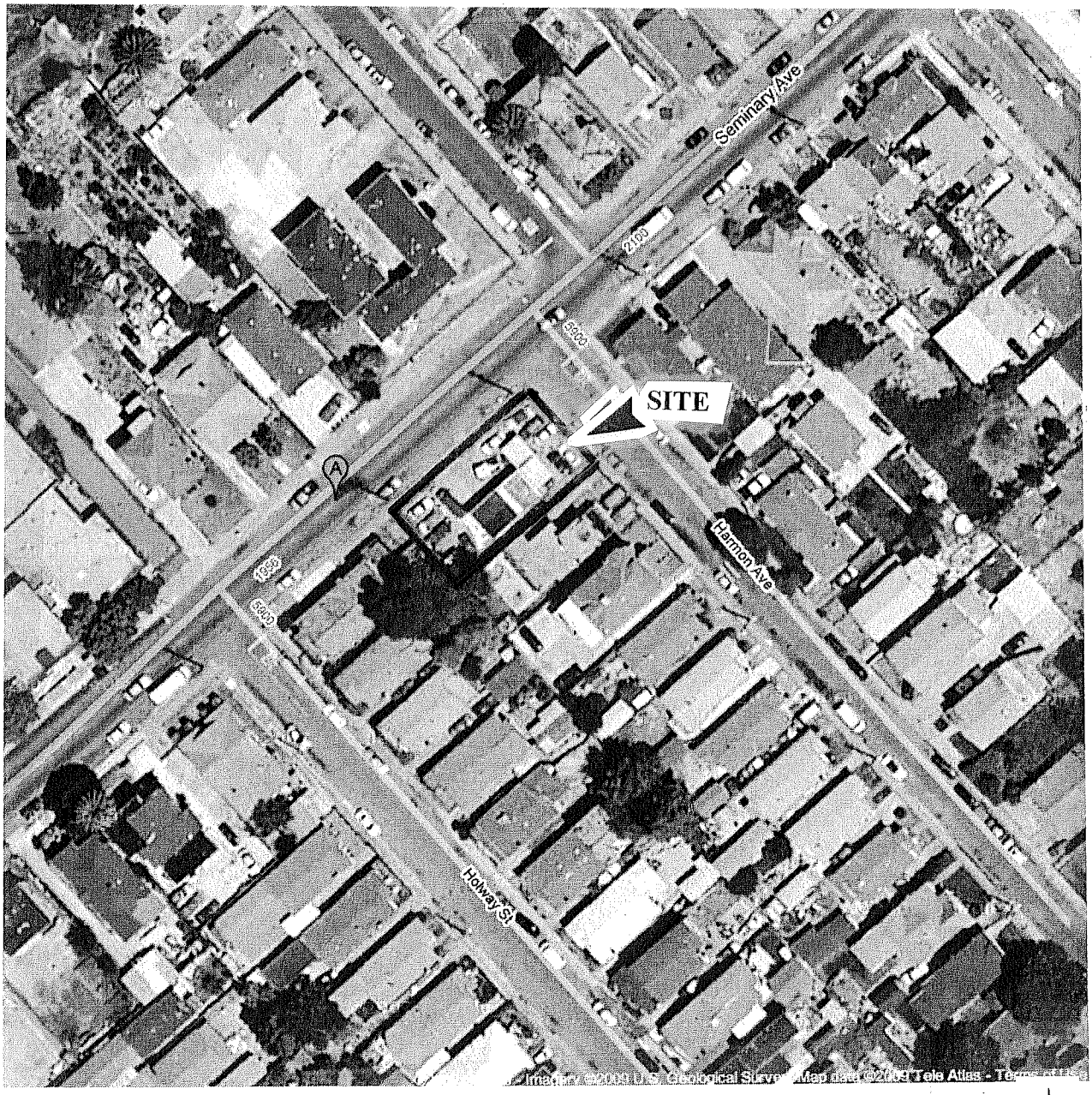
TOPOGRAPHIC MAP

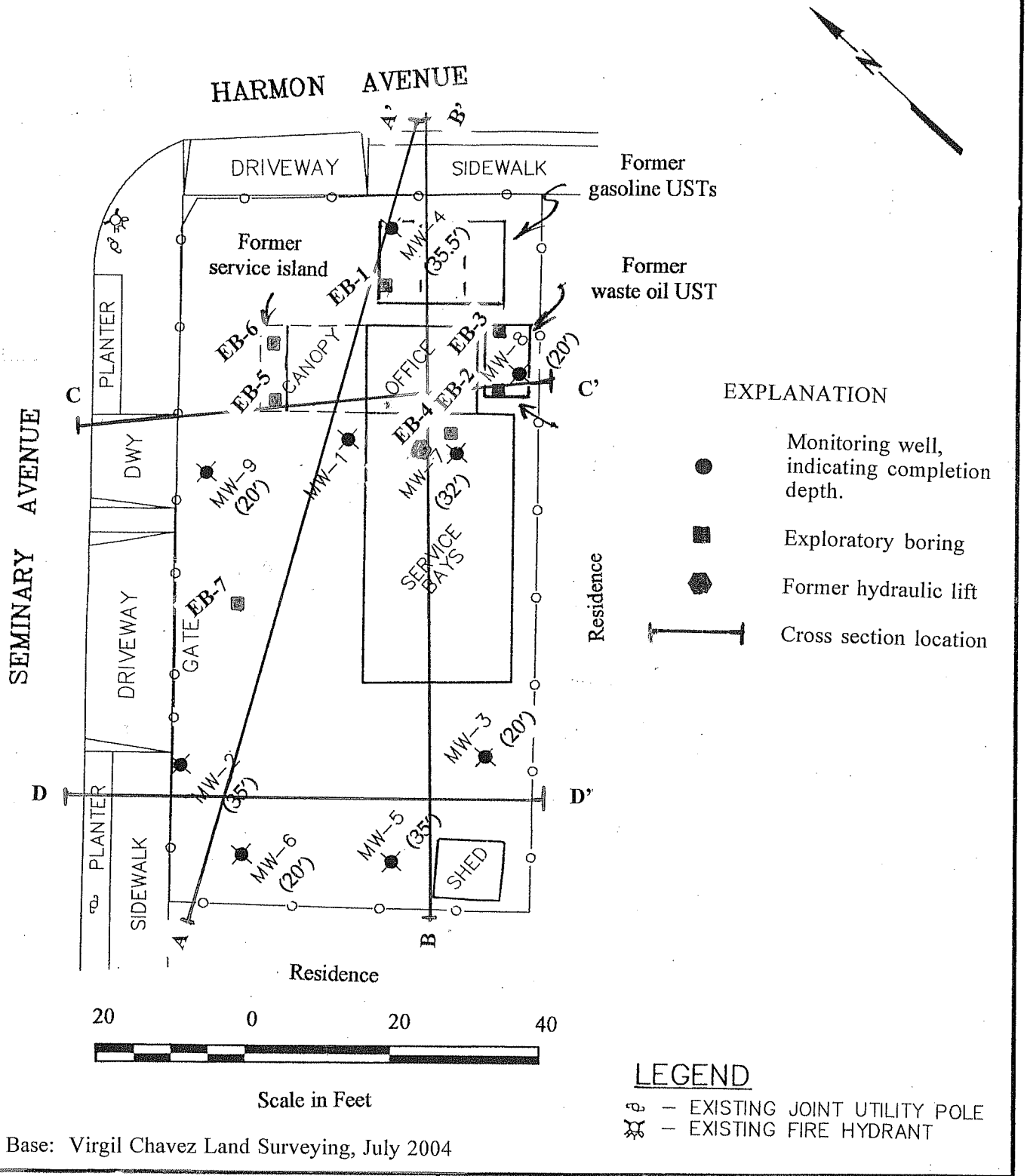
1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 2
E-10-1G-772G	May 2009	



Source: USGS No scale

HOEXTER CONSULTING Geology Engineering Geology Environmental Studies	AERIAL PHOTOGRAPH 1970 Seminary Ave. Oakland, California		
	Project No.	Date	Figure 3
	E-10-1G-772G	May 2009	



Base: Virgil Chavez Land Surveying, July 2004

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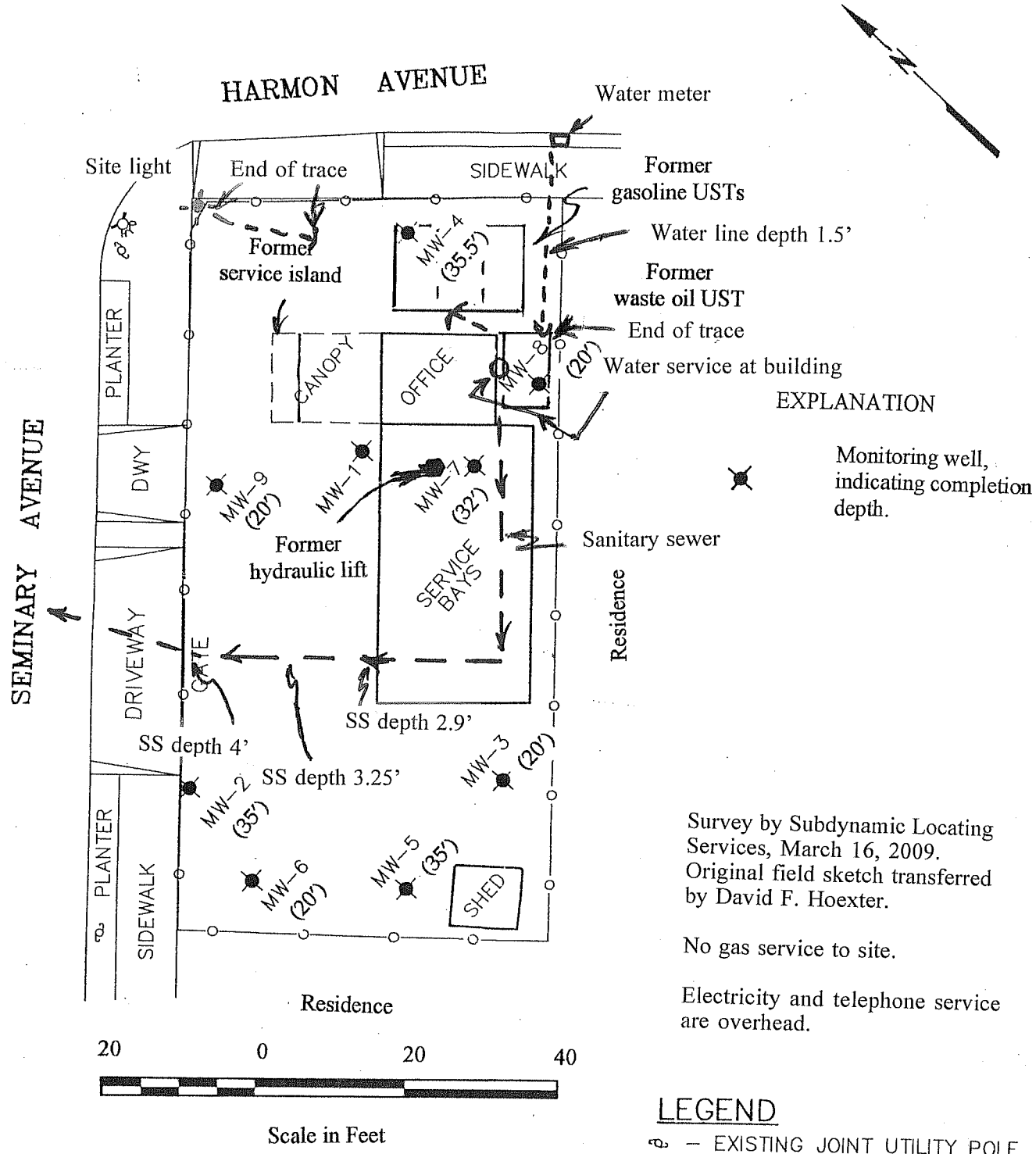
SITE PLAN

1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 4
E-10-1G-772G	May 2009	



Base: Virgil Chavez Land Surveying, July 2004

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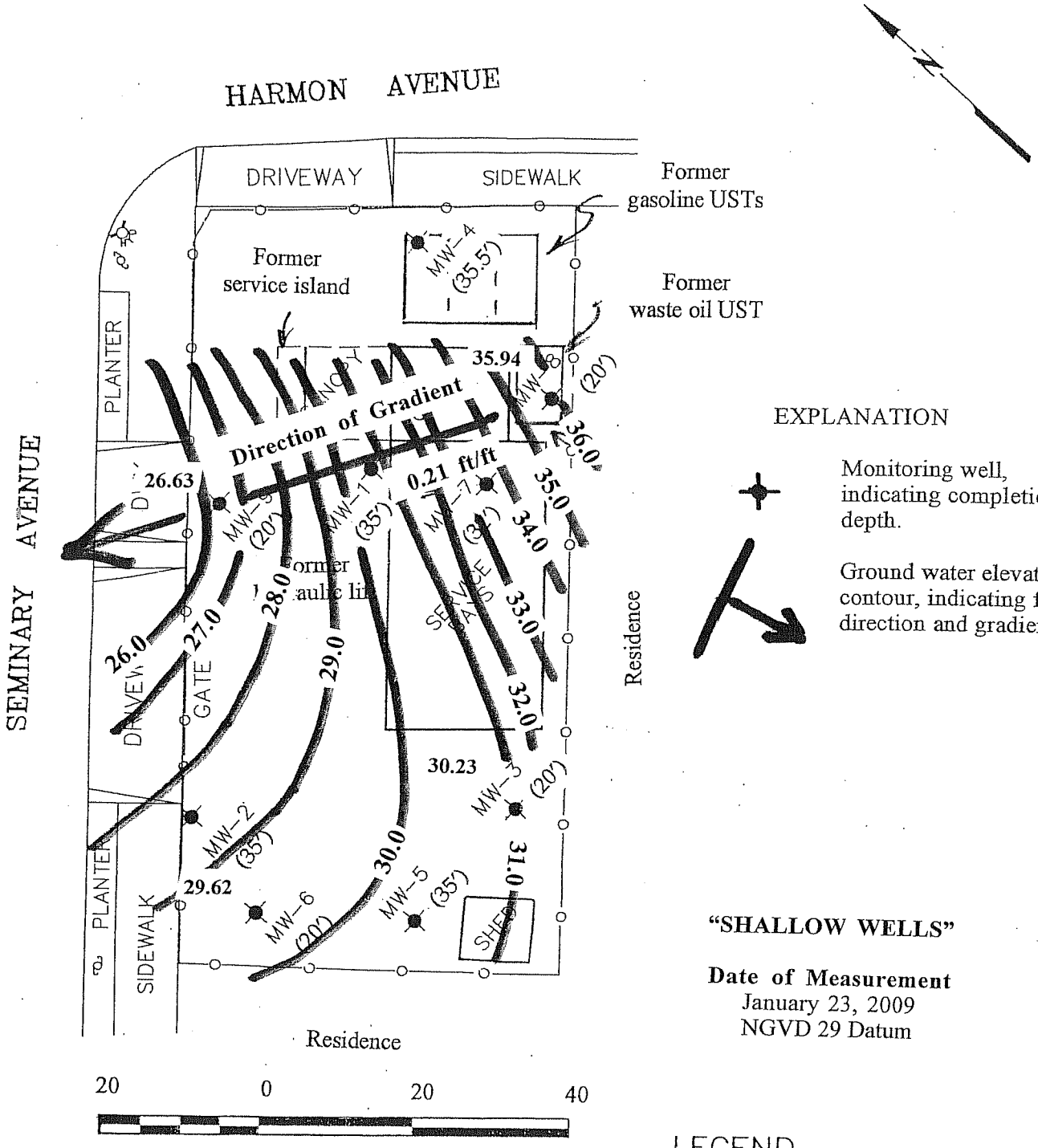
UTILITY SURVEY

1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 5
E-10-1G-772G	May 2009	



Base: Virgil Chavez Land Surveying, July 2004

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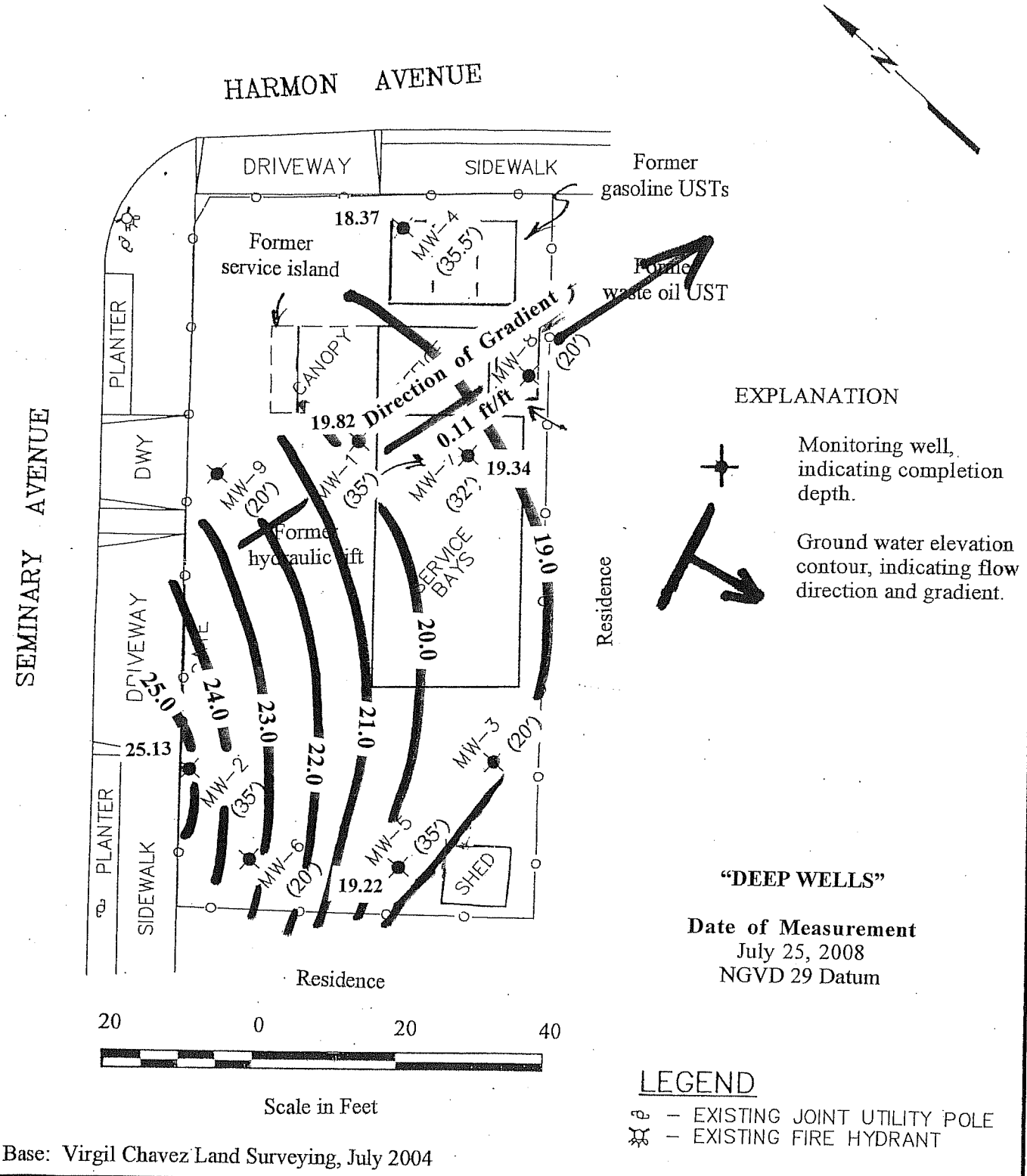
GROUND WATER CONTOUR AND GRADIENT DIRECTION MAP

1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 6
E-10-1G-772G	May 2009	



Base: Virgil Chavez Land Surveying, July 2004

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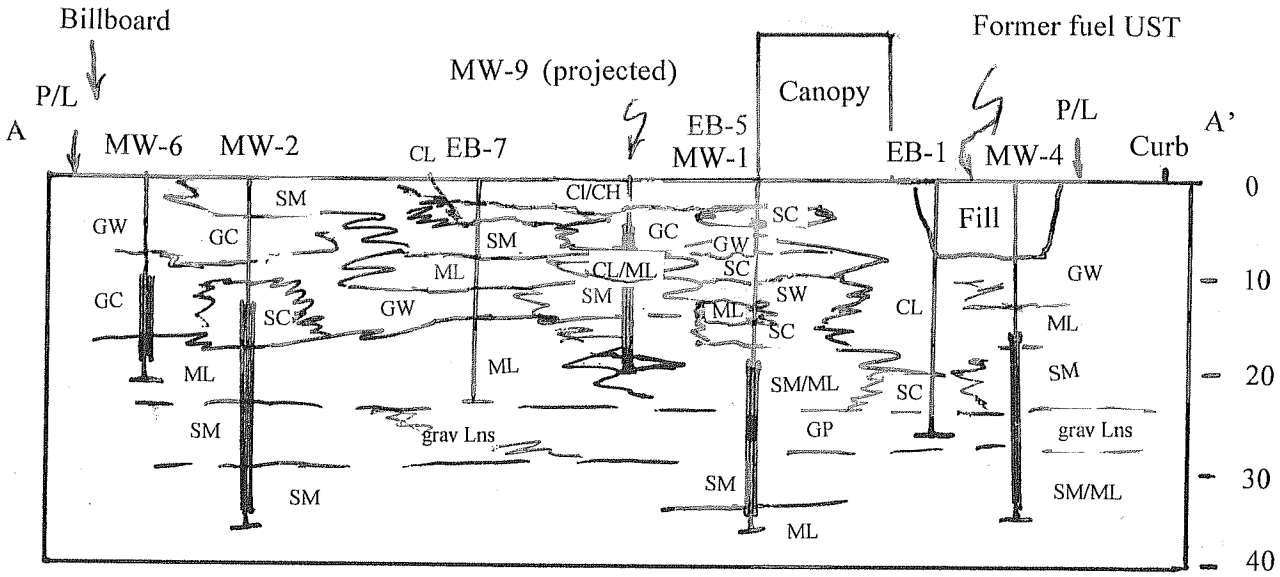
GROUND WATER CONTOUR AND GRADIENT DIRECTION MAP

1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 7
E-10-1G-772G	May 2009	



EXPLANATION

GC – clayey gravel
GM – silty gravel
GP – poorly graded gravel
GW – well graded gravel
SC – clayey sand
SM – silty sand
SP – poorly graded sand
SW – well graded sand
ML/MH – lean/plastic silt
CL/CH – lean/plastic clay
Grav lense – gravelly lenses within clay, silt, sand

Boring (EB) or monitoring well (MW) indicating screened interval

Scale in feet (vertical = horizontal)
See Figure 4 for location of section

HOEXTER CONSULTING
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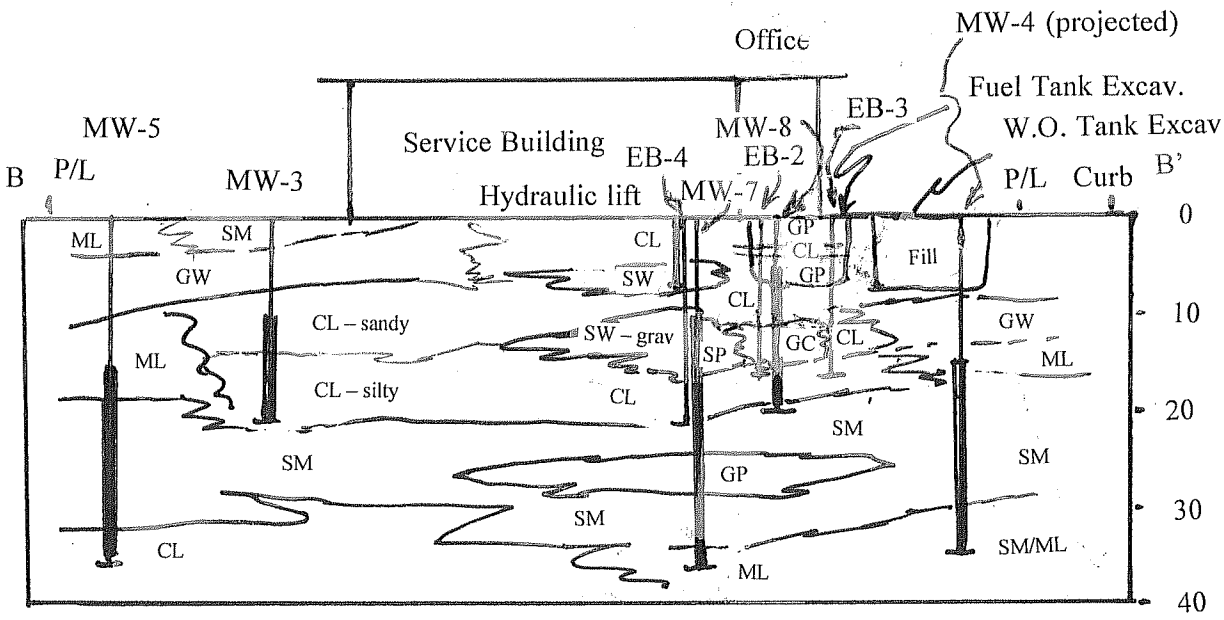
CROSS SECTION A-A'

1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 8A
E-10-1G-772G	May 2009	



EXPLANATION

GC – clayey gravel
GM – silty gravel
GP – poorly graded gravel
GW – well graded gravel

SC – clayey sand
SM – silty sand
SP – poorly graded sand
SW – well graded sand

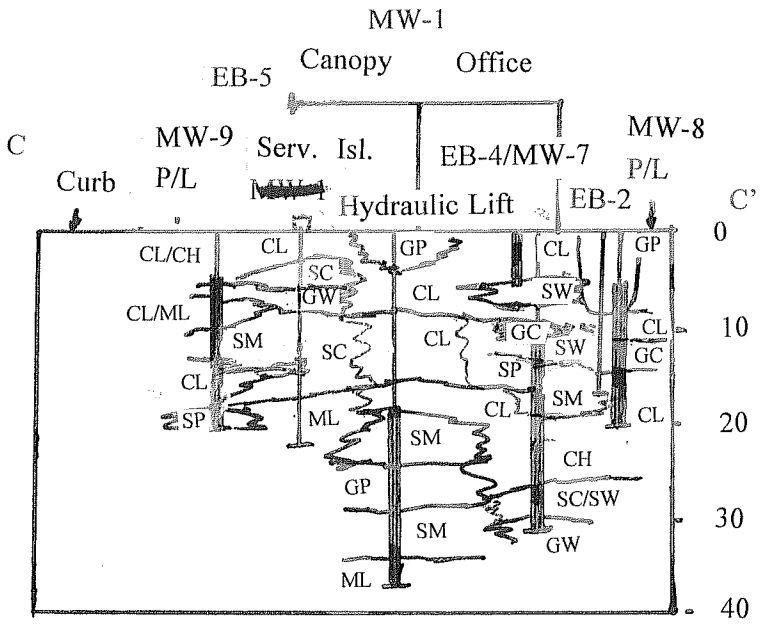
ML/MH – lean/plastic silt
CL/CH – lean/plastic clay

Grav lns – gravelly lenses within clay, silt, sand

Boring (EB) or monitoring well (MW) indicating screened interval

Scale in feet (vertical = horizontal)
See Figure 4 for location of section

HOEXTER CONSULTING Geology Engineering Geology Environmental Studies	CROSS SECTION B-B' 1970 Seminary Ave. Oakland, California	
	Project No. E-10-1G-772G	Date May 2009
		Figure 8B



EXPLANATION

GC – clayey gravel
GM – silty gravel
GP – poorly graded gravel
GW – well graded gravel

SC – clayey sand
SM – silty sand
SP – poorly graded sand
SW – well graded sand

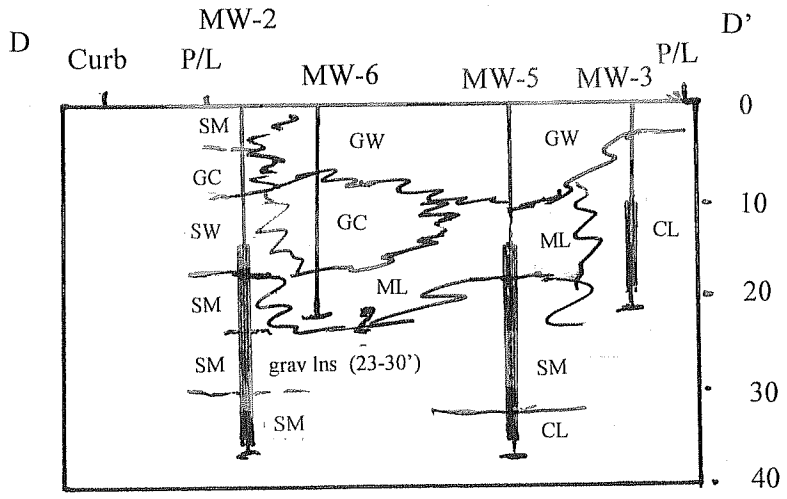
ML/MH – lean/plastic silt
CL/CH – lean/plastic clay

Grav lns – gravelly lenses within clay, silt, sand

Boring (EB) or monitoring well (MW) indicating screened interval

Scale in feet (vertical = horizontal)
See Figure 4 for location of section

HOEXTER CONSULTING Geology Engineering Geology Environmental Studies	CROSS SECTION C-C'	
	1970 Seminary Ave. Oakland, California	
	Project No.	**Date**
	E-10-1G-772G	May 2009
		Figure 8C



EXPLANATION

GC – clayey gravel	SC – clayey sand	ML/MH – lean/plastic silt
GM – silty gravel	SM – silty sand	CL/CH – lean/plastic clay
GP – poorly graded gravel	SP – poorly graded sand	
GW – well graded gravel	SW – well graded sand	

Grav lns – gravelly lenses within clay, silt, sand

Boring (EB) or monitoring well (MW) indicating screened interval

Scale in feet (vertical = horizontal)
See Figure 4 for location of section

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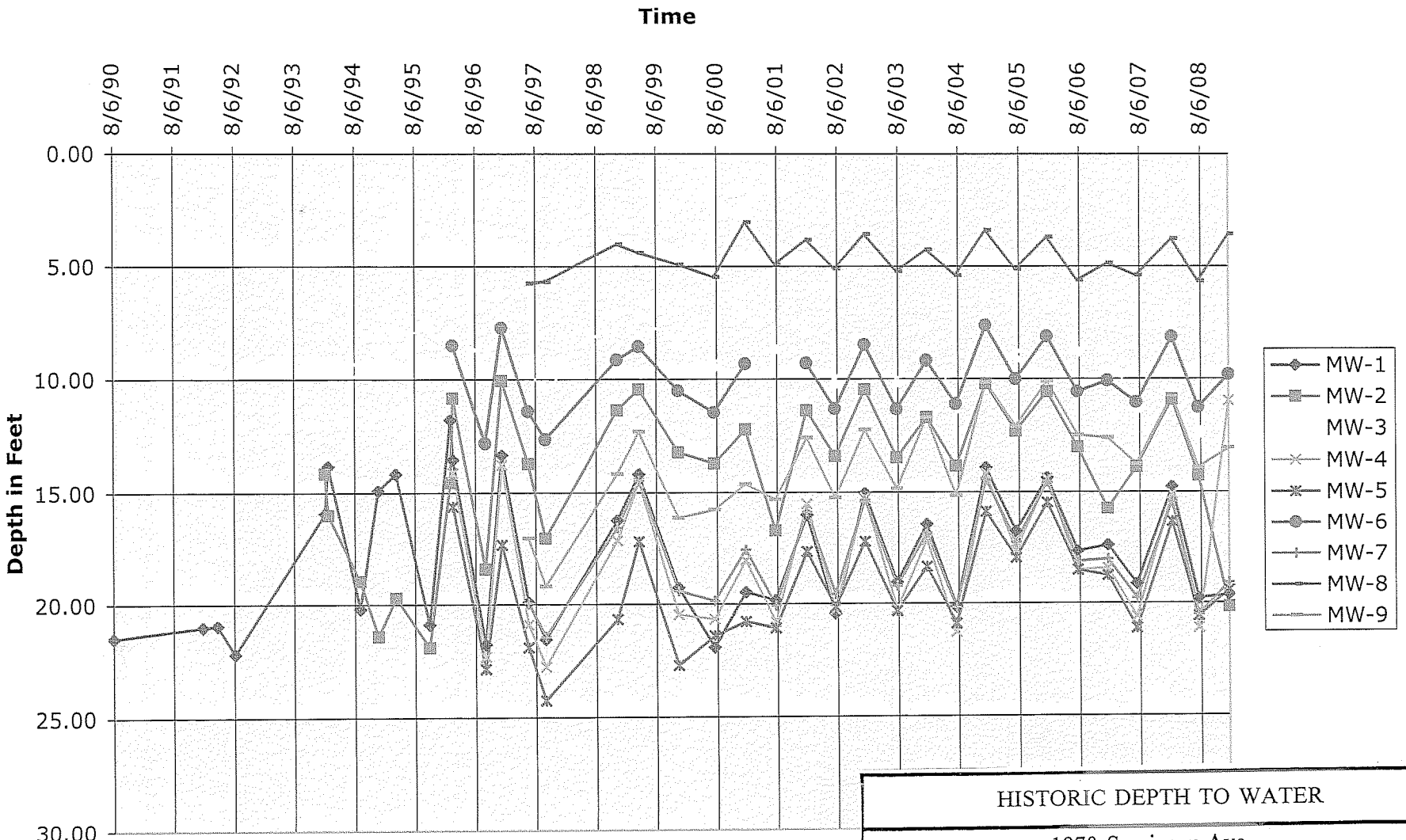
CROSS SECTION D-D'

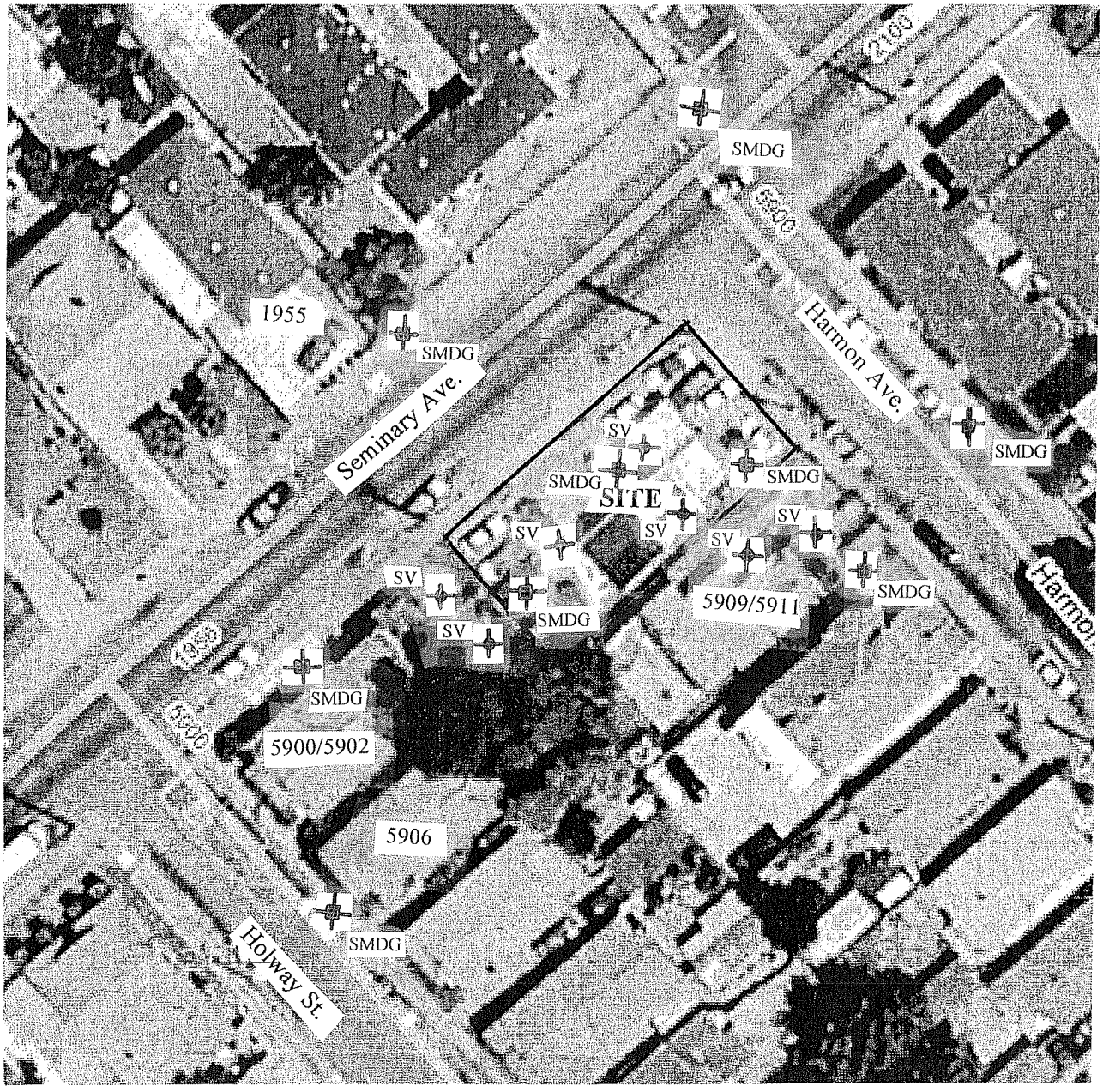
1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 8D
E-10-1G-772G	May 2009	

Depth to Water



HISTORIC DEPTH TO WATER		
1970 Seminary Ave. Oakland, California		
Project No.	**Date**	**Figure 9**
E-10-1G-772G	May 2009	



50 0 50 100

Scale in Feet

PROPOSED SAMPLE LOCATIONS

SV — Soil vapor

SMDG — SCP/MIP/DP/GW

N

Base: Google Maps

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PROPOSED SAMPLE LOCATIONS

1970 Seminary Ave.
Oakland, California

Project No.	Date	Figure 10
E-10-1G-772G	May 2009	

APPENDIX A

WELL LOGS

EB-1 1/2

DRILL RIG	Hollow Stem Auger	SURFACE ELEVATION	–	LOGGED BY	LAG
DEPTH TO GROUNDWATER	25.0 -feet	BORING DIAMETER	8-inch	DATE DRILLED	8/3/90

DESCRIPTION AND CLASSIFICATION		DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	PID READING	REMARKS	WELL CONSTRUCTION
DESCRIPTION AND REMARKS	SOIL TYPE						
SANDY GRAVEL (GP), brown, dry, angular gravel upto 1/4" diameter, fine to coarse grained sand, FILL, NOSC		5					
SANDY CLAY (SC), light brown, dry, paaatches of red, yellow and black, dry, dry, dense, fine to medium grained sand, some fine to coarse angular graval upto 1/4" diameter, chert fragments, slight petroleum hydrocarbon odor		10		40*			
grading more gravel		15		28*			
SILTY CLAY (CL), brown with patches of orange, gray mottled, damp, very stiff, some angular gravel upto 1/4" diameter, slight petroleum hydrocarbon odor		20		12*			
CLAYEY SILTY SAND (ML), yellowish-brown, some gray and black mottled, damp, stiff, fine grained sand, clay binder, some angular gravel upto 1/8" diameter, slight petroleum hydrocarbon odor							
SANDY GRAVEL (GP), grayish-green, saturated, dense, fine to coarse angular							

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EXPLORATORY BORING LOG

1970 SEMINARY AVENUE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE1220-1-133	SEPTEMBER, 1990	EB-1

DRILL RIG	Hollow Stem Auger	SURFACE ELEVATION	–	LOGGED BY	LAG
DEPTH TO GROUNDWATER	25.0 -feet	BORING DIAMETER	8-inch	DATE DRILLED	8/3/90

DESCRIPTION AND CLASSIFICATION		DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	PID READING	REMARKS	WELL CONSTRUCTION
DESCRIPTION AND REMARKS	SOIL TYPE						
gravel upto 1/4" diameter, fine to coarse grained sand, with clay binder, moderate petroleum hydrocarbon odor				66*			
Bottom of Boring = 26.5 Feet							

Notes:
1. NOSC = No odor on soil cuttings.
2. Ground water was encountered at 25 feet at time of drilling.
3. Blow counts followed by an asterisk (*) should be multiplied by a factor of 0.8 to obtain standard penetration resistance.
4. The stratigraphy is approximate.

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EXPLORATORY BORING LOG

1970 SEMINARY AVENUE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE1220-1-133	SEPTEMBER, 1990	EB-1

EB-2

DRILL RIG	Minute Man	SURFACE ELEVATION	--	LOGGED BY	LAG
DEPTH TO GROUNDWATER	Not Enc.	BORING DIAMETER	3-inch	DATE DRILLED	8/13/90

DESCRIPTION AND CLASSIFICATION		DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	PID READING	REMARKS	WELL CONSTRUCTION
DESCRIPTION AND REMARKS	SOIL TYPE						
ASPHALT (2")							
SANDY GRAVEL (GP), light brown, dry, angular gravel upto 2" diameter, fine to coarse grained sand, NOSC							
SILTY CLAY (ML), grayish-black, dry, some gravel upto 1" diameter, NOSC							
SANDY GRAVEL (GP), grayish-black, dry, angular gravel upto 2" diameter, fine to coarse grained sand, NOSC		5					
CLAY (CL), grayish-black, dry, some angular gravel, slight petroleum hydrocarbon odor grading more gravel							
GRAVELLY SANDY CLAY (SC), light brown, dry, some angular gravel upto 1/2" diameter, fine grained sand, some oil staining along fractures, slight petroleum hydrocarbon odor grading to more sand (greenish-gray)		10					
SILTY CLAY (ML), light brown, black mottling, damp, trace fine grained sand, slight petroleum hydrocarbon odor		15					
Bottom of Boring = 16.5 Feet							

Notes:
1. NOSC = No odor on soil cuttings.
2. N/E = Ground water was not encountered at time of drilling.
3. Blow counts followed by an asterisk (*) should be multiplied by a factor of 0.8 to obtain standard penetration resistance.
4. The stratigraphy is approximate.

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EXPLORATORY BORING LOG

1970 SEMINARY AVENUE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE1220-1-133	SEPTEMBER, 1990	EB-2

EB-3

DRILL RIG	Minute Man	SURFACE ELEVATION	–	LOGGED BY	LAG
DEPTH TO GROUNDWATER	Not Enc.	BORING DIAMETER	3-inch	DATE DRILLED	8/13/90

DESCRIPTION AND CLASSIFICATION		DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	PID READING	REMARKS	WELL CONSTRUCTION
DESCRIPTION AND REMARKS	SOIL TYPE						
ASPHALT (2")							
SANDY GRAVEL (GP), light brown, dry, angular gravel upto 2" diameter, fine to coarse grained sand, NOSC — CL ?							
SILTY CLAY (ML), grayish-black, dry, some gravel upto 1" diameter, NOSC							
SANDY GRAVEL (GP), grayish-black, dry, angular gravel upto 3/4" diameter, fine to coarse grained sand, NOSC		5					
SANDY CLAY (CL), grayish-black, dry, fine to medium grained sand, some angular gravel, oil staining on cuttings, moderate petroleum hydrocarbon odor — ? CL							
GRAVELLY SANDY CLAY (SC), light brown with red, orange, andblack mottling, dry fine to coarse grained sand, angular gravel upto 1" diameter, oil staining along fractures, slight petroleum hydrocarbon odor		10					
grading more gravel — CL ?		15					
SILTY CLAY-(ML), light brown with black mottling, damp, trace fine grained sand, some angular gravel, slight petroleum hydrocarbon odor							
Bottom of Boring = 16.5 Feet							

Notes:
1. NOSC = No odor on soil cuttings.
2. N/E = Ground water was not encountered at time of drilling.
3. Blow counts followed by an asterisk (*) should be multiplied by a factor of 0.8 to obtain standard penetration resistance.
4. The stratigraphy is approximate.

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EXPLORATORY BORING LOG

1970 SEMINARY AVENUE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE1220-1-133	SEPTEMBER, 1990	EB-3

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: EB-4

DATE DRILLED/LOGGED BY 3/8/96/DFH

TYPE OF BORING/DIAMETER ContDriven1.7"

SURFACE ELEVATION Grade

HAMMER WEIGHT N/A

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	DESCRIPTION OF MATERIALS	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS	COMMENTS
	Concrete approx.4"; 4 - 12" not logged							
	CL: sandy fine gravelly clay, dark brown, very stiff, slightly moist		1		No			
5	SW: fine gravelly sand with ca. 5% clay, dark brown, dense, sl. moist; free moisture at 6'; sand fine to coarse; grades dark gray-brown ca. 7.5'		2		Odor from 6.5'	▽		Ground water level may not be stabilized
		7.5-8.0	3					
	CL: fine sandy clay, mottled orange and gray; very stiff, moist.							
10	SW: gravelly sand with clayey lenses, yellow-brown, very dense, moist.		4		Slight odor 10-13'			
			5					
15	SP: fine sand, brown to yellow-brown, dense, very moist to nearly wet (not saturated).	14.5-15.0			No odor from 14'			
	CL: fine to coarse sandy clay, yellow-brown, very stiff, moist to very moist.		6					
20	grades light gray-brown		7					
	TD = 22.0'							
25	Temporarily placed 1" PVC casing; no ground water 11:00 AM; water 7.3' ca. 12:00 noon; obtained grab ground water samples ca. 14:00.							
	Grouted boring to surface after sampling							
	Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.							
30	Drilled by Precision Sampling							

JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: EB-4, 1/1

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: EB-5

DATE DRILLED/LOGGED BY 3/8/96/DFH

TYPE OF BORING/DIAMETER ContDriven1.7"

SURFACE ELEVATION Grade

HAMMER WEIGHT N/A

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS	COMMENTS
		1		No odor			
		3.5-4.0		No odor			
5		2					
		7.5-8.0		Mod. Odor from 7.0'			
10		3					
		4					
		12.5-13.0					
		5					
15							
		6		Slight odor			
		18.0-18.5					
		19.5-20.0		Strong odor from 20'			No water 4 hours after drilling.
20		7					
25							
30							

Gravel backfill: former dispenser loc.

CL: Fine sandy clay, dark brown, stiff, moist; occ. plant material (native soil).

SC: clayey fine sand, brown, loose; gravelly from 5'.

GW: sandy fine to coarse gravel, dark blue-gray, dense.

SC: clayey gravelly fine to coarse sand, gray-brown, very dense.

SW: gravelly fine to coarse sand with variable clay, gray-brown, dense; occ. wet surfaces (not saturated).

ML: fine sandy silt / clayey silt, yellow brown.

SC: clayey sand, gray-brown, dense, moist; grades to sandy gravel lense at base.

ML: fine sandy clayey silt, gray-brown, stiff, moist.

ML: fine sandy clayey silt, brown-gray, soft, very moist to wet (?).

TD = 22.0'

Temporarily placed 1" slotted PVC casing following completion; no water following 4 hours, and thus no grab ground water samples were obtained.

Boring grouted to surface after casing withdrawn.

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: EB-5. 1/1

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: EB-6

DATE DRILLED/LOGGED BY 3/8/96/DFH

TYPE OF BORING/DIAMETER ContDriven1.7"

SURFACE ELEVATION Grade

HAMMER WEIGHT N/A

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS	COMMENTS
		1	2.0-2.5	No odor			
5		2	5.5-6.0	Odor from 5'			
10							
15							
20							
25							
30							

Gravel backfill: former dispenser loc.

CL: Fine sandy clay, dark brown, stiff, moist; occ. plant material (native soil).

SC: clayey fine sand, brown, loose; gravelly from 5'.

GW: sandy fine to coarse gravel, dark blue-gray, dense.

TD = 7.0'

Boring grouted to surface

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

No water

JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: EB-6, 1/1

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: EB-7

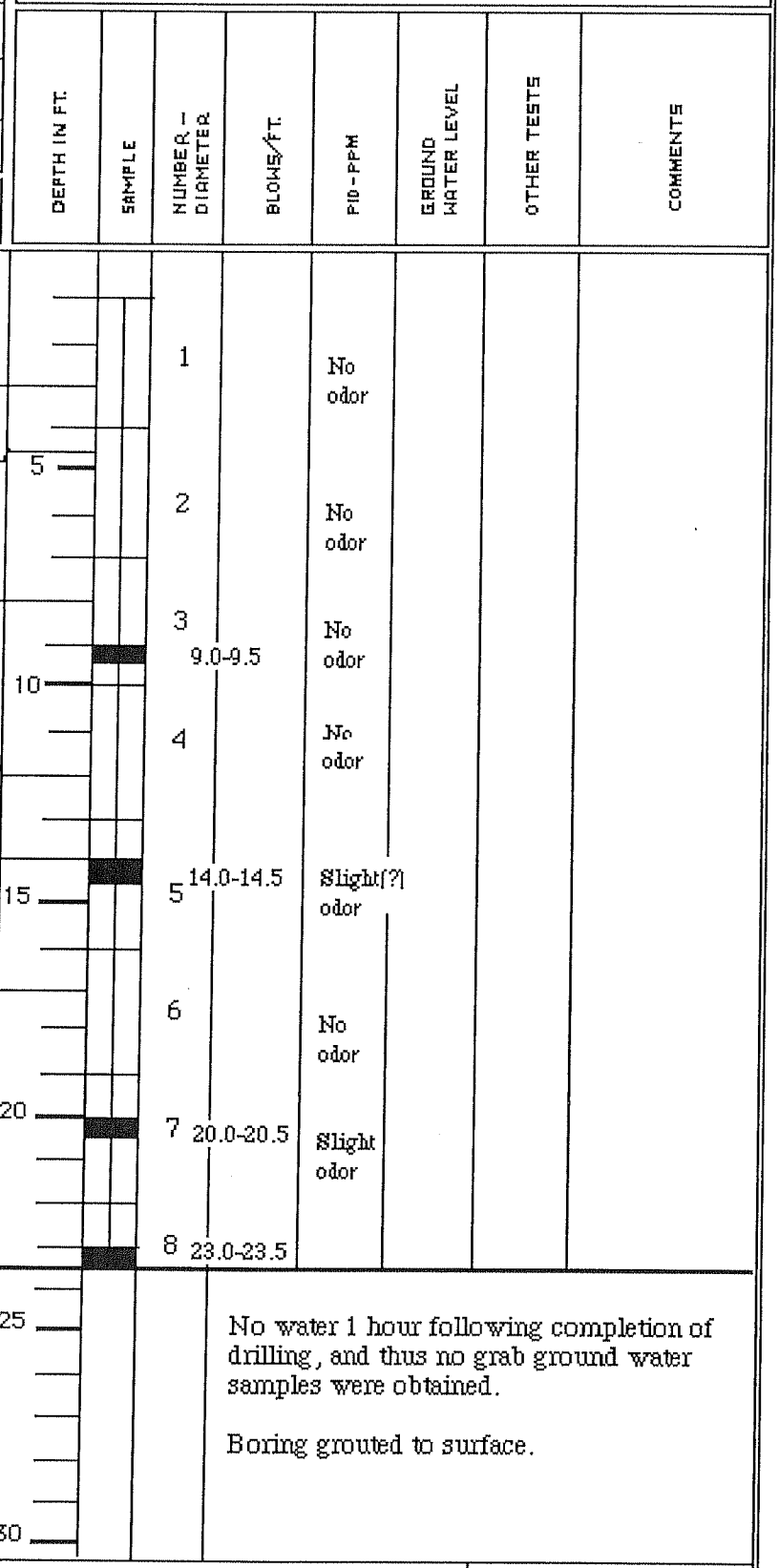
DATE DRILLED/LOGGED BY 3/8/96/DFH

TYPE OF BORING/DIAMETER ContDriven1.7"

SURFACE ELEVATION Grade

HAMMER WEIGHT N/A

DESCRIPTION OF MATERIALS:



GC: clayey gravel (old fill ?), not logged in detail

CL: fine sandy silty clay, very dark brown, stiff, slightly moist.

SM: clayey silty sand, med. brown, dense, moist.

ML: fine sandy clayey silt, yellow-brown, stiff, very moist.

GW: silty fine to coarse sandy gravel, dark brown with variably colored clasts, dense, moist.

ML: clayey very sandy gravelly (ca. 25%) silt, yellow brown, very stiff, moist.

ML: fine sandy clayey silt, gray-brown, stiff to very stiff, moist.

ML: fine sandy silt, gray-green, soft, moist.

TD = 23.5'

Refusal at 23.5'; broke outer (drive) casing, recovered, unable to further penetrate formation.

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

No water 1 hour following completion of drilling, and thus no grab ground water samples were obtained.

Boring grouted to surface.

JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: EB-7, 1/1

Kaldveer MW-1 orig

DRILL RIG	Hollow Stem Auger	SURFACE ELEVATION	–	LOGGED BY	LAG
DEPTH TO GROUNDWATER	24.0 -feet	BORING DIAMETER	8-inch	DATE DRILLED	8/3/90

DESCRIPTION AND CLASSIFICATION		DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	PID READING	REMARKS	WELL CONSTRUCTION
DESCRIPTION AND REMARKS	SOIL TYPE						
ASPHALT (2")							
SANDY GRAVEL (GP), light brown, dry, angular gravel upto 1/2" diameter, fine to medium grained sand, NOSC large sandstone cobbles							
CL ?							
SANDY CLAY (SC), lighr brown, dry, very stiff, patches of red, yellow, black, some fine to coarse angular gravel upto 1/4" diameter, medium to coarse grained sand, some asphalt and chert fragments, NOSC		5		31*			
grading to damp		10		52*			
grading more gravel		15		30*			
SILTY CLAY (CL), reddish brown, gray mottled, damp, very stiff, some coarse grained sand, NOSC							
SM ?							
CLAYEY SILTY SAND (ML), light brown, black mottled, moist, stiff, fine grained sand, some fine angular gravel, NOSC		20		16*			
SANDY GRAVEL (GP), grayish-green, some brown, saturated, dense, fine to							

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EXPLORATORY BORING LOG

1970 SEMINARY AVENUE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE1220-1-133	SEPTEMBER, 1990	MW-1 1/2

Kaldveer MW-1 ors

DRILL RIG	Hollow Stem Auger	SURFACE ELEVATION	–	LOGGED BY	LAG
DEPTH TO GROUNDWATER	24.0 -feet	BORING DIAMETER	8-inch	DATE DRILLED	8/3/90

DESCRIPTION AND CLASSIFICATION	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	PID READING	REMARKS	WELL CONSTRUCTION
coarse angular gravel upto 1/4" diameter, fine to coarse grained sand, some clay binder, strong petroleum hydrocarbon odor				56*		product sheen on sampler	
SM 2							
CLAYEY SILTY SAND (ML), brown, saturated to moist, hard, fine grained sand, water travels along fratures, NOSC		30		46			
CL 2							
SANDY SILTY CLAY (ML), brown, damp, stiff, some fine grained sand, NOSC		35		18			

Total Depth = 36.5 Feet

Notes:

1) The stratigraphy is approximate.
2) Well Construction Details
   - 2-inch PVC, Schedule 40 solid and slotted (0.020-inch) casing
   - 2/12 washed sand filter pack
   - bentonite pellets plug
   - cement grout surface seal with steel stovepipe locking cover
3) Ground water was encountered at 24 feet at the time of drilling.
4) NOSC= No odor on sample cuttings.

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A California Corporation

EXPLORATORY BORING LOG

1970 SEMINARY AVENUE
Oakland, California

PROJECT NO.	DATE	BORING NO
KE1220-1-133	SEPTEMBER, 1990	MW-1

Hoexter interpretation of Kaldveer log

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-1 *

DATE DRILLED/ LOGGED BY 8/3/90/ * Kaldveer Assoc.

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION 37.00

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS
				No odor		
5			31	No odor		
10			52			
15			30	No odor	sta-bilized 2/28/94	
20			16	No odor		
25			56	Strong odor petrol. hydrocarb	initial	
30				No odor		

Asphalt (2")

GP: Sandy gravel, light brown, dry angular gravel to 1/2" diameter; fine to med. grained sand, large sandstone "cobbles"

CL SC: Sandy clay, light brown, dry, very stiff, "patches" of red, yellow, black, some fine to coarse angular gravel to 1/4" diam, med. to coarse grained sand, some asphalt (?) and chert fragments

grades to damp

increasing gravel

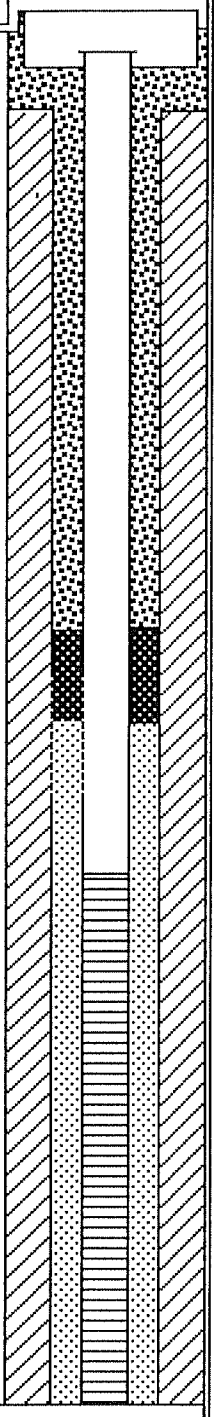
CL: silty clay, reddish brown, gray mottled, damp, very stiff, some coarse grained sand

SM: clayey silty sand, light brown, black mottled, moist, stiff, fine-grained sand, some fine angular gravel

GP: sandy gravel, grayish-green with brown, saturated, dense, fine to coarse angular gravel to 1/4" diameter, fine to coarse sand, some clay binder

SM: clayed silty sand, brown, moist to saturated, dense, fine-grained,

WELL COMPLETION



JOB NO: E-10-1-019

HOEXTER CONSULTING, INC.

FIGURE: A-1/1

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-1cont.

DATE DRILLED/LOGGED BY

TYPE OF BORING/DIAMETER

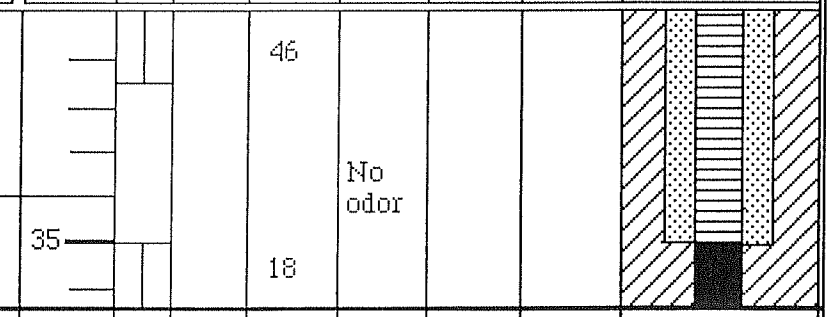
SURFACE ELEVATION

HAMMER WEIGHT

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID-PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION
water transmission along fractures			46	No odor			
ML: sandy clayey silt, brown, damp, stiff, sand fine-grained	35		18				
TD=35.0 drilled, 36.5 sampled Well completed with 2" diameter 0.020 slot casing, schedule 40, 1/12 washed sand filter pack, bentonite pellet seal, and cement grout surface seal *** Well installed by Kaldveer Associates**							



JOB NO: E-10-1-019

HOEXTER CONSULTING, INC.

FIGURE: A-1/2

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-2

DATE DRILLED/LOGGED BY 1/28/94/DFH

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION 36.40

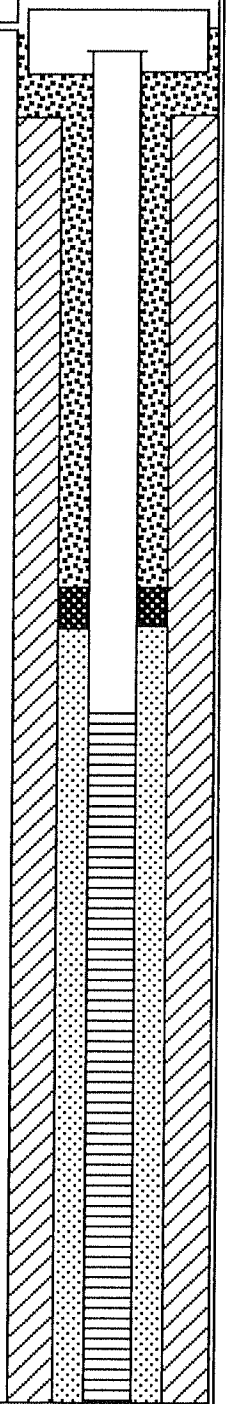
HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES

DESCRIPTION OF MATERIALS	DEPTH IN FT.	SAMPLE	NUMBER – DIAMETER	BLOWS/FT.	PID-PPM	GROUND WATER LEVEL	OTHER TESTS
Asphalt (2")							
SM: gravelly silty fine sand, brown, med. dense, moist							
SM: silty fine sand, light brown, moist							
GC: clayey gravel, yellow-brown, med. dense, slightly moist	5			26	ND		No odor
SW: clayey gravelly sand, olive-green-brown, moist, med. dense	10			28	85/60		Odor
driller reports small amount water	15			19	3/5	▽ initial and stabilized 2/28/94	No odor
SM: silty fine sand, light green-brown, loose to med. dense, very moist, Mn. stains	20			11	9/7		No odor
gravel interbeds 23-30' (based on drilling)	25			25	ND/8		No odor
	30						

WELL COMPLETION



JOB NO: E-10-1-019

HOEXTER CONSULTING, INC.

FIGURE: A-2/1

PROJECT: 1970 Seminary Avenue, Oakland, California	BORING NO: MW-2 cont.

DATE DRILLED/LOGGED BY

TYPE OF BORING/DIAMETER

SURFACE ELEVATION

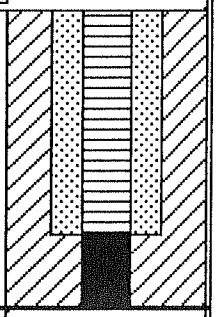
HAMMER WEIGHT

DESCRIPTION OF MATERIALS:

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION
			56	90/10		slight odor	
No water at completion							
35			28	60/5		no odor	

TD=35.0 drilled, 36.5 sampled

Completed well with 2" diameter 0.020 slot casing; RMC Lonestar 2/12 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II Portland Cement



JOB NO: E-10-1-019	HOEXTER CONSULTING, INC.	FIGURE: A-2/2

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-3

DATE DRILLED/LOGGED BY 1/28/94/DFH

TYPE OF BORING/DIAMETER 8'HSA

SURFACE ELEVATION 36.94

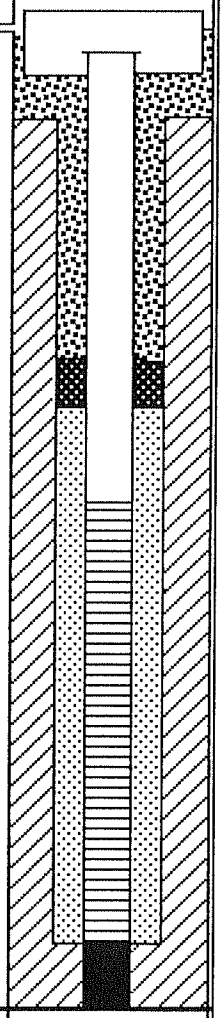
HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS
Asphalt (2")						
SM: gravelly silty fine sand, dark brown, moist						
grades light brown						
GW: silty sandy gravel, light brown, slightly moist						
5			25	ND		odor
				40/30		sl. odor
CL: Gravelly sandy clay, brown, blue-gray on fractures and "pin-holes", very stiff, moist					sta-bilized 2/28/94	
10			24	28/8		
CL: gravelly silty clay, brown, moist, very stiff						
15			19	3/4	initial	No odor
Pulled back augers: water in boring; hydrocarbon odor; decided to complete well to 20'						
20			10	30/20		Sl. odor
TD=20.0' drilled, 21.5' sampled						
Completed well with 2" diameter 0.020 slot casing; RMC Lonestar 2/12 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II Portland Cement						
25						
30						

WELL COMPLETION



JOB NO: E-10-1-019

HOEXTER CONSULTING, INC.

FIGURE: A-3

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-4

DATE DRILLED/LOGGED BY 3/18/96/DFH

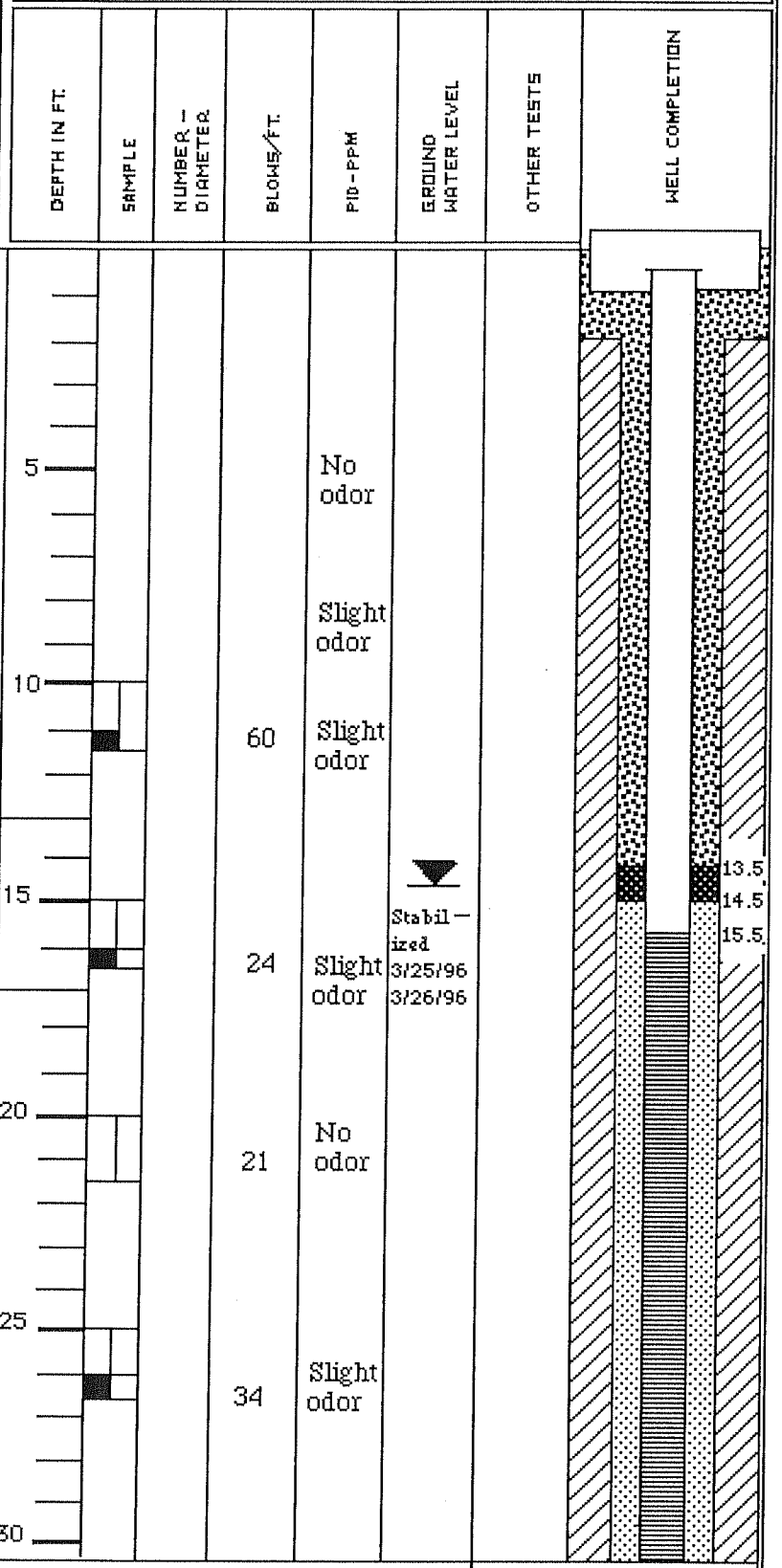
TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES Page 1 of 2



Former UST location

GW: silty sandy angular gravel, fine to coarse, brown (former UST tank backfill)

wet at 8' — Base of fill (?)

GW: clayey sandy gravel, brown, wet dense

ML: sandy clayey silt, brown, moist stiff

SM: silty fine sand (poor sample at 20', not retained)

silty gravelly sand with silt lenses, brown and gray mottled, wet, dense

JOB NO: E-10-1A-163A	HOEXTER CONSULTING, INC.	FIGURE: MW-4,1/2

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-4

DATE DRILLED/LOGGED BY 3/18/96/DFH

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES Page 2 of 2

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID-PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION
35			80 30				

SM/ML: silty fine sand/sandy silt, mottled blue-gray & brown, moist, very dense to very stiff.

TD = 35.0 drilled, 36.5 sampled, well completed at 35.5

Completed well with 2" diameter 0.010 slot casing; RMC Lonestar 2/16 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II portland cement.

End plug at bottom of casing.

PC Exploration Mobil B-34

* Two-inch Mod. CA. sampler

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: MW-4, 2/2

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-5

DATE DRILLED/LOGGED BY 3/18/96/DFH

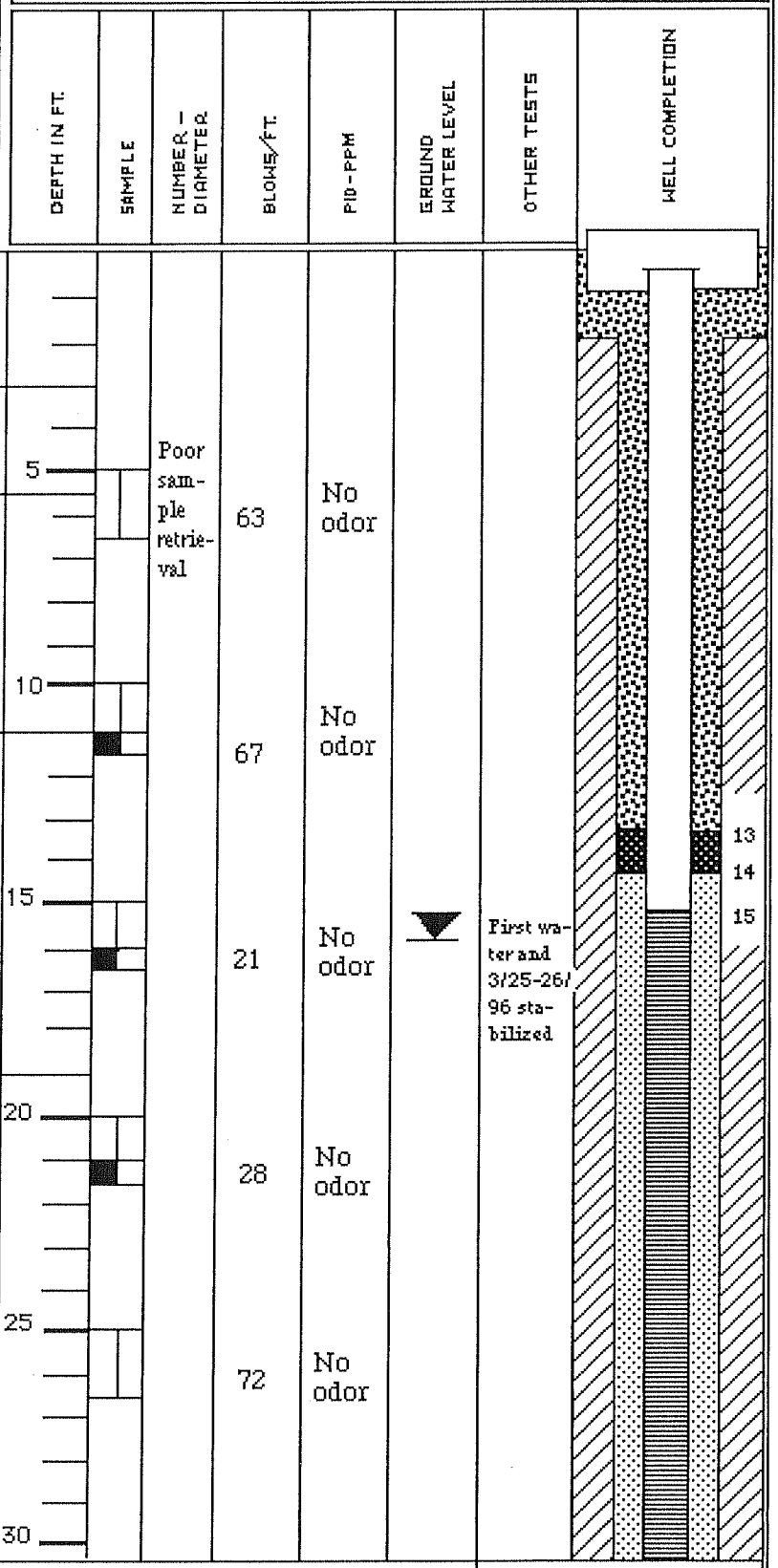
TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES Page 1 of 2



JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: MW-5, 1/2

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW- 5

DATE DRILLED/LOGGED BY 3/18/96/DFH

TYPE OF BORING/DIAMETER 8'HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES — Page 2 of 2

DESCRIPTION OF MATERIALS:	DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION
silty fine to medium sand, as above; poor sample; sampler wet.			60		No odor			
CL: clay, gray-brown, very moist, very stiff.	35		27		No odor			
TD = 35.0 drilled, 36.5 sampled, well completed at 35.0								End Plug
Completed well with 2" diameter 0.010 slot casing; RMC Lonestar 2/16 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II portland cement.								
Boring drilled 3/18/96 and completed 3/19/96								
PC Exploration Mobil B-52								
* Two-inch Mod. CA. sampler								
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.								

JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: MW-5, 2/2

PROJECT: 1970 Seminary Avenue, Oakland, California | BORING NO: MW-6

DATE DRILLED/LOGGED BY 3/19/96/DFH

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES Page 1 of 1

DEPTH IN FT.	SAMPLE	NUMBER – DIAMETER	BLOWS/FT.	PID-PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION
Asphalt 2"							
GW: clayey to silty sandy gravel (not logged in detail).				No odor			
5							
GC: clayey gravel, yellow-brown, mottled blue-gray, very dense, slightly moist.				No odor	▼	Stabil-ized 3/26/96	8 9 10
10			57	Slight odor			
					▽	First water	
15			35	Slight odor			
ML: fine sandy silt with silty sand, light brown, moist, very stiff.							
20			38	No odor			
TD = 20.0 drilled, 21.5 sampled, well completed at 20.0.							End Plug
PC Exploration Mobil B-52							
* Two-inch Mod. CA. sampler							
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.							Completed well with 2" diameter 0.010 slot casing; RMC Lonestar 2/16 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II portland cement.

JOB NO: E-10-1A-163A

HOEXTER CONSULTING, INC.

FIGURE: MW-6, 1/1

PROJECT: 1970 Seminary Avenue, Oakland, California

BORING NO: **MW-7**

DATE DRILLED/LOGGED BY 6/17/97/JF

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES Page 1 of 2

DESCRIPTION OF MATERIALS	DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS
Concrete - 4" CL: Sandy clay, dark brown, slightly plastic, slightly damp, slight odor.					Sl. odor		
SM/GM: silty fine to coarse sand and sandy silty gravel, with fine to coarse sand lense, dark brown, moist, med. dense; slight to strong odor at base.	5			15	strong odor		
CL: clay, dark brown, green and black mottled, slightly moist, very stiff; slight odor.	10			23	sl. odor		
GC: sandy clayey gravel to 1-1/2", brwn, dense, sl moist, sl. odor.				40	sl. odor		
SM: silty fine to coarse sand, brown, moist, med. dense; moderate odor; clay lenses.	15			22	mod. odor		
CH: Clay, brown and black, trace fine sand, plastic, stiff, moist; no odor.	20			13	no odor	▼ ▽	
SC/SW: clayey sand grading to fine to coarse sand, brown to brown-gray, dense, moist to wet; slight odor.	25			25	sl. odor		
GW: see description following page.	30			35			

WELL COMPLETION: 6.5, 8.5, 10

JOB NO: E-10-1B-192B

HOEXTER CONSULTING, INC.

FIGURE: MW-7

PROJECT: 1970 Seminary Avenue, Oakland, California

BORING NO: **MW-7**

DATE DRILLED/LOGGED BY 6/17/97/JF

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES Page 2 of 2

DEPTH IN FT.	SAMPLE	NUMBER – DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION
30							

GW: sandy gravel to 1", brown-gray, dense, wet, possible odor.

TD = 32' drilled, 32' sampled, 30' sampled.

End Plug

35

Completed well with 2" diameter 0.010 slot casing; RMC Lonestar 2/16 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II portland cement.

Exploration GeoServices "limited access rig"

* Two-inch Mod. CA. sampler

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

JOB NO: E-10-1B-192B

HOEXTER CONSULTING, INC.

FIGURE: MW-7

PROJECT: 1970 Seminary Avenue, Oakland, California

BORING NO: **MW-8**

DATE DRILLED/LOGGED BY 6/17/97/JF

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	SAMPLE	NUMBER - DIAMETER	BLOWS/FT.	PID - PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION

GP: pea gravel backfill of waste oil UST excavation

wet

5

Perched in back-fill (initial and stabilized)

CL: fine sandy and gravelly clay, brown with orange and gray mottles, very stiff, moist. Slight odor

10

37 — Sl. odor

66

GC: sandy clayey gravel, gray-brown, moist to wet at base, very dense; gravel clasts to 1-1/2"; slight odor.

15

CL: clay and gravally clay, brown with gray mottles, moist and wet. Sl. odor. Gravel max. 5%.

30 — Sl. odor

Sl. to no odor

20

24

3.2

4.0

5.0

End Plug

TD = 20'

25

Completed well with 2" diameter 0.010 slot casing; RMC Lonestar 2/16 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II portland cement.

Exploration GeoServices "limited access rig"

* Two-inch Mod. CA. sampler

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

30

JOB NO: E-10-1B-192B

HOEXTER CONSULTING, INC.

FIGURE: MW-8

PROJECT: 1970 Seminary Avenue, Oakland, California

BORING NO: **MW-9**

DATE DRILLED/LOGGED BY 6/17/97/JF

TYPE OF BORING/DIAMETER 8"HSA

SURFACE ELEVATION

HAMMER WEIGHT 140 lb.

DESCRIPTION OF MATERIALS:

SAMPLES

DEPTH IN FT.	SAMPLE	NUMBER – DIAMETER	BLOWS/FT.	PID – PPM	GROUND WATER LEVEL	OTHER TESTS	WELL COMPLETION
5			60	No odor			
				No odor			
10			23				
			55	No odor			
15			26	Sl. odor		No wtr. at time of drilling	
20			15	Mod. odor			
25							
30							

Asphalt, approx. 2"

CL/CH: locally silty and gravelly clay, dark brown, mod. plastic, sl. damp, stiff. No odor.

GC: clayey angular gravel, brown, damp; angular clasts; dense to very dense. No odor.

CL/ML: sandy silt and fine sandy silty clay, brown mottled orange and gray, damp, no odor.

SM: silty fine to coarse sand, brown, dense, sl. moist, no odor.

CL: clay and sandy clay, brown to brown-gray at base, stiff, damp; slight to moderate odor at base.

SP: sand, brown-gray, med. dense, moist, moderate odor.

TD = 20'

Exploration GeoServices "limited access rig"

* Two-inch Mod. CA. sampler

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

2.0

4.0

5.0

End plug

Completed well with 2" diameter 0.010 slot casing; RMC Lonestar 2/16 washed Monterey lapis lustre sand; bentonite pellet seal; and RMC Lonestar Type I-II portland cement.

JOB NO: E-10-1B-192B

HOEXTER CONSULTING, INC.

FIGURE: MW-9

APPENDIX B

RELEVANT REGULATORY CORRESPONDENCE

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

rec'd 12/10/08

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 5, 2008

Angel LaMarca
Grimit Family Trust
945 S. Lehigh Drive
Anaheim Hills, CA 92807

Subject: Fuel Leak Case No. RO0000413 and Geotracker Global ID T0600100667, Grimit Auto Repair & Service, 1970 Seminary Avenue, Oakland, CA 94621

Dear Mr. LaMarca:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site including the recently submitted document entitled, *Ground Water Sampling Report*, dated August 23, 2008 which was prepared by Hoexter Consulting, Inc.. The report indicates that five inches of free product were encountered in well MW-1 and that petroleum hydrocarbon and solvent contamination are present in monitoring wells across the site. These contaminants are undefined both laterally and vertically and the vapor intrusion pathway to the nearby residences has not been assessed. At this time, we request that you address the technical comments and send us the reports described below.

TECHNICAL COMMENTS

1. **Dissolved Groundwater Plume Characterization.** Maximum concentrations of 28,000 microgram per liter (µg/L) total petroleum hydrocarbons as gasoline (TPHg) and 930 µg/L benzene were detected during the last groundwater monitoring event in well MW-1. Also, maximum concentrations of 87 µg/L vinyl chloride, 21 µg/L Trichloroethene (TCE), and 110 µg/L cis 1,2 Dichloroethene were detected in MW-4. The maximum detected contaminant concentrations are present in wells that are designated as the deep wells and are screened to a maximum depth of 35 feet below ground surface (bgs). No deeper investigation has been performed at the site. ACEH requests that you prepare a work plan to define the vertical extent of petroleum hydrocarbon and solvent contamination in the source areas.

   TPHg, benzene and solvent concentrations are elevated at the site boundary and the horizontal extent of contamination in groundwater is not defined. ACEH also requests that you include a proposal to define the lateral extent of the off-site contaminant concentrations in groundwater. Please submit an extended site map using aerial photographs for the base map.

2. **Soil Vapor Pathway.** Maximum benzene concentrations of 200 µg/L and 120 µg/L were detected in wells MW-6 and MW-5, respectively, along the southwestern property boundary

and 230 µg/L in well MW-7, along the southeastern property boundary. These wells are adjacent to two properties that are described as residences. Therefore we request that you evaluate the vapor pathway in these areas. Please submit your proposal to evaluate the vapor pathway in the work plan by the date requested below. 13

3. **Site Conceptual Model.** While additional characterization and remediation work is still required at the site, considerable cost savings can be realized if your consultant focuses on developing and refining a viable Site Conceptual Model (SCM) for the project. An SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely magnitude of potential impacts to receptors. The SCM is used to identify data gaps that are subsequently filled as the investigation proceeds. As the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened. Subsurface investigations continue until the SCM no longer changes as new data are collected. At this point, the SCM is said to be 'validated.' The validated SCM then forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

   When performed properly, the process of developing, refining and ultimately validating the SCM effectively guides the scope of the entire site investigation. We have identified, based on our review of existing data, some initial key data gaps in this letter and have described several tasks that we believe will provide important new data to refine the SCM. We request that your consultant incorporate the results of the new work requested in this letter into their SCM, identify new and/or remaining data gaps, and propose supplemental tasks for future investigations. There may need to be additional phases of investigations, each building on the results of prior work, to validate the SCM. Characterizing the site in this manner will focus the scope of work to address the identified data gaps, which improves the efficiency of the work, and limits the overall costs. 14

   Both industry and the regulatory community endorse the SCM approach. Technical guidance for developing SCMs is presented in Strategies for Characterizing Subsurface Releases of Gasoline Containing MTBE, American Petroleum Institute Publication No. 4699 dated February 2000; 'Expedited Site Assessment Tools for Underground Storage Tank Sites: A Guide for Regulators' (EPA 510-B-97-001), prepared by the U.S. Environmental Protection Agency (EPA), dated March 1997; and 'Guidelines for Investigation and Cleanup of MTBE and Other Ether-Based Oxygenates, Appendix C,' prepared the State Water Resources Control Board, dated March 27, 2000.

The SCM for this project is to incorporate, but is not limited to, the following:

a. A concise narrative discussion of the regional geologic and hydrogeologic setting. Include a list of technical references you reviewed, and copies (photocopies are sufficient) of regional geologic maps, groundwater contours, cross-sections, etc.

b. A concise discussion of the on-site and off-site geology, hydrogeology, release history, source zone, plume development and migration, attenuation mechanisms, preferential pathways, and potential threat to down-gradient and above-ground receptors (e.g. contaminant fate and transport). Please include the contaminant volatilization from the subsurface to indoor/outdoor air exposure route (i.e. vapor pathway) in the analysis. Maximize the use of

large-scaled graphics (e.g. maps, cross-sections, contour maps, etc.) and conceptual diagrams to illustrate key points. Include a structural contour map (top of unit) and isopach map for the aquitard that is presumed to separate your release from the deeper aquifer(s).

c. Identification and listing of specific data gaps that require further investigation during subsequent phases of work.

d. Proposed activities to investigate and fill data gaps identified above.

e. The SCM shall include an analysis of the hydraulic flow system down-gradient from the site. Continue to update rose diagrams for depicting groundwater gradients and include contours on these maps. Include an analysis of vertical hydraulic gradients. Please note that these likely change due to seasonal precipitation and groundwater pumping. To evaluate the potential interconnection between shallow and deep aquifers, include hydrographs of hydraulic head in shallow aquifer versus pumping rates from nearby water supply wells.

f. Temporal changes in the plume location and concentrations are also a key element of the SCM. In addition to providing a measure of the magnitude of the problem, these data are often useful to confirm details of the flow system inferred from the hydraulic head measurements. Please include plots of the contaminant plumes on your maps, cross-sections, and diagrams.

g. Summary tables of chemical concentrations in different media (i.e. soil, groundwater, and soil vapor), including well logs, well completion details, boring logs, etc.

At this juncture, prepare a site conceptual model (SCM) as described above, including developing and/or identifying site cleanup goals, and include the results of the SCM in the decision-making process. If data gaps (i.e. potential contaminant volatilization to indoor air or contaminant migration along preferential pathways, etc.) are identified in the SCM, please address those data gaps in the work plan requested below.

4. **Preferential Pathway Study.** The purpose of the preferential pathway study is to locate potential migration pathways and conduits and determine the probability of the NAPL and/or plume encountering preferential pathways and conduits that could spread contamination. We request that you perform a preferential pathway study that details the potential migration pathways and potential conduits (wells, utilities, pipelines, etc.) for vertical and lateral migration that may be present in the vicinity of the site.

Discuss your analysis and interpretation of the results of the preferential pathway study (including the detailed well survey and utility survey requested below) and report your results in the SCM requested below. The results of your study shall contain all information required by California Code of Regulations, Title 23, Division 3, Chapter 16, §2654(b).

a. Utility Survey

An evaluation of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s) is required as part of your study. Please include maps and cross-sections illustrating the location and depth of all utility lines and trenches within and near the site and plume areas(s) as part of your study.

b. Well Survey

The preferential pathway study shall include a well survey of all wells (monitoring and production wells: active, inactive, standby, decommissioned (sealed with concrete), abandoned (improperly decommissioned or lost); and dewatering, drainage, and cathodic protection wells) within a 1,000- foot radius of the subject site.

5. **Groundwater Elevation Data Table.** Free product was reported in MW-1 during the last groundwater monitoring event. The groundwater elevation data table presented in your reports does not include depth to free product, product thickness or the adjusted groundwater elevation. Please include this data in your future reports and update the table to include all historical product thicknesses. Also, in future reports, please use the adjusted groundwater elevation for any well with free product on your contour map. 6

6. **Well Survey.** The site was reportedly resurveyed in 2004. The elevation should be represented in NAVD 88. The site map states that the site is measured to NAVD 29. Please check to see which datum was used and if NAVD 29 was used please submit a plan to come into compliance in the report requested below. 7

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Barbara Jakub), according to the following schedule:

- **February 20, 2009** – SCM with work plan for next phase of work

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater

cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 639-1287 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,

Barbara Jakub

Barbara Jakub, R.G.
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: David Hoexter, Hoexter Consulting, Inc., 734 Torreya Court, Palo Alto, CA 94303
Leroy Griffin, Oakland, Fire Department (via electronic mail)
Donna Drogos, ACEH,
Barbara Jakub, ACEH
File

APPENDIX C

V. CHAVEZ LAND SURVEYOR LETTER

Virgil Chavez Land Surveying
721 Tuolumne Street
Vallejo, California 94590
(707) 553-2476 • Fax (707) 553-8698

March 27, 2009
Project No.: 2165-04

David Hoexter
Hoexter Consulting, Inc.
734 Torreya Court
Palo Alto, CA 94303

Subject: Monitoring Well Survey
1970 Seminary Avenue
Oakland, CA

Dear Mr. Hoexter:

I have reviewed my report referred to in your email, regarding this site. This is to confirm that the latitude, longitude are expressed in decimals, according to the Geotracker guidelines, and the coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83). (Horizontal Datum)

In addition, to confirm the benchmark for this survey was a cut square at the easterly curb located at the southeast corner of Seminary and Harmon Ave. (City of Oakland BM) Benchmark Elevation = 39.438 feet (NGVD 29). (Vertical Datum)

We have in our office a printed copy of the Geotracker Guidelines & Restrictions dated April, 2005, Revision 6.1. I have included page 15 of this version of the guidelines. A recent search indicates this is still the latest version of the guidelines. This version of the guidelines is actually post date of survey, and that as stated in the guidelines, NAVD 88 is preffered, but as yet, not a requirement.

The difference between the two vertical datum can be calculated. However, as the difference between the two vertical datum varies, based on a mathematical model, from roughly 0.6-0.85 meters, it can be seen that to locally impose restrictions to alter historical survey data would tend to cause a great deal of confusion not to mention additional costs. This firm has performed roughly 60 well surveys in Oakland alone. It is best to maintain the same vertical datum (of any project), whatever it might be, through-out the project until its completion.

Sincerely,

Virgil D. Chavez, PLS 6323

California State Water Resources Control Board

GeoTracker™

Survey XYZ, Well Data, and Site Map Guidelines & Restrictions

Electronic Deliverable Format and Data Dictionary

Revision 6.1
April, 2005

Web site: http://www.geotracker.waterboards.ca.gov/

3.2.2 The GEO_Z File Format

Table 5: GEO_Z Format

Note: **The relative elevations of locations on the site (intersite well elevations) are to be measured within 0.01 ft. The accuracy of the absolute elevation, the value referenced to a vertical datum, may exceed 0.1 ft, primarily due to the distance to valid benchmark(s) and the methods used to bring elevation on site. The absolute accuracy is to be reported in the *ELEV_ACC_VAL* field.**

Field Name	Attrb	VVL	REQ	Dscr. Name	Definition	Guidelines & Restrictions
GLOBAL_ID	C12	Yes	Yes	Global ID	The unique identifier for a regulated facility or site.	Obtain from GeoTracker web pages.
FIELD_PT_NAME	C15	Yes	Yes	Field Point Name	The field name or common name of the location where the field measurement has been collected (i.e., Well 01).	Obtain from GeoTracker web pages. Add new field point names via GeoTracker AB2886 electronic reporting interface.
ELEV_SURVEY_DATE	D10	No	Yes	Elevation Survey Date	The date on which the elevation was measured.	Date format is MM/DD/YYYY. Day and month may be estimated for historical data.
ELEVATION	N15	No	Yes	Elevation	The elevation of the survey point measured to top of well casing to a hundredth of a foot between well locations within the site.	Enter elevation in feet. The relative elevations of locations on the site (intersite well elevations) are to be measured within 0.01 ft. The accuracy of the absolute elevation (tied to the vertical datum) may be greater than 0.1 ft.
ELEV_METHOD	C5	Yes	Yes	Elevation Survey Method	The code representing the method by which the elevation measurement was collected	Required for all surveys.
ELEV_DATUM	C5	Yes	Yes	Elevation Datum	The code representing the datum from which the elevation was determined.	NAVD88 is preffered.

Virgil Chavez

From: David Hoexter [david@hoexterconsulting.com]
Sent: Monday, March 23, 2009 10:31 AM
To: Virgil Chavez
Subject: Response to Alameda County

HI Virgil:

Sorry for the delay in getting this note off. Following is the paragraph from the Alameda County 12/5/08 Letter:

Well Survey: The site was reportedly resurveyed in 2004. The elevations should be represented in NAVD 88. The site map states that the site is measured to NAVD 29. Please check to see which datum was used and if NAVD 29 was used please submit a plan to come into compliance in the report requested below.

Your survey report date is 8/23/04, Project. No.: 2165-04A (Revised).

Your assisting me in my response to Alameda County is much appreciated!

Best regards,

David F. Hoexter

Registered Environmental Assessor (REA)
Professional Geologist (PG)
Certified Engineering Geologist (CEG)

Hoexter Consulting, Inc.
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APPENDIX D

PROPOSED INVESTIGATION LOCATIONS / SAMPLING

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PROPOSED INVESTIGATION LOCATIONS / SAMPLING

Proposed Investigation Locations / Sampling

Boring Location And Type	Location and Depth (feet) (see Figure 10)	Soil Samples (number)	Potential Grab Ground Water Sample Depths (feet)	Vapor Sample Depth (feet)
SCP/MIP				
A	Within site, SE of former USTs, 50'	N/A	N/A	N/A
B	Within site, adjacent to MW-1, 50'	N/A	N/A	N/A
C	Within site, regional gw down gradient, 50'	N/A	N/A	N/A
D	Down or lateral gradient, off-site, 50'	N/A	N/A	N/A
E	Down or lateral gradient, off-site, 50'	N/A	N/A	N/A
F	Down or lateral gradient, off-site, 50'	N/A	N/A	N/A
G	Down or lateral gradient, off-site, 50'	N/A	N/A	N/A
H	Down or lateral gradient, off-site, 50'	N/A	N/A	N/A
DP/GW				
A	Within site, SE of former USTs, 50'	Min. 2, Depth TBD	40-50	N/A
B	Within site, adjacent to MW-1, 50'	Min. 2, Depth TBD	40-50	N/A
C	Within site, regional gw down gradient, 50'	Min. 2, Depth TBD	40-50	N/A
D	Down or lateral gradient, off-site, 50'	Min. 2, Depth TBD	10-20 20-35 40-50	N/A
E	Down or lateral gradient, off-site, 50'	Min. 2, Depth TBD	10-20 20-35 40-50	N/A
F	Down or lateral gradient, off-site, 50'	Min. 2, Depth TBD	10-20 20-35 40-50	N/A
G	Down or lateral gradient, off-site, 50'	Min. 2, Depth TBD	10-20 20-35 40-50	N/A
H	Down or lateral gradient, off-site, 50'	Min. 2, Depth TBD	10-20 20-35 40-50	N/A
I	Up gradient, off site, 50'	Possible 2, Depth TBD	10-20 20-35 40-50	N/A
				Continued following page

Boring Location And Type	Location and Depth (feet) (see Figure 10)	Soil Samples (number)	Potential Grab Ground Water Sample Depths (feet)	Vapor Sample Depth (feet)
Soil Vapor				
I	Within site adjacent to former USTs	N/A	N/A	4 8
J	Within site, within service building	N/A	N/A	4 8
K	Within site, open area	N/A	N/A	4 8
L	Between site and as close to 5902 Holway St. residence as feasible	N/A	N/A	4 8
M	Between site and as close to 5902 Holway St. residence as feasible	N/A	N/A	4 8
N	Between site and as close to 5909/11 Holway St. residence as feasible	N/A	N/A	4 8
O	Between site and as close to 5909/11 Holway St. residence as feasible	N/A	N/A	4 8