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Environmental Health**

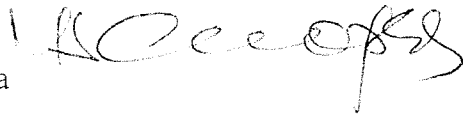
Mr. Mark Detterman
Alameda County Environmental Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: Haber Oil Product
1401 Grand Avenue, San Leandro, CA
ACEHD Case # RO0000370, GeoTracker ID T0600101827

Dear Mr. Detterman:

I declare, under penalty of perjury, that the information and or recommendations contained in the attached document are true and correct to the best of my knowledge.

Sincerely,
Mohan Chopra



SITE CONCEPTUAL MODEL

FOR

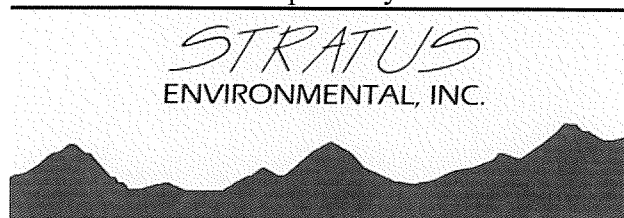
FORMER HABER OIL PRODUCTS FACILITY
1401 GRAND AVENUE
SAN LEANDRO, CALIFORNIA

Prepared for
Mr. Mohan Chopra

Project No. 2120-1401-01

January 25, 2012

Prepared by



3330 Cameron Park Drive, Suite 550
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January 25, 2012
Project No. 2120-1401-01

Mr. Mark Detterman
Alameda County Health Care Services Agency
Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577


Re: Site Conceptual Model
Haber Oil Products, 1401 Grand Avenue, San Leandro, CA
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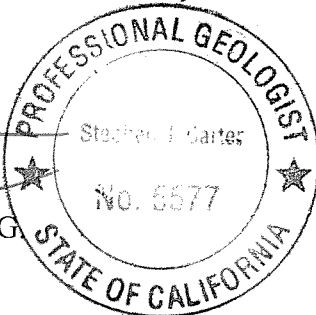
Dear Mr. Detterman:


This Site Conceptual Model (SCM) report was prepared as directed in a letter from Alameda County Environmental Health Department dated June 23, 2011. This report, and the interpretations and discussion of the data derived therein, have been prepared under the supervision of the undersigned:

Sincerely,

STRATUS ENVIRONMENTAL, INC.


Stephen J. Carter, P.G.
Project Manager




Gowri S. Kowtha, P.E.
Principal Engineer

cc: Mr. Mohan Chopra

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1.0 EXECUTIVE SUMMARY

Stratus Environmental, Inc. (Stratus), on behalf of Mr. Mohan Chopra, has prepared the following Site Conceptual Model (SCM) for the former Haber Oil Products facility, located at 1401 Grand Avenue in San Leandro, California. This SCM was prepared pursuant to a request from Alameda County Environmental Health Department (ACEHD) letter dated June 23, 2011. The SCM is based predominantly on data generated by others between 1991 and 2007.

This SCM describes the historical and current conditions beneath the site, identifies potential contaminant migration and exposure pathways, and identifies gaps in the existing data that warrant further characterization. Where appropriate, the SCM proposes additional actions to provide further site characterization and implement remedial measures.

The former underground storage tanks (USTs) and dispensers were replaced in May 1997. Site characterization to date includes the following activities between 1991 and 1998: installing eight groundwater monitoring wells to characterize hydrocarbon impact in the first-encountered groundwater zone; advancing eight exploratory soil borings to characterize impact in the vadose zone; conducting a rising head slug test to evaluate aquifer characteristics; and a short soil vapor extraction (SVE) test. The groundwater monitoring well network has been sampled a total of thirty two times since September 1992. Remedial actions have not been implemented at this site.

Subsurface sediments appear to consist of a generally coarsening downward sequence that has been interpreted by others as derived from alluvial fan deposition. A stratum of fine-grained sediments underlies the site to approximately 30 to 35 feet below ground surface (bgs). The fine-grained stratum (predominantly silt) is in turn underlain by a stratum of coarser-grained sediments consisting predominantly of silty and clayey sand and gravel. Groundwater has been encountered beneath the site between approximately 31.6 and 44.6 feet bgs. Groundwater flow beneath the site is predominantly toward the northwest.

Residual fuel hydrocarbons in the vadose zone extend vertically to groundwater. The lateral extent of these hydrocarbons appears to have been adequately characterized, and is limited to the immediate vicinity below the former USTs and dispensers. Dissolved fuel hydrocarbons in the groundwater appear to be limited predominantly to the vicinity of wells MW-2 and MW-3, although additional constraint is warranted given the existing monitoring well network configuration and historical groundwater flow direction. Historical analytical data indicate that fuel hydrocarbons in all wells except MW-2 have either reached water quality objectives (WQOs), or will in a relative short period of time.

Non-fuel volatile organic compounds (VOCs) have been identified in the groundwater, but the source of these VOCs has not been firmly established as coming from the subject site (there is not soil analytical data demonstrating migration of these VOCs from the former waste oil UST to groundwater, and oil-range organics (ORO) are not present in the groundwater monitoring well network. Historical analytical data suggest that VOC concentrations in the groundwater are decreasing with time.

Data from 1992 suggests there are no potential downgradient groundwater receptors that might be impacted by petroleum hydrocarbons migrating from the subject site, but given that nineteen years has passed since this work was performed, a study to update these data is warranted. The only on-site exposure pathway of concern appears to be potential indoor air impact due to vapor intrusion. A shallow subsurface utility survey and soil gas sampling study are warranted to evaluate this exposure pathway.

Based on the data gaps identified in this document, Stratus recommends the following actions: advance on-site soil borings to evaluate geologic conditions and evaluate groundwater conditions below 55 feet bgs, advance up to three soil borings and/or install monitoring wells to further constrain the lateral extent of the dissolved petroleum hydrocarbon plume, install an extraction well to initiate interim remediation and mass removal efforts, evaluate the shallow subsurface conditions for potential vapor intrusion conditions, and update the sensitive receptor survey for the site vicinity.

2.0 SITE DESCRIPTION AND BACKGROUND

2.1 Subject Site and Vicinity

The former Haber Oil Products facility is an active service station facility located at the intersection of Joaquin Avenue and Grand Avenue in San Leandro, California (Figure 1). The property is currently developed as a mini-mart and automotive service station. The station building is situated along the southern edge of the property, and three fuel dispensers are installed along the western side of the property. Gasoline is stored in one 8,000 gallon and one 12,000 gallon UST,¹ which are installed in the center of the property adjacent to the dispenser islands (Figure 2). Except for the planters, the entire site is covered by either the station building or concrete paving.

The site is bounded to the west and northwest by Grand Avenue and to the east by Interstate 580. The property immediately to the south has been developed as an apartment complex. The property immediately to the west (across Grand Avenue) is not currently developed. Properties north of the site are developed for retail use, properties to the west and south are developed for residential use, and properties to the east (across the freeway) are developed for residential use. Except as noted above, virtually all property in the general site vicinity is currently developed.

2.1.1 Subsurface Utilities

Site reconnaissance by Stratus indicates all utility service is underground, including electrical and telephone. A utility survey is necessary to evaluate if the subsurface utility services have the potential act a preferential pathway for contaminant (soil vapor) migration.

2.1.2 Sensitive Receptors

A survey to identify water wells within ½ mile of the site was performed by Aegis in 1992.² The survey appears to have consisted of a review of Department of Water Resources files; field verification does not appear to have been included in this survey. The well location information presented by Aegis is attached in Appendix A. The well survey identified two supply wells downgradient of the site; approximately 1,500 feet to the west-northwest (near the intersection of San Rafael Street and Collier Drive), and approximately 2,000 feet to the west-southwest (near the intersection of San Jose Street and Estudillo Avenue). It is possible that additional wells have been installed in the site vicinity in the approximately 20 years since the Aegis well study. A review of DWR and Alameda County Public Works Department (ACPWD) files is warranted to update the Aegis water well study.

Based on an internet search (Google Maps), the only school within 1,000 feet of the site is St. James Christian Preschool, approximately 400 feet to the west. No hospitals or convalescent facilities were identified within 1,000 feet of the site.

2.2 Topography and Surface Conditions

The subject site is situated at the junction of the East Bay Plain, which slopes gently away from the site to the southwest, and the San Leandro Hills, which rise abruptly to the east of the site.

¹ *Tank Closure Report*, Bermabe & Brinker, Inc., dated July 9, 1997.

The topography in the site vicinity is shown on Figure 1. The nearest surface water is San Leandro Creek, situated approximately 1,000 feet north of the site. Given the location of San Leandro Creek, its distance from the subject site, and the historic groundwater depth and flow direction, it appears unlikely that petroleum hydrocarbons from the subject site will impact the creek.

2.3 Site Background

This section summarizes environmental activities performed at the site as part of the investigation into hydrocarbon impact to soil and groundwater due to leaking USTs. The historical summary presented below is based on documents available on the Alameda County Environmental Health Department (ACEHD) website. Locations of soil borings and groundwater monitoring wells are shown on Figure 2. Drilling and well construction details are summarized in Table 1, historical soil and grab groundwater analytical data are summarized in Table 2, and historical groundwater monitoring and analytical data are summarized in Tables 3 and 4.

April 1991 – Aegis Environmental, Inc. (Aegis) drilled four soil borings (B-1 through B-4) to 41 feet below ground surface (bgs) on April 24, 1991.² Total Petroleum Hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX) were reported in soil samples collected between 25.5 and 36 feet bgs. The highest TPHg (66 milligrams/kilogram [mg/kg]) and benzene concentrations (0.94 mg/kg) were reported in the sample from boring B-2 collected at 25.5 feet bgs.

April 1992 – Aegis drilled three angled soil borings (B-5 through B-7) on April 14 and 15, 1992.³ These borings were angled between 26 and 28 degrees from vertical to collect soil samples beneath the USTs. These borings reached a maximum vertical depth of 49 feet bgs. The highest concentrations of TPHg (510 to 4,000 mg/kg) and benzene (0.94 to 11 mg/kg) in each of these borings was reported in samples collected at approximately 35 to 40 feet bgs.

September 1992 – Aegis installed groundwater monitoring wells MW-1 through MW-5 to depths between 53 and 56 feet bgs on September 15 to 18, 1992.² TPHg was reported only in the soil samples from boring MW-2 at 29.5 feet bgs (11 mg/kg) and boring MW-4 at 29.5 feet bgs (1.9 mg/kg). Benzene was reported in at least one soil sample from each boring (0.0062 to 0.27 mg/kg), except MW-5, with the highest benzene concentration reported in the sample collected from MW-4 at 29.5 feet bgs. Selected soil samples from below the water table were also analyzed for permeability and grain size distribution. The initial monitoring and sampling of these wells was performed on September 29, 1992. Free product (0.02 feet thick) was reported in well MW-3. TPHg concentrations in wells MW-1, MW-2, MW-4, and MW-5 ranged from 60 to 20,000 micrograms per liter ($\mu\text{g/L}$), and benzene concentrations ranged from 10 to 4,600 $\mu\text{g/L}$. The highest TPHg and benzene concentrations were reported in well MW-2.

October 1992 – Rising head slug tests were performed using wells MW-1, MW-2, and MW-4 on October 7, 1992, and short-duration SVE tests were performed on wells MW-1 and MW-2.³

² *Soil Boring Results Report*, Aegis Environmental, Inc., dated June 10, 1991.

³ *Initial Subsurface Investigation Results Report*, Aegis Environmental, Inc., dated June 22, 1992.

June 1995 – P&D Environmental, Inc. (P&D) installed offsite wells MW-6, MW-7, and MW-8 to 50 feet bgs.⁴ TPHg and BTEX were not reported in any of the soil samples collected from these well borings.

May 1997 – Bernabe & Brinker, Inc. (B&B) removed one 6,000 gallon gasoline UST, two 7,500 gallon gasoline USTs, one 500 gallon waste oil UST, and associated dispensers and product piping on May 5 and 6, 1997.¹ A 4-inch hole was reported in the bottom of the waste oil UST, and a small hole was observed in the top of the 6,000 gallon gasoline UST. Six soil samples were collected from the UST pit (TP-1 through TP-6) and four soil samples (DP-1 through DP-4) were collected from beneath the dispensers. TPHg (4.5 to 3,400 mg/kg) and benzene (0.012 to 2.8 mg/kg) were reported in eight of these soil samples, and methyl tertiary butyl ether (MTBE; (0.12 to 41 mg/kg) was reported in seven of the samples. Total Petroleum Hydrocarbons as diesel (TPHd; 300 mg/kg), Total Recoverable Petroleum Hydrocarbons (TRPH; 2,600 mg/kg), tetrachloroethene (PCE, 0.079 mg/kg) 1,1,1-trichloroethane (0.026 mg/kg), naphthalene (0.60 mg/kg) and 2-methylnaphthalene (0.65 mg/kg) were reported in sample TP-6, collected beneath the waste oil UST.

To remove hydrocarbon-impacted soil, the UST pit was excavated to depths up to approximately 17.5 feet bgs, and the area beneath the dispensers was deepened to approximately 5.5 feet bgs on May 10, 1997. Ten confirmation soil samples were collected from the furthest vertical and lateral extent of the UST excavation, and two confirmation soil samples were collected from the base of the excavation beneath the dispensers. The two samples with the highest residual hydrocarbon concentrations were collected at 16.5 feet bgs (TP-10; 4,200 mg/kg TPHg) and 12 feet bgs (TP-14; 3,200 mg/kg TPHg).

Approximately 800 cubic yards (yd³) of soil and backfill material were excavated during UST removal activities. Excavated material was removed from the site for disposal. The excavations were backfilled with pea gravel as one 8,000 gallon UST and one 12,000 gallon UST and associated product piping and dispensers were installed.

December 1998 – P&D advanced one GeoProbe® boring to 41 feet bgs on December 4, 1998.⁵ Soil samples from this boring were not submitted for chemical analysis, but one grab groundwater sample was collected from the boring. This groundwater sample did not contain reportable concentrations of TPHg or MTBE, but did contain benzene (0.54 µg/L).

⁴ *Monitoring Well Installation Report*, P&D Environmental, Inc., dates August 23, 1995.

⁵ *Subsurface Investigation Report*, P&D Environmental, Inc, dated December 31, 1998.

3.0 SUBSURFACE CONDITIONS

This discussion of geologic and hydrogeologic conditions beneath the site is based on work performed by others, as outlined in the previous section. Boring logs prepared by Aegis and P&D were reviewed to evaluate the site geology; copies of these logs are included in Appendix B. The initial groundwater monitoring and sampling was performed in 1992. The monitoring well network was monitored and sampled intermittently from 1994 to 1999, and then again from 2003 to 2007. Stratus restarted the monitoring and sampling program in April 2011. Historical soil analytical data are summarized in Table 2, and historical groundwater monitoring and analytical data are summarized in Tables 3 and 4.

3.1 Geologic Conditions

Graymer⁶ describes the sedimentary deposit upon which the site is situated as loose, moderately sorted to well sorted sandy or clayey silt, grading to sandy or silty clay, originating as levee deposits bordering stream channels. Other sediments in the site vicinity are described as medium dense to dense, gravelly sand or sandy gravel that grades upwards to sandy or silty clay, originating as alluvial fan and fluvial deposits. Based on the Grayson map, it appears that the subject site is located immediately west of the Hayward Fault.

Based on the boring logs (Appendix B), subsurface exploration at the site has encountered a predominantly fine-grained sedimentary deposit overlying a coarser-grained sedimentary deposit. The fine-grained sediments are described predominantly as silty clay, silt, clayey silt and sandy silt from below the paved ground surface to approximately 30 to 35 feet bgs. The boring logs indicate that beneath the site these fine-grained sediments are relatively uniform, without interfingering strata of coarser-grained sediments. This appears to change off-site to the west; as seen in the logs for borings MW-6 and MW-7, the fine-grained sediments contain intervals of sand to silty sand up to 15 feet thick.

A coarse-grained sedimentary deposit, described in the boring logs as silty sand, silty sand with gravel, clayey sand with gravel, and sand with gravel, was encountered beneath the fine-grained sediments (at approximately 30 feet bgs) to the total depth explored of approximately 55 feet bgs. Sieve analyses were performed on soil samples from near the base of borings MW-2 (52 feet bgs), MW-3 (54 feet bgs), MW-4 (53 feet bgs) and MW-5 (54 feet bgs). Based on these sieve analyses (Appendix B), the samples were classified as silty sand, silty sand, silty sand, and silty sand with gravel (respectively). The boring logs do not record relative percentages of materials in the samples, but in the sieve analyses, the fraction of material in the silty sand samples (borings MW-2, MW-3, and MW-4) was greater than 30%. Interpreted subsurface stratigraphic relations are illustrated in cross-sections A-A', B-B', and C-C' (Figures 3, 4 and 5, respectively).

The observations recorded in the boring logs and the data from the sieve analyses suggest a generally fining upward sedimentary sequence that appears similar to the Holocene-age alluvial fan and fluvial deposits described by Graymer (Qhaf-refer to Graymer, page 7).

⁶ *Geologic map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California:* R.W. Graymer, US Geological Survey Miscellaneous Field Studies MF-2342, version 1.0, dated 2000.

3.2 Hydrogeology

Depth to groundwater as measured in the monitoring well network has fluctuated from approximately 31.6 to 44.6 feet bgs. At the time of the most recent groundwater monitoring event (October 13, 2011), groundwater in the well network was measured between 37.92 and 41.28 feet below top of well casing. Flow within the monitoring well network during this monitoring event was toward the west-northwest (Figure 6). Groundwater flow in the vicinity of well MW-3 appears distorted, but this flow pattern is consistent in the historical monitoring data. Observations noted in the boring log for this well boring do not suggest a lithologic basis for this distorted flow pattern (Figure 3).

Historical groundwater flow data show the predominant flow direction is toward the west-northwest, with only a few quarters showing flow to the west, northwest, or north (Figure 6). Historically, groundwater gradients have ranged from 0.0089 to 0.071 feet/feet. As shown in hydrographs prepared for wells MW-1, MW-2, MW-3, MW-4, and MW-6 (Appendix C), groundwater elevations beneath the site exhibit a generally increasing trend since monitoring was initiated in 1992 (groundwater elevations in wells MW-5, MW-7, and MW-8 exhibit a similar trend).

3.2.1 Aquifer Testing

Aegis performed a rising head slug test in October 1992, using wells MW-1, MW-2, and MW-4. The hydraulic conductivity values calculated for these wells ranged from 1.717E-4 to 9.313E-4 feet/min (4.73E-04 to 8.71E-05 centimeters/second [cm/s]). Slug test data are included in Appendix D. Soil samples from near the base of borings MW-2 (52 feet bgs), MW-3 (54 feet bgs), MW-4 (53 feet bgs) and MW-5 (54 feet bgs) were subjected to flexible wall permeability testing. Permeabilities of 4E-04 cm/s, 2E-04 cm/s, 6E-07 cm/s, and 2E-08 cm/s (respectively) were reported (Appendix B). The hydraulic conductivities estimated from the slug tests are in the same range as the hydraulic conductivities measured from the flexible wall tests. These hydraulic conductivity values are in the range that would be expected for the silty sand encountered at 52 to 54 feet bgs (as discussed in Section 3.1).

3.3 Extent of Petroleum Hydrocarbon Impact

3.3.1 Impact to Vadose Zone Soil

Figure 7 summarizes TPHg (also referred to as gasoline range organics [GRO]), benzene and MTBE concentrations from soil samples collected at the furthest extent of the excavation performed after removal of the USTs. Figure 8 summarizes the TPHg/GRO, benzene, and MTBE concentrations from soil samples collected in the exploratory soil borings.

The highest hydrocarbon concentration reported in confirmation samples from the UST pit were reported in samples TP-10, TP-13, and TP-14, collected either from the pit walls at a depth of 12 feet bgs, or from the pit floor at a depth of 16.5 feet bgs. TPHg concentrations in these samples ranged from 1,000 to 4,200 mg/Kg, and benzene was reported in samples from TP-10 and TP-13 at concentrations up to 6.3 mg/Kg.

In the soil borings, the highest TPHg and benzene concentrations were reported in angled borings B-5, B-6, and B-7. The highest TPHg concentrations in these borings ranged from 510 to 4,000 mg/kg, and the highest benzene concentrations ranged from 0.94 to 11 mg/kg. These high hydrocarbon concentrations were reported in samples collected between 40 and 45 feet bgs,⁷ beneath the former USTs.

Based on the analytical data from the UST excavation, the well borings, and the exploratory soil borings, hydrocarbon impact in the vadose zone (currently extending to approximately 35 feet bgs) appears restricted to the immediate vicinity of the former UST pit and dispenser islands. Low to non-detect results are reported in all vertical borings drilled in the vicinity of the dispensers and USTs, suggesting that the lateral extent of vadose zone impact has been adequately characterized. Reported soil impact appears to be highest between approximately 35 and 45 feet bgs (within the depth range of groundwater fluctuation).

3.3.2 Free Product

Free product has been reported once in the monitoring well network. Free product (0.02 inches thick) was reported during the initial sampling event at well MW-3 (September 29, 1992). Free product has not been reported in this well since, nor has free product ever been reported in any of the other monitoring wells.

3.3.3 Impact in Groundwater

The monitoring well network has been sampled a total of thirty times since 1992. GRO, benzene, and MTBE concentrations for the fourth quarter 2011 monitoring well sampling event (October 13, 2011) are summarized in Figures 9 through 11. The current analytical suite consists of GRO, BTEX, fuel oxygenates (MTBE, tert amyl methyl ether [TAME], ethyl tert butyl ether [ETBE], di-isopropyl ether [DIPE], and tert butyl alcohol [TBA]), and non-gasoline related volatile organic compounds (VOCs).

Petroleum Fuel Hydrocarbons

Historically, dissolved gasoline hydrocarbons have been reported in wells MW-1 through MW-6. During each sampling event, the highest TPHg/GRO and BTEX concentrations have consistently been reported in well MW-2, with the highest MTBE concentrations reported either in well MW-2 or MW-3. Low concentrations of MTBE are often reported in downgradient well MW-6, but GRO or gasoline constituents have never been reported in this well. With the exception of one reported concentration of toluene in well MW-7 (9.7 µg/L in January 11, 2007), gasoline or gasoline constituents have not been reported in wells MW-7 or MW-8. Benzene, toluene, and xylenes were also reported in the grab groundwater sample collected at B-10 in 1998 (Table 2).

During the October 13, 2011, sampling event, GRO was reported in wells MW-2 (5,700 µg/L) and MW-3 (150 µg/L). Benzene was reported only in wells MW-2 (450 µg/L) and MW-4 (0.86 µg/L). MTBE was reported in wells MW-1, MW-2, MW-3, and MW-4 (2.4 to 100 µg/L),

⁷ The borings were drilled at angles between 26 and 28 degrees off vertical. Depths reported in the text are calculated from the reported downhole sample depths and drilling angles.

with the highest MTBE concentration reported in MW-3. These concentrations are consistent with the historical data, except for well MW-2, where concentrations dropped significantly from historical levels. Given the current monitoring well configuration and predominant groundwater flow to the west-northwest, the dissolved hydrocarbons appear to be adequately characterized to the north by wells MW-7 and MW-8, and to the east by well MW-5.

The current Basin Plan defines the water quality objectives (WQO) for the groundwater beneath the site. The WQO for GRO is 100 µg/L, for benzene is 1.0 µg/L, and for MTBE is 13 µg/L. Plots of historical GRO, benzene, and MTBE concentrations in wells MW-1 through MW-4 and MW-6 are included in Appendix C (plots for wells MW-5, MW-7, and MW-8 were not generated because these wells have generally not had reported concentrations of these compounds). Trendlines fitted to these data indicate that GRO and benzene concentrations exhibit a generally decreasing trend in all the wells. Based on analytical data collected through October 13, 2011, the GRO WQO has already been reached in wells MW-1, MW-4, and MW-6, and the benzene WQO has already been reached in wells MW-1, MW-3, MW-4, and MW-6. The rates of hydrocarbon decrease are much lower in well MW-2; because of this, WQOs for this well are currently projected to be achieved in approximately 22 years for GRO, and 100 years for benzene (refer to Appendix C for calculations of projected time to reach WQOs).

For wells MW-1 through MW-4, MTBE trendlines indicate generally increasing concentrations during the period of historical groundwater monitoring (refer to the graphs for wells MW-1(a) through MW-4(a) in Appendix C). However, MTBE concentrations in these wells appear to peak in November 2003 to June 2005, and MTBE concentrations subsequent to these historical highs exhibit decreasing trends. These decreasing MTBE trends are illustrated in graphs labeled MW-1(b) through MW-4(b) in Appendix C. Based on the fourth quarter 2011 sampling event (October 13, 2011), the MTBE WQO has been achieved in wells MW-1, MW-3, MW-4, and MW-6. Based on the trendline for MTBE at well MW-2, the WQO is expected to be achieved in 12 years.

Non-Fuel Volatile Organic Compounds

From 2003 to 2007, samples from the monitoring well network were analyzed for VOCs a total of 15 times. For the site, relatively high concentrations of naphthalene (77 to 650 µg/L), n-propyl benzene (56 to 260 µg/L), 1,2,4-trimethylbenzene (440 to 2,200 µg/L) and 1,3,5-trimethylbenzene (91 to 550 µg/L) were consistently reported in well MW-2. Sporadic hits of PCE and 1,2,4-trimethylbenzene have been reported in wells MW-3, MW-4, and/or MW-5. Low but persistent levels of PCE (0.5 to 4.3 µg/L) and chloroform (0.56 to 1.2 µg/L) have been reported in wells MW-6 and MW-7, and low, persistent levels of chloroform (0.62 to 1.8 µg/L) have been reported in well MW-8. During this period, non-gasoline related VOCs were not reported in well MW-1 (except during the first quarter 2006 when PCE was reported at 16 µg/L).

During the October 13, 2011 sampling event, non-fuel VOCs were reported only in wells MW-2, MW-7, and MW-8. Well MW-2 contained naphthalene (60 µg/L), n-propyl benzene (47 µg/L), isopropyl benzene (19 µg/L), 1,3,5-trimethylbenzene (56 µg/L), and 1,2,4-trimethylbenzene (170 µg/L). These concentrations are historic lows. Wells MW-7 and MW-8 contained only chloroform (1.2 and 1.1 µg/L, respectively); the low concentrations are consistent with historical analytical data.

At this time, the source of the non-fuel VOCs remains undetermined. Soil samples from the vicinity of the former waste oil UST were not analyzed for VOCs. Well MW-2, which consistently contains the highest concentrations of GRO and gasoline-related compounds, also consistently contains naphthalene, n-propyl benzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene. Well MW-4, adjacent to the former location of the waste oil tank, contains only very low concentrations of gasoline hydrocarbons, and appears to be virtually unaffected by non-fuel VOCs. Upgradient wells MW-5 and MW-8 are impacted by chloroform. Off-site cross-gradient well MW-7 is impacted by PCE and chloroform. Well MW-6, downgradient of well MW-2, is impacted with chloroform, but not with the naphthalene, n-propyl benzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene reported in upgradient well MW-2.

4.0 REMEDIAL ACTIONS

4.1 Feasibility Testing

Aegis performed a short SVE test on October 7, 1992, using wells MW-1 and MW-2 as extraction points.² A summary table of the feasibility test data collected during the test is included in Appendix E. DTW was not measured in the well network during the SVE test; during the groundwater sampling event on October 27, 1992, DTW was measured between 41.55 and 44.60 feet bgs (Table 3).

Soil vapors were extracted from well MW-1 for 2.25 hours under a vacuum of 31.5 to 33 inches water column, producing a calculated airflow of 63 to 91.6 cubic feet/minute (cfm). Influent Total Petroleum Hydrocarbon (TPH) concentrations (measured with a flame ionization detector [FID]) decreased from 11,500 parts per million vapor (ppmv) to 8,750 ppmv. Calculated extraction rates started at 13.8 pounds/hour (lb/hr) and decreased to 10.6 lb/hr. Measureable vacuum influence was observed at wells MW-2 through MW-5. An influent air sample collected at the end of this test period contained 65,000 ppmv TPH and 1,600 ppmv benzene.

Soil vapors were extracted from well MW-2 for 2.5 hours under a vacuum of 6 to 7 inches water column, producing a calculated airflow of 48 to 51.2 cfm. Influent soil vapor concentrations (measured with a FID) decreased from 15,250 ppmv to 9,250 ppmv TPH. Calculated extraction rates started at 9.7 lb/hr and decreased to 6.2 lb/hr. Measureable vacuum influence was observed at wells MW-1, MW-3 and MW-4. An influent air sample collected at the end of this test period contained 60,000 ppmv TPH and 2,500 ppmv benzene.

Based on the data collected during the SVE test, an estimated radius of influence (ROI) of at least 38 to more than 50 feet was produced.

4.2 Remedial Activities

Remedial activities have not been implemented at this site.

5.0 POTENTIAL EXPOSURE PATHWAYS

The original USTs, the primary source of the hydrocarbon impact and therefore the primary potential source of potential exposure to chemicals of concern (COCs), have been replaced. Only secondary sources of exposure to COCs exist. Secondary sources include residual concentrations of petroleum hydrocarbons in the soil deeper than 15 feet bgs, and dissolved hydrocarbons in the groundwater. Impacted surface or shallow soils (up to 3 feet bgs) or impacted surface water are not potential sources of exposure to COCs at this site. Potential human or environmental exposure mechanisms associated with the secondary sources include volatilization and atmospheric dispersion, volatilization and accumulation of vapors in enclosed spaces, leaching and groundwater transport, and excavation of impacted soil.

5.1 Potential On-site Exposure Pathways

Potential on-site exposure pathways to COCs associated with the secondary sources at the site include volatilization to indoor air and enclosed spaces, volatilization to outdoor air, and impacted groundwater and excavation of impacted soil. Exposure routes to indoor and outdoor air would be through inhalation. Exposure via groundwater and excavation would be through ingestion or dermal contact.

5.1.1 Indoor Air

The only soil vapor analytical data for this site was collected in 1992 during the vapor extraction feasibility testing. The concentrations of TPH and benzene reported in these samples are three to seven orders of magnitude above their respective current environmental screening levels (ESLs)⁸ and California Human Health Screening Levels (CHHSLs).⁹ Because the analytical data collected during the SVE test is representative of conditions at depth nineteen years ago, and is not likely to be representative of current shallow soil conditions beneath the site, it would be prudent to collect shallow soil vapor samples in the immediate vicinity to evaluate the risk from possible indoor air intrusion.

5.1.2 Outdoor Air

The depth of impacted soil beneath the site and the concrete paving should limit the potential for volatilization to outdoor air. There do not appear to be any structures in the immediate vicinity of the site that would inhibit natural airflow or movement, and it appears unlikely that hydrocarbon vapors would accumulate in sufficient concentrations to pose a potential risk greater than that currently presented by the filling of vehicle fuel tanks.

5.1.3 Excavation of Impacted Soil

Impact appears limited to the vicinity of the former USTs and dispenser islands, at depths greater than 5 feet bgs. Construction and maintenance workers at the site excavating to depths up to 5

⁸ Table E-2, "Shallow Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion Concerns," in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater – Interim Final*, dated November 2007 (Revised May 2008).

⁹ Table 2, "California Human Health Screening Levels for Indoor Air and Soil Gas," in *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties*, dated January 2005.

feet are not likely to encounter impacted soil, so exposure risk for these workers via dermal, inhalation, or ingestion exposure routes appears low. Excavation activities at service stations (especially at depths greater than 5 feet bgs) are typically performed by workers trained to handle gasoline-impacted soil, and the exposure risk for these workers would also be low.

5.1.4 Groundwater

Potable and irrigation water is supplied to the site from municipal service. There are no facilities to extract groundwater at the site other than monitoring wells. Risk of exposure via dermal contact or ingestion appears low.

5.2 Potential Off-site Receptors

It appears unlikely that gasoline hydrocarbons from the site will impact off-site receptors such as surface water or groundwater extraction wells, given their distance from the site. Available analytical data from the existing monitoring well network suggests that the dissolved hydrocarbon plume has not migrated off-site to any significant degree; the risk of off-site exposure due to hydrocarbon vapors appears low.

5.3 Risk Assessment

P&D performed a Tier 2 Risk-Based Corrective Action (RBCA) Evaluation in 2001 using a spreadsheet provided by the City of Oakland Urban Land Redevelopment Program. The RBCA generated site-specific target levels (SSTLs) for subsurface soil and groundwater. Input parameters and assumptions for the Tier 2 evaluation are described in the report. P&D identified the only complete exposure pathway for human exposure to contaminants of concern at the site was through inhalation of hydrocarbon vapors from both impacted soil beneath the site and impacted groundwater. The results returned by the Tier 2 calculations for BTEX and MTBE indicated that only benzene was of concern. The Tier 2 calculations indicated a baseline risk value of 2.2E-06 for volatilization from groundwater, and a baseline risk value of 3.0E-06 for volatilization from subsurface soil greater than 3 feet in depth. Both these baseline risk values are less than the Target Risk value of 1.0E-05. Based on the results of the Tier 2 RBCA, P&D recommended that no further action be performed, and that the case be closed.

6.0 DISCUSSION AND RECOMMENDATIONS

6.1 Summary

- The environmental investigation was initiated in 1991. To date, a total of eight groundwater monitoring wells (MW-1 through MW-8) and eight exploratory soil borings (B-1 through B-7 and B-10) have been installed at the site.
- The USTs and dispensers were replaced in 1997. Additional excavation in and around the UST pit was performed prior to installation of the new USTs. Approximately 800 yd³ of material was removed from the UST pit during UST replacement and overexcavation activities.
- Soils beneath the site appear to be derived from alluvial fan and fluvial deposits. Sediments consist predominantly of silty clay, silt, clayey silt, and sandy silt to approximately 30 to 35 feet bgs. Strata of sand to silty sand up to 15 feet thick are encountered in this depth range to the west of the site (MW-6 and MW-7). A sedimentary deposit consisting predominantly of sand and sandy silt was encountered beneath the fine-grained deposit to the total depth explored of approximately 55 feet bgs. Based on the boring logs produced to date, it does not appear a potential aquitard has been identified beneath the site.
- Groundwater has fluctuated from approximately 31.6 to 44.6 feet bgs. Groundwater elevations show a generally increasing trend since monitoring was initiated in 1992. Groundwater flow has been predominantly toward the west-northwest, occasionally toward the west, northwest, and north.
- Groundwater gradients beneath the site have fluctuated from 0.0089 to 0.071 feet/feet. The groundwater flow rates estimated from the slug tests and permeability testing of soil samples range from approximately 4.7E-04 to 2E-08 cm/s, in the range that would be expected for the silty sand encountered beneath the site
- The lateral extent of petroleum hydrocarbon impact in the vadose zone soil appears to have been adequately characterized. Impact appears restricted to the immediate vicinity of the former UST pit and dispenser islands. Impact extends vertically to groundwater beneath the former UST excavation.
- The lateral extent of dissolved petroleum hydrocarbon impact in the groundwater may not be adequately characterized. Dissolved petroleum hydrocarbons are generally only reported in wells MW-1 through MW-4. However, given the predominant groundwater flow direction beneath the site, there does not appear to be adequate sample points downgradient of the source area.

- The vertical extent of dissolved hydrocarbon impact has not been characterized.
- Given that there has been northwest flow in the past, it may be prudent to evaluate the dissolved concentrations beneath the intersection of Joaquin and Grand Avenues. Given the low MTBE concentrations in MW-4 (just above the secondary MCL), additional plume characterization to the south and southwest of MW-4 does not appear to be warranted.
- Dissolved concentrations of GRO and benzene in wells MW-1 through MW-4 indicate generally decreasing trends. WQOs for these compounds have already been met in well MW-1, and are expected to be met in a relatively short time period in wells MW-3 and MW-4. In well MW-2, the GRO WQO is projected to be achieved in 22 years, but it is projected to take up to 100 years to achieve the benzene WQO in this well.
- For MTBE in groundwater, concentrations in wells MW-1 through MW-4 have shown a generally increasing trend, although recent data suggests the start of a period of downward trending concentrations. The MTBE WQO has already been achieved in well MW-6.
- The Tier 2 RBCA analysis performed in 2002 indicated only benzene presented a potential risk to human health. The Tier 2 RBCA calculated a baseline risk to human health from volatilization from impacted groundwater of 2.2E-06, and a risk from volatilization from subsurface soils of 3.0E-06. These risk levels are below the target risk level of 1.0E-05 for commercial property.

6.2 Discussion

At this time, the vertical and lateral extent of residual petroleum hydrocarbon impact in the vadose zone appears adequately characterized. Soil analytical data demonstrate the residual petroleum hydrocarbon vadose zone impact is restricted to the immediate vicinity of the former UST excavation and the former dispenser island. At this time, additional characterization of the extent of petroleum hydrocarbon impact in the vadose zone does not appear warranted. Non-fuel hydrocarbon compounds (tetrachloroethene [PCE], 1,1,1-trichloroethane, naphthalene, and 2-methyl naphthalene) were reported in one soil sample from the former UST pit (TP-6, Table 2). Deeper samples were not analyzed for non-fuel hydrocarbon compounds, and 1,1,1-trichloroethane and 2-methyl naphthalene have never been reported in groundwater samples.

The presence of only one well (MW-6) downgradient of the source area is inadequate to fully characterize the dissolved hydrocarbon plume. There have been periods of time in the historical monitoring record where northwesterly flow has been observed. There is approximately 165 feet between wells MW-6 and MW-7, and while the analytical data from well MW-6 suggests that dissolved hydrocarbons are not migrating from the site, it is possible that heterogeneities in the sediments beneath the site may have provided a preferential migratory pathway, and some dissolved petroleum hydrocarbons may have migrated off-site to the northwest. Grab

groundwater sampling (spaced at appropriate intervals between these wells) would provide evidence of whether or not the dissolved plume was migrating in this area.

Well MW-4 appears to be near the southern edge of the dissolved petroleum hydrocarbon plume. GRO, benzene, and MTBE concentrations in this well exhibit a generally decreasing trend, and during the fourth quarter 2011 sampling event, only benzene, MTBE and TBA were reported in this well, with all concentrations below current MCLs. While historical groundwater flow data suggests that the dissolved hydrocarbon decrease observed in this well would be due to migration of the dissolved hydrocarbons in the general direction of well MW-6, it is not possible to definitively rule out a southward migration. Grab groundwater samples southwest of wells MW-4 and MW-6 appear warranted to rule out dissolved hydrocarbon migration in these areas.

Pending the grab groundwater sampling described above, the dissolved petroleum hydrocarbon plume appears generally stable. The available historical analytical data suggest the plume may not be migrating, even though dissolved concentrations within the plume (wells MW-1 through MW-4, and downgradient at MW-6) show generally decreasing trends. Except for the benzene in well MW-2, the dissolved GRO, benzene, and MTBE in these wells have either met WQOs, or are projected to meet WQOs in a reasonably short period of time. Natural attenuation in these wells appears to be adequately reducing dissolved hydrocarbon mass and restricting migration, and engineered remediation at these wells is not warranted.

At well MW-2, where benzene is projected to take over 100 years to reach the WQO, an active, engineered remedial approach may be warranted. It should be noted however, pending any new findings from an updating of the sensitive receptor survey, there do not appear to be any downgradient receptors that are threatened by the hydrocarbons from this site.

Given the data available at this time, the only potential human health exposure pathway appears to be volatilization of petroleum hydrocarbons to indoor air. The only soil vapor data collected at this site was during the SVE feasibility testing in 1992. Given the time that has elapsed and the depth at which these soil vapors were collected, these data are not likely reflective of shallow soil conditions beneath the convenience store building at this time. Shallow soil vapor sampling is warranted to evaluate the potential for volatilization of petroleum hydrocarbons to indoor air.

6.3 Data Gaps

Based on the information presented in this document and as discussed above, Stratus has identified the following data gaps:

- There appears to be some localized, anomalous groundwater flow in the vicinity of well MW-3 that is not explained by observations noted in the boring log. This localized anomaly does not appear to affect the overall interpretation of groundwater flow beneath the site.
- The vertical extent of dissolved hydrocarbon impact beneath the site has not been evaluated.
- Vertical evaluation of geological conditions appears warranted to establish if a potential aquitard exists beneath the dissolved hydrocarbon plume.

- The lateral extent of dissolved hydrocarbon impact is defined downgradient of the site at well MW-6 (in the direction of predominant groundwater flow), but additional assessment between wells MW-6 and MW-7, southeast of well MW-5, and southwest of well MW-4 appears warranted to further constrain possible avenues of dissolved petroleum hydrocarbon migration.
- The source of the dissolved non-fuel VOCs beneath the site has not been established. ORO were not reported in the groundwater monitoring well network, but soil samples beneath the former waste oil UST were not analyzed for VOCs. An exploratory soil boring in this area to establish the presence and vertical extent of VOCs in the vadose zone may be warranted.
- At this time, dissolved petroleum hydrocarbons appear to be largely restricted to wells MW-2 and MW-3. A limited period of mass removal (such as SVE or dual-phase extraction [DPE]) appears warranted at these wells.
- Given the presence of residual petroleum hydrocarbons in the soil surrounding and underlying the former UST pit, the proximity of the former UST pit to the station building, and the presence of apartments on the property to the south, soil gas concentrations in the shallow soil should be evaluated for vapor intrusion potential and to rule out potential migration to the south

6.4 Recommendations

Based on the data gaps identified above, Stratus recommends implementation of the following work items:

- Advance on-site soil borings to evaluate geologic conditions below 65 feet bgs, establish the presence and/or vertical extent of non-fuel VOCs beneath the former waste oil UST, and assess the vertical extent of dissolved petroleum hydrocarbons.
- Advance soil borings and/or install monitoring wells at appropriate intervals between wells MW-6 and MW-7, southeast of well MW-6, and south-southwest of well MW-4 to further constrain the lateral extent of the dissolved petroleum hydrocarbon plume.
- Install one extraction well in the immediate vicinity of well MW-2 to allow extraction of soil vapor and groundwater for interim remediation and mass removal of soil vapor and groundwater.
- Evaluate the shallow subsurface conditions for vapor intrusion potential, including installation of three soil gas sampling points and collection of soil gas samples, and evaluate subsurface utilities in the immediate site vicinity for potential preferential soil gas migration pathways.
- Update the sensitive receptor survey for the site vicinity, including evaluation of DWR and ACPWD files for supply wells that might have been installed in the site vicinity.

7.0 LIMITATIONS

This report was prepared in general accordance with accepted standards of care which existed at the time this work was performed. No other warranty, expressed or implied, is made. Conclusions and recommendations are based on field observations and data obtained from previous investigations. It should be recognized that definition and evaluation of geologic conditions is a difficult and somewhat inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present. More extensive studies may be performed to reduce uncertainties. This report is solely for the use and information of our client unless otherwise noted.

TABLES

Table 1 - Summary of Drilling and Well Construction Details

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA

Well/ Boring ID	Date	Boring Diameter (in)	Boring Depth (ft bgs)	Casing Diameter (in)	Casing Depth (ft bgs)	Screen Interval (ft bgs)	Slot size (in)	Drilling Method	Consultant
<i>Groundwater Monitoring Wells</i>									
MW-1	9/15/92	10	53	4	53	15 - 53	0.02	HSA	Aegis
MW-2	9/15/92	10	53	4	53	15 - 53	0.02	HSA	Aegis
MW-3	9/16/92	10	56	4	56	36 - 56	0.02	HSA	Aegis
MW-4	9/18/92	10	53.5	4	53.5	33 - 53.5	0.02	HSA	Aegis
MW-5	9/17/92	10	56	4	56	36 - 56	0.02	HSA	Aegis
MW-6	6/15/95	8	50	2	50	35 - 50	0.01	HSA	P&D
MW-7	6/16/95	8	50	2	50	35 - 50	0.01	HSA	P&D
MW-8	6/15/95	8	50	2	50	35 - 50	0.01	HSA	P&D
<i>Exploratory Soil Borings</i>									
B-1	4/24/91	8	41					HSA	Aegis
B-2	4/24/91	8	41					HSA	Aegis
B-3	4/24/91	8	41					HSA	Aegis
B-4	4/24/91	8	41					HSA	Aegis
B-5	4/14/92	6	48.8		(Angle boring: 55.5 feet long at 28° from vertical.)			HSA	Aegis
B-6	4/15/92	6	48.4		(Angle boring: 55 feet long at 28° from vertical.)			HSA	Aegis
B-7	4/15/92	6	49.4		(Angle boring: 55 feet long at 26° from vertical.)			HSA	Aegis
B-10	12/4/98	1.5	41					GeoProbe®	P&D
<i>Explanation:</i>									
in = inches									
ft bgs = feet below ground surface									
HSA = Hollow-stem augers									
Aegis = Aegis Environmental, Inc.									
P&D = P&D Environmental, Inc.									

Table 2 - Summary of Soil Analytical and Grab Groundwater Sample Data

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA

Sample Location	Sample Date	Sample Depth (ft bgs)	TPHd (mg/Kg)	TPHg (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	EDB (mg/Kg)	1,2-DCA (mg/Kg)	Lead (mg/Kg)
<i>Aegis Environmental, Inc. - Soil Borings¹</i>												
B-1	4/24/91	16	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	--
		35.5	<0.1	0.2	0.076	0.003	0.004	0.015	--	<0.001	<0.001	<1.0
B-2	4/24/91	11	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	--
		25.5	<5.0	66	0.94	3.8	1.3	8.7	--	<0.05	<0.05	3.0
		40.5	<0.1	2.0	0.46	0.30	0.049	0.24	--	<0.001	<0.001	<1.0
B-3	4/24/91	16	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	--
		36	<0.1	0.2	0.022	0.004	0.004	0.033	--	<0.001	<0.001	<1.0
B-4	4/24/91	21	<0.1	<0.1	<0.001	<0.001	<0.001	<0.001	--	<0.001	<0.001	--
		35.5	<0.1	1.4	0.48	0.003	0.021	0.007	--	<0.001	<0.001	<1.0
<i>Aegis Environmental, Inc. - Soil Borings²</i>												
B-5	4/14/92	10	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		20	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		25	--	2.6	0.17	<0.0025	0.075	0.059	--	--	--	--
		30	--	3.5	0.19	0.0037	0.099	0.12	--	--	--	--
		35	--	1.0	0.17	0.067	0.021	0.067	--	--	--	--
		40	--	<1.0	0.076	0.040	0.0046	0.018	--	--	--	--
		45	--	900	2.4	18	8.9	53	--	--	--	<0.2
		55	--	760	5.7	24	10	53	--	--	--	<0.2
B-6	4/15/92	5	--	<1.0	<0.0025	0.006	<0.0025	0.0078	--	--	--	--
		15	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		25	--	1.4	0.081	0.0024	0.0055	0.0087	--	--	--	--
		35	--	1.7	0.16	0.022	0.0065	0.020	--	--	--	--
		45	--	510	0.94	0.47	2.2	8.6	--	--	--	--
		55	--	<1.0	0.023	0.0083	0.0084	0.029	--	--	--	--

Table 2 - Summary of Soil Analytical and Grab Groundwater Sample Data

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA

Sample Location	Sample Date	Sample Depth (ft bgs)	TPHd (mg/Kg)	TPHg (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	EDB (mg/Kg)	1,2-DCA (mg/Kg)	Lead (mg/Kg)
B-7	4/15/92	10	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		20	--	<1.0	0.14	<0.0025	<0.0025	<0.0025	--	--	--	--
		30	--	<1.0	0.091	0.0051	0.0078	<0.0025	--	--	--	--
		40	--	4,000	11	3	25	140	--	--	--	--
		50	--	<1.0	0.016	<0.0025	<0.0025	<0.0025	--	--	--	--
<i>Aeqis Environmental, Inc. - Monitoring Wells³</i>												
MW-1	9/15/92	4	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		9	--	<1.0	<0.0025	0.0029	<0.0025	0.0068	--	--	--	--
		14.5	--	<1.0	<0.0025	<0.0025	<0.0025	0.0028	--	--	--	--
		19	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		24.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		29.5	--	<1.0	<0.0025	<0.0025	<0.0025	0.003	--	--	--	--
		33.5	--	<1.0	<0.0025	<0.0025	<0.0025	0.0025	--	--	--	--
		39	--	<1.0	0.0083	<0.0025	<0.0025	<0.0025	--	--	--	--
		44	--	<1.0	0.026	<0.0025	<0.0025	<0.0025	--	--	--	--
		49.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
53	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--		
MW-2	9/15/92	19.5	--	<1.0	0.0062	<0.0025	<0.0025	<0.0025	--	--	--	--
		29.5	--	11	0.160	0.550	0.180	1.7	--	--	--	4.3 ⁹
		39	--	<1.0	0.078	0.058	0.0054	0.021	--	--	--	--
		49.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
MW-3	9/18/92	19.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		29	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		40	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		44.5	--	<1.0	0.012	<0.0025	<0.0025	<0.0025	--	--	--	--
		50	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--

Table 2 - Summary of Soil Analytical and Grab Groundwater Sample Data

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA

Sample Location	Sample Date	Sample Depth (ft bgs)	TPHd (mg/Kg)	TPHg (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	EDB (mg/Kg)	1,2-DCA (mg/Kg)	Lead (mg/Kg)
MW-4	9/18/92	9.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		14.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		19.5	--	<1.0	<0.0025	0.0028	<0.0025	0.0035	--	--	--	--
		29.5	--	1.9	0.27	0.210	0.044	0.370	--	--	--	4.4 ¹⁰
		38.5	--	<1.0	0.027	<0.0025	<0.0025	0.0078	--	--	--	--
		44	--	<1.0	<0.0025	<0.0025	<0.0025	0.0025	--	--	--	--
MW-5	9/17/92	4.5	--	<1.0	<0.0025	<0.0025	<0.0025	0.0028	--	--	--	--
		18.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		29.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		44.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
		48.5	--	<1.0	<0.0025	<0.0025	<0.0025	<0.0025	--	--	--	--
<i>P&D Environmental - Monitoring Wells</i> ⁴												
MW-6	6/15/95	10	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		20	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		30	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		40	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
MW-7	6/16/95	10	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		20	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		30	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		40	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
MW-8	6/15/95	10	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		20	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		30	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--
		40	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.02	--	--	--

Table 2 - Summary of Soil Analytical and Grab Groundwater Sample Data

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA

Sample Location	Sample Date	Sample Depth (ft bgs)	TPHd (mg/Kg)	TPHg (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	EDB (mg/Kg)	1,2-DCA (mg/Kg)	Lead (mg/Kg)
<i>Bernabe & Brinker - UST Removal Sampling (initial compliance samples)⁵</i>												
TP-1	5/6/97	13	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	7.3
TP-2	5/6/97	14.5	--	3400[a,b]	1.3	120	100	590	<3.3	--	--	7.2
TP-3	5/6/97	12.5	--	8.7[a]	0.024	0.014	0.074	0.17	1.4	--	--	11
TP-4	5/6/97	16	--	4.5[a]	0.076	0.009	0.019	0.055	5.5	--	--	6.8
TP-5	5/6/97	14	--	790	2.2	3.9	20	130	41	--	--	97
TP-6	5/6/97	7	300 ⁷	170	0.9	8.4	3.5	20	<0.2	--	<0.05	3.6 ⁸
DP-1	5/6/97	2	--	24	0.076	0.99	0.11	4.3	7.4	--	--	5.9
DP-2	5/6/97	2	--	17	0.012	0.28	0.38	3.1	1.6	--	--	6.8
DP-3	5/6/97	2.5	--	<1.0	<0.005	0.008	<0.005	0.026	0.12	--	--	3.2
DP-4	5/6/97	3	--	2200[a]	2.8	37	48	260	8.5	--	--	16
<i>Bernabe & Brinker - UST Removal Sampling (excavation confirmation samples)⁵</i>												
TP-7	5/10/97	15	--	<1.0	<0.005	0.010	0.005	0.019	<0.05	--	--	6.8
TP-8	5/10/97	17	--	<1.0	<0.005	0.016	0.006	0.035	<0.05	--	--	5.4
TP-9	5/10/97	17.5	--	4.2	0.017	0.029	0.028	0.17	6.0	--	--	6.2
TP-10	5/10/97	16.5	--	4,200	6.3	130	78	600	87	--	--	9.2
TP-11	5/10/97	13.5	--	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--
TP-12	5/10/97	12	--	4.4	<0.005	0.049	0.037	0.28	<0.05	--	--	6.6
TP-13	5/10/97	12	--	1,000	1.9	37	22	130	10	--	--	6.5
TP-14	5/10/97	12	--	3,200	<0.044	0.35	1.0	2.7	<0.75	--	--	10
TP-15	5/10/97	13	--	1.7	<0.005	0.012	0.005	0.020	0.23	--	--	6.8
TP-16	5/10/97	13.5	--	<1.0	<0.005	0.008	<0.005	0.012	3.1	--	--	6.7
TP-17	5/10/97	12	--	<1.0	<0.005	0.037	0.006	0.038	<0.05	--	--	5.7
DP-5	5/10/97	5.5	--	4.8	0.012	0.13	0.064	0.49	0.30	--	--	3.1
DP-6	5/10/97	5.5	--	73	<0.02	0.14	0.11	3.2	8.0	--	--	11

Table 2 - Summary of Soil Analytical and Grab Groundwater Sample Data

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA

Sample Location	Sample Date	Sample Depth (ft bgs)	TPHd (mg/Kg)	TPHg (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	EDB (mg/Kg)	1,2-DCA (mg/Kg)	Lead (mg/Kg)
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Grab Groundwater Sample

*P&D Environmental - Soil Boring*⁶

B-10 12/4/98 No soil samples from this boring were submitted for chemical analysis.
 Grab groundwater sample analyzed for TPHg (<50 micrograms/liter [µg/L]), benzene (0.54 µg/L), toluene (0.73 µg/L), ethylbenzene (<0.005 µg/L), xylenes (0.52 µg/L) and MTBE (<0.05 µg/L).

Explanation:

TPHd = Total Petroleum Hydrocarbons as diesel	ft bgs = feet below ground surface
TPHg = Total Petroleum Hydrocarbons as gasoline	mg/Kg = milligrams/kilograms
MTBE = methyl tert-butyl ether	-- = not analyzed/not applicable
EDB = ethylene dibromide (1,2-dibromoethane)	Refer to original report for analytical methods.
1,2-DCA = 1,2-dichloroethane	

Notes:

a = heavier gasoline range compounds are significant (aged gasoline?)

b = no recognizable pattern

¹ *Soil Boring Results Report (Draft)* , Aegis Environmental, Inc., dated June 10, 1991.

² *Initial Subsurface Investigation Results Report* , Aegis Environmental, Inc., dated June 23, 1992.

³ *Problem Assessment Report* , Aegis Environmental, Inc., dated December 16, 1992.

⁴ *Monitoring Well Installation Report* , P&D Environmental, dated August 23, 1995.

⁵ *Tank Closure Report* , Bernabe & Brinker, Inc., dated July 7, 1997.

⁶ *Subsurface Investigation Report* , P&D Environmental, dated December 31, 1998.

⁷ Also analyzed for Total Recoverable Petroleum Hydrocarbons (2,600 mg/kg), volatile organics (tetrachloroethene [0.029 mg/kg], 1,1,1 trichloroethane [0.026 mg/kg], all other compounds ND), and semivolatile organics (naphthalene [0.60 mg/kg], 2 methyl naphthalene [0.65 mg/kg], all other compounds ND).

⁸ Also analyzed for cadmium (<0.5 mg/kg), chromium (71 mg/kg), nickel (44 mg/kg) and zinc (39 mg/kg).

⁹ Also analyzed for antimony (<10 mg/kg), arsenic (3.8 mg/kg), beryllium (<2.0 mg/kg), cadmium (<2.0 mg/kg), chromium (45 mg/kg), copper (38 mg/kg), mercury (0.1 mg/kg), nickel (49 mg/kg), selenium (<0.5 mg/kg), silver (<2.0 mg/kg), thallium (<20 mg/kg) and zinc (39 mg/kg).

¹⁰ Also analyzed for cadmium (2.9 mg/kg), chromium (24 mg/kg) and zinc (33 mg/kg).

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to	Well	Groundwater		TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
		Water (feet)	Elevation (ft msl)	Elevation (ft msl)														
MW-1	09/29/92	42.77	87.96	45.21	--	3,100	160	<5.0	<5.0	6.0	--	--	--	--	--	--	--	--
	02/18/94	41.02		46.96	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	41.36		46.62	--	3,000[b,c]	1,300	3.8	35	2.5	--	--	--	--	--	--	--	--
	10/12/94	42.01		45.97	--	2500[b,c]	820	3.9	100	20	--	--	--	--	--	--	--	--
	02/01/95	38.46		49.52	--	4600[b,c]	1,800	9.9	230	30	--	--	--	--	--	--	--	--
	05/04/95	37.65		50.33	--	2400[b,c]	670	2.8	76	6.0	--	--	--	--	--	--	--	--
	06/23/95	38.54	87.98	49.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	40.16		47.82	--	500	87	1.5	11	3.5	8.1	--	--	--	--	--	--	--
	03/28/96	37.10		50.88	--	1300[b,c]	320	2.3	34	4.6	22	--	--	--	--	--	--	--
	06/21/96	38.56		49.42	--	1,400	300	8.7	33	9.8	19	--	--	--	--	--	--	--
	03/11/97	36.90		51.08	--	600[b,c]	53	0.95	3.0	1.5	14	--	--	--	--	--	--	--
	07/14/97 ¹	39.45		--	--	200[c]	20	0.55	1.2	2.3	35	--	--	--	--	--	--	--
	01/25/98	33.70		--	--	300[b,c]	21	0.73	0.76	1.0	<14	--	--	--	--	--	--	--
	02/17/99	34.58		--	--	970	67	120	9.3	58	290	--	--	--	--	--	--	--
	01/20/03	38.21		--	--	170	<5.0	<5.0	<5.0	<5.0	85	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	04/17/03	38.91		--	--	52	1.1	<1.0	<1.0	<1.0	56	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	13
	07/15/03	39.60		--	--	60	<1.0	<1.0	<1.0	<1.0	53	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12
	11/25/03	40.00		--	--	140	2.5	<0.5	<0.5	<0.5	32	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/20/04	38.45		--	--	220	8.5	<5.0	<5.0	9.8	180	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	06/03/04	39.59		--	--	59	<2.5	<2.5	<2.5	<2.5	130	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	08/31/04	40.35		--	--	<50	<0.5	<0.5	<0.5	<0.5	31	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	38.02		--	--	130	<10	<10	<10	<10	790	<10	<10	<10	<10	<10	<10	<100
	06/22/05	37.91		--	--	<50	<5.0	<5.0	<5.0	<5.0	320	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	08/31/05	39.27		--	--	<50	<2.5	<2.5	<2.5	<2.5	140	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	11/14/05	39.77		--	--	<50	<0.5	<0.5	<0.5	<0.5	49	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/15/06	36.88		--	--	95[a]	<5.0	<5.0	<5.0	<5.0	180	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	06/15/06	36.37		--	--	<50	<5.0	<5.0	<5.0	<5.0	280	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/11/07	38.87		--	--	<50	<2.5	<2.5	<2.5	<2.5	92	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	05/23/07	39.35		--	--	<50	<1.0	<1.0	<1.0	<1.0	72	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	04/11/11	36.18	90.70	54.52	--	<50	<0.50	<0.50	<0.50	<0.50	7.3	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<10
	10/13/11	39.47		51.23	<500	<50	<0.50	<0.50	<0.50	<0.50	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<10

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to	Well	Groundwater		TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
		Water (feet)	Elevation (ft msl)	Elevation (ft msl)														
MW-2	09/29/92	41.55	86.60	45.06	--	20,000	4,600	3,800	260	3,300	--	--	--	--	--	--	--	--
	02/18/94	39.81		46.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	40.13		46.48	--	46,000	9,100	7,000	1,400	7,300	--	--	--	--	--	--	--	--
	10/12/94	40.77		45.84	--	24,000	4,400	2,800	730	3,500	--	--	--	--	--	--	--	--
	02/01/95	37.27		49.34	--	45,000	7,000	5,100	1,200	6,100	--	--	--	--	--	--	--	--
	05/04/95	36.54	86.61	50.07	--	63,000	10,000	11,000	1,600	8,800	--	--	--	--	--	--	--	--
	06/23/95	37.40		49.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	38.80		47.81	--	25,000	5,200	3,800	860	3,800	450	--	--	--	--	--	--	--
	03/28/96	35.97		50.64	--	38,000	5,800	4,700	1,100	5,100	450	--	--	--	--	--	--	--
	06/21/96	37.90		49.31	--	49,000	6,600	6,300	1,400	6,200	530	--	--	--	--	--	--	--
	03/11/97	35.71		50.90	--	28,000	4,000	4,500	990	4,300	710	--	--	--	--	--	--	--
	07/14/97	38.46		48.15	--	43,000	6,200	8,900	1,500	7,400	1,600	--	--	--	--	--	--	--
	01/25/98	32.80		53.81	--	24,000	2,700	4,900	700	4,000	2,700	--	--	--	--	--	--	--
	02/17/99	33.51		53.10	--	7,300	67	120	9.3	58	560	--	--	--	--	--	--	--
	01/20/03	37.04		49.57	--	48,000	2,900	3,000	2,000	11,000	3,800	<50	<50	<50	<50	<50	<50	<500
	04/17/03	37.50		49.11	--	57,000	3,400	5,100	2,800	10,000	5,600	<120	<120	<120	<120	<120	<120	<1,200
	07/15/03	38.15		48.46	--	78,000	3,300	4,400	1,800	9,300	4,100	<120	<120	<120	<120	<120	<120	<1,200
	11/25/03	38.68		47.93	--	65,000	6,800	8,800	2,900	16,000	2,700	<250	<250	<250	<250	<250	<250	<2,500
	02/20/04	37.27		49.34	--	61,000	5,900	3,500	2,400	10,000	2,700	<100	<100	<100	<100	<100	<100	<1,000
	06/03/04	38.32		48.29	--	50,000	5,400	4,200	2,200	8,800	3,900	<100	<100	<100	<100	<100	<100	<1,000
	08/31/04	39.07		47.54	--	43,000	4,400	2,300	2,300	8,200	2,700	<50	<50	<50	<50	<50	<50	<500
	02/10/05	37.15		49.46	--	46,000	5,800	3,600	1,800	7,900	5,600	<100	<100	<100	<100	<100	<100	<1,000
	06/22/05	36.76		49.85	--	37,000	5,500	1,400	2,500	8,600	3,900	<100	<100	<100	<100	<100	<100	<1,000
	08/31/05	38.00		48.61	--	43,000	5,800	2,300	2,300	8,300	3,600	<100	<100	<100	<100	<100	<100	<1,000
	11/14/05	38.50		48.11	--	42,000	4,500	2,100	1,500	6,300	2,000	<50	<50	<50	<50	<50	<50	<500
	02/15/06	35.78		50.83	--	38,000	3,700	2,700	2,000	6,600	2,000	<100	<100	<100	<100	<100	<100	<1,000
	06/15/06	35.22		51.39	--	12,000	1,100	1,100	740	2,600	260	<50	<50	<50	<50	<50	<50	<500
	01/11/07	37.51		49.10	--	18,000	1,300	790	790	3,000	400	<50	<50	<50	<50	<50	<50	<500
	05/23/07	38.11		48.50	--	22,000	1,700	690	1,100	3,200	670	<50	<50	<50	<50	<50	<50	<500
	04/11/11	34.97	89.29	54.32	--	25,000	1,600	1,900	1,600	6,100	210	<40[1]	<40[1]	<40[1]	<40[1]	<40[1]	<80[1]	<400[1]
	10/13/11	38.25		51.04	<500	5,700	450	190	350	980	64	<10[1]	<10[1]	<10[1]	<10[1]	<10[1]	<20[1]	<100[1]

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	Groundwater													
					ORO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)	
MW-3	09/29/92	44.60	87.50	42.88	--	Free product (0.02 feet thick)												
	02/18/94	43.09		44.39	--	--	--	--	--	--	--	--	--	--	--	--	--	
	07/05/94	43.32		44.16	--	3,600[b,c]	1,600	8.3	76	47	--	--	--	--	--	--	--	
	10/12/94	43.92		43.56	--	1,700[b,c]	390	0.90	18	5.7	--	--	--	--	--	--	--	
	02/01/95	40.13		47.35	--	11,000[b,c]	4,200	31	330	290	--	--	--	--	--	--	--	
	05/04/95	39.61		47.87	--	7,200[b,c]	3,100	38	200	62	--	--	--	--	--	--	--	
	06/23/95	40.65	87.48	46.83	--	--	--	--	--	--	--	--	--	--	--	--	--	
	12/19/95	42.20		45.28	--	950	160	2.3	15	1.6	120	--	--	--	--	--	--	
	03/28/96	38.75		48.73	--	4,600	1,400	12	170	20	1,100	--	--	--	--	--	--	
	06/21/96	40.61		46.87	--	1,300	94	2.1	39	2.0	300	--	--	--	--	--	--	
	03/11/97	38.71		48.77	--	1,100	53	13	63	17	680	--	--	--	--	--	--	
	07/14/97	40.61		46.87	--	400[a,b]	0.93	1.0	1.3	0.68	110	--	--	--	--	--	--	
	01/25/98	33.91		53.57	--	490	7.9	6.1	5.3	29	710	--	--	--	--	--	--	
	02/17/99	34.91		52.57	--	<50	<0.50	<0.50	<0.50	<0.50	21	--	--	--	--	--	--	
	01/20/03	39.81		47.67	--	120	<5.0	<5.0	<5.0	5.2	250	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
	04/17/03	40.60		46.88	--	180	<6.7	<6.7	<6.7	<6.7	340	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	
	07/15/03	41.34		46.14	--	160	<12	<12	<12	<12	660	<12	<12	<12	<12	<12	<120	
	11/25/03	41.70		45.78	--	110	<5.0	<5.0	<5.0	<5.0	330	<5.0	<5.0	<5.0	<5.0	<5.0	<50	
	02/20/04	40.23		47.25	--	90	<10	<10	<10	<10	730	<10	<10	<10	<10	<10	<100	
	06/03/04	41.34		46.14	--	110[a]	<50	<50	<50	<50	1,400	<50	<50	<50	<50	<50	<500	
	08/31/04	42.03		45.45	--	110[a]	<10	<10	<10	<10	860	<10	<10	<10	<10	<10	<100	
	02/10/05	40.11		47.37	--	1,000	<50	<50	<50	270	2,700	<50	<50	<50	<50	<50	830	
	06/22/05	39.78		47.70	--	3,900	<100	<100	<100	690	5,600	<100	<100	<100	<100	<100	<1,000	
	08/31/05	41.12		46.36	--	490[a,b]	<50	<50	<50	<50	2,500	<50	<50	<50	<50	<50	<500	
	11/14/05	41.51		45.97	--	210[a]	<25	<25	<25	<25	1,500	<25	<25	<25	<25	<25	<250	
	02/15/06	38.56		48.92	--	560[a,b]	<50	<50	<50	<50	2,600	<50	<50	<50	<50	<50	<500	
	06/15/06	38.12		49.36	--	2,700	<100	<100	120	610	4,300	<100	<100	<100	<100	<100	<1,000	
	01/11/07	40.68		46.80	--	240[b]	<10	<10	<10	<10	860	<10	<10	<10	<10	<10	<100	
	05/23/07	41.27		46.21	--	160[a,e]	<25	<25	<25	<25	1,000	<25	<25	<25	<25	<25	<250	
	04/11/11	37.35	90.15	52.80	--	390	<0.50	<0.50	<0.50	<0.50	600	<1.0	<1.0	1.1	<1.0	<2.0	120	
	10/13/11	41.28		48.87	<500	150	<0.50	<0.50	0.71	1.4	100	<1.0	<1.0	<1.0	<1.0	<2.0	110	

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to	Well	Groundwater		TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
		Water (feet)	Elevation (ft msl)	Elevation (ft msl)														
MW-4	09/29/92	44.29	86.20	41.92	--	630	170	60	7.3	65	--	--	--	--	--	--	--	--
	02/18/94	39.36		46.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	39.69		46.52	--	2,600[b,c]	470	45	84	250	--	--	--	--	--	--	--	--
	10/12/94	40.48		45.73	--	680	140	8.7	14	52	--	--	--	--	--	--	--	--
	02/01/95	36.96		49.25	--	1,400	390	55	49	180	--	--	--	--	--	--	--	--
	05/04/95	36.33		49.88	--	3,300	890	68	150	300	--	--	--	--	--	--	--	--
	06/23/95	37.40	86.21	48.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	38.45		47.76	--	2,000	700	29	89	150	210	--	--	--	--	--	--	--
	03/28/96	35.00		51.21	--	5,600	1,400	38	310	300	640	--	--	--	--	--	--	--
	06/21/96	37.12		49.04	--	11,000	2,400	83	530	910	1,200	--	--	--	--	--	--	--
	03/11/97	33.24		52.97	--	3,800	1,100	53	240	260	1,100	--	--	--	--	--	--	--
	07/14/97	38.10		48.11	--	980	210	1.7	90	46	400	--	--	--	--	--	--	--
	01/25/98	32.96		53.25	--	910	150	19	31	140	230	--	--	--	--	--	--	--
	02/17/99	33.43		52.78	--	230	65	2.2	9.6	33	200	--	--	--	--	--	--	--
	01/20/03	36.70		49.51	--	210	<50	<50	<50	<50	3,000	<50	<50	<50	<50	<50	<50	<500
	04/17/03	37.32		48.89	--	380	<120	<120	<120	<120	5,400	<120	<120	<120	<120	<120	<120	<1,200
	07/15/03	38.04		48.17	--	440	<120	<120	<120	<120	6,800	<120	<120	<120	<120	<120	<120	<1,200
	11/25/03	38.43		47.78	--	<1,000[d]	<250	<250	<250	<250	8,800	<250	<250	<250	<250	<250	<250	<2,500
	02/20/04	36.91		49.30	--	<250[d]	<100	<100	<100	<100	6,600	<100	<100	<100	<100	<100	<100	<1,000
	06/03/04	38.01		48.20	--	320	<100	<100	<100	<100	6,200	<100	<100	<100	<100	<100	<100	<1,000
	08/31/04	38.68		47.53	--	<250[d]	<50	<50	<50	<50	3,900	<50	<50	<50	<50	<50	<50	<500
	02/10/05	36.99		49.22	--	390	<100	<100	<100	<100	6,600	<100	<100	<100	<100	<100	<100	<1,000
	06/22/05	36.54		49.67	--	59	<25	<25	<25	<25	1,000	<25	<25	<25	<25	<25	<25	<250
	08/31/05	37.81		48.40	--	64	<25	<25	<25	<25	1,500	<25	<25	<25	<25	<25	<25	<250
	11/14/05	38.26		47.95	--	130	<50	<50	<50	<50	1,700	<50	<50	<50	<50	<50	<50	<500
	02/15/06	35.57		50.64	--	220	<17	<17	<17	<17	1,100	<17	<17	<17	<17	<17	<17	<170
	06/15/06	35.17		51.04	--	75	<25	<25	<25	<25	550	<25	<25	<25	<25	<25	<25	<250
	01/11/07	37.38		48.83	--	69	<10	<10	<10	<10	780	<10	<10	<10	<10	<10	<10	<100
	05/23/07	38.05		48.16	--	<50	<5	<5	<5	<5	280	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	04/11/11	34.85	88.88	54.03	--	<50	<0.50	<0.50	0.68	0.96	16	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	76
	10/13/11	37.92		50.96	<500	<50	0.86	<0.50	<0.50	<0.50	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	69

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to	Well	Groundwater		TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
		Water (feet)	Elevation (ft msl)	Elevation (ft msl)														
MW-5	09/29/92	44.53	89.06	44.57	--	60	10	7.1	<0.5	6.9	--	--	--	--	--	--	--	--
	02/18/94	42.88		46.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	43.08		46.02	--	<50[b]	<0.5	<0.5	<0.5	1.0	--	--	--	--	--	--	--	--
	10/12/94	43.81		45.29	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	02/01/95	39.94		49.16	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	05/04/95	38.94		50.16	--	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	06/23/95	39.87	89.10	49.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	41.79		47.31	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
	03/28/96	38.30		50.80	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
	06/21/96	40.03		49.07	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
	03/11/97	38.02		51.08	--	<50	<0.5	<0.5	<0.5	0.77	<5.0	--	--	--	--	--	--	--
	07/14/97	41.20		47.90	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
	01/25/98	34.08		55.02	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
	02/17/99	35.08		54.02	--	170[a]	<0.5	0.74	<0.5	<0.5	<5.0	--	--	--	--	--	--	--
	01/20/03	39.50		49.60	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<10
	04/17/03	39.92		49.18	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	07/15/03	41.06		48.04	--	<50	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/03	41.41		47.69	--	<50	<0.5	<0.5	<0.5	<0.5	0.84	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/20/04	39.69		49.41	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	40.95		48.15	--	<50	<0.5	<0.5	<0.5	<0.5	7.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	41.75		47.35	--	<50	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	39.49		49.61	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/22/05	39.28		49.82	--	<50	<0.5	<0.5	<0.5	<0.5	2.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	40.68		48.42	--	<50	<0.5	<0.5	<0.5	<0.5	2.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	11/14/05	41.11		47.99	--	<50	<0.5	<0.5	<0.5	<0.5	0.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/15/06	38.08		51.02	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	37.46		51.64	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	01/11/07	40.55		48.55	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	05/23/07	40.86		48.24	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	04/11/11	37.25	91.79	54.54	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<10
	10/13/11	40.98		50.81	<500	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<10

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
MW-6	06/23/95	38.17	84.02	45.85	--	<50	<0.5	<0.5	<0.5	<0.5	3.0	--	--	--	--	--	--
	12/19/95	39.25		44.77	--	<50	<0.5	<0.5	<0.5	<0.5	10	--	--	--	--	--	--
	03/28/96	36.18		47.84	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	06/21/96	38.00		46.02	--	<50	<0.5	<0.5	<0.5	<0.5	8.0	--	--	--	--	--	--
	03/11/97	36.32		47.70	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	07/14/97	39.04		44.98	--	<50	<0.5	<0.5	<0.5	<0.5	19	--	--	--	--	--	--
	01/25/98	31.64		52.38	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	02/17/99	32.82		51.20	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	01/20/03	37.21		46.81	--	<50	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	04/17/03	38.00		46.02	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	07/15/03	38.61		45.41	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/03	38.97		45.05	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/20/04	37.61		46.41	--	<50	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	38.64		45.38	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	39.27		44.75	--	<50	<0.5	<0.5	<0.5	<0.5	0.51	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	37.51		46.51	--	<50	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/22/05	37.30		46.72	--	<50	<0.5	<0.5	<0.5	<0.5	0.80	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	38.51		45.51	--	<50	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	11/14/05	38.83		45.19	--	<50	<0.5	<0.5	<0.5	<0.5	0.73	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/15/06	36.13		47.89	--	<50	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	35.86		48.16	--	<50	<1.0	<1.0	<1.0	<1.0	72	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	01/11/07	39.74		44.28	--	<50	<0.5	<0.5	<0.5	<0.5	7.7	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	05/24/07	38.80		45.22	--	<50	<0.5	<0.5	<0.5	<0.5	4.7	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	04/11/11	34.93	86.73	51.80	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<10
	10/13/11	38.58		48.15	<500	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<10

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to	Well	Groundwater		TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
		Water (feet)	Elevation (ft msl)	Elevation (ft msl)														
MW-7	06/23/95	41.00	87.11	46.11	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	12/19/95	42.26		44.85	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	03/28/96	38.94		48.17	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	06/21/96	40.80		46.31	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	03/11/97	38.96		48.15	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	07/14/97	41.97		45.14	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	01/25/98	33.47		53.64	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	02/17/99	34.59		52.52	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	01/20/03	39.77		47.34	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	04/17/03	40.63		46.48	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	07/15/03	41.30		45.81	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/25/03	41.68		45.43	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	02/20/04	40.21		46.90	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/03/04	41.33		45.78	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/31/04	41.94		45.17	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	02/09/05	40.03		47.08	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/22/05	39.85		47.26	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	08/31/05	41.16		45.95	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	11/14/05	41.48		45.93	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	02/15/06	38.59		48.52	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	06/14/06	38.59		48.52	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	01/11/07	40.73		46.38	--	<50	<0.5	9.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	05/24/07	41.18		45.93	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	04/11/11	37.08	89.69	52.61	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<10
	10/13/11	41.18		48.51	<500	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<10

TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	Depth to	Well	Groundwater		TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
		Water (feet)	Elevation (ft msl)	Elevation (ft msl)														
MW-8	06/23/95	38.36	89.70	51.34	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	12/19/95	40.35		49.35	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	03/28/96	36.98		52.72	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	06/21/96	38.69		51.01	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	03/11/97	36.74		52.96	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	07/14/97	39.98		49.72	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	01/25/98	32.73		56.97	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	02/17/99	33.92		55.78	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0	--	--	--	--	--	--
	01/20/03	38.94		50.76	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	04/17/03	39.52		50.18	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	07/15/03	40.50		49.20	--	<50	<0.5	<0.5	<0.5	<0.5	0.66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	11/25/03	40.92		48.78	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/20/04	39.15		50.55	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	40.36		49.34	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	41.19		48.51	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	38.93		50.77	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/22/05	38.43		51.27	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	39.95		49.75	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	11/14/05	40.40		49.30	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/15/06	37.44		52.26	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	36.53		53.17	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	01/11/07	38.00		51.70	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	05/23/07	40.23		49.47	--	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	04/11/11	36.35	92.41	56.06	--	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<10
	10/13/11	40.15		52.26	<500	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<2.0	<10

**TABLE 3
GROUNDWATER ELEVATION AND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California**

Well Number	Date Collected	Depth to Water (feet)	Well Elevation (ft msl)	Groundwater Elevation (ft msl)	TPHmo (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)	TBA (µg/L)
<u>Note:</u>																	
GRO = Gasoline Range Organics C4-C13.				msl = Mean sea level				-- = Not aampled/not available									
MTBE = Methyl tert-butyl ether.				µg/L = micrograms per liter													
<p>¹ = Top of casing modified and not re-surveyed. a = No recognizable pattern. b = Heavier gasoline range compounds are significant (aged gasoline?) c = Lighter gasoline range compounds (the most notable fraction) are significant. d = Laboratory report note: reporting limit raised due to high MTBE content. e = Laboratory report note: Lighter than water immiscible sheen/product present. [1] = Reporting limits were increased due to high concentration of target analytes.</p>																	
Data prior to April 11, 2011, taken from reoprts prepared by P&D Environmental.																	

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-1	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--
	04/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--
	07/15/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	02/20/04	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	06/03/04	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	06/22/05	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	08/31/05	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	11/14/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/15/06	16	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	06/15/06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	01/11/07	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<25
	05/23/07	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-2	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<50	350	160	1,400	320	<50	69	<50	<50	<50	--
	04/17/03	<120	430	260	2,200	550	<120	<120	<120	<120	<120	--
	07/15/03	<120	290	150	1,300	320	<120	<120	<120	<120	<120	--
	11/25/03	<250	540	<250	1,800	420	<250	<250	<250	<250	<250	--
	02/20/04	<100	230	150	1,300	330	150	<100	<100	<100	<100	<1,000
	06/03/04	<100	360	140	1,300	300	<100	<100	<100	<100	<100	<1,000
	08/31/04	<50	570	200	1,900	400	<50	61	<50	<50	<50	<500
	02/10/05	<100	300	130	1,300	290	<100	<100	<100	<100	<100	<1,000
	06/22/05	<100	330	220	1,500	320	<100	<100	<100	<100	<100	<1,000
	08/31/05	<100	650	260	1,900	430	<100	<100	<100	<100	<100	<1,000
	11/14/05	<50	290	130	1,100	220	<50	51	<50	<50	<50	<500
	02/15/06	240	240	<100	1,800	360	<100	<100	<100	<100	<100	<1,000
	06/15/06	<50	100	64	560	120	<50	<50	<50	<50	<50	<500
	01/11/07	<50	77	56	440	91	<50	<50	<50	<50	<50	<500
	05/23/07	<50	210	130	760	170	<50	<50	<50	<50	<50	<500
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<10	60	47	170	56	<10	19	<10	<60	<10	--

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-3	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--
	04/17/03	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	--
	07/15/03	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	--
	11/25/03	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--
	02/20/04	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	06/03/04	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	08/31/04	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	02/10/05	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	06/22/05	<100	<100	<100	360	<100	<100	<100	<100	<100	<100	<1,000
	08/31/05	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	11/14/05	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	02/15/06	100	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	06/15/06	<100	<100	<100	340	<100	<100	<100	<100	<100	<100	<1,000
	01/11/07	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	05/23/07	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-4	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	--
	04/17/03	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	--
	07/15/03	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	--
	11/25/03	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	--
	02/20/04	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000
	06/03/04	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000
	08/31/04	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	02/10/05	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1,000
	06/22/05	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	08/31/05	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	11/14/05	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<500
	02/15/06	24	<17	<17	<17	<17	<17	<17	<17	<17	<17	<170
	06/15/06	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<250
	01/11/07	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100
	05/23/07	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-5	09/29/92	--	--	--	--	--	--	--	--	--	--	--
	02/18/94	--	--	--	--	--	--	--	--	--	--	--
	07/05/94	--	--	--	--	--	--	--	--	--	--	--
	10/12/94	--	--	--	--	--	--	--	--	--	--	--
	02/01/95	--	--	--	--	--	--	--	--	--	--	--
	05/04/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	04/17/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	07/15/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	02/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/22/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.52	<0.5	<0.5	<5.0
	11/14/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.63	<0.5	<0.5	<5.0
	02/15/06	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	05/23/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.55	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-6	06/21/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	--
	04/17/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	--
	07/15/03	0.67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.84	0.66	<0.5	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.89	<0.5	<0.5	--
	02/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	0.51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.84	<0.5	<0.5	<5.0
	02/09/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.59	<0.5	<0.5	<5.0
	06/22/05	0.53	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	0.67	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	<0.5	<0.5	<5.0
	11/14/05	0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<0.5	<5.0
	02/15/06	0.75	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.58	<0.5	<0.5	<5.0
	05/24/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	--

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-7	06/21/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.56	<0.5	<0.5	--
	04/17/03	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.75	<0.5	<0.5	--
	07/15/03	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.61	0.64	<0.5	--
	11/25/03	0.78	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.76	<0.5	<0.5	--
	02/20/04	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/03/04	0.98	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/04	0.73	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	02/09/05	2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.64	<0.5	<0.5	<5.0
	06/22/05	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	08/31/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<5.0
	11/14/05	0.68	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.82	<0.5	<0.5	<5.0
	02/15/06	4.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	06/14/06	2.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5.0
	01/11/07	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.86	<0.5	1.6	37
	05/24/07	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.79	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<3.0	<1.0	--

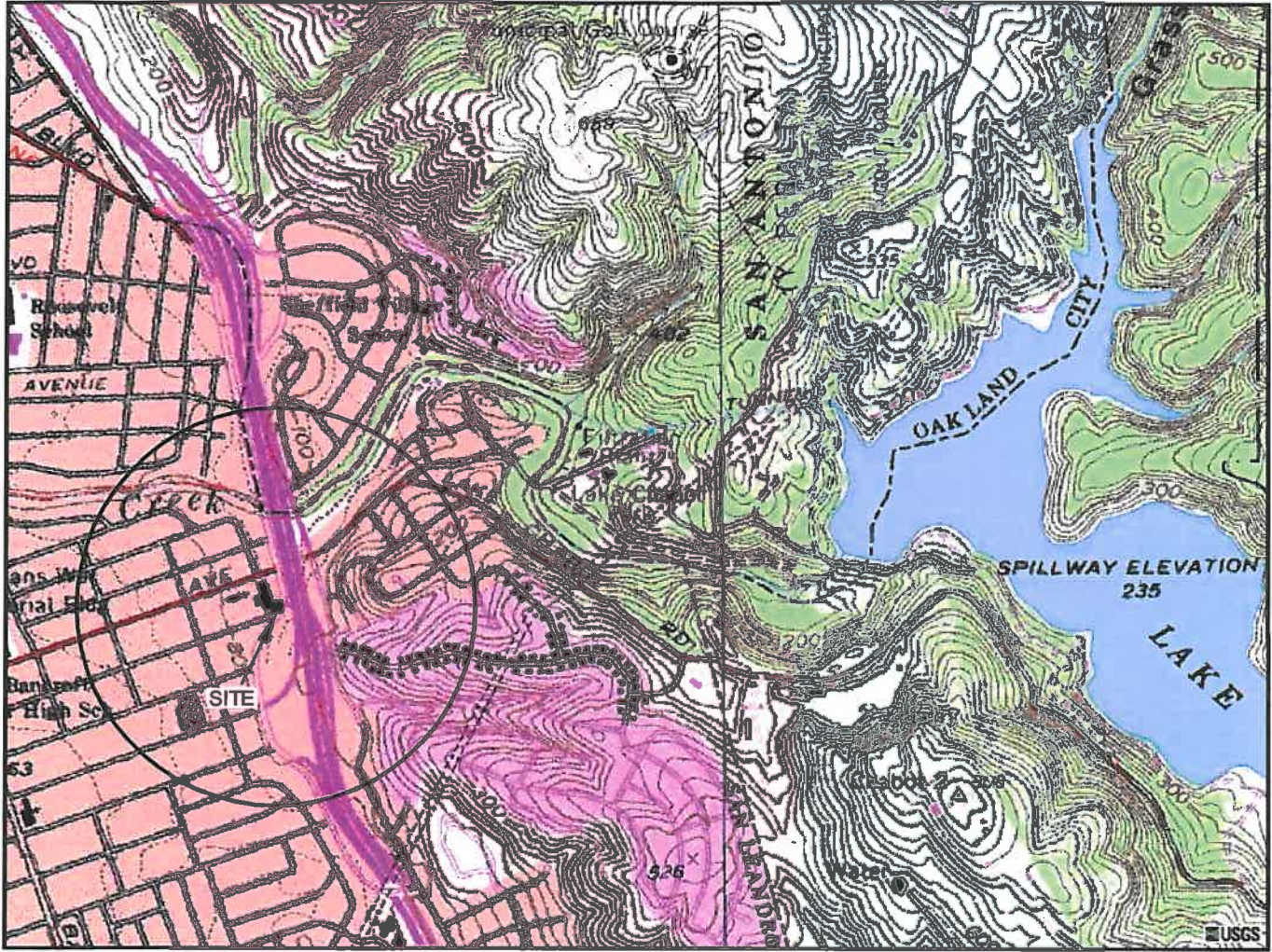
TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4-Trimethyl benzene (µg/L)	1,3,5-Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
MW-8	06/21/95	--	--	--	--	--	--	--	--	--	--	--
	06/23/95	--	--	--	--	--	--	--	--	--	--	--
	12/19/95	--	--	--	--	--	--	--	--	--	--	--
	03/28/96	--	--	--	--	--	--	--	--	--	--	--
	06/21/96	--	--	--	--	--	--	--	--	--	--	--
	03/11/97	--	--	--	--	--	--	--	--	--	--	--
	07/14/97	--	--	--	--	--	--	--	--	--	--	--
	01/25/98	--	--	--	--	--	--	--	--	--	--	--
	02/17/99	--	--	--	--	--	--	--	--	--	--	--
	01/20/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	--
	04/17/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	--
	07/15/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.52	<0.5	--
	11/25/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	--
	02/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.78	<0.5	<0.5	<5.0
	06/03/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<5.0
	08/31/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5	<5.0
	02/09/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<5.0
	06/22/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.93	<0.5	<0.5	<5.0
	08/31/05	2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.67	<0.5	<0.5	<5.0
	11/14/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.94	<0.5	<0.5	<5.0
	02/15/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.98	<0.5	<0.5	<5.0
	06/14/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.62	<0.5	<0.5	<5.0
	01/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	<0.5	<0.5	<5.0
	05/23/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.80	<0.5	<0.5	<5.0
	04/11/11	--	--	--	--	--	--	--	--	--	--	--
	10/13/11	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<3.0	<1.0	--

TABLE 4
VOLATILE ORGANIC COMPOUND ANALYTICAL SUMMARY
Haber Oil Product
1401 Grand Avenue, San Leandro, California

Well Number	Date Collected	PCE (µg/L)	Naphthalene (µg/L)	n-Propyl benzene (µg/L)	1,2,4- Trimethyl benzene (µg/L)	1,3,5- Trimethyl benzene (µg/L)	Tert-butyl benzene (µg/L)	Isopropyl benzene (µg/L)	Chloroform (µg/L)	DBCP (µg/L)	Styrene (µg/L)	Propenal (µg/L)
<u>Note:</u>												
µg/L = micrograms per liter			DBCP = 1,2-dibromo-3-chloropropane									
PCE = Tetrachloroethene			-- = Samples not analyzed for this compound.									
All samples analyzed by USEPA Method 8260B against a target list of 76 volatile organic compounds. Compounds from the target list not listed above were below reporting limits for all samples analyzed. Refer to original laboratory report. Data prior to April 11, 2011, taken from reports prepared by P&D Environmental, Inc.												

FIGURES



GENERAL NOTES:
 BASE MAP FROM U.S.G.S.
 SAN LEANDRO, CA.
 7.5 MINUTE TOPOGRAPHIC
 PHOTOREVISED 1978



APPROXIMATE SCALE



QUADRANGLE LOCATION

STRATUS
 ENVIRONMENTAL, INC.





FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA

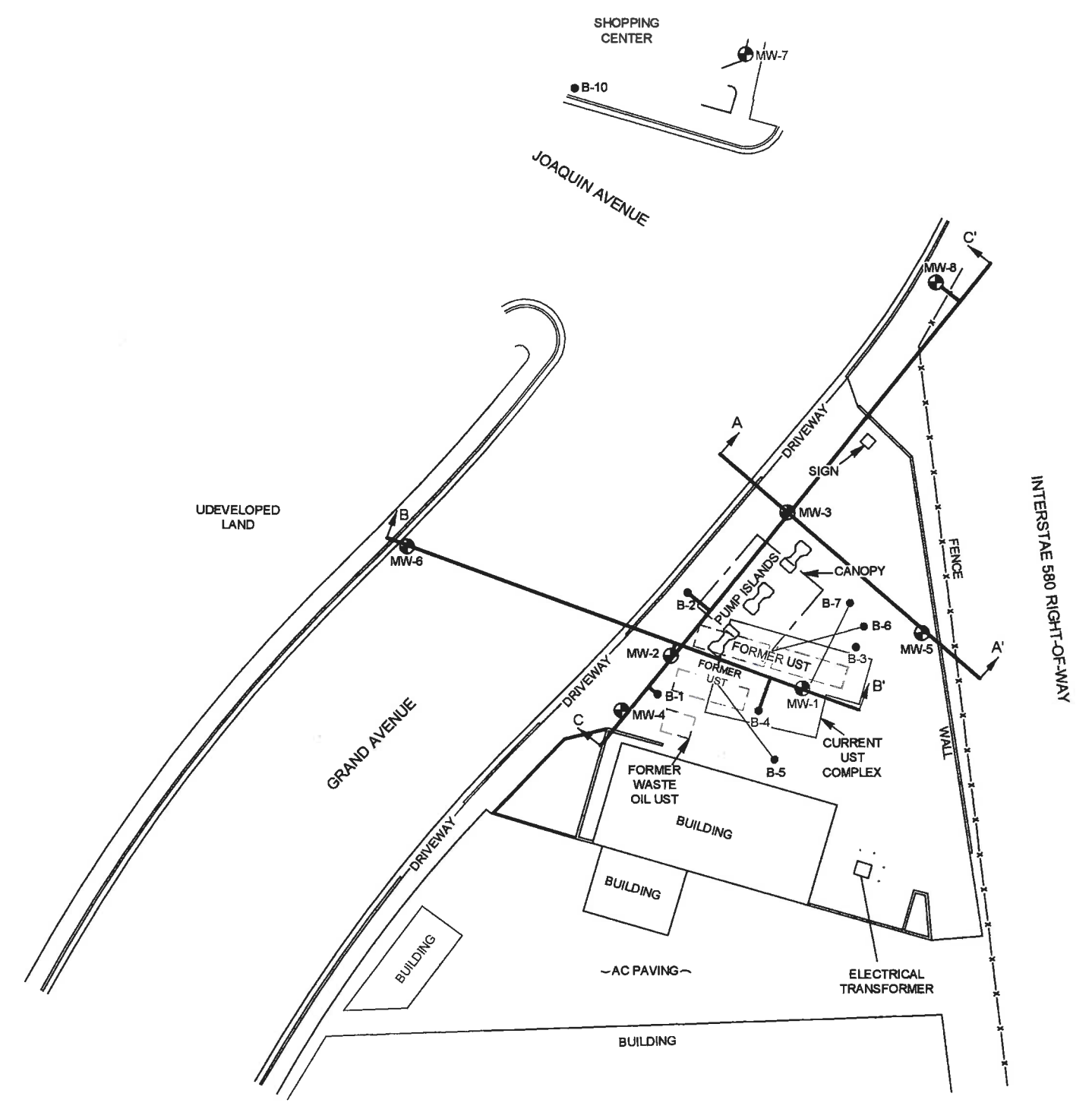
FIGURE

1

PROJECT NO.
 2120-1401-01

SITE LOCATION MAP

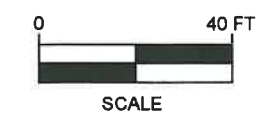
- LEGEND
-  MW-1 GROUNDWATER MONITORING WELL LOCATION
 -  B-1 SOIL BORING LOCATION
 -  B-5 ANGLED SOIL BORING LOCATION
 -  CROSS SECTION TRACE



- NOTES:
1. SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE
 2. BASE MAP PROVIDED BY MURROW SURVEYING

Haber Oil Siting Plan November 7, 2011 REV JMP

STRATUS
ENVIRONMENTAL, INC.

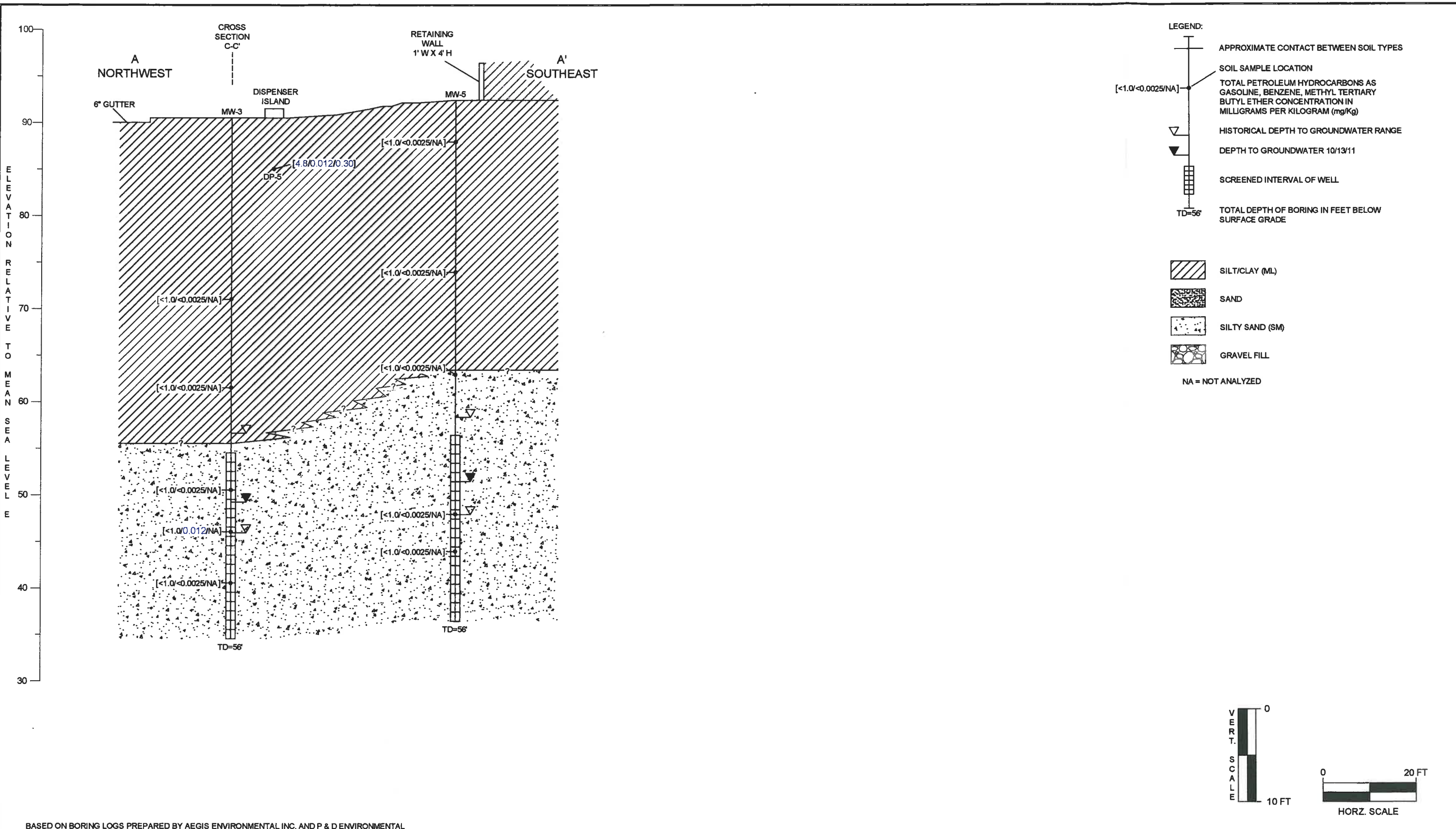


FORMER HABER OIL PRODUCT
1401 GRAND AVENUE
SAN LEANDRO, CALIFORNIA

SITE PLAN

FIGURE
2
PROJECT NO.
2120-1401-01

Haber Oil/SCM JWP
 REV November 15, 2011
 Haber Oil Cross Sections

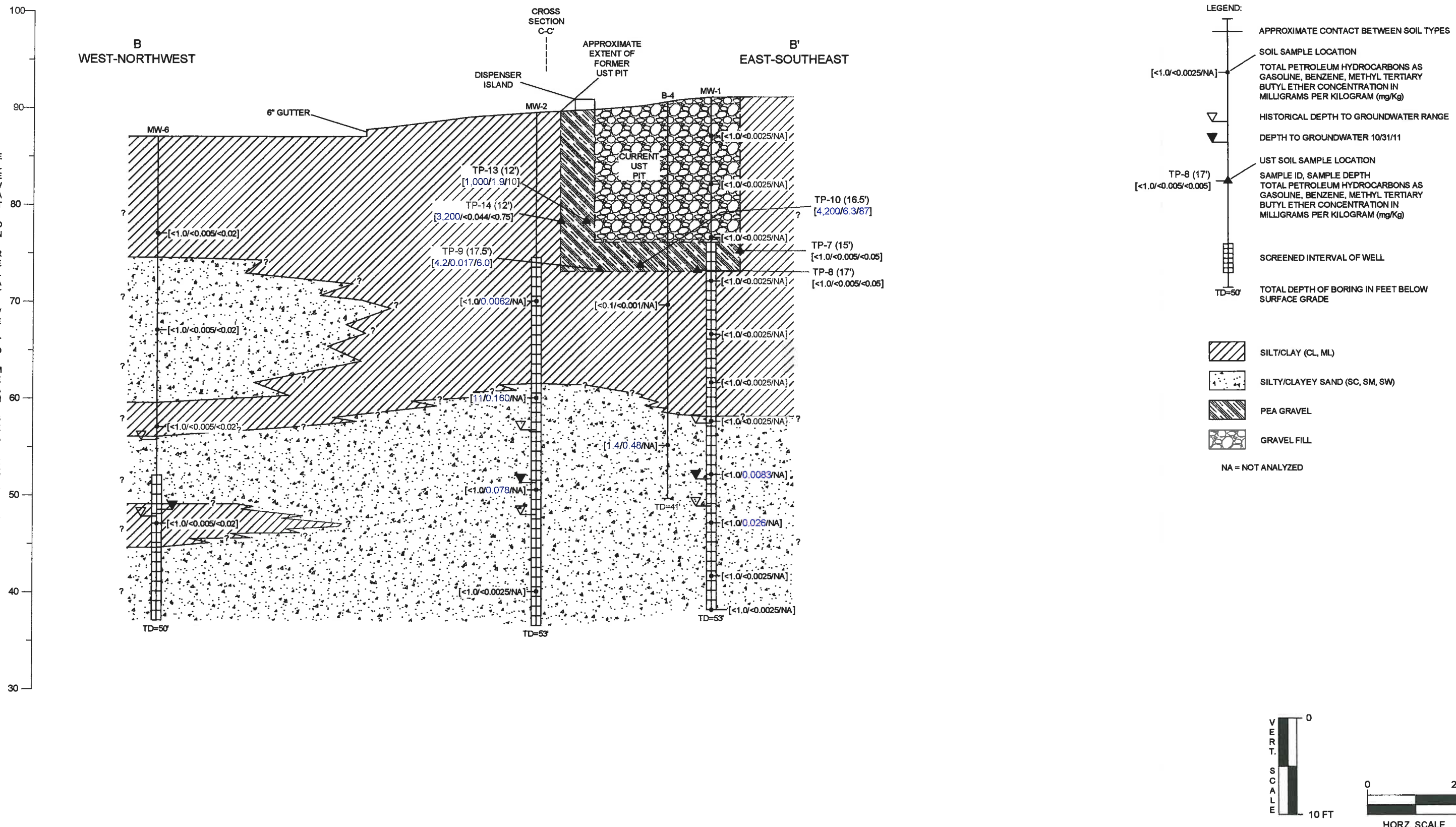


FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA

 GEOLOGIC CROSS SECTION A-A'

FIGURE
3
 PROJECT NO.
 2120-1401-01

REV November 15, 2011 Haber Oil Cross Sections
 JWP Haber Oil/SCM



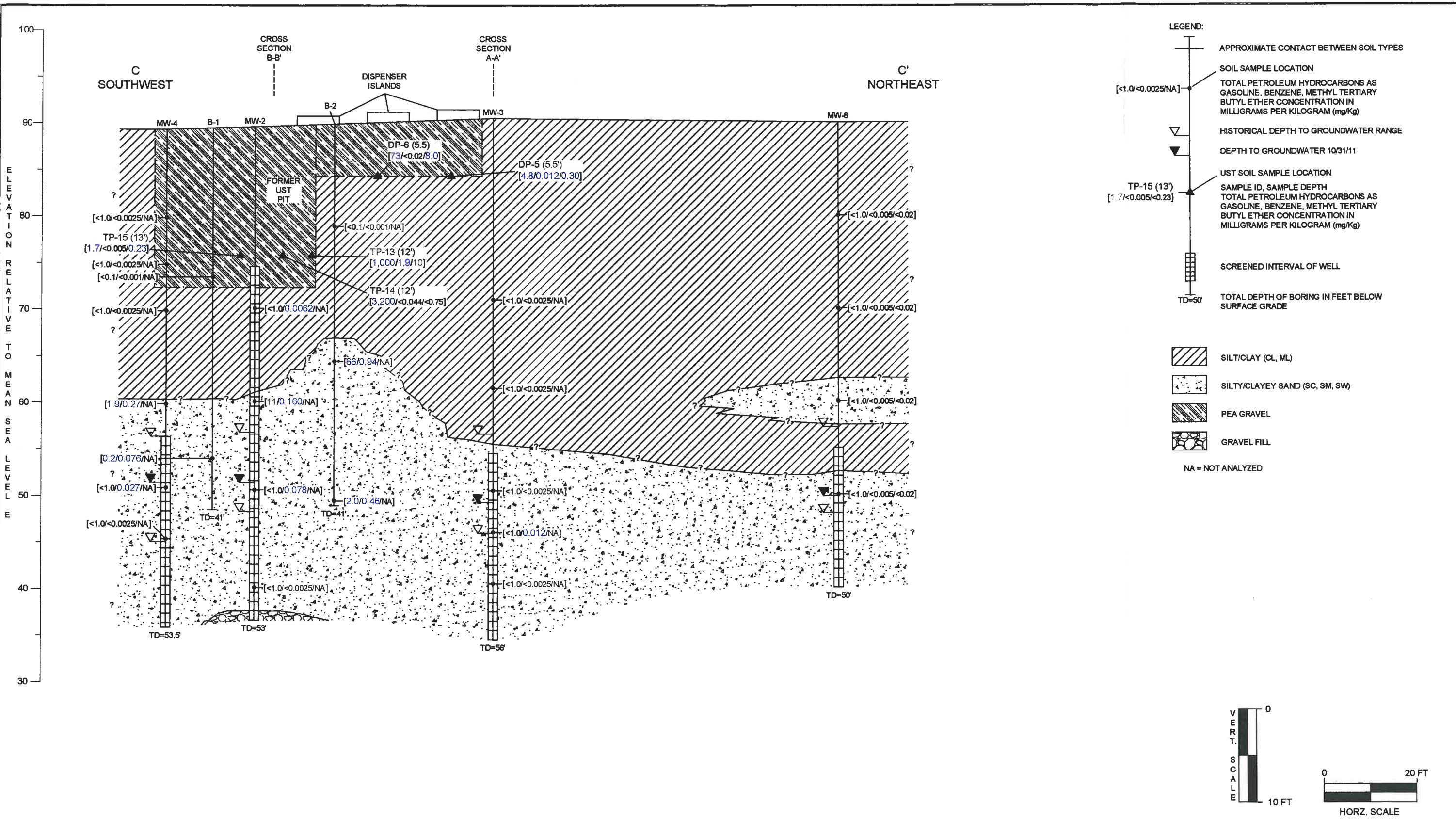
BASED ON BORING LOGS PREPARED BY AEGIS ENVIRONMENTAL INC. AND P & D ENVIRONMENTAL



FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA
 GEOLOGIC CROSS SECTION B-B'

FIGURE
 4
 PROJECT NO.
 2120-1401-01

Haber Oil/SCM JWP REV November 15, 2011 Haber Oil Cross Sections

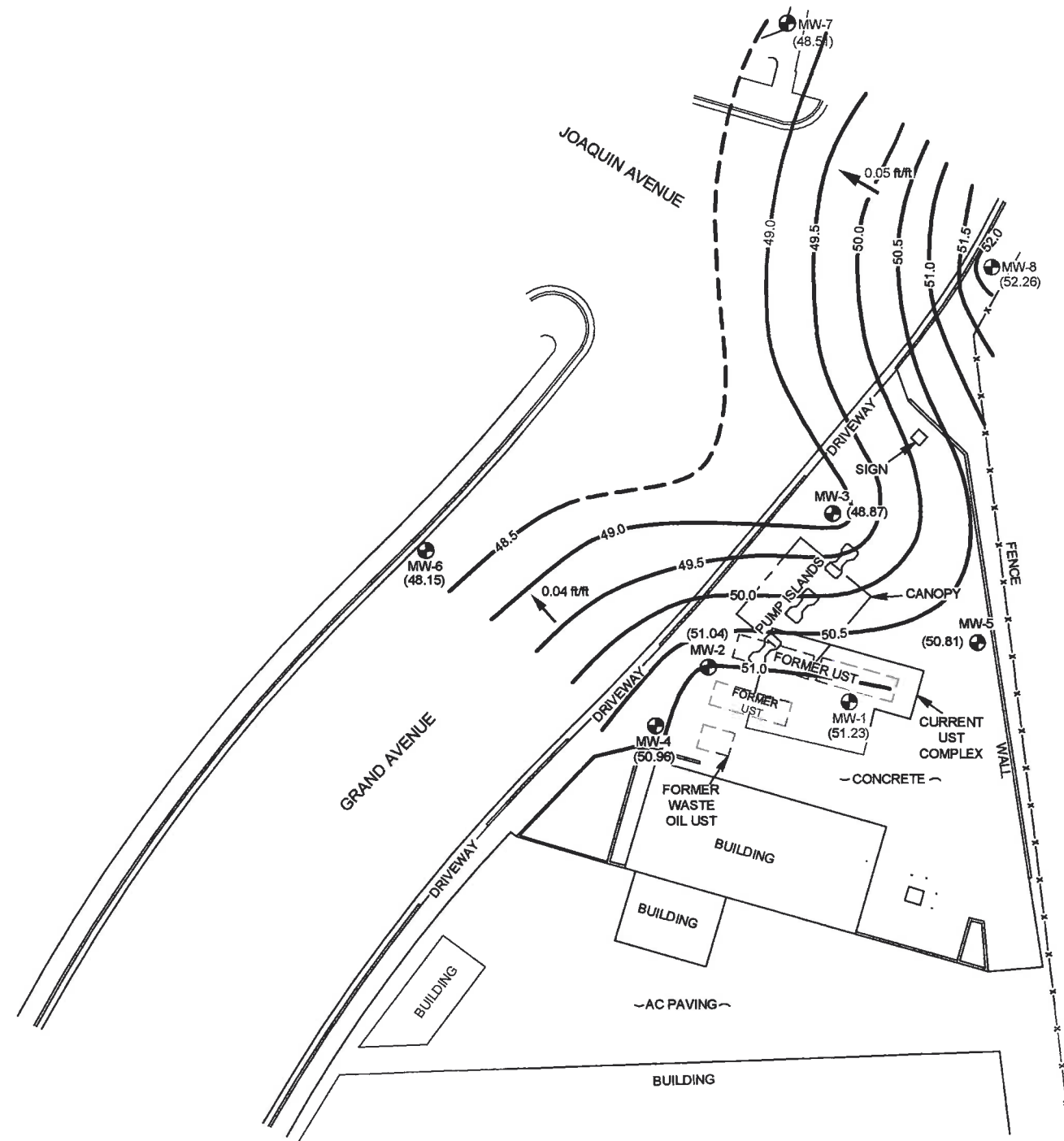


BASED ON BORING LOGS PREPARED BY AEGIS ENVIRONMENTAL INC. AND P & D ENVIRONMENTAL

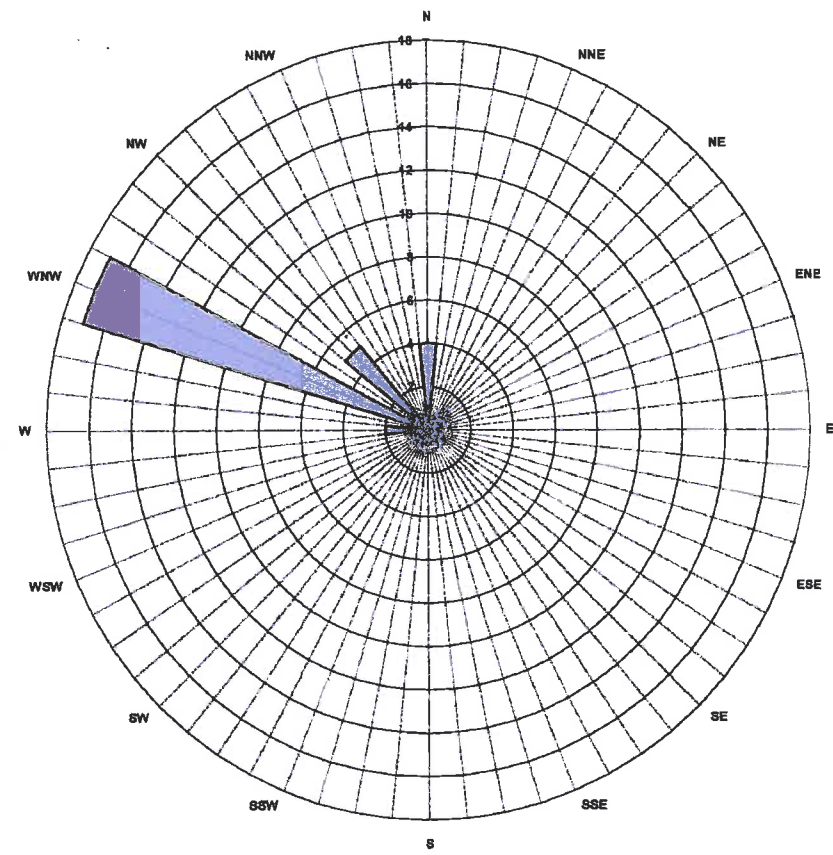


FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA
 GEOLOGIC CROSS SECTION C-C'

FIGURE
5
 PROJECT NO.
 2120-1401-01



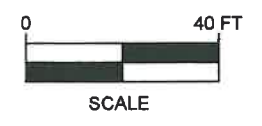
- LEGEND
- ⊕ MW-1 GROUNDWATER MONITORING WELL LOCATION
 - (51.23) GROUNDWATER ELEVATION IN FEET RELATIVE TO MSL
 - 51.0— GROUNDWATER ELEVATION CONTOUR IN FEET RELATIVE TO MSL
 - ➔ INFERRED GROUNDWATER FLOW DIRECTION
- WELLS MEASURED ON 10/13/11
MSL = MEAN SEA LEVEL



- NOTES:
1. SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE
 2. BASE MAP PROVIDED BY MORROW SURVEYING

Haber Oil Quarterly Figures
REV November 7, 2011
JMP

STRATUS
ENVIRONMENTAL, INC.



FORMER HABER OIL PRODUCT
1401 GRAND AVENUE
SAN LEANDRO, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP
4th QUARTER 2011

FIGURE
6
PROJECT NO.
2120-1401-01

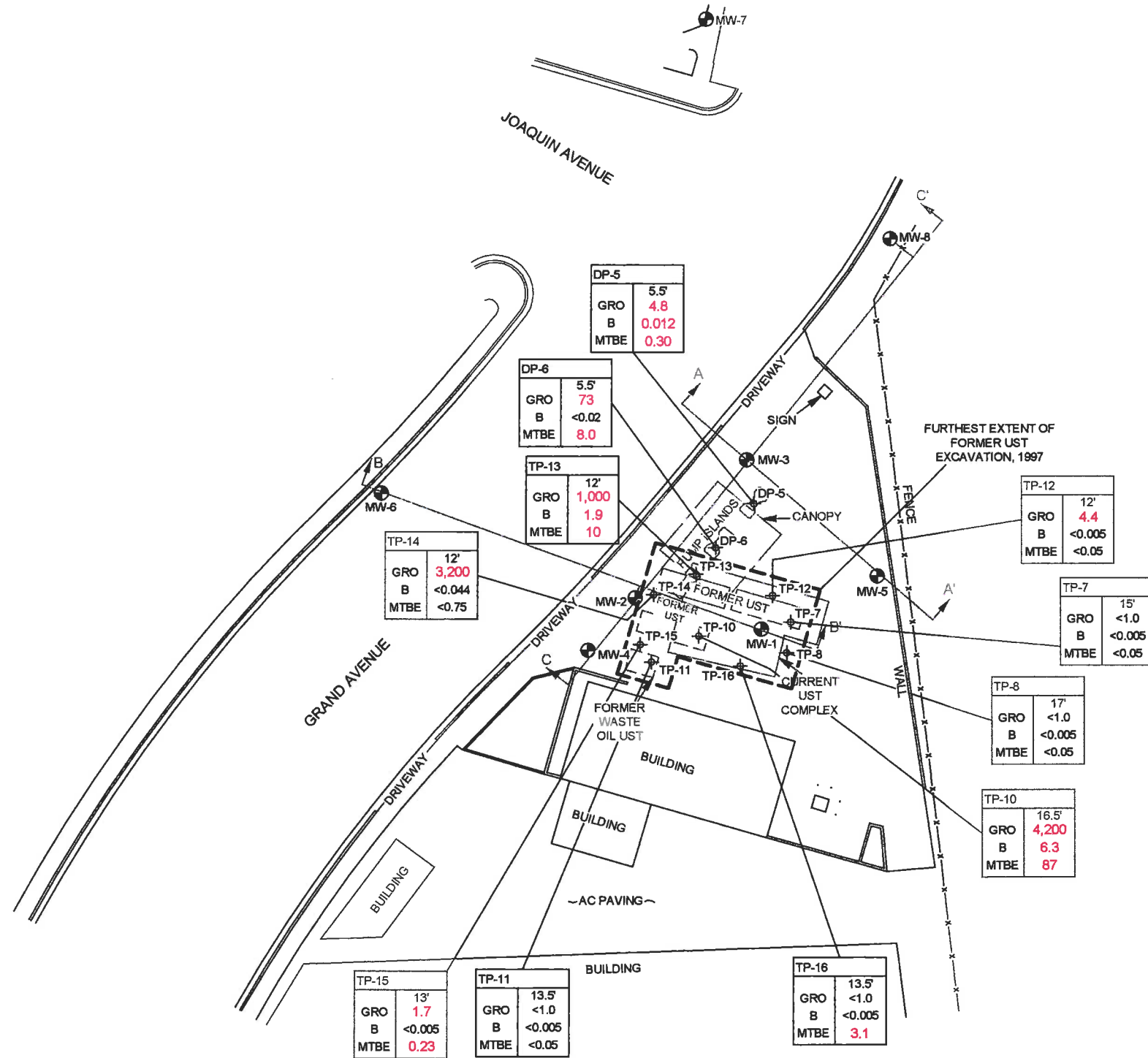


LEGEND

- MW-1 GROUNDWATER MONITORING WELL LOCATION
- TP-8 SOIL SAMPLE LOCATION
- CROSS SECTION TRACE

TP-8	SAMPLE ID
17'	SAMPLING DEPTH IN FEET BGS
GRO <1.0	GASOLINE RANGE ORGANICS IN mg/Kg
B <0.005	BENZENE IN mg/Kg
MTBE <0.05	METHYL TERTIARY BUTYL ETHER IN mg/Kg

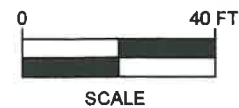
SAMPLES COLLECTED ON 5/10/97



- NOTES:**
- SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE
 - BASE MAP PROVIDED BY MURROW SURVEYING

Haber Oil/SCM JWP REV November 15, 2011 Haber Oil Soil Sampling

STRATUS
ENVIRONMENTAL, INC.

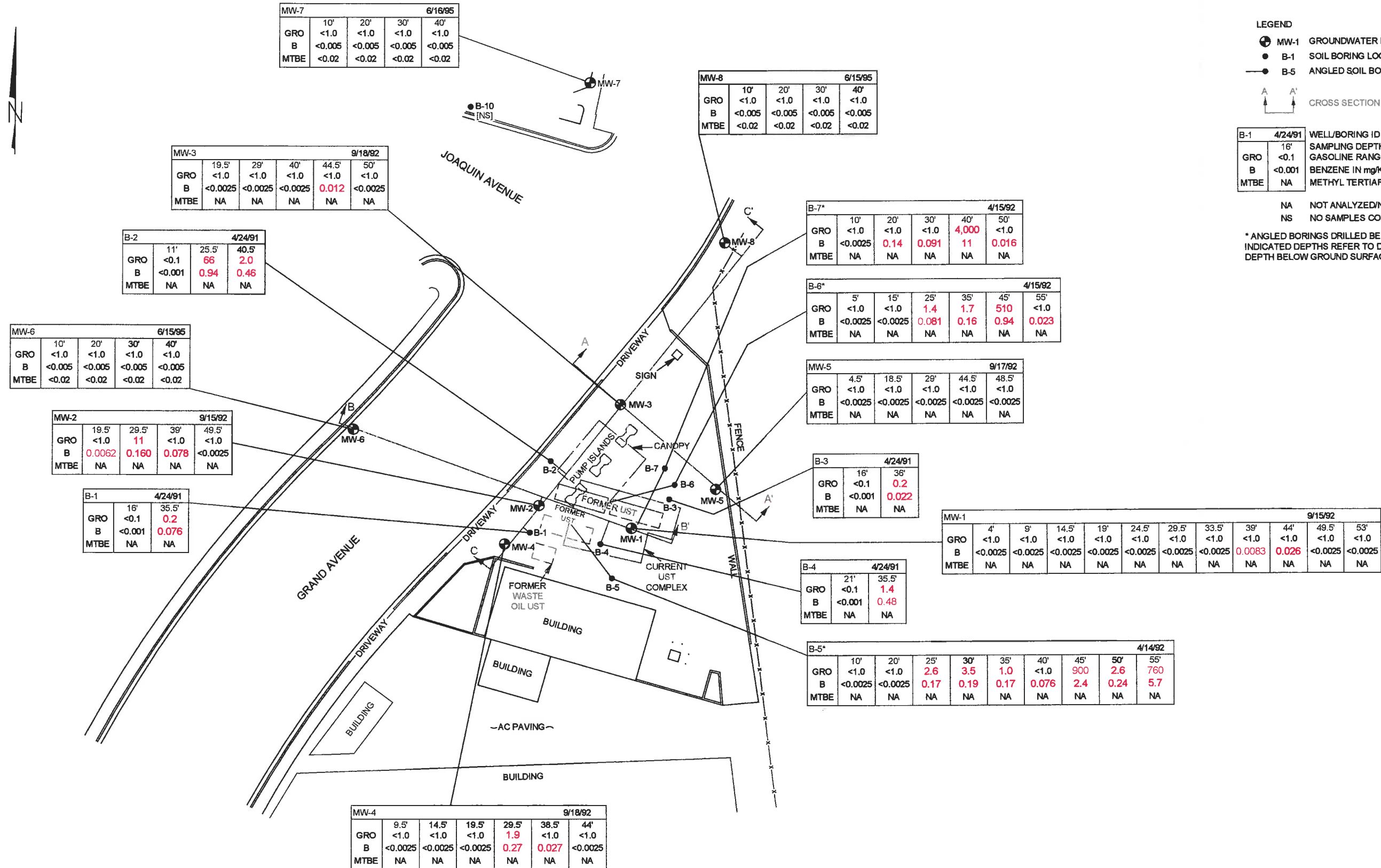


FORMER HABER OIL PRODUCT
1401 GRAND AVENUE
SAN LEANDRO, CALIFORNIA

UST SOIL SAMPLING ANALYTICAL DATA

FIGURE
7
PROJECT NO.
2120-1401-01

HABER OIL/SCM JMP REV November 15, 2011 Heber Oil Soil Stippling



LEGEND

- MW-1 GROUNDWATER MONITORING WELL LOCATION
- B-1 SOIL BORING LOCATION
- B-5 ANGLED SOIL BORING LOCATION
- A — CROSS SECTION TRACE

B-1 4/24/91 WELL/BORING ID & DATE

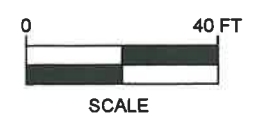
GRO	16'	SAMPLING DEPTH IN FEET BGS
B	<0.1	GASOLINE RANGE ORGANICS IN mg/Kg
B	<0.001	BENZENE IN mg/Kg
MTBE	NA	METHYL TERTIARY BUTYL ETHER IN mg/Kg

NA NOT ANALYZED/NOT AVAILABLE
NS NO SAMPLES COLLECTED

* ANGLED BORINGS DRILLED BETWEEN 26° AND 28° FROM VERTICAL. INDICATED DEPTHS REFER TO DOWNHOLE DISTANCE, NOT VERTICAL DEPTH BELOW GROUND SURFACE.

NOTES:
 1. SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE
 2. BASE MAP PROVIDED BY MURROW SURVEYING

STRATUS
 ENVIRONMENTAL, INC.



FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA

SOIL ANALYTICAL SUMMARY MAP

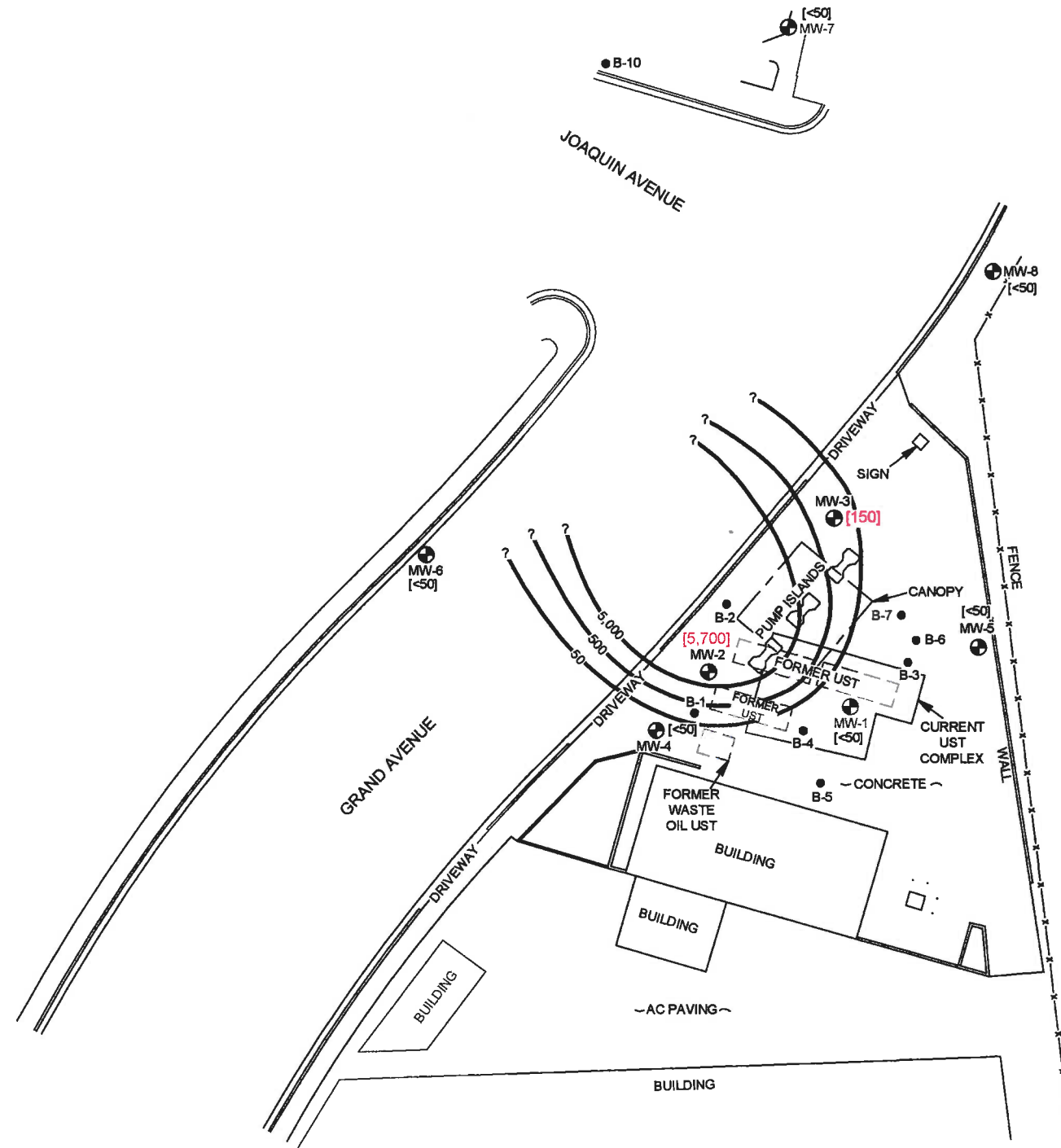
FIGURE
8
 PROJECT NO.
 2120-1401-01



LEGEND

- ⊕ MW-1 GROUNDWATER MONITORING WELL LOCATION
- B-1 SOIL BORING LOCATION
- [<50] GASOLINE RANGE ORGANICS (GRO) IN µg/L
- 50— ISO-CONCENTRATION CONTOUR LINE

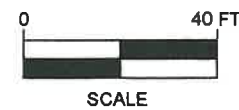
WELLS SAMPLED ON 10/13/11
 GRO ANALYZED BY EPA METHOD 8015B



- NOTES:
1. SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE
 2. BASE MAP PROVIDED BY MORROW SURVEYING

JWP
 REV November 7, 2011
 Haber Oil Quarterly Figures
 Haber OilSCM

STRATUS
 ENVIRONMENTAL, INC.



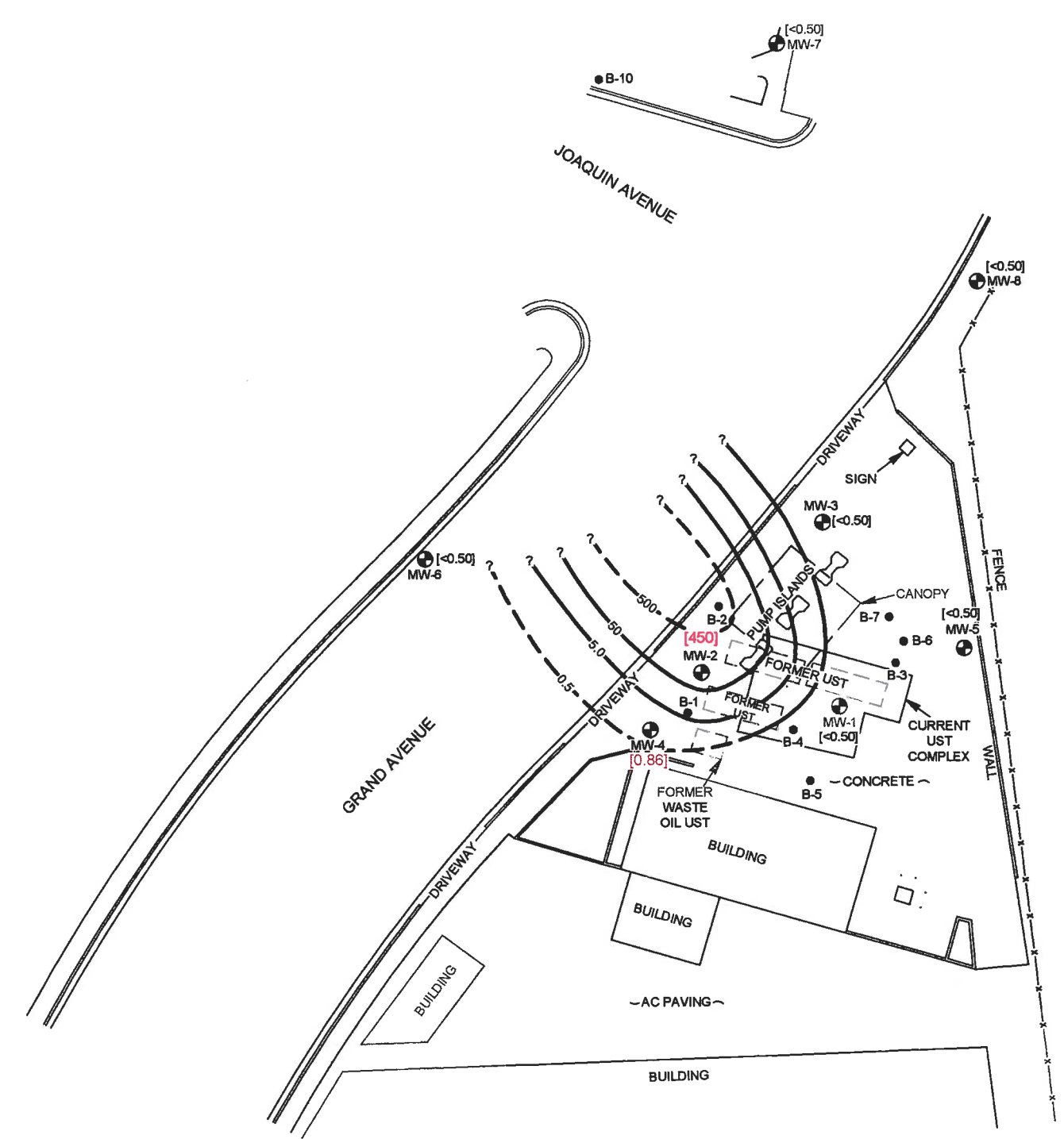
FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA

GRO ISO-CONCENTRATION CONTOUR MAP
 4th QUARTER 2011

FIGURE
9
 PROJECT NO.
 2120-1401-01



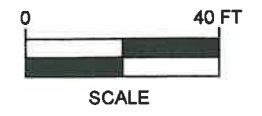
- LEGEND
- ⊕ MW-1 GROUNDWATER MONITORING WELL LOCATION
 - B-1 SOIL BORING LOCATION
 - [<0.50] BENZENE CONCENTRATION IN µg/L
 - 5.0— ISO-CONCENTRATION CONTOUR LINE
- WELLS SAMPLED ON 10/13/11
 BENZENE ANALYZED BY EPA METHOD 8260B



- NOTES:
1. SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE
 2. BASE MAP PROVIDED BY MORROW SURVEYING

Haber Oil Quarterly Figures
 REV November 7, 2011
 JMP
 Haber Oil/SCM

STRATUS
 ENVIRONMENTAL, INC.



FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA

BENZENE ISO-CONCENTRATION CONTOUR MAP
 4th QUARTER 2011

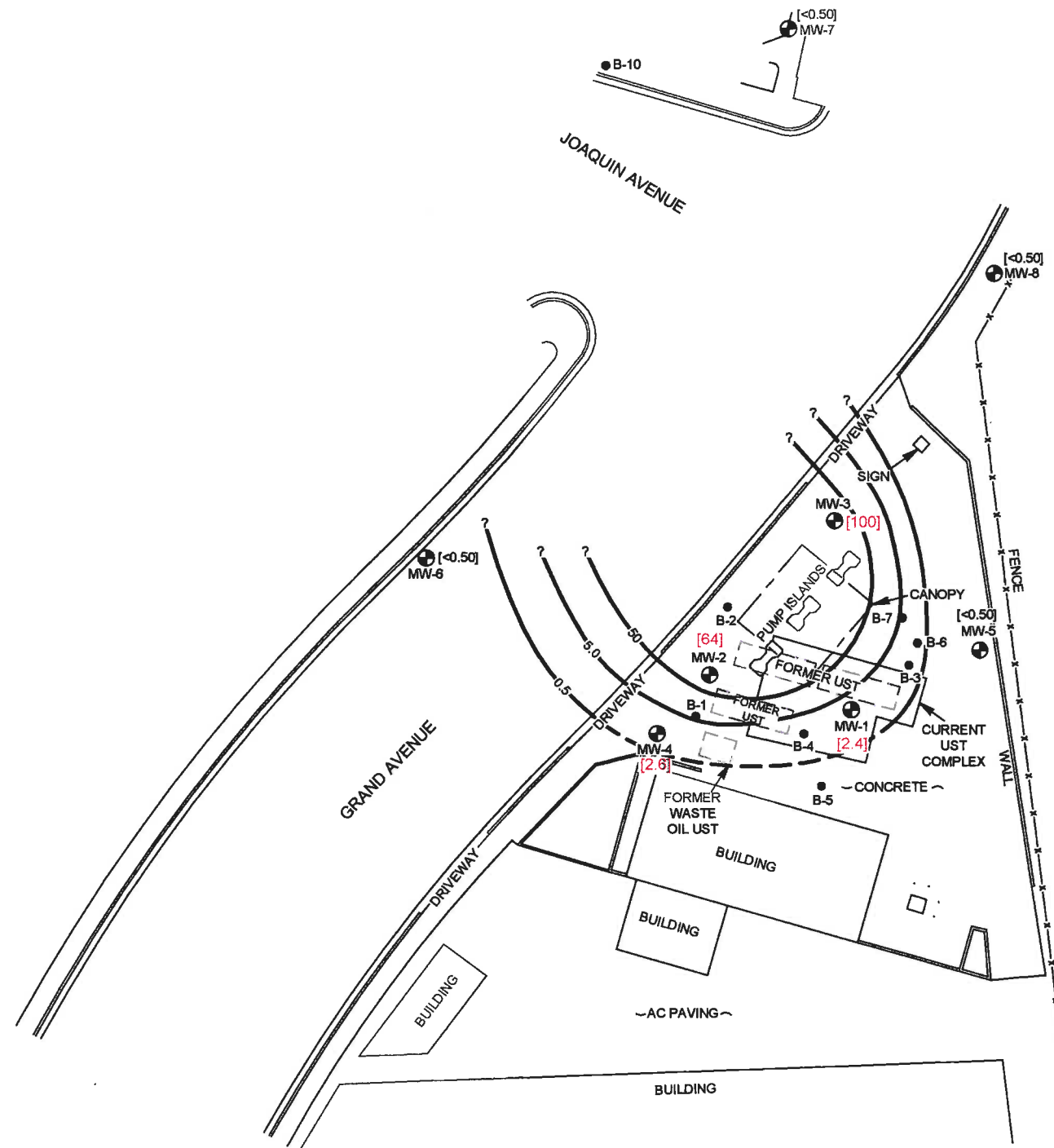
FIGURE
10

PROJECT NO.
 2120-1401-01



LEGEND

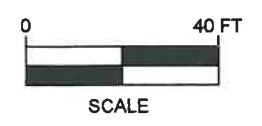
- ⊕ MW-1 GROUNDWATER MONITORING WELL LOCATION
 - B-1 SOIL BORING LOCATION
 - [<0.50] METHYL TERTIARY BUTYL ETHER (MTBE) IN $\mu\text{g/L}$
 - 5.0— ISO-CONCENTRATION CONTOUR LINE
- WELLS SAMPLED ON 10/13/11
 MTBE ANALYZED BY EPA METHOD 8260B



- NOTES:
1. SOIL BORING AND FORMER UST LOCATIONS ARE APPROXIMATE
 2. BASE MAP PROVIDED BY MORROW SURVEYING

Haber Oil Quarterly Figures
REV November 7, 2011
JMP

STRATUS
ENVIRONMENTAL, INC.

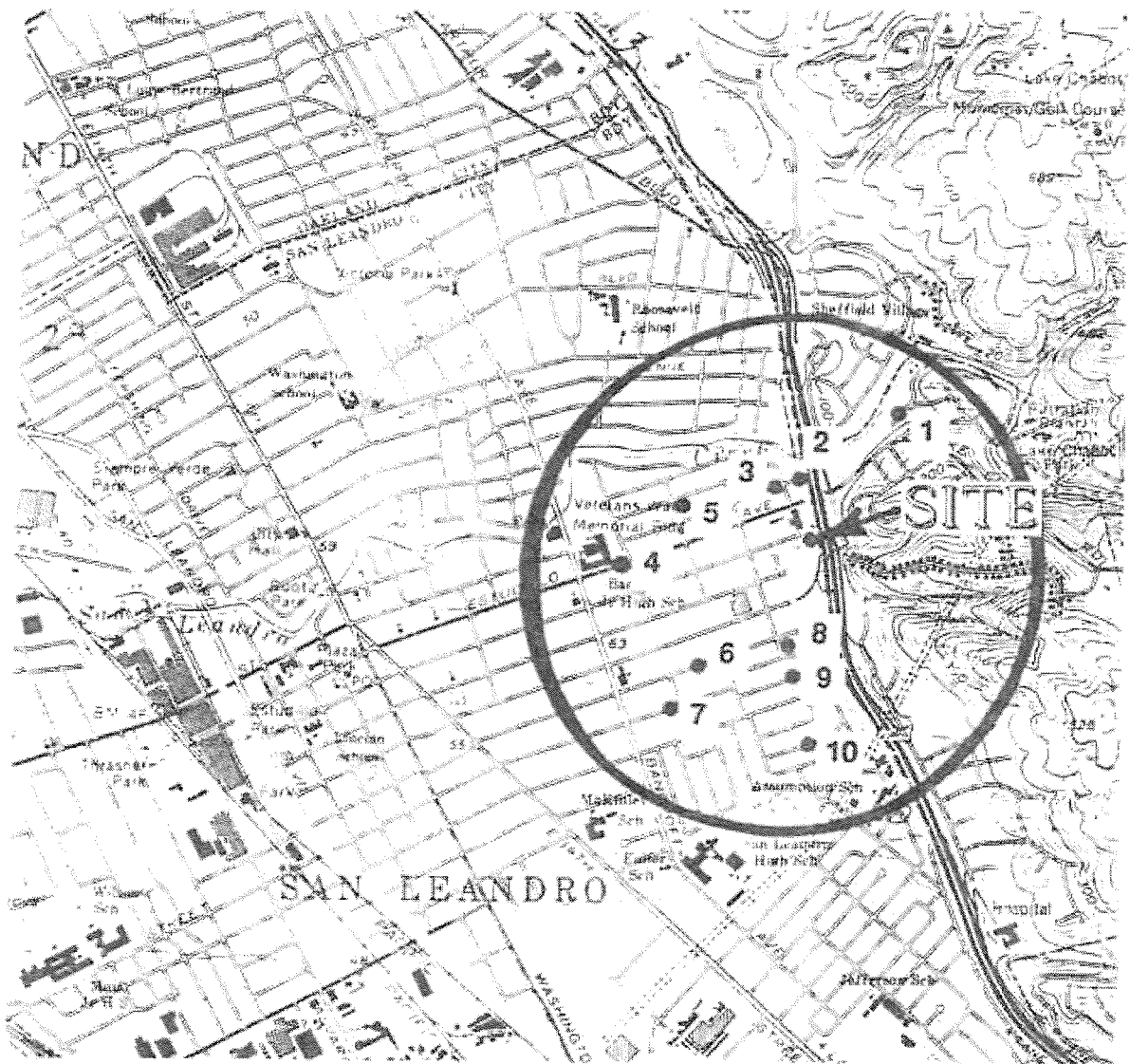


FORMER HABER OIL PRODUCT
 1401 GRAND AVENUE
 SAN LEANDRO, CALIFORNIA

MTBE ISO-CONCENTRATION CONTOUR MAP
 4th QUARTER 2011

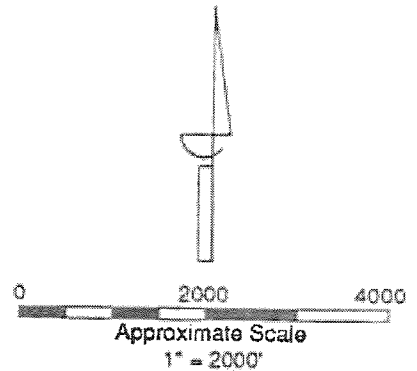
FIGURE
11
 PROJECT NO.
 2120-1401-01

APPENDIX A
WELL SEARCH DATA



GENERAL NOTES:

BASE MAP FROM USGS
7.5 MINUTE TOPOGRAPHIC
SAN LEANDRO, CALIF.



AEGIS ENVIRONMENTAL, INC.

WELL LOCATION MAP

FIGURE

3

DRAWN BY: D. Hada	DATE: November 11, 1992
REVISED BY:	DATE:
REVIEWED BY:	DATE:

Haber Oil
1401 Grand Avenue
San Leandro, CA

PROJECT NUMBER:
10-91001

APPENDIX B

BORING LOGS, WELL CONSTRUCTION DETAILS, AND SIEVE ANALYSIS DATA

PROJECT NAME/LOCATION: 1401 Grand Avenue San Leandro, California		PROJECT NUMBER: 91-001	BORING NUMBER: 1	SHEET 1 OF 2
		CONTRACTOR: West Hazmat Drilling	DRILLING METHOD: 8" H.S.A.	
		DRILLER: Scott Krueger	DRILLING RIG: CME-75	
LAND OWNER: Mr. Manmohan Chopra		START DATE: 04/24/91 TIME: 10:00 a.m.	COMPLETED: 04/24/91 TIME: 10:40 a.m.	

STAY MPE L E E	SN A U M M P B L E E R	BC L O M O W N T L S E	SI A N U M T P L F E T	SR A E M C P O L V E	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	PID (ppm)	GENERAL OBSERVATION NOTES
					0	AC/AB; asphalt surface, AB between-0.5' - 1.0'----- SILTY CLAY; dark brown, moist (CL)	0	No odor
CAM	SB1 -1	15/ 21/ 25	5.0- 6.5	16/ 18	5	CLAY; drk brown, moist (CL)	0	No odor
CAM	SB1 -2	13/ 14/ 15	10.0- 11.5	15/ 18	10	SILTY CLAY; medium brown, moist, very fine-grained sand-component-(CL) - - - -	0	No odor
CAM	SB1 -3	8/ 12/ 15	15.0- 16.5	15/ 18	15	CLAYEY SILT; medium brown, moist (ML)	0	No odor
CAM	SB1 -4	9/ 13/ 15	20.0- 21.5	16/ 18	20	CLAYEY SILT; medium brown, moist (ML)	0	No odor
CAM	SB1 -5	11/ 16/ 18	25.0- 26.5	16/ 18	25	SILT; light brown, moist, very fine-grained sand fraction increasing (ML)	0	No odor
CAM	SB1 -6	11/ 13/ 15	30.0- 31.5	15/ 18	30	SANDY SILT; grayish-brown, moist, poorly graded, very fine-grained sand, pervas- ive throughout sample (ML)	50	Slight gas odor

Field Notes:

Aegis
Environmental
Consultants

Logged By: Robert Warner

PROJECT NAME/LOCATION: 1401 Grand Avenue San Leandro, California	PROJECT NUMBER: 91-001	BORING NUMBER: SB-1	SHEET 2 OF 2
	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: 8" H.S.A.
	DRILLER: Scott Krueger		DRILLING RIG: CME-75
LAND OWNER: Mr. Manmohan Chopra	START DATE: 04/24/91 TIME: 10:40 a.m.	COMPLETED: 04/24/91 TIME: 11:00 a.m.	

S T A Y M P P E L E	S N A U M M B L E R	B C L O O U M T W N P T L F S E	S I A N M T P F L F E T	S R A E M C P O L V E	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	PID (ppm)	GENERAL OBSERVATION NOTES
CAM	SB1 -6	11/ 13/ 15	30.0- 31.5	15/ 18	30	SANDY SILT; grayish-brown, poorly graded, very fine-grained sand, pervasive throughout sample (ML)	50	Slight gas odor
CAM	SB1 -7	45/ 50/ R = 5"	35.0- 36.0	12/ 18	35	SILT; greenish-gray, moist, relict sand structure visible, apparently in-situ chem. weathered Franciscan Formation serpentine (ML)	100	Moderate gas odor
					40	SILT; greenish-gray, moist, slightly cemented, same as above (ML)	20	Slight gas odor
						EOB; end of boring at 41'		
					45			
					50			
					55			
					60			

Field Notes:	Aegis Environmental Consultants
	Logged By: Robert Warner

PROJECT NAME/LOCATION: 1401 Grand Avenue San Leandro, California	PROJECT NUMBER: 91-001	BORING NUMBER: 91-001 2	SHEET 1 OF 2
	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: 8" H.S.A.
	DRILLER: Scott Krueger		DRILLING RIG: CME-75
LAND OWNER: Mr. Manmohan Chopra	START DATE: 04/24/91 TIME: 8:45 a.m.	COMPLETED: 04/24/91 TIME: 9:30 a.m.	

S T A Y M P E L E	S N A U M P B L E R	B C O U M W N T F S E T	S I A N T P L F S E T	S R A E M C P O L V E	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	PID (ppm)	GENERAL OBSERVATION NOTES
					0	CONCRETE; aggregate base between 0.5 - 1.0'		
					20	SILTY CLAY; brown, moist, slight odor immediately below concrete driveway (CL)	20	Slight gas odor
CAM	SB2	11/ -1 15/ 25	5.0- 6.5	16/ 18	5	CLAY; dark brown; moist (CL)	20	Slight gas odor
					10	SILTY CLAY; dark brown, moist, moderate plasticity (CL)	2	No odor
CAM	SB2	14/ -2 23/ 25	10.0- 11.5	15/ 18	10			
					15	CLAYEY SILT; grayish-brown, moist, very fine-grained, sand fraction (ML)	0	No odor
CAM	SB2	11/ -3 15/ 18	15.0- 16.5	16/ 18	15			
					20	SANDY SILT; grayish-brown, moist, poorly graded, very fine-grained sand, pervas- ive throughout sample (ML)	0	No odor
CAM	SB2	11/ -4 13/ 15	20.0- 21.5	15/ 18	20			
					25	SAND; grayish-brown, moist, well graded, silt grains through small gravel classes (SW)	600	Strong odor
CAM	SB2	9/ -5 10/ 11	25.0- 26.5	15/ 18	25			
					30	SAND; grayish-brown, moist, well graded, same as above (SW)	400	Strong odor
CAM	SB2	15/ -6 18/ 21	30.0- 31.5	15/ 18	30			

Field Notes:

Aegis
Environmental
Consultants

Logged By: Robert Warner

PROJECT NAME/LOCATION:

1401 Grand Avenue
San Leandro, California

PROJECT

NUMBER: 91-001

BORING

NUMBER: SB-2

SHEET 2 OF 2

CONTRACTOR:

West Hazmat Drilling

DRILLING

METHOD: 8" H.S.A.

DRILLER:

Scott Krueger

DRILLING

RIG: CME-75

LAND

OWNER: Mr. Manmohan Chopra

START DATE: 04/24/91
TIME: 9:30 a.m.

COMPLETED: 04/24/91
TIME: 10:00 a.m.

S A M P L E	T Y P E	S N A U L O U M P L E	N O U M B E R	B C L O U M P L E	S I L T F E T	S R A E M C P O L V E	D E P T H (ft.)	D E S C R I P T I O N O F M A T E R I A L S A N D C O N D I T I O N S	P I D (ppm)	G E N E R A L O B S E R V A T I O N N O T E S
CAM	SB2	15/	30.0-	15/	30	15/	30	SAND; grayish-brown, moist, well graded, silt grains through small gravel classes (SW)	400	Strong odor
		-6	18/	31.5		18				
		21								
CAM	SB2	35/	35.0-	11/	35	11/	35	SANDY SILT; greenish-gray, moist, relict sand grains surviving chemical weathering (ML)	350	Moderate strong odor
		-7	50/	36.0		18				
		R = 3"								
CAM	SB2	35/	40.0-	12/	40	12/	40	SANDY SILT; greenish-gray, moist, same as above (ML)	60	Slight odor
		-8	50/	41.0		18				
		R = 5"								
							45			
							50			
							55			
							60			
								EOB; end of boring at 41'		

Field Notes:

Aegis
Environmental
Consultants

Logged By: Robert Warner

PROJECT NAME/LOCATION: 1401 Grand Avenue San Leandro, California		PROJECT NUMBER: 91-001	BORING NUMBER: SB-3	SHEET 1 OF 2
		CONTRACTOR: West Hazmat Drilling	DRILLING METHOD: 8" H.S.A.	
		DRILLER: Scott Krueger	DRILLING RIG: CME-75	
LAND OWNER: Mr. Manmohan Chopra		START DATE: 04/24/91 TIME: 11:30 a.m.	COMPLETED: 04/24/91 TIME: 12:30 p.m.	

S T A Y M P E L E	S N A U M P B L E R	B C O U M W N T L S E T	S I A N M T F L F S E T	S R A E M C P O L V E	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	PID (ppm)	GENERAL OBSERVATION NOTES
					0	CONCRETE; aggregate base between-0.5 - 1.0'		
						SILTY CLAY; dark brown, moist (CL)	0	No odor
CAM	SB3	11/ 13/ 22	5.0- 6.5	18/ 18	5	CLAY; dark brown, moist (CL)	0	No odor
CAM	SB3	21/ 50/ R = 5"	10.0- 11.5	10/ 18	10	SILTY CLAY; dark brown, moist (CL)	0	No odor
CAM	SB3	11/ 15/ 18	15.0- 16.5	15/ 18	15	SANDY SILT; medium brown, moist (ML)	0	No odor
CAM	SB3	11/ 16/ 21	20.0- 21.5	16/ 18	20	CLAYEY SILT; medium brown, moist, moderate plasticity (ML)	0	No odor
CAM	SB3	20/ 25/ 35	25.0- 26.5	14/ 18	25	CLAYEY SILT; light brown, moist, cottony cement visible (ML)	0	No odor
CAM	SB3	18/ 25/ 32	30.0- 31.0	12/ 18	30	SANDY SILT; light grayish- brown, moist, poorly graded relict very fine-grained sand, white cottony cement, not calcareous (ML)	5	Very slight gas odor

Field Notes:

Aegis
Environmental
Consultants

Logged By: Robert Warner

PROJECT NAME/LOCATION: 1401 Grand Avenue San Leandro, California	PROJECT NUMBER: 91-001	BORING NUMBER: SB-3	SHEET 2 OF 2
	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: 8" H.S.A.
	DRILLER: Scott Krueger		DRILLING RIG: CME-75
LAND OWNER: Mr. Manmohan Chopra	START DATE: 04/24/91 TIME: 12:30 p.m.	COMPLETED: 04/24/91 TIME: 1:00 p.m.	

STAY PEL E	SN AUM P B L E R	BC LOU M O W N P T L F S E T	SI LOAN M T P L F S E T	SR AE M C P O L V E	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	PID (ppm)	GENERAL OBSERVATION NOTES
CAM	SB3 -6	18/ 25/ 32	30.0- 31.0	12/ 18	30	SANDY SILT; light grayish-brown, moist, poorly graded very fine-grained sand (ML)	5	Very slight gas odor
CAM	SB3 -7	22/ 37/ 40	35.0- 36.0	12/ 18	35	SANDY SILT; greenish-gray, moist, same as above (ML)	150	Moderate gas odor
CAM	SB3 -8	50 R = 6"	40.0- 41.0	10/ 18	40	SANDY SILT; greenish-gray, moist, same as above (ML) ----- EOB; end of boring at 41'	50	Slight gas odor
					45			
					50			
					55			
					60			

Field Notes:

Aegis
Environmental
Consultants

Logged By: Robert Warner

PROJECT NAME/LOCATION: 1401 Grand Avenue San Leandro, California	PROJECT NUMBER: 91-001	BORING NUMBER: SB-4	SHEET 1 OF 2
	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: 8" H.S.A.
	DRILLER: Scott Krueger		DRILLING RIG: CME-75
LAND OWNER: Mr. Manmohan Chopra	START DATE: 04/24/91 TIME: 1:00 p.m.	COMPLETED: 04/24/91 TIME: 1:45 p.m.	

S A M P L E	T Y P E	S N A U M B E R	B C L O C A T I O N	S I L T C L A Y	S R A E M C P O L V E	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	PID (ppm)	GENERAL OBSERVATION NOTES
						0	AC/AB; asphalt surface, AB between-0.5 - 1.0'----- SILTY CLAY; dark brown, moist (CL)	0	No odor
CAM	SB4	8/ -1	11/ 13	5.0- 6.5	15/ 18	5	CLAY; drk brown, moist (CL)	0	No odor
CAM	SB4	8/ -2	19/ 21	10.0- 11.5	16/ 18	10	SILTY CLAY; medium brown, moist (CL)	0	No odor
CAM	SB4	11/ -3	21/ 25	15.0- 16.5	18/ 18	15	CLAYEY SILT; medium brown, moist (ML)	0	No odor
CAM	SB4	25/ -4	35/ 36	20.0- 21.5	18/ 18	20	CLAYEY SILT; medium brown, moist (ML)	0	No odor
CAM	SB4	16/ -5	27/ 29	25.0- 26.5	18/ 18	25	CLAYEY SILT; medium brown, moist (ML) SANDY SILT; light greenish-brown, moist very fine to coarse-grained clasts still surviving (ML)	0	No odor
CAM	SB4	50 -6	R = 6"	30.0- 31.0	12/ 18	30	SANDY SILT; light greenish- brown, moist, apparently remnants of in-situ chemical weathering (ML)	3	No odor

Field Notes:

Aegis
Environmental
Consultants

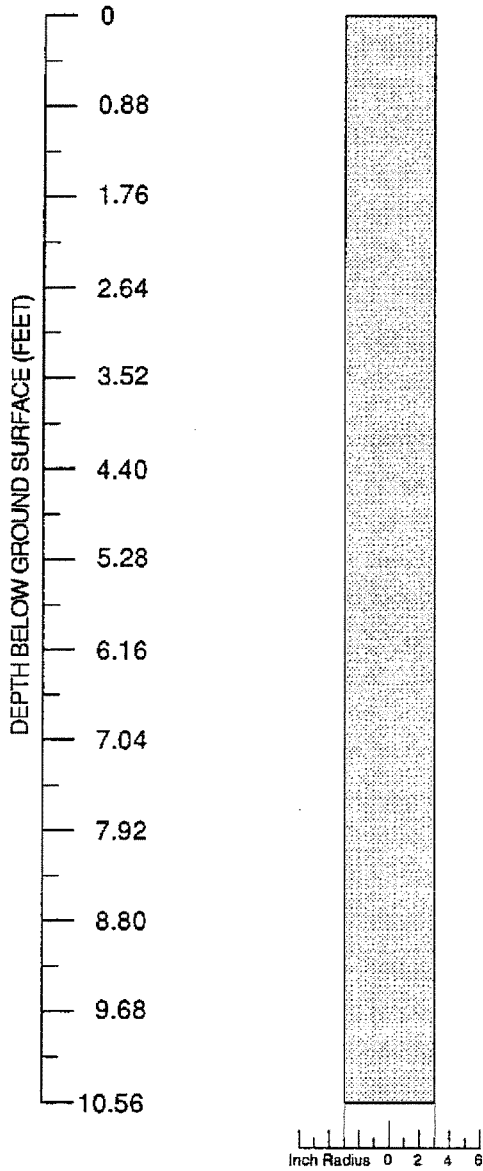
Logged By: Robert Warner

PROJECT NAME/LOCATION: 1401 Grand Avenue San Leandro, California	PROJECT NUMBER: 91-001	BORING NUMBER: SB-4	SHEET 2 OF 2
	CONTRACTOR: West Hazmat Drilling		DRILLING METHOD: 8" H.S.A.
	DRILLER: Scott Krueger		DRILLING RIG: CME-75
LAND OWNER: Mr. Manmohan Chopra	START DATE: 04/24/91 TIME: 1:45 p.m.	COMPLETED: 04/24/91 TIME: 2:00 p.m.	

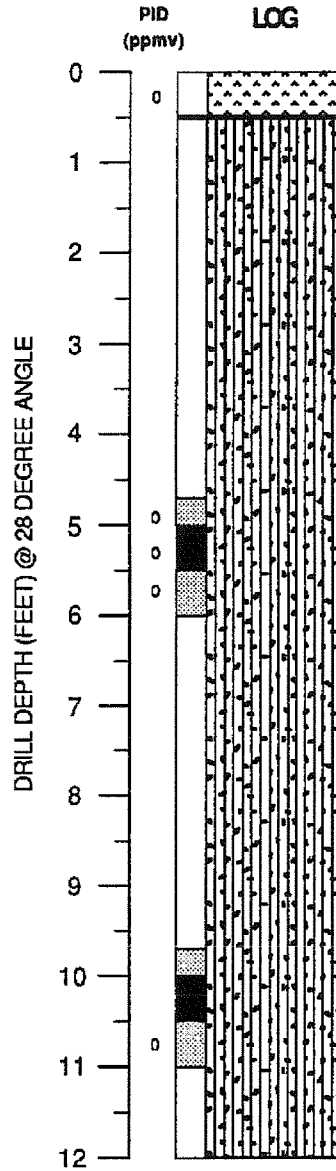
STAY MPE L E E	SN A U M M P B L E E R	BC L O O U W N T L S E	SI A N M T P L F E T	SR A E M C P O L V E	DEPTH (ft.)	DESCRIPTION OF MATERIALS AND CONDITIONS	PID (ppm)	GENERAL OBSERVATION NOTES
CAM	SB4 -6	50 R = 6"	30.0- 31.0	12/ 18	30	SANDY SILT; light greenish-brown, moist, relict sand structures visible, apparently remnants of in-situ chemical weathering (ML)	3	No odor
CAM	SB4 -7	50 R = 5"	35.0- 36.0	12/ 18	35	SANDY SILT; greenish-gray, moist; same as above (ML)	20	Very slight gas odor
CAM	SB4 -8	50 R = 6"	40.0- 41.0	10/ 18	40	SANDY SILT; greenish-gray, moist, same as above (ML)	15	Very slight gas odor
					45	EOB; end of boring at 41'		
					50			
					55			
					60			

Field Notes:	Aegis Environmental Consultants
	Logged By: Robert Warner

BORING CONSTRUCTION DETAIL
(Backfilled With
Bentonite-Cement Slurry)



GRAPHIC LOG



DESCRIPTION

Concrete reinforced with 1/2" rebar, 6" thick
Sandy SILT (ML); dusky yellowish brown, (10 YR 2/2), damp, moderately graded, no odor

Logged by: M. Kitko	Drilling Company: B&F	Well Head Completion: 15:20 hrs
Project Mgr: B. Garber	Drilling Method: Mobile Drill C-53	Type of Sampler: 2" Modified California Split Spoon
Date Drilled: April 14, 1992	Driller: Tony Musso & Chris Fisut	TD (Total Depth): 48.8' Vertical 55.5' @ 28° Angle

Explanation

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



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 5

Haber Oil
1401 Grand Avenue
San Leandro, CA

JOB NUMBER

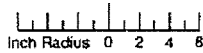
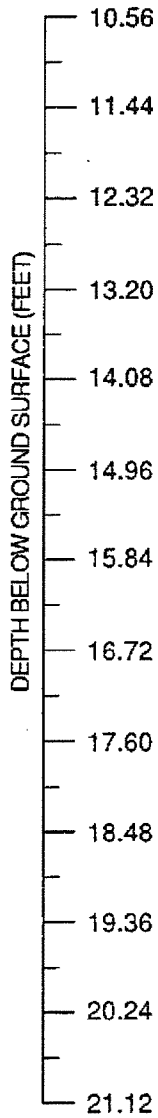
91-001

BORING

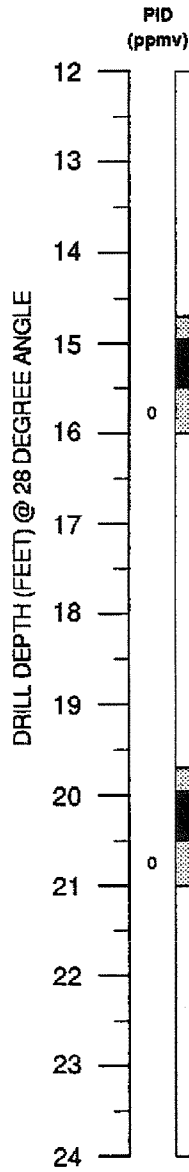
5

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)



GRAPHIC LOG



DESCRIPTION

Silty SAND (ML); dark yellowish brown, (10 YR 4/2), damp, poorly graded, fine-grained, no odor

Silty CLAY (ML); dark yellowish brown, (10 YR 4/2), damp, slightly plastic, soft, no odor

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log
Boring 5 (continued)

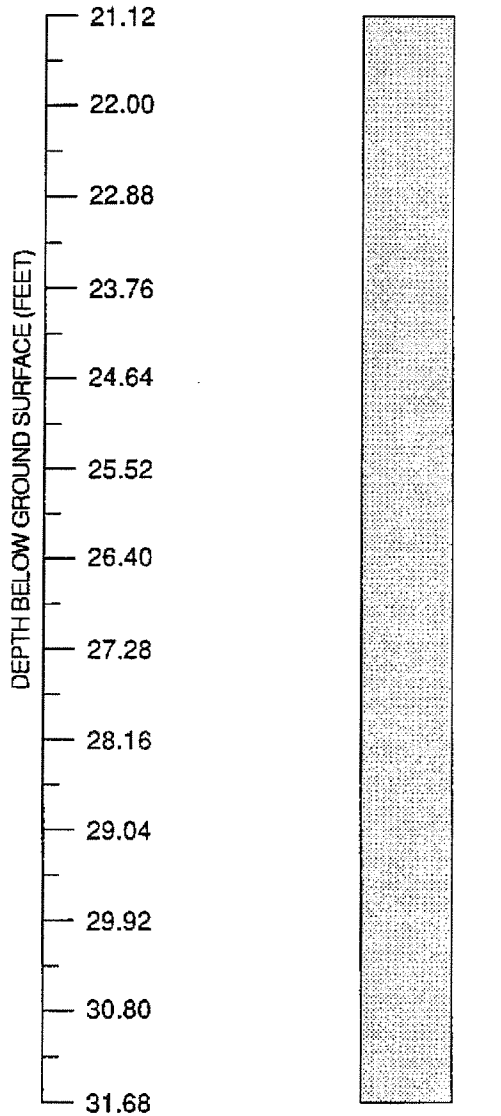
JOB NUMBER
91-001

Haber Oil
1401 Grand Avenue
San Leandro, CA

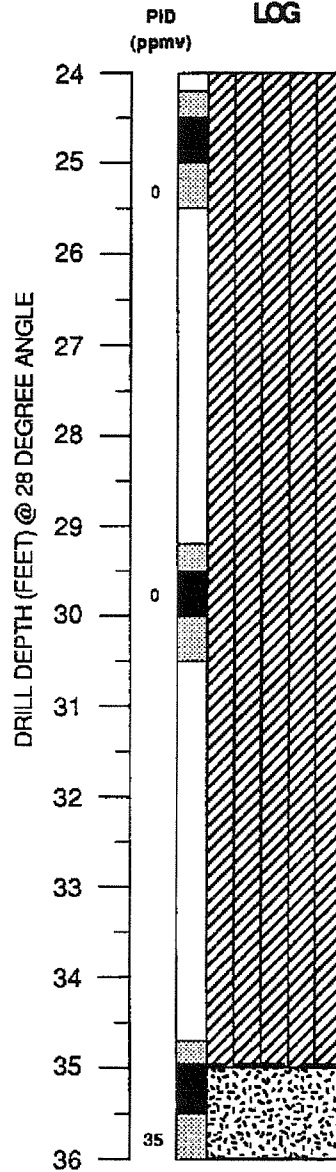
BORING
5

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)



GRAPHIC LOG



DESCRIPTION

Light olive gray, (5YR 5/2)

SAND (M); greenish gray, dry to damp, poorly graded, fine to medium grained sand

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 5 (continued)

Haber Oil
1401 Grand Avenue
San Leandro, CA

JOB NUMBER

91-001

BORING

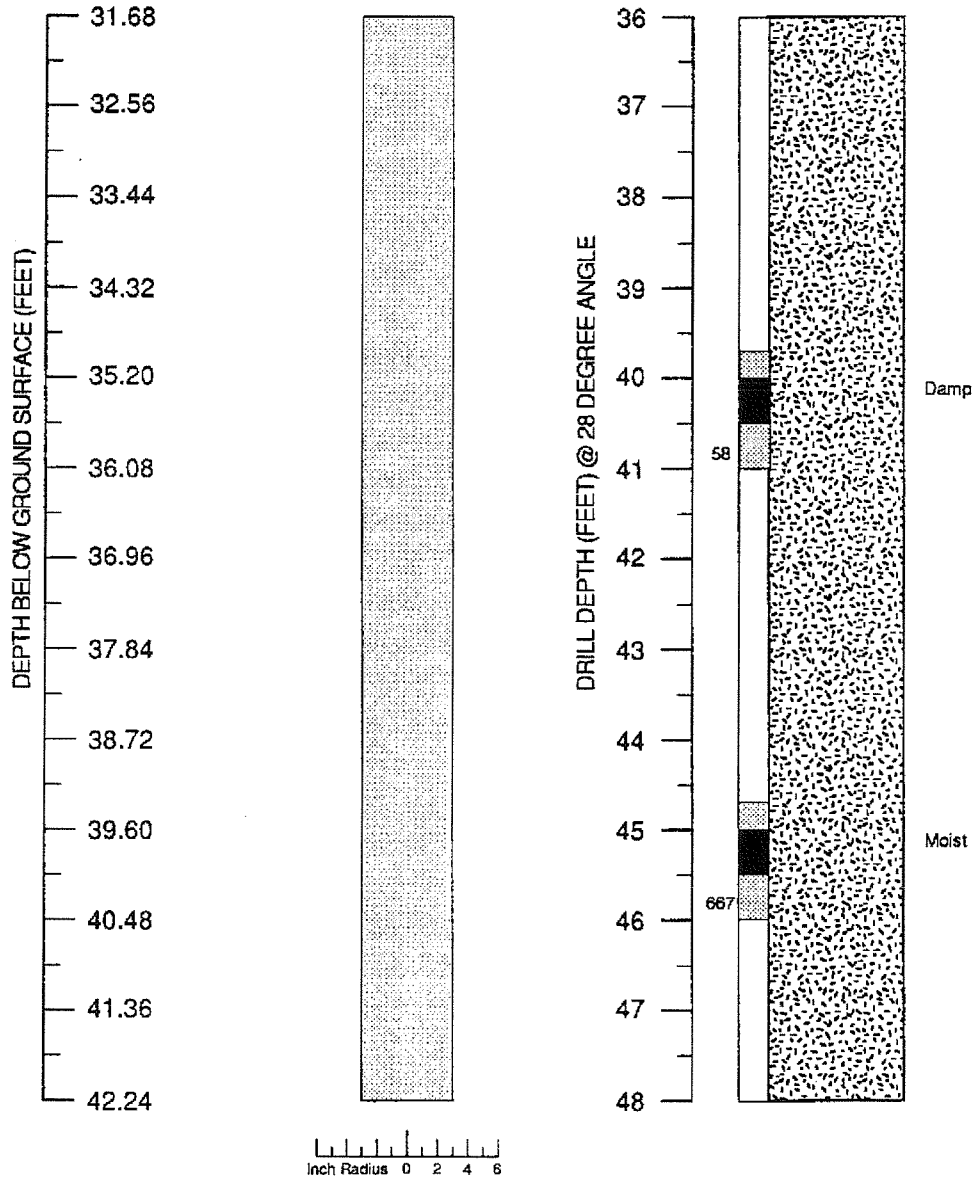
5

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log
Boring 5 (continued)

JOB NUMBER
91-001

Haber Log
1401 Grand Avenue
San Leandro, CA

BORING

5

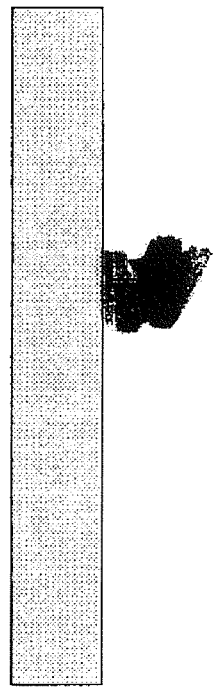
BORING CONSTRUCTION DETAIL
 (Backfilled With
 Bentonite-Cement Slurry)

**GRAPHIC
 LOG**

DESCRIPTION

DEPTH BELOW GROUND SURFACE (FEET)

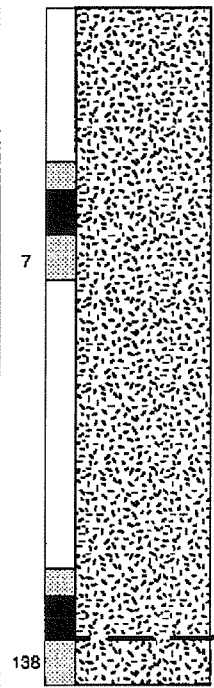
42.24
43.12
44.00
44.80
45.76
46.64
47.52
48.40
49.28
50.16
51.04
51.92
52.80



DRILL DEPTH (FEET) @ 28 DEGREE ANGLE

PID (ppmv)

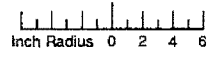
48
49
50
51
52
53
54
55
56
57
58
59
60



SAND (SW): dark yellowish brown, (10 YR 4/2), well graded, coarse grained, hydrous, odorless.

Total Depth @ 28° angle = 55.5'
 Total Vertical Depth = 48.84'

Groundwater encountered at a vertical depth of [redacted]



Explanation

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



AEGIS ENVIRONMENTAL, INC.

Boring Log
 Boring 5 (continued)

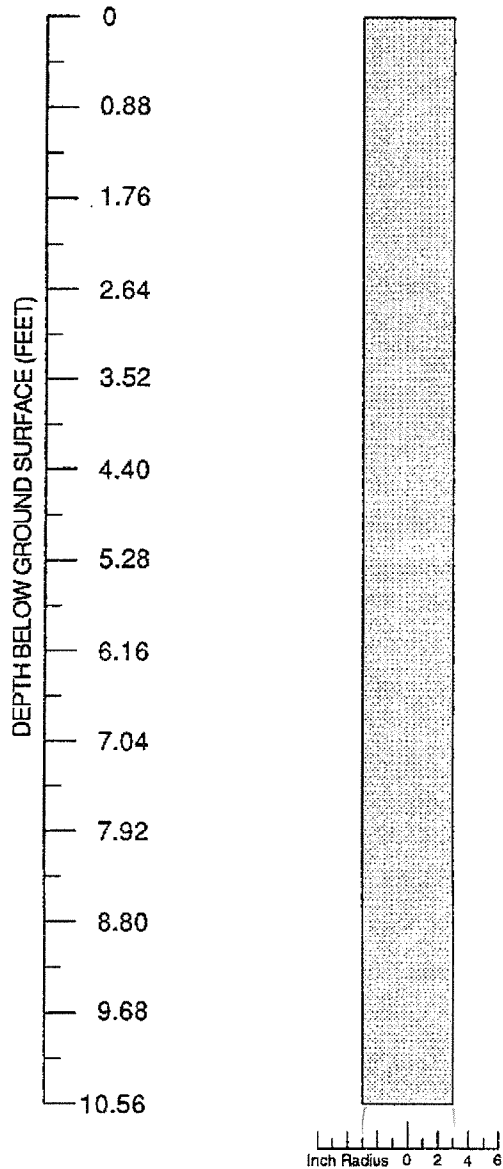
JOB NUMBER
 91-001

Haber Oil
 1401 Grand Avenue
 San Leandro, CA

BORING
 5

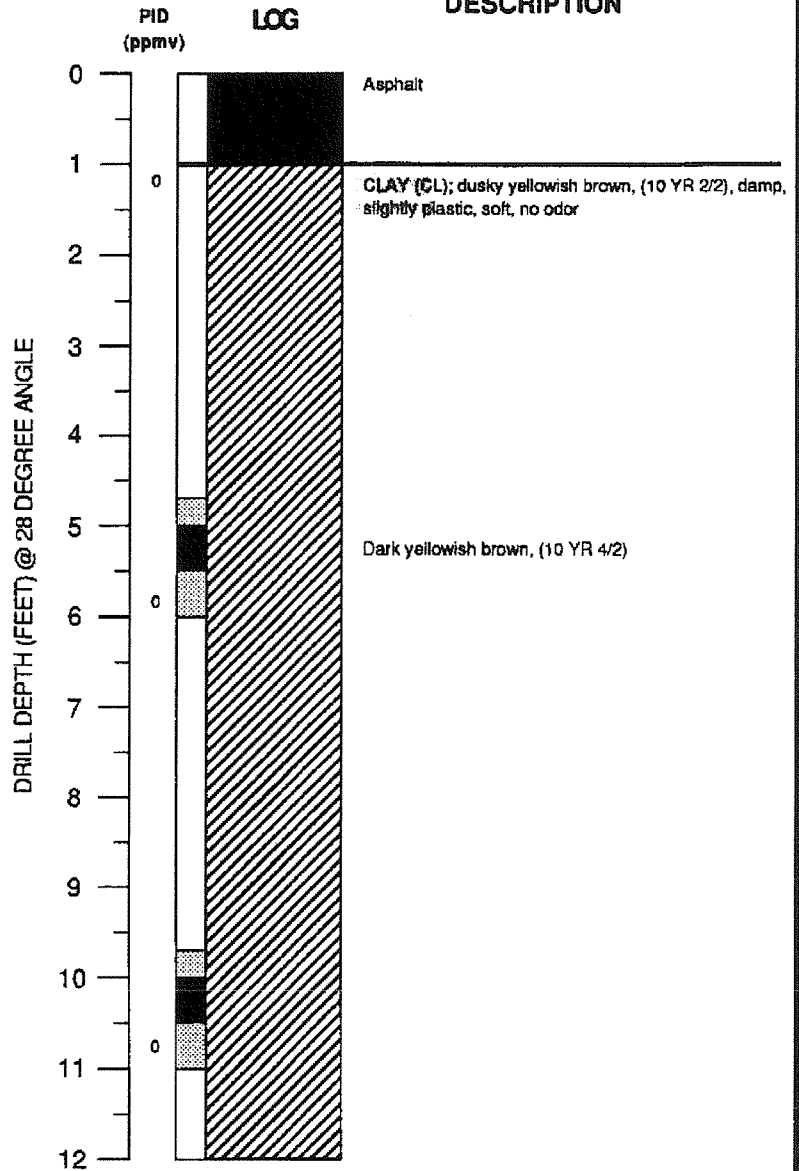
BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)



GRAPHIC LOG

DESCRIPTION



Logged by: M. Kitko	Drilling Company: B&F	Well Head Completion: 12:30 hrs
Project Mgr: B. Garber	Drilling Method: Mobile Drill C-53	Type of Sampler: 2" Modified California Split Spoon
Date Drilled: April 15, 1992	Driller: Tony Musso & Chris Fisul	TD (Total Depth): 48.4' Vertical 55' @ 28° Angle

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log
Boring 6

JOB NUMBER
91-001

Haber Oil
1401 Grand Avenue
San Leandro, CA

BORING

6

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION

DEPTH BELOW GROUND SURFACE (FEET)

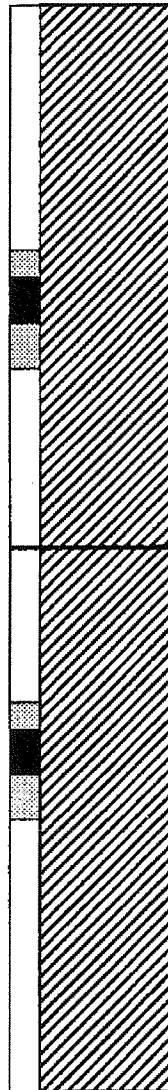
10.56
11.44
12.32
13.20
14.08
14.96
15.84
16.72
17.60
18.48
19.36
20.24
21.12



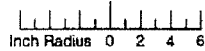
PID
(ppmv)

DRILL DEPTH (FEET) @ 28 DEGREE ANGLE

12
13
14
15
16
17
18
19
20
21
22
23
24



silty SAND (ML), dark yellowish brown, damp, slightly plastic, soft, no odor



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log
Boring 6 (continued)

JOB NUMBER
91-001

Haber Oil
1401 Grand Avenue
San Leandro, CA

BORING
6

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION

DEPTH BELOW GROUND SURFACE (FEET)

21.12
22.00
22.88
23.76
24.64
25.52
26.40
27.28
28.16
29.04
29.92
30.80
31.68

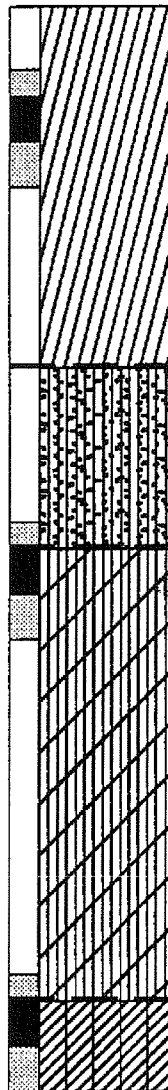


Inch Radius 0 2 4 6

DRILL DEPTH (FEET) @ 28 DEGREE ANGLE

PID (ppmv)

24
25
26 49
27
28
29
30 30
31
32
33
34
35
36 20



Sandy SILT (ML); <30% sand, olive gray, (5Y 3/2), moist, medium dense, hydrocarbon odor

Clayey SILT (ML); <30% clay, olive gray, (5Y 3/2), moist, slight plasticity, hydrocarbon odor

Silty CLAY (ML); <30% silt, dark yellowish brown, (10 YR 4/2), slightly plastic, soft, hydrocarbon odor

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 6 (continued)

Haber Oil
1401 Grand Avenue
San Leandro, CA

JOB NUMBER

91-001

BORING

6

BORING CONSTRUCTION DETAIL

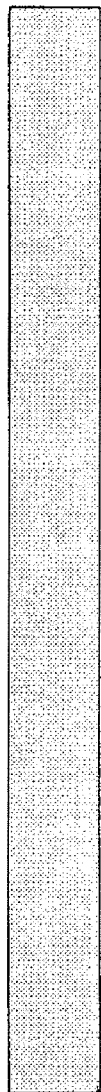
(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION

DEPTH BELOW GROUND SURFACE (FEET)

31.68
32.56
33.44
34.32
35.20
36.08
36.96
37.84
38.72
39.60
40.48
41.36
42.24

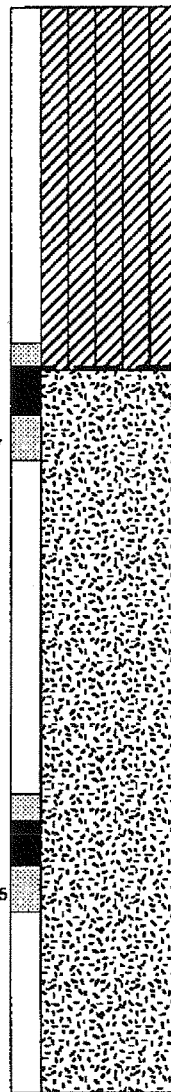


Inch Radius 0 2 4 6

DRILL DEPTH (FEET) @ 28 DEGREE ANGLE

36
37
38
39
40
41
42
43
44
45
46
47
48

PID
(ppmv)



SAND (SM): greenish gray, damp, poorly graded, fine to medium grained, hydrocarbon stain

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hatched where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 6 (continued)

Haber Oil
1401 Grand Avenue
San Leandro, CA

JOB NUMBER

91-001

BORING

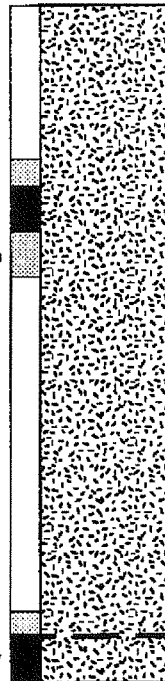
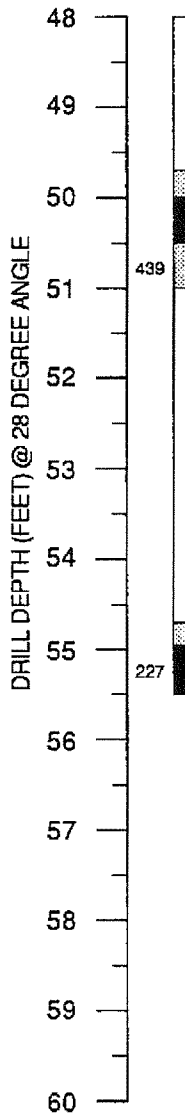
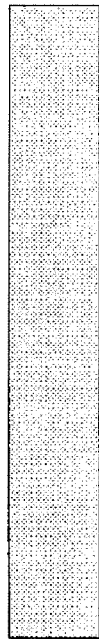
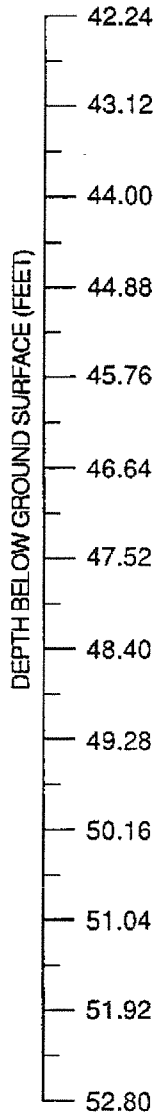
6

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

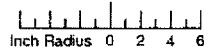
DESCRIPTION



SAND (SW); dark yellowish brown, (10 YR 4/2), well graded, coarse grained, hydrocarbon stain

Total Depth @ 26° angle = 55'
Total Vertical Depth = 48.4'

Groundwater encountered at a vertical depth of 51.92'



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 6 (continued)

Haber Oil
1401 Grand Avenue
San Leandro, CA

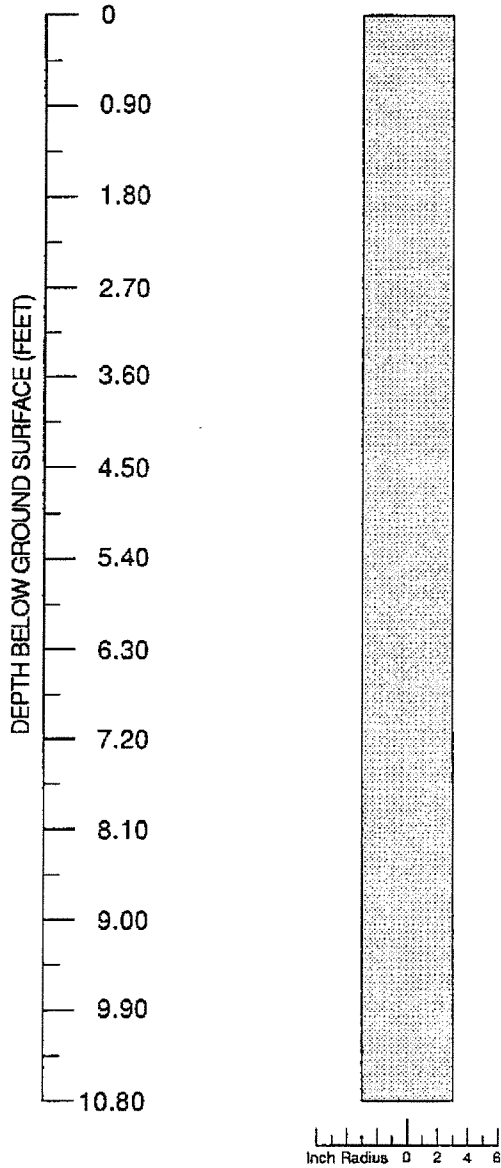
JOB NUMBER

91-001

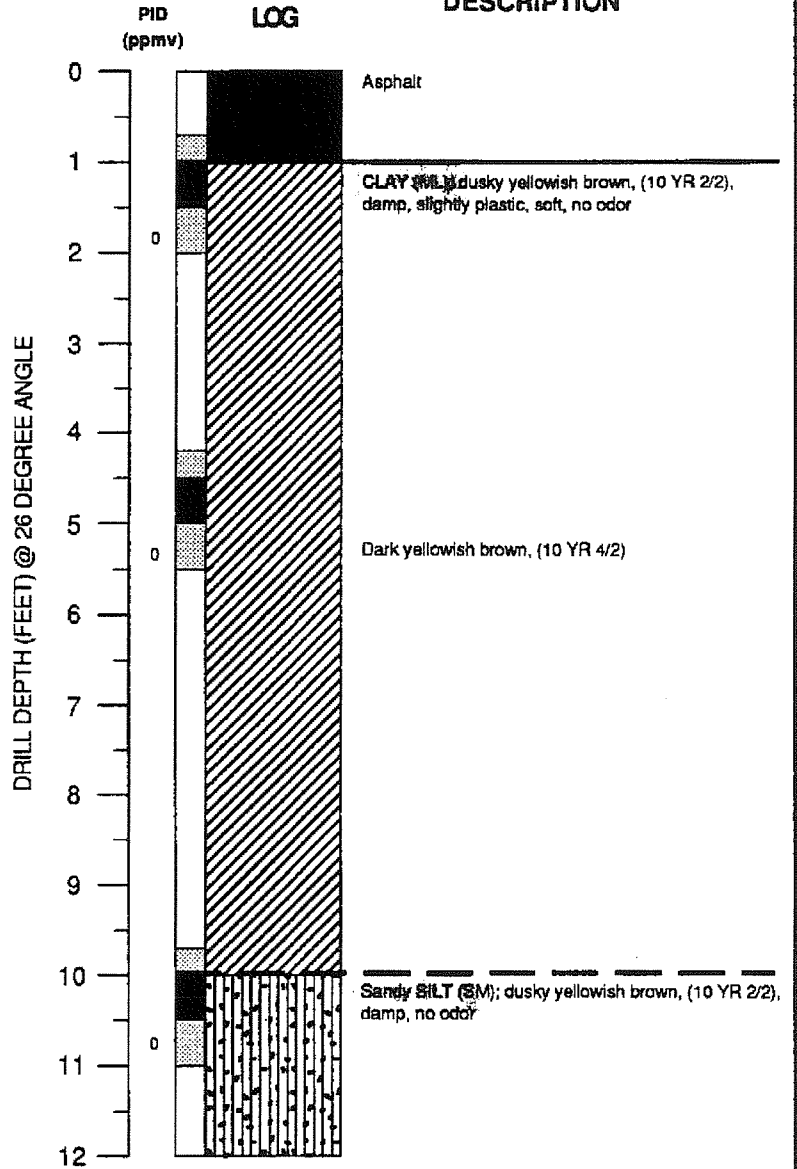
BORING

6

BORING CONSTRUCTION DETAIL
(Backfilled With
Bentonite-Cement Slurry)



GRAPHIC LOG



DESCRIPTION

Logged by: M. Kitko	Drilling Company: B&F	Well Head Completion: 17:05 hrs
Project Mgr: B. Garber	Drilling Method: Mobile Drill C-53	Type of Sampler: 2" Modified California Split Spoon
Date Drilled: April 15, 1992	Driller: Tony Musso & Chris Fisuf	TD (Total Depth): 49.4' Vertical 55' @ 26° Angle

Explanation

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



AEGIS ENVIRONMENTAL, INC.

Boring Log
Boring 7

JOB NUMBER
91-001

Haber Oil
1401 Grand Avenue
San Leandro, CA

BORING

7

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION

DEPTH BELOW GROUND SURFACE (FEET)

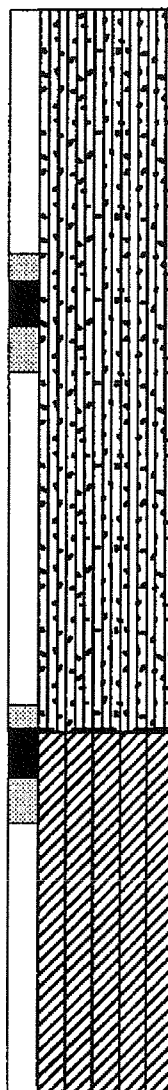
10.80
11.70
12.60
13.50
14.40
15.30
16.20
17.10
18.00
18.90
19.80
20.70
21.60



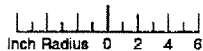
PID
(ppmv)

DRILL DEPTH (FEET) @ 26 DEGREE ANGLE

12
13
14
15
16
17
18
19
20
21
22
23
24



Silty CLAY (ML); dark yellowish brown, (10 YR 4/2), damp, slightly plastic, soft, no odor



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 7 (continued)

Haber Oil
1401 Grand Avenue
San Leandro, CA

JOB NUMBER

91-001

BORING

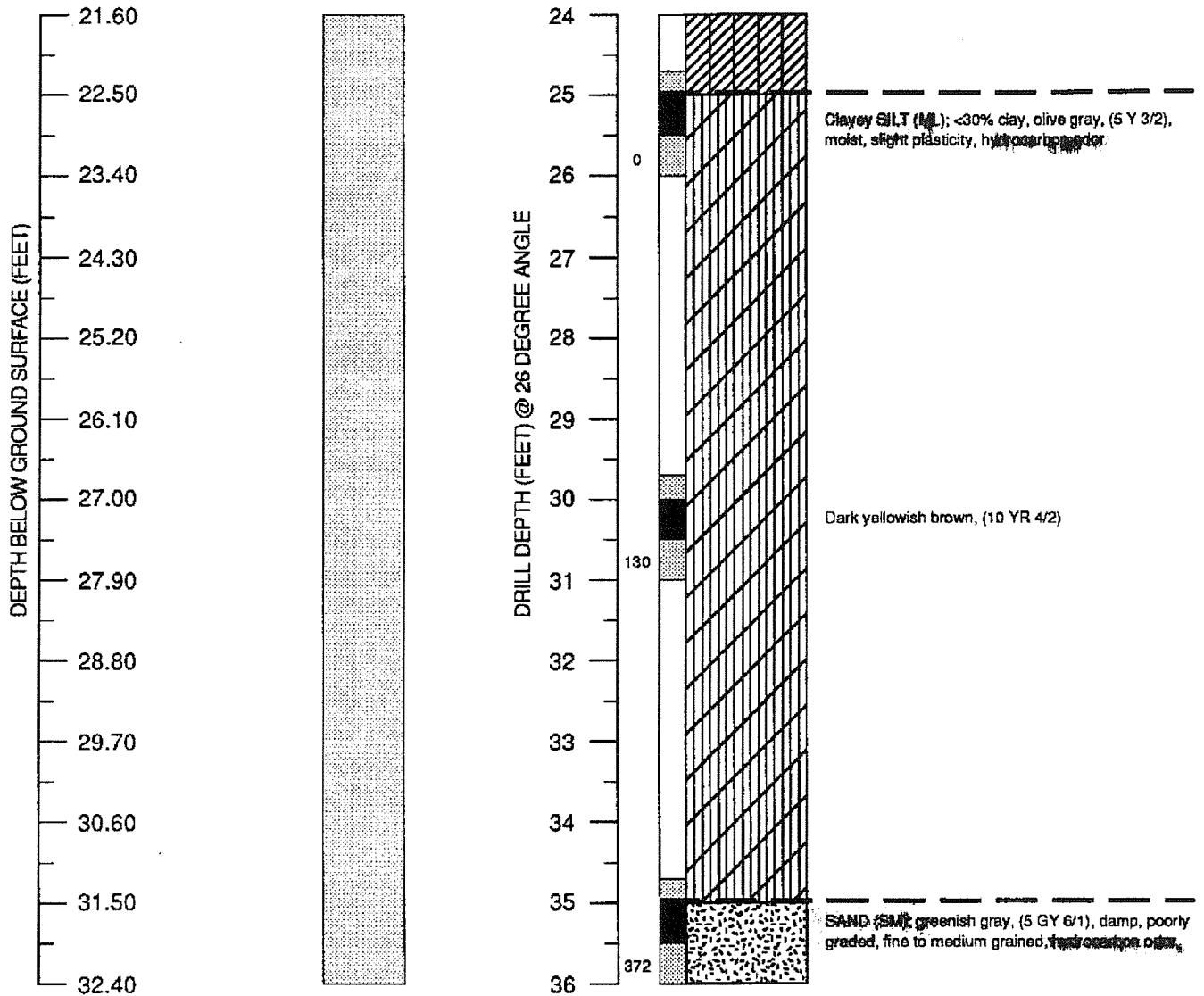
7

BORING CONSTRUCTION DETAIL

(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log
Boring 7 (continued)

JOB NUMBER
91-001

Haber Oil
1401 Grand Avenue
San Leandro, CA

BORING

7

BORING CONSTRUCTION DETAIL

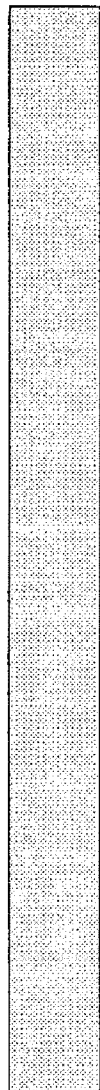
(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION

DEPTH BELOW GROUND SURFACE (FEET)

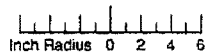
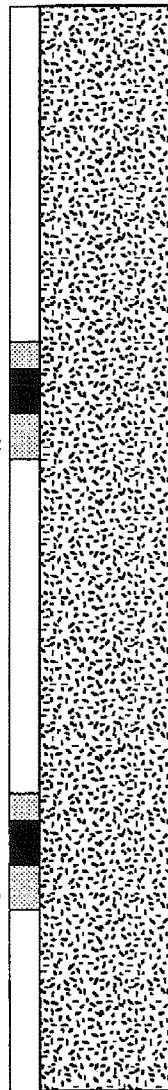
32.40
33.30
34.20
35.10
36.00
36.90
37.80
38.70
39.60
40.50
41.40
42.30
43.20



PID
(ppmv)

DRILL DEPTH (FEET) @ 26 DEGREE ANGLE

36
37
38
39
40
41
42
43
44
45
46
47
48



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 7 (continued)

Haber Oil
1401 Grand Avenue
San Leandro, CA

JOB NUMBER

91-001

BORING

7

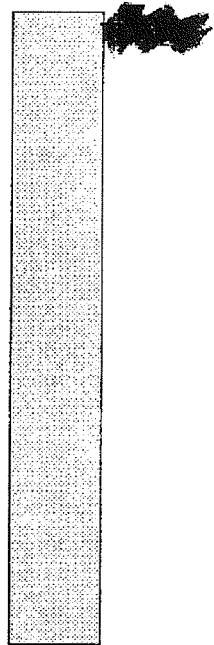
BORING CONSTRUCTION DETAIL
(Backfilled With
Bentonite-Cement Slurry)

GRAPHIC LOG

DESCRIPTION

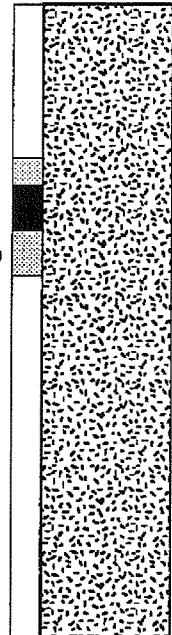
DEPTH BELOW GROUND SURFACE (FEET)

43.20
44.10
45.00
45.90
46.80
47.70
48.60
49.50
50.40
51.30
52.20
53.10
54.00



PID (ppmv)

48
49
50
51
52
53
54
55
56
57
58
59
60

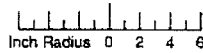


Dark yellowish brown, (10 YR 4/2)

No sample retrieved

Total Depth @ 26° angle = 55'
Total Vertical Depth = 49.5'

Groundwater encountered at a vertical depth of [redacted]



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Boring Log

Boring 7 (continued)

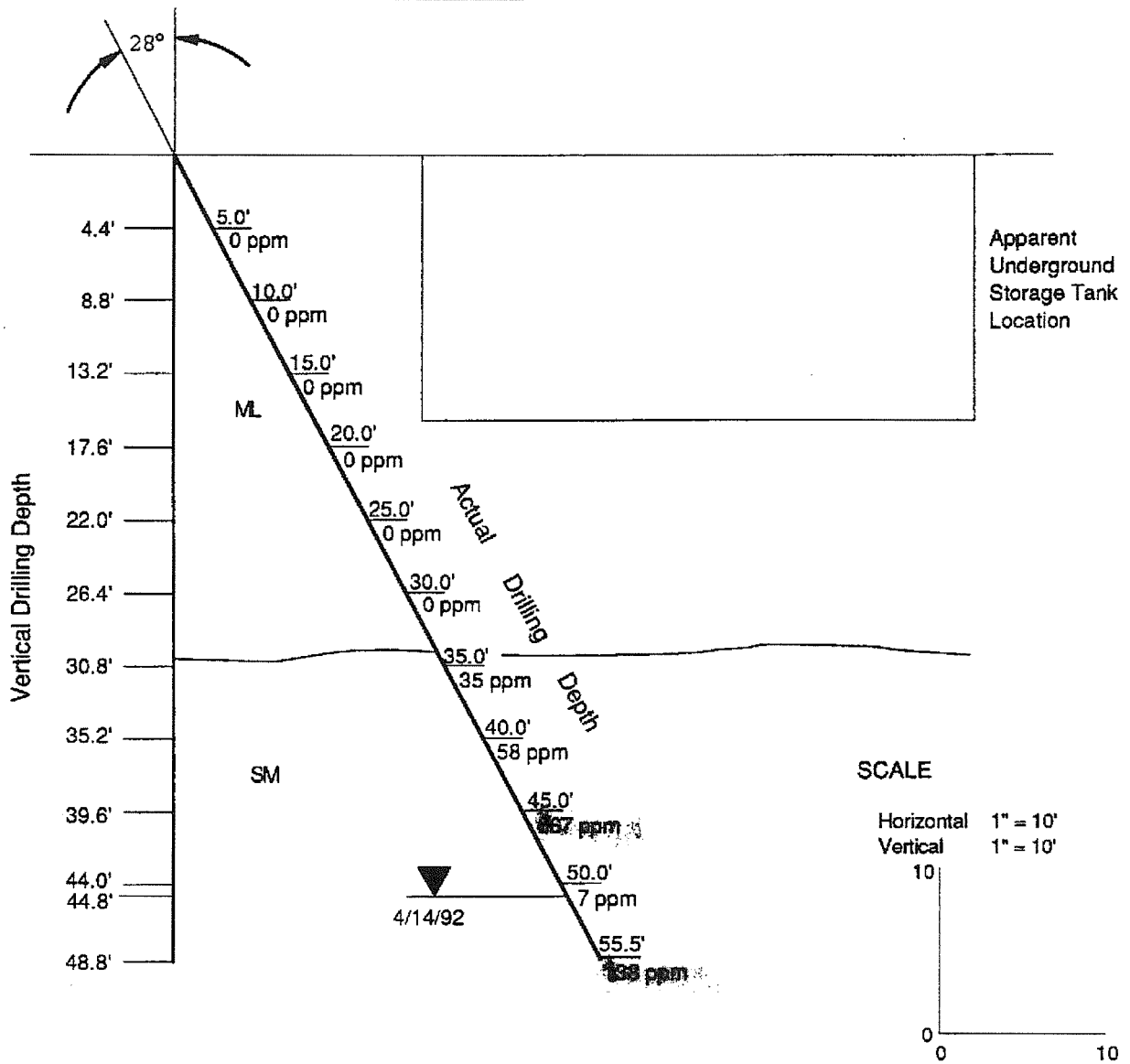
Haber Oil
1401 Grand Avenue
San Leandro, CA

JOB NUMBER

91-001

BORING

7



LEGEND

667 ppm Concentration Of TPH In ppm (parts per million), Based On Field Measurements With A Fluorization Detector In Parts Per Million (ppm), Calibrated To Hexane With 10.2 @V Lamp.

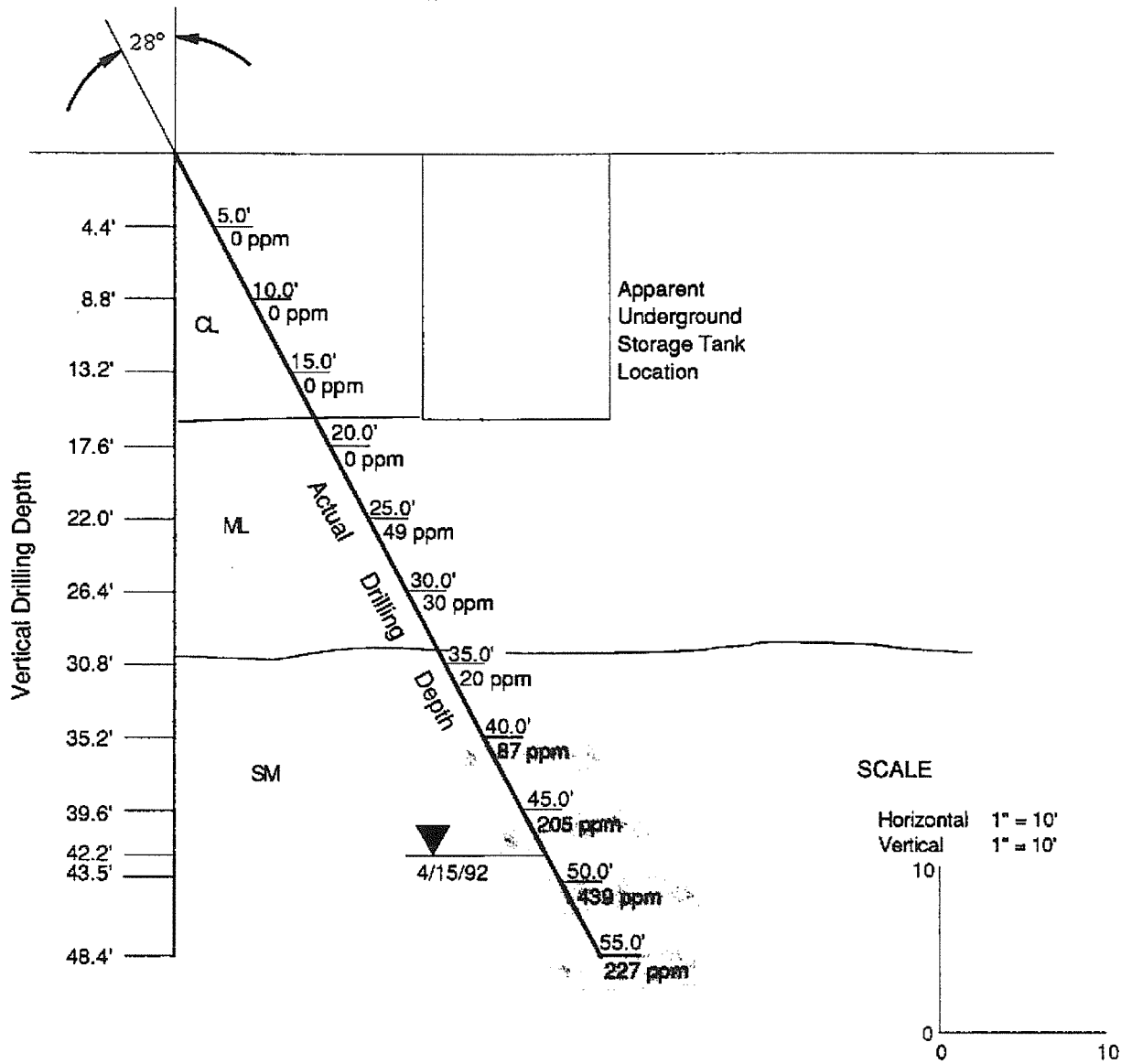
▼
4/14/92

Date And Location Of First Water Encountered, April 14, 1992 At A Depth Of 44.8 Feet Below Ground Surface.

NOTES All locations Are Approximate

Boring Angle Is True Angle

		SOIL BORING B-5		Attachment
DRAWN BY: Ed Bernard	DATE: April 27, 1992	Haber Oil 1401 Grand Avenue San Leandro, CA		
REVISED BY: Ed Bernard	DATE: June 2, 1992			
REVIEWED BY:	DATE:			



LEGEND

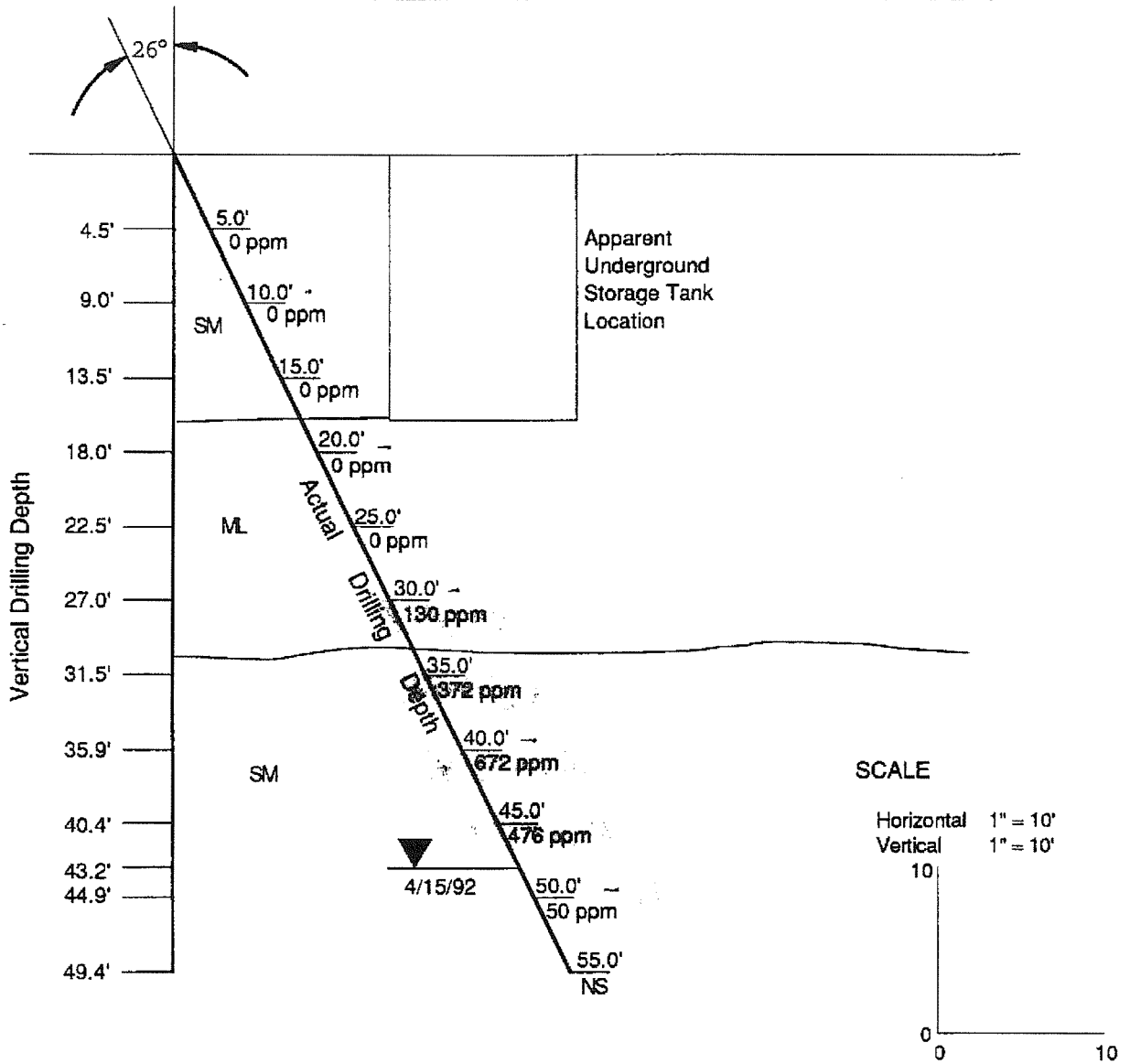
667 ppm Concentration Of TPH In ppm (parts per million), Based On Field Measurements With A Photoionization Detector In Parts Per Million (ppm), Calibrated To Hexane With 10.2 @V Lamp.

▼
4/15/92 Date And Location Of First Water Encountered, April 15, 1992 At A Depth Of 42.2 Feet Below Ground Surface.

NOTES All locations Are Approximate

Boring Angle Is True Angle

		SOIL BORING B-6		Attachment
DRAWN BY: Ed Bernard	DATE: April 27, 1992	Haber Oil 1401 Grand Avenue San Leandro, CA		PROJECT NUMBER: 10-91001
REVISED BY: Ed Bernard	DATE: June 2, 1992			
REVIEWED BY:	DATE:			



LEGEND

667 ppm Concentration Of TPH In ppm (parts per million), Based On Field Measurements With A Photoionization Detector In Parts Per Million (ppm), Calibrated To Hexane With 10.2 @V Lamp.

▼
4/15/92 Date And Location Of First Water Encountered, April 15, 1992 At A Depth Of 43.2 Feet Below Ground Surface.

NOTES All locations Are Approximate

Boring Angle Is True Angle

		SOIL BORING B-7		Attachment
DRAWN BY: Ed Bernard	DATE: April 27, 1992	Haber Oil 1401 Grand Avenue San Leandro, CA		PROJECT NUMBER: 10-91001
REVISED BY:	DATE:			
REVIEWED BY:	DATE:			

P&D Environmental

BORING NO: B10	PROJECT NO: 0055	PROJECT NAME: Former ARCO - San Leandro, CA	
BORING LOCATION: In Planter on North Side of Joaquin Avenue		ELEVATION & DATUM: NONE	
DRILLING AGENCY: VIRONEX		DRILLER: John	
DRILLING EQUIPMENT: 1.5" OD Geoprobe		DATE & TIME STARTED: 12/4/98	DATE & TIME FINISHED: 12/4/98
COMPLETION DEPTH: 41.0		BEDROCK DEPTH: None	LOGGED BY: PHK CHECKED BY:
FIRST WATER DEPTH: 37.0		NO. OF SAMPLES: 1 Water	

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
0							
5	Black Silty clay (CH); Trace fine sand, moist, stiff. No Petroleum Hydrocarbon (PHC) odor.	CH		0			
10	Brown clayey silt. (ML); Moist, soft. No PHC odor.	ML		0			
15				0			
20	Brown gravelly sand (SW); Fine to medium sand, gravel up to 1/4" diameter, trace silt, moist to wet, loose. No PHC odor.	SW		0			
25	Brown sandy clay (CL); Fine sand, trace medium and coarse sand, moist to wet, soft. Stiff, dry. No PHC odor.	CL		0			
30	Brown clayey sand (SC); Fine medium and coarse sand, wet, medium dense. No PHC odor.	SC		0			

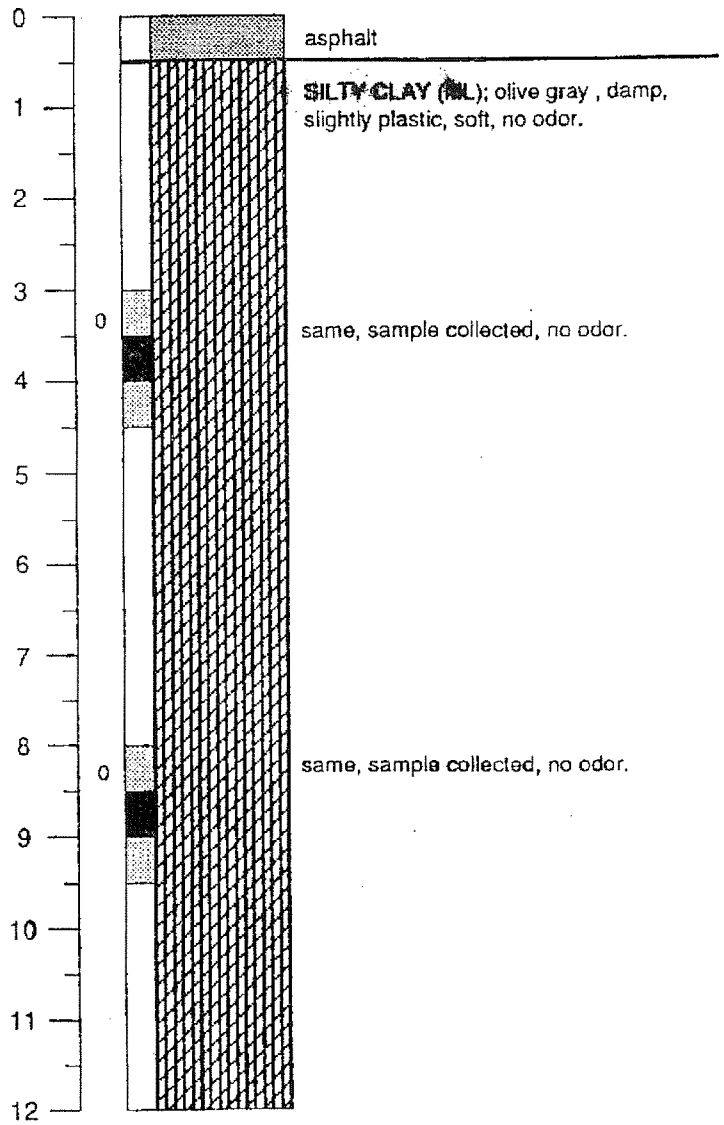
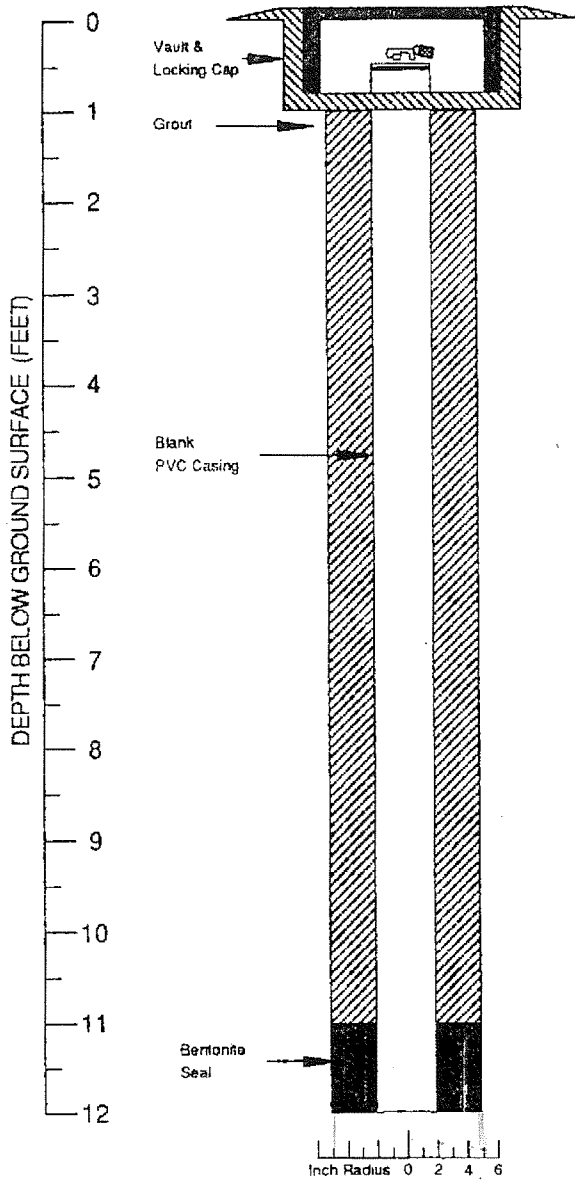
P&D Environmental

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
	Brown clayey sand (SC); Fine sand, minor medium and coarse sand, wet, medium dense. No PHC odor.	SC		0			
35	Brown silty clay (CL); Moist, hard. No PHC odor.	CL		0			Very hard drilling beginning at 37'. Groundwater first encountered at 37' at 9:15 AM on 12/4/98. Water at 32.3' at 9:20 AM. Collect groundwater grab sample from open borehole with stainless steel bailer.
40	Brown silty sand. (SM); Fine to coarse sand, minor silt, saturated loose. No PHC odor.	SM		0			
45							
50							
55							
60							

BORING/WELL CONSTRUCTION DETAIL

GRAPHIC LOG

DESCRIPTION



Logged by: Mike Kitko
 Project Mgr: Brian Garber
 Date Drilled: ~~Sept. 15, 1992~~ 09:20 hrs

Drilling Company: B & F Drilling Co.
 Drilling Method: 10" Hollow Stem Auger
 Driller: Bob Gansberg & Chris Fiscus

Well Head Completion: ~~Sept. 15, 1992~~ 13:50 hrs
 Type of Sampler: Modified Calif. Split Spoon
 TD (Total Depth): 53.0 Feet

Explanation

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

Contacts

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-1

JOB NUMBER

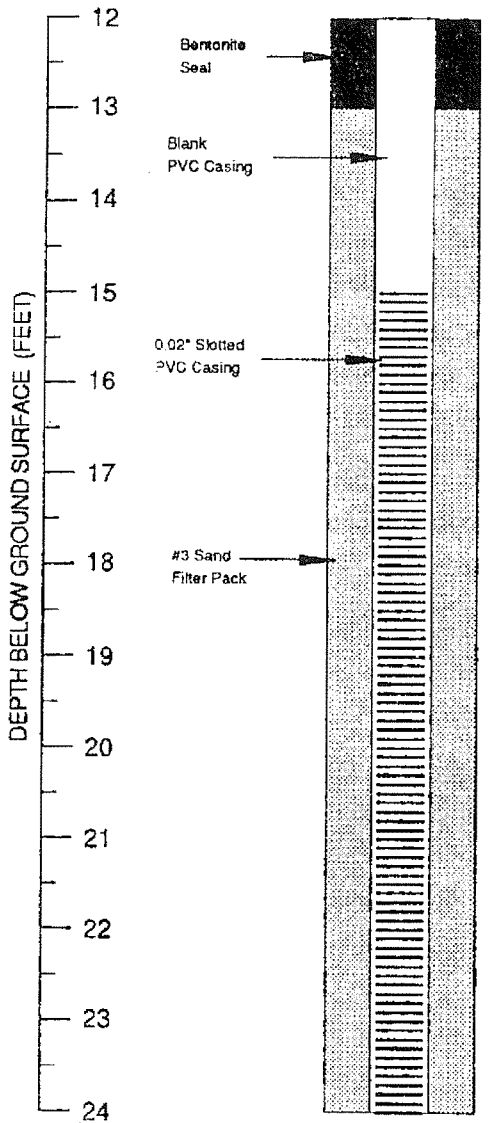
10-91001

Haber Oil Company
 1401 Grand Avenue
 San Leandro, Calif.

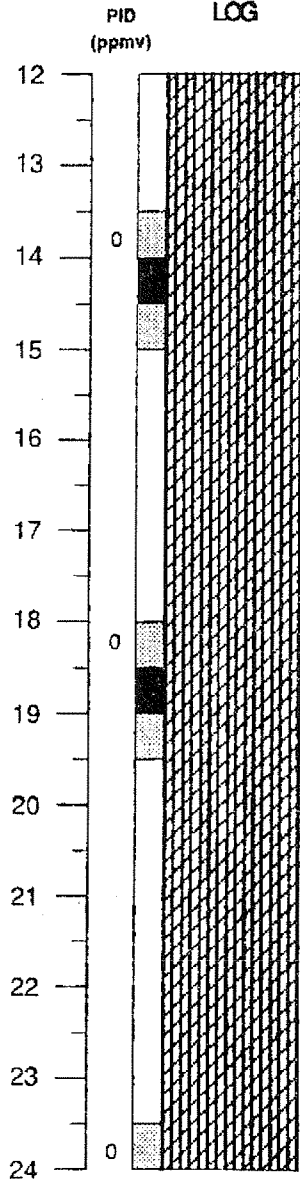
WELL

MW-1

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

CLAYEY-SILT (ML); dark yellowish brown damp, slightly plastic, soft, no odor

same, sample collected, no odor

same, sample collected, no odor

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-1

JOB NUMBE

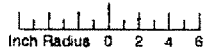
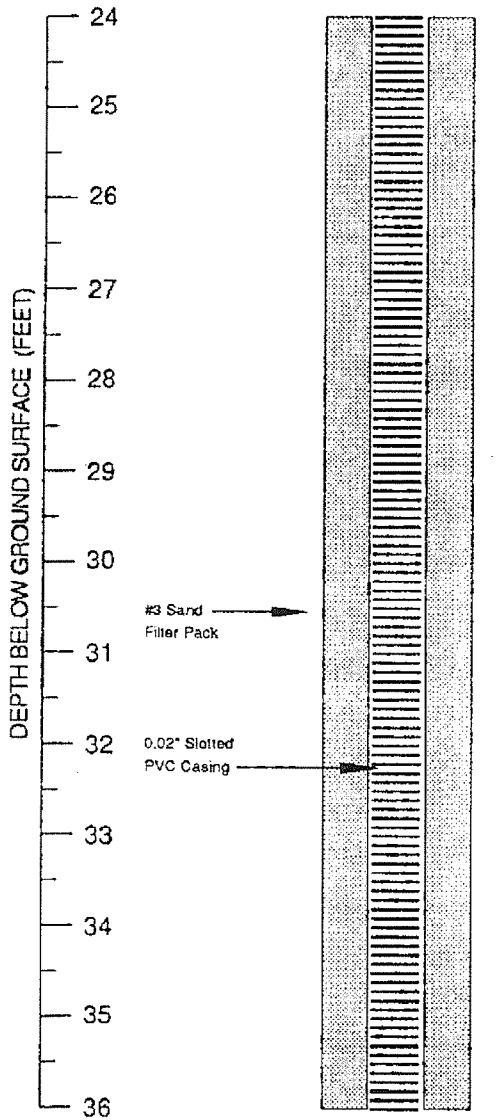
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

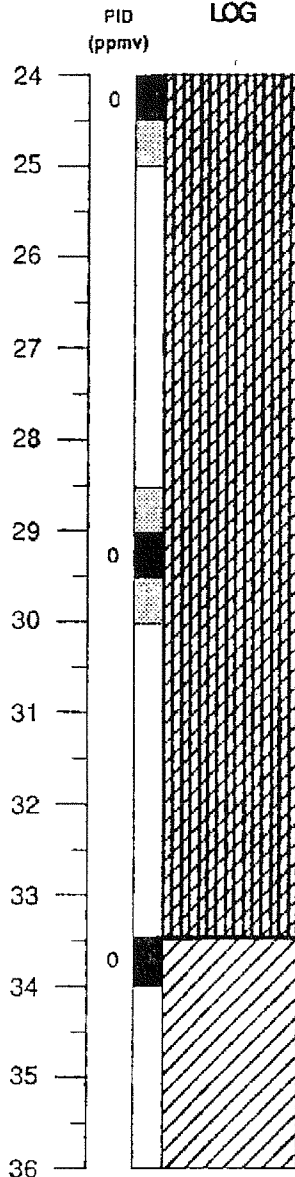
WELL

MW-1

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

same, sampled collected, no odor.

same, sampled collected, no odor.

SAND (SA); greenish gray, dry to damp, poorly graded, fine to medium grained, no hydrocarbon odor.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hatched where gradational
- est K** Estimated permeability (hydraulic conductivity)
1K- primary, 2K- secondary
- NR** No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-1

JOB NUMBER

10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

WELL

MW-1

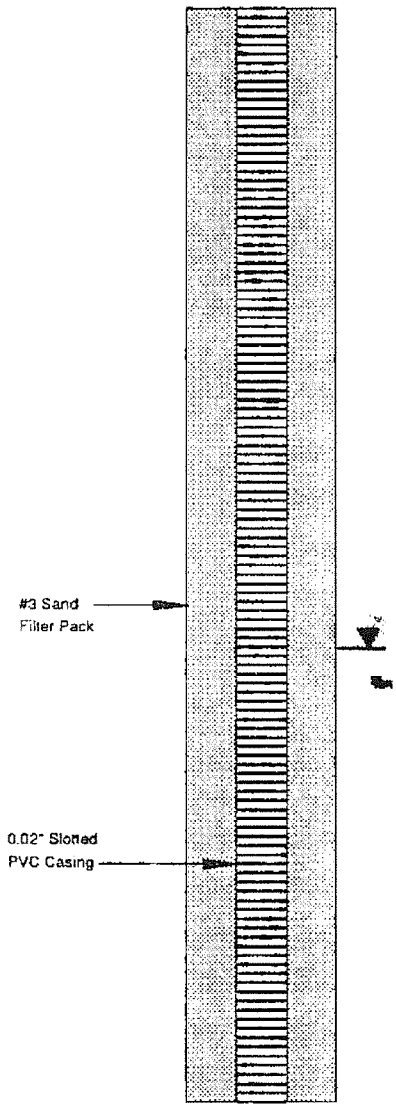
BORING/WELL CONSTRUCTION DETAIL

GRAPHIC LOG

DESCRIPTION

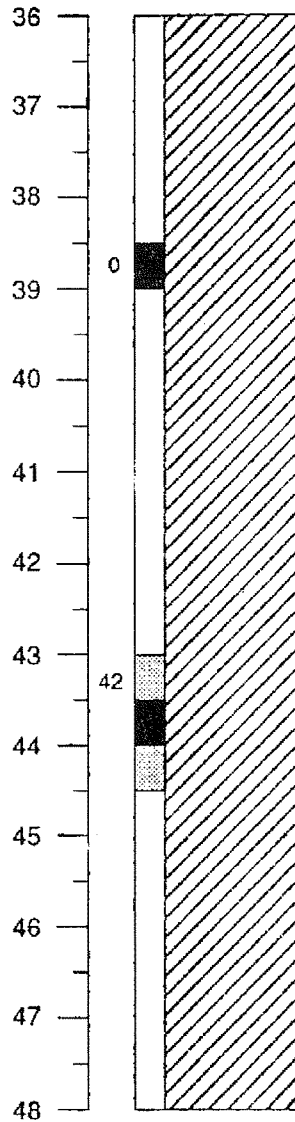
DEPTH BELOW GROUND SURFACE (FEET)

36
37
38
39
40
41
42
43
44
45
46
47
48



Inch Radius 0 2 4 6

PID (ppmv)



same, sampled collected, no odor.

same, sampled collected, hy

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-1

JOB NUMBER

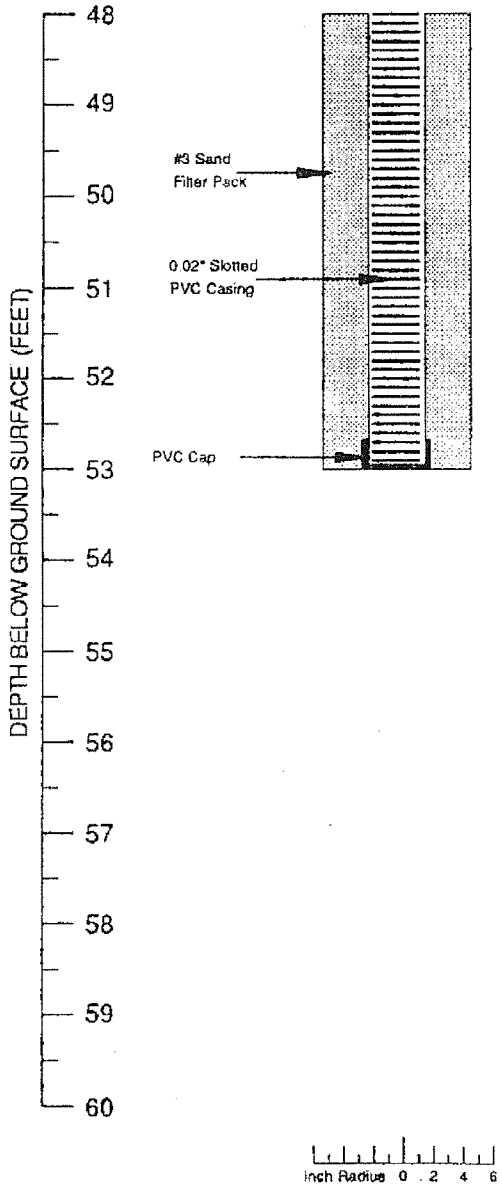
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Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

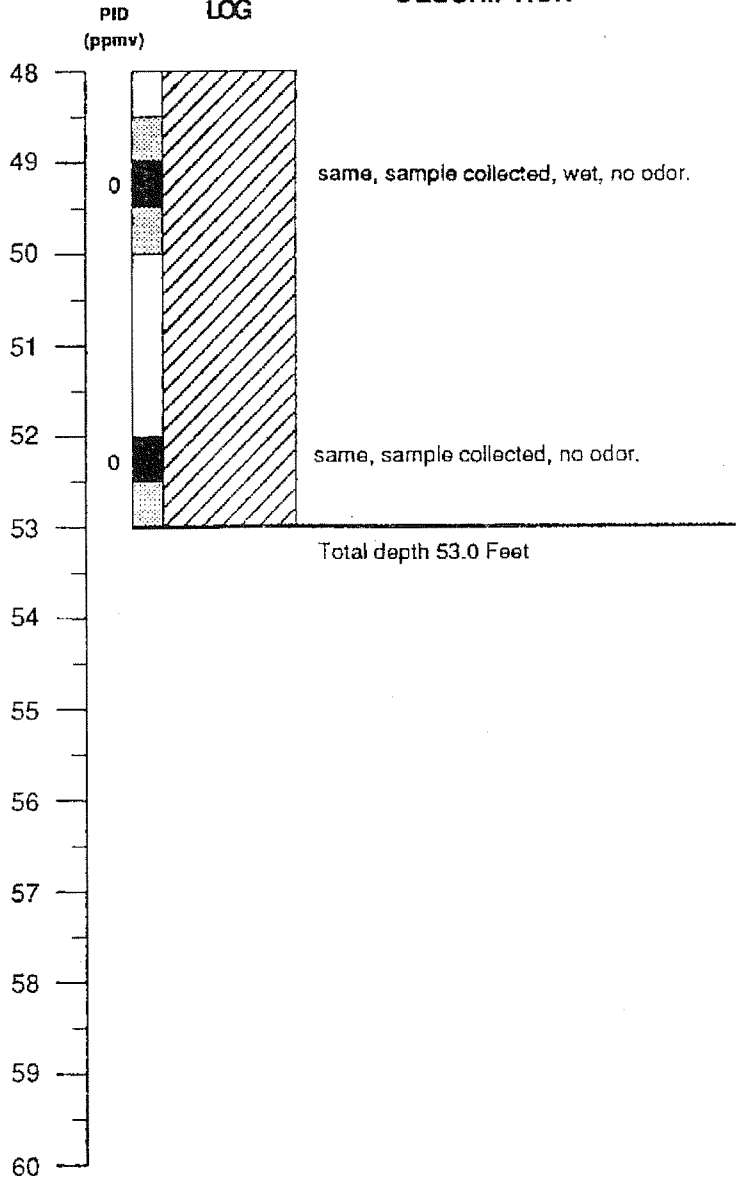
WELL

MW-1

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-1

JOB NUMBER

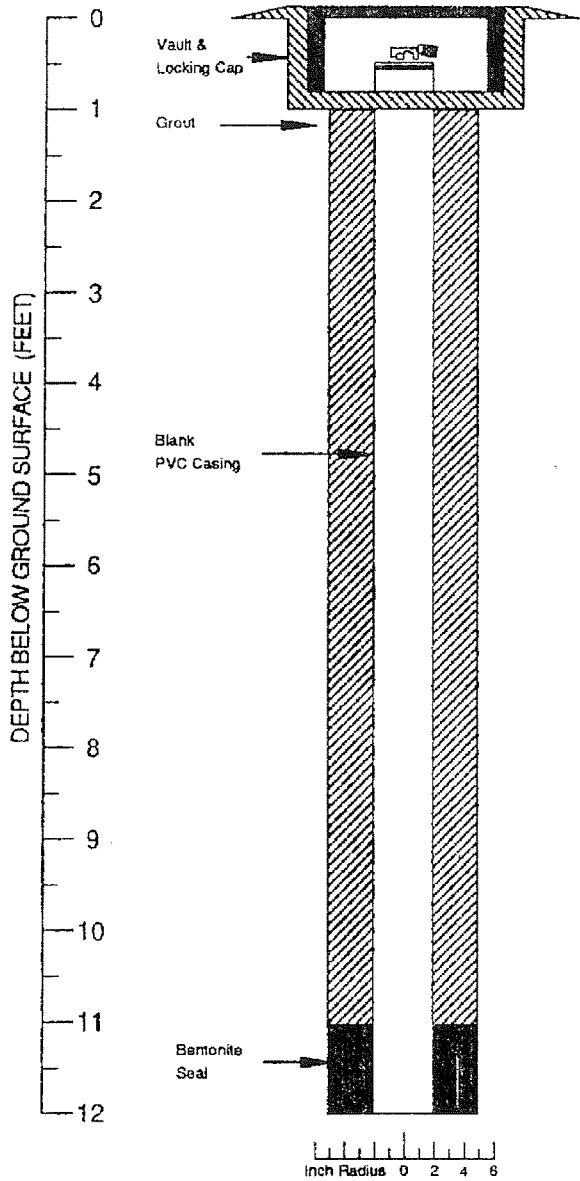
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

WELL

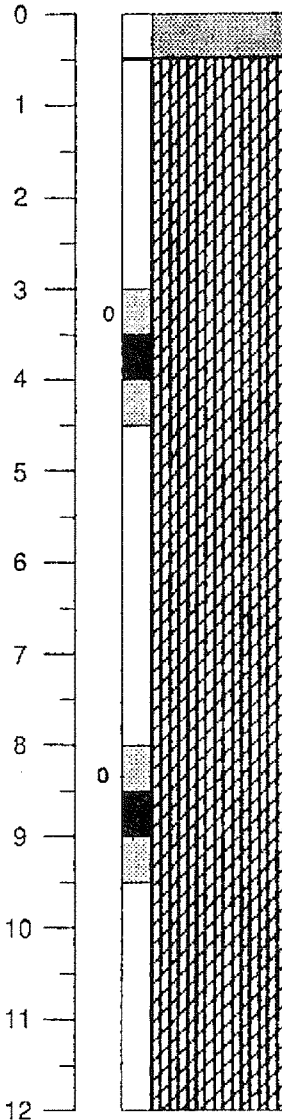
MW-1

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG

PID (ppmv)



DESCRIPTION

asphalt

SILTY CLAY (ML); olive gray, damp, slightly plastic, soft, no odor.

same, sample collected, no odor.

same, sample collected, no odor.

Logged by: Mike Kitko
 Project Mgr: Brian Garber
 Date Drilled: Sept. 15, 1992 09:20 hrs

Drilling Company: B & F Drilling Co.
 Drilling Method: 10" Hollow Stem Auger
 Driller: Bob Gansberg & Chris Fiscus

Well Head Completion: Sept. 15, 1992 12:50 hrs
 Type of Sampler: Modified Calif. Split Spoon
 TD (Total Depth): 53.0 Feet

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-2

JOB NUMBER

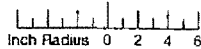
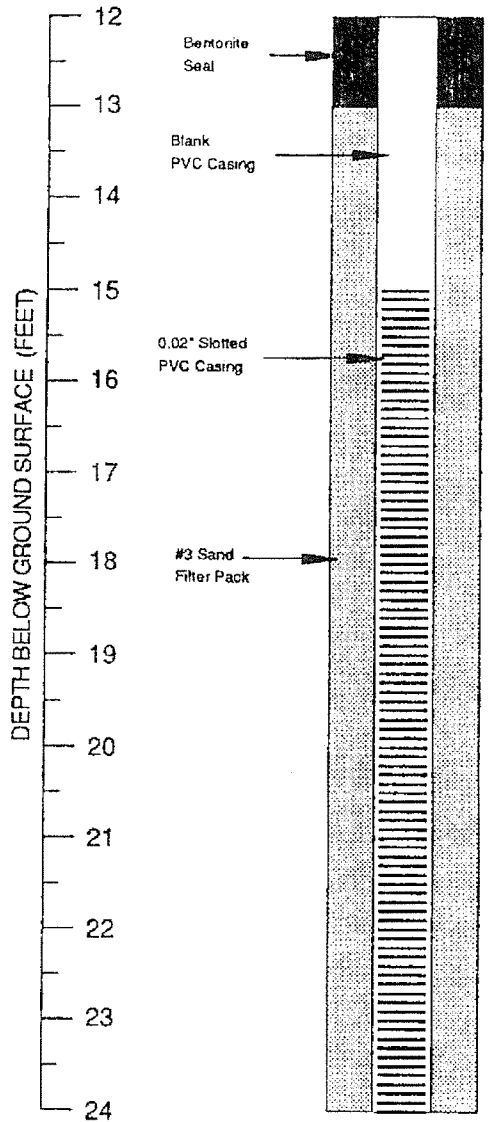
10-91001

Haber Oil Company
 1401 Grand Avenue
 San Leandro, Calif.

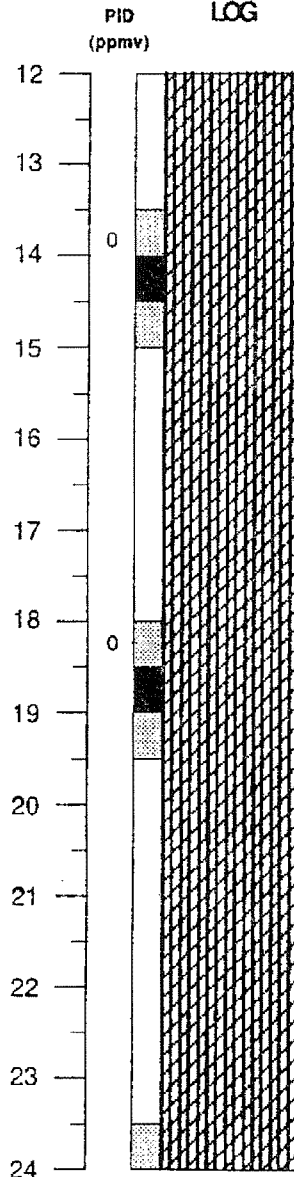
WELL

MW-2

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

CLAYEY SILT (ML); light olive gray, damp, slightly plastic, soft, no odor.

same, sampled collected, no odor.

same, sampled collected, no odor.

Explanation

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

Contacts

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-2

JOB NUMBER

10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

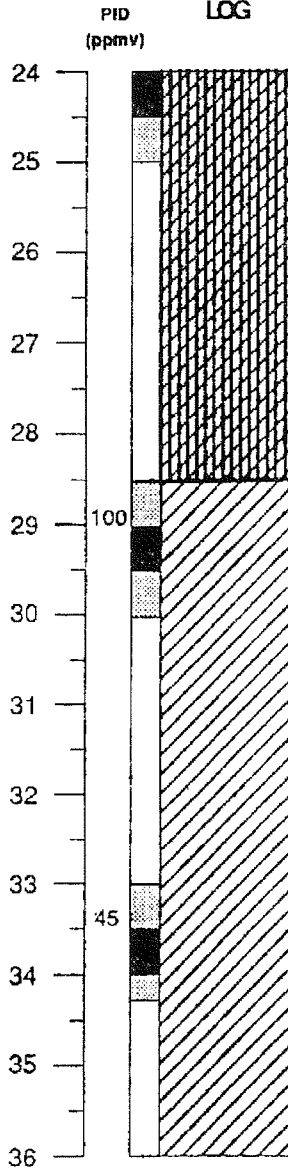
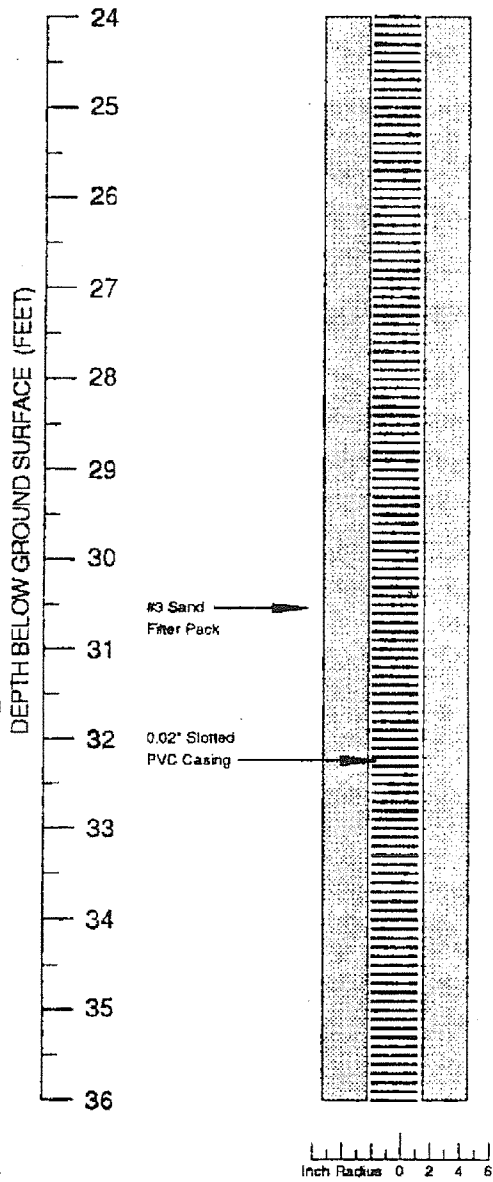
WELL

MW-2

BORING/WELL CONSTRUCTION DETAIL

GRAPHIC LOG

DESCRIPTION



same, sampled collected, no odor.

SAND (SM); greenish gray, damp, moderately graded, medium to coarse grained with gravel. ~~hydrocarbon odor.~~

SAND (SM), dry to damp, poorly graded, fine to medium grained, ~~hydrocarbon odor.~~

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hatched where gradational
- set K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-2

JOB NUMBER

10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

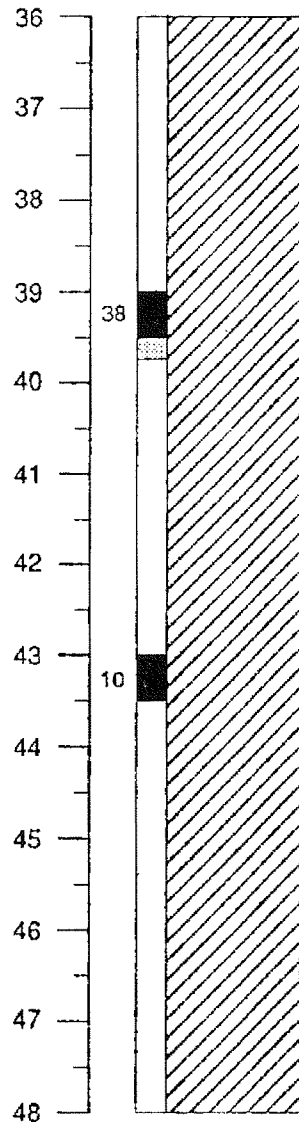
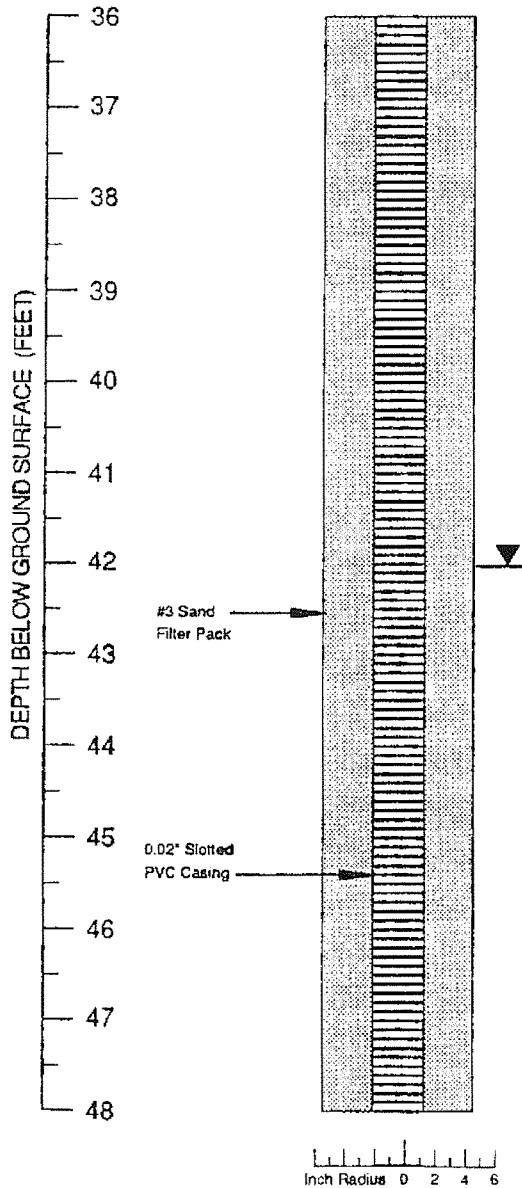
WELL

MW-2

BORING/WELL CONSTRUCTION DETAIL

GRAPHIC LOG

DESCRIPTION



same, sampled collected, no odor.

same, sampled collected, weak odor.

Explanation

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

Contacts

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K- primary, 2K= secondary
- NR No Recovery



AECIS ENVIRONMENTAL, INC.

Well Log

MW-2

JOB NUMBER

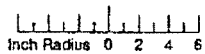
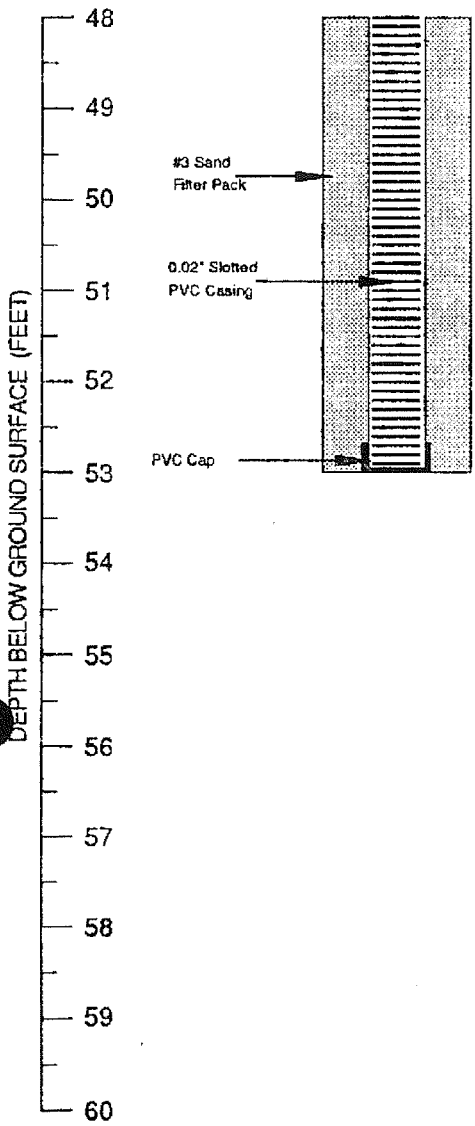
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

WELL

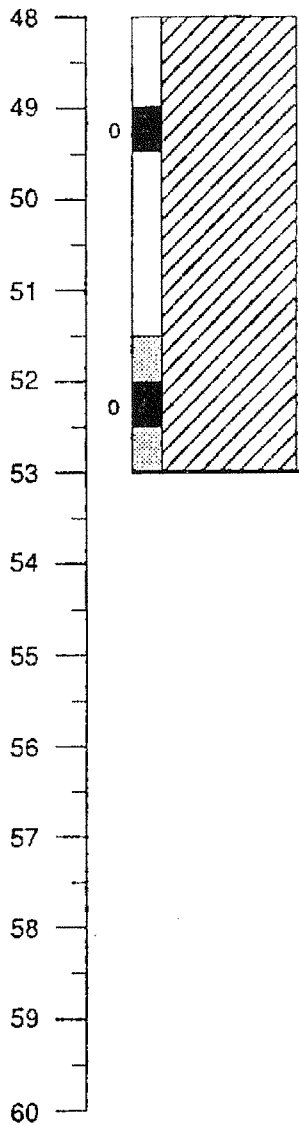
MW-2

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG

PID (ppmv)



DESCRIPTION

same, sample collected, wet, no odor.

Clayey gravel (Gc)

same, sample collected, no odor.

Total depth 53.0 Feet

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-2

JOB NUMBER

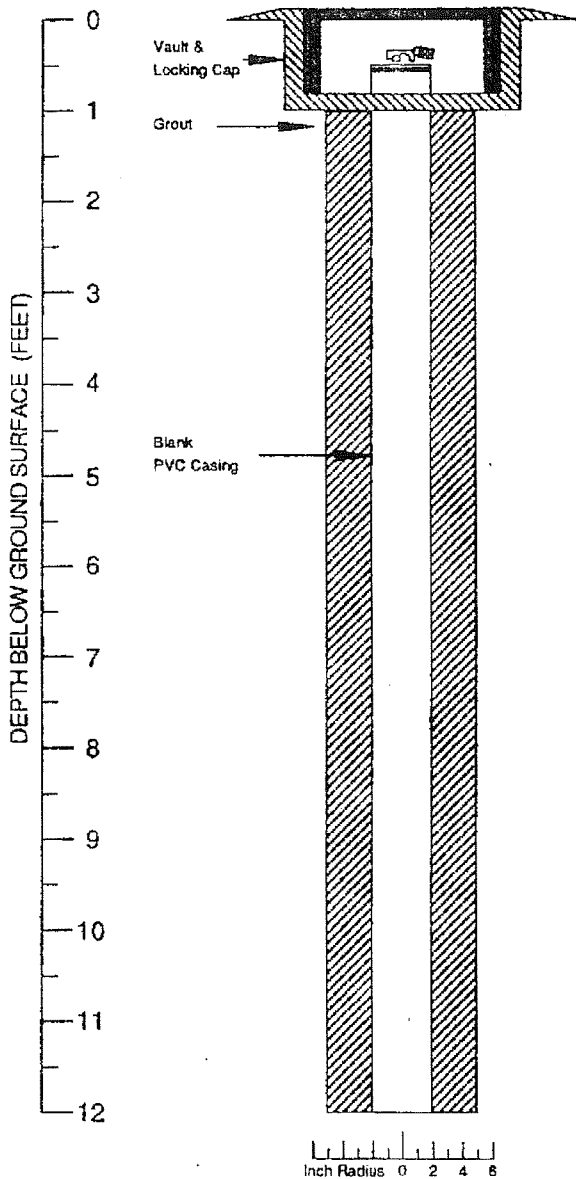
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

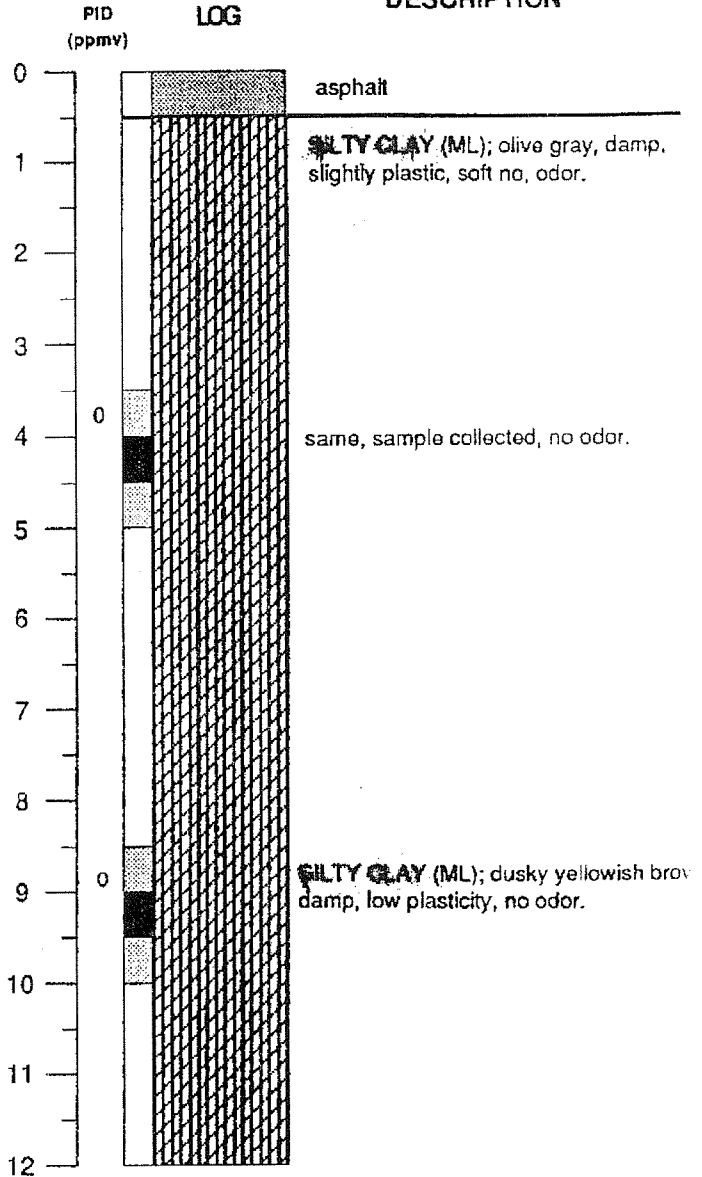
WELL

MW-2

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



Logged by: Mike Kitko
 Project Mgr: Brian Garber
 Date Drilled: Sept. 16, 1992 12:55 hrs

Drilling Company: B & F Drilling Co.
 Drilling Method: 10" Hollow Stem Auger
 Driller: Bob Gansberg & Chris Fiscus

Well Head Completion: Sept. 16, 1992 16:45 hrs
 Type of Sampler: Modified Calif. Split Spoon
 TD (Total Depth): 56.0 Feet

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-3

JOB NUMI

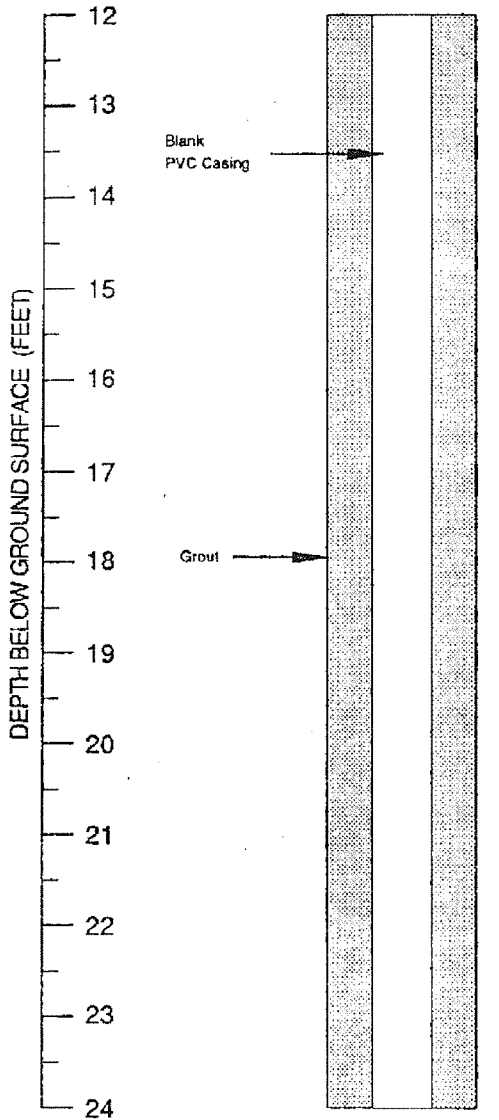
10-9100

Haber Oil Company
 1401 Grand Avenue
 San Leandro, Calif.

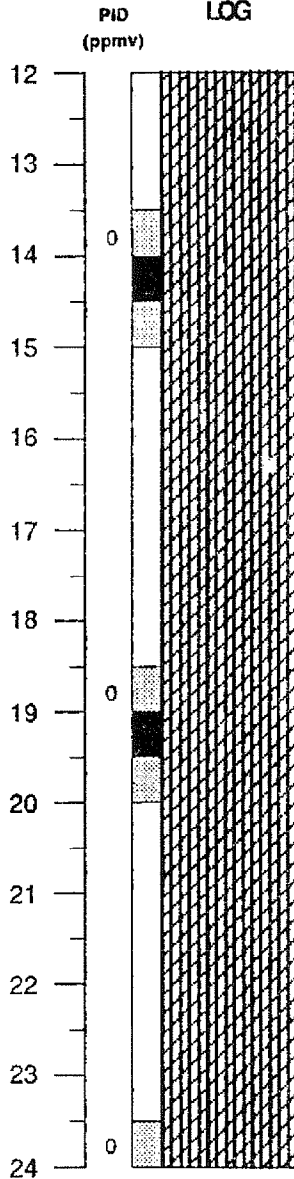
WELL

MW-3

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

same, sample collected, no odor.

same, dark yellowish brown, no odor.

same, sample collected, no odor.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hatched where gradational
- est K Estimated permeability (hydraulic conductivity)
1K- primary, 2K- secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-3

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

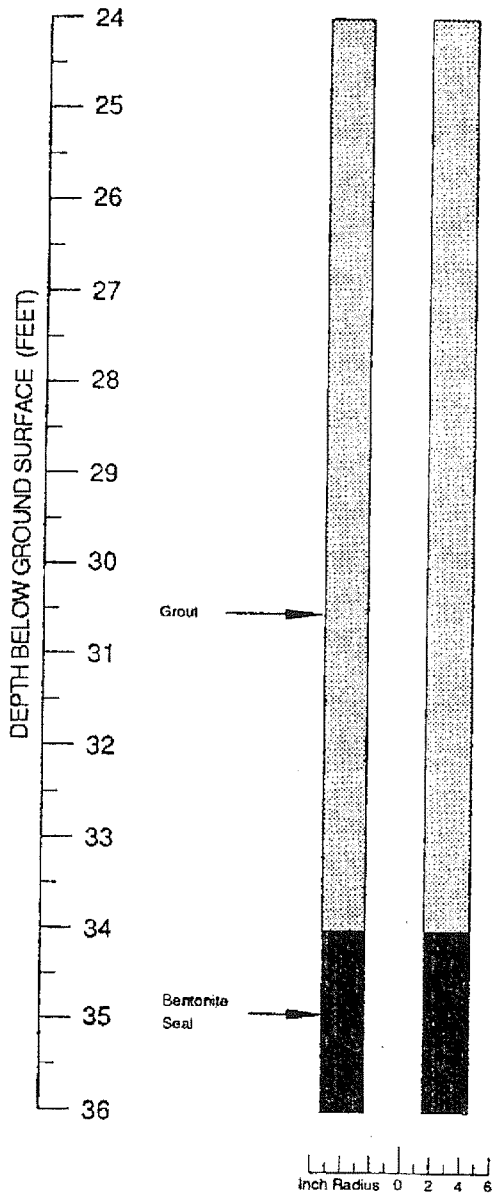
JOB NUMBER

10-91001

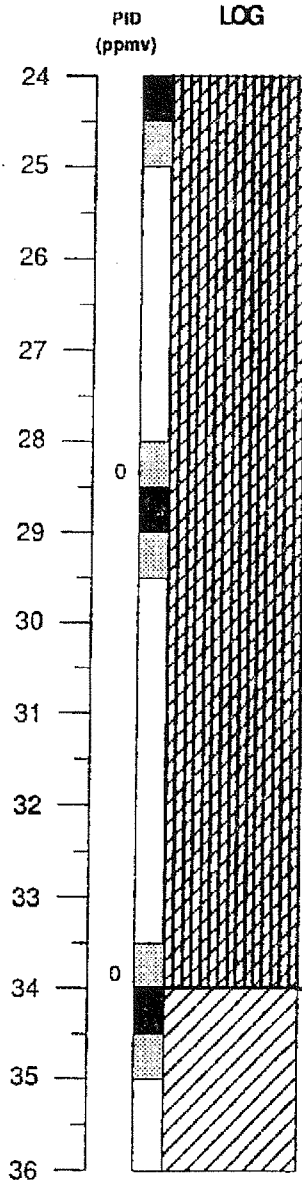
WELL

MW-3

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

same, sampled collected, no odor.

same, sampled collected, no odor.

SAND (SM); greenish gray, damp, moderately graded, fine to medium grained.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hatched where gradational
- est K Estimated permeability (hydraulic conductivity)
1K- primary, 2K- secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-3

JOB NUMBER

10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

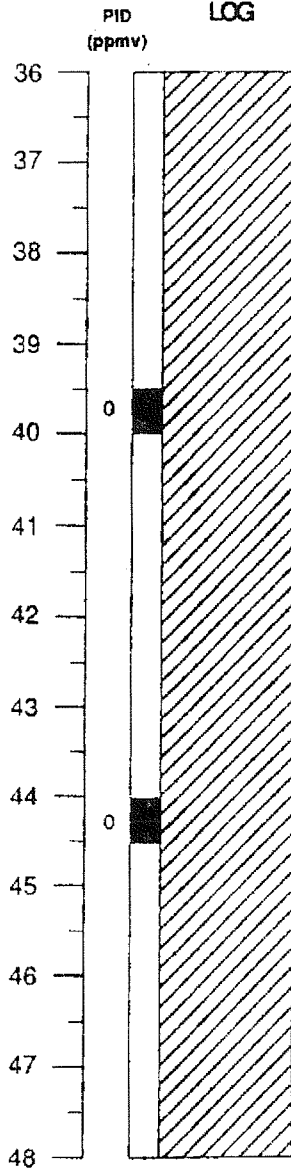
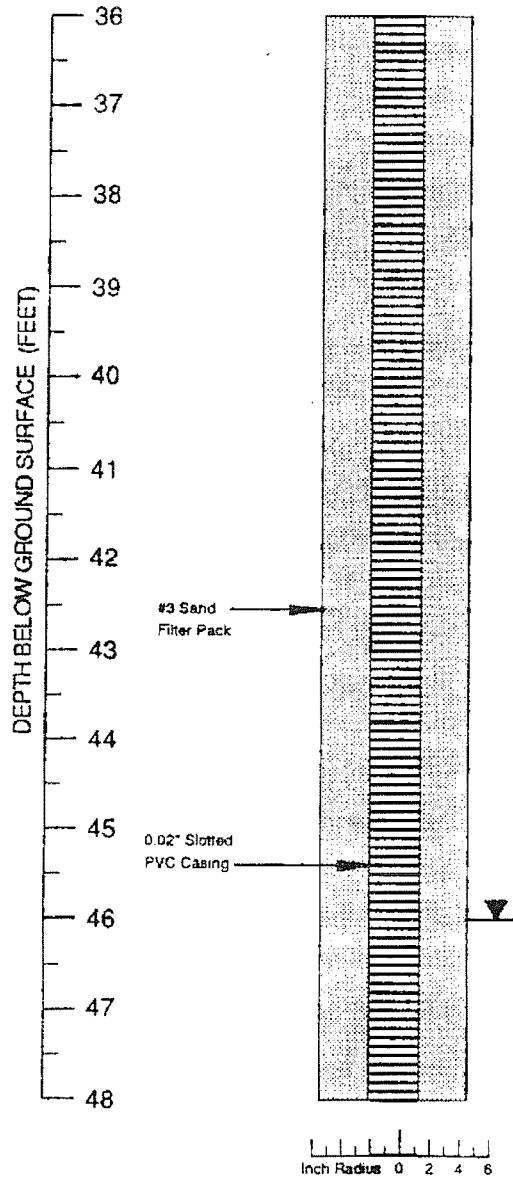
WELL

MW-3

BORING/WELL CONSTRUCTION DETAIL

GRAPHIC LOG

DESCRIPTION



same, sampled collected, no odor.

same, sampled collected, no odor.

Explanation

- Water level during drilling
- Water level in completed well
- Location of recovered drill sample
- Location of sample bailed for chemical analysis
- Sieve sample
- Grab Sample

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-3

JOB NUMBER

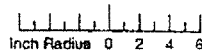
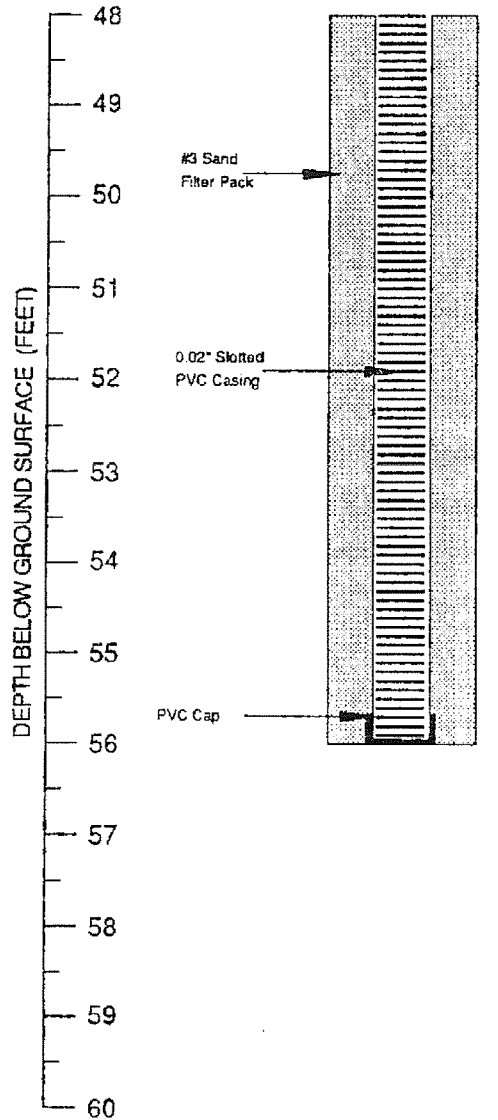
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

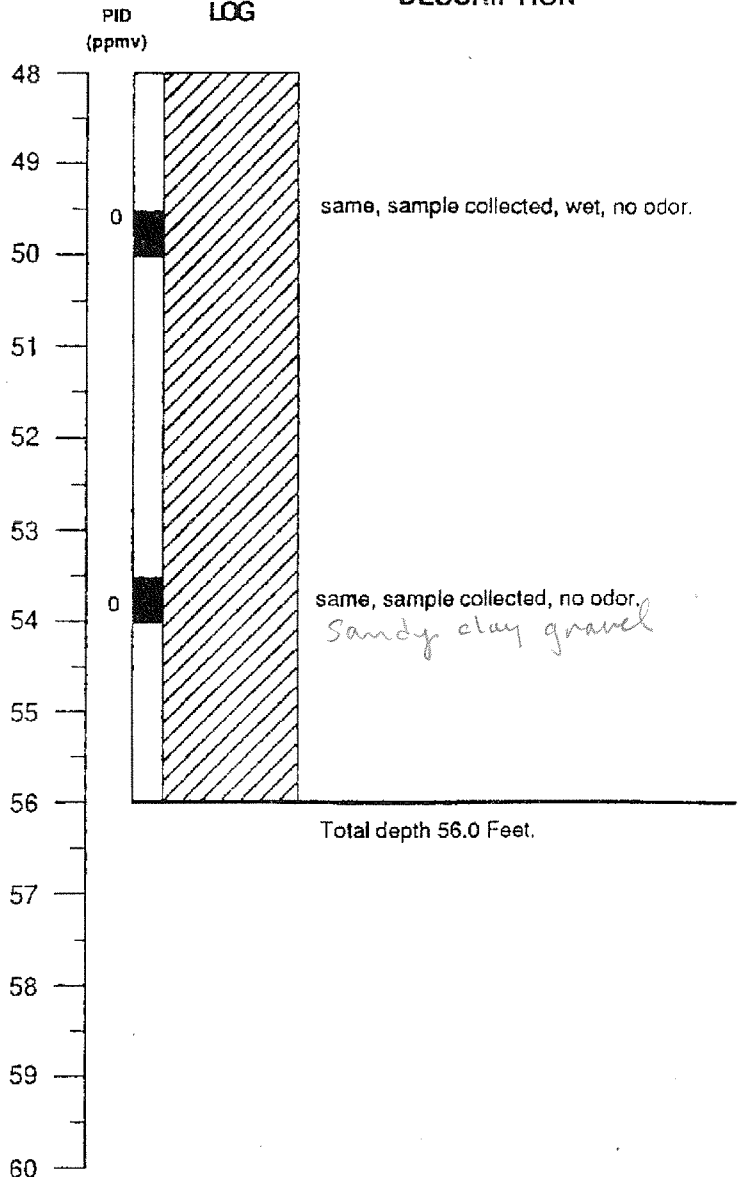
WELL

MW-3

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



Total depth 56.0 Feet.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-3

JOB NUMBER

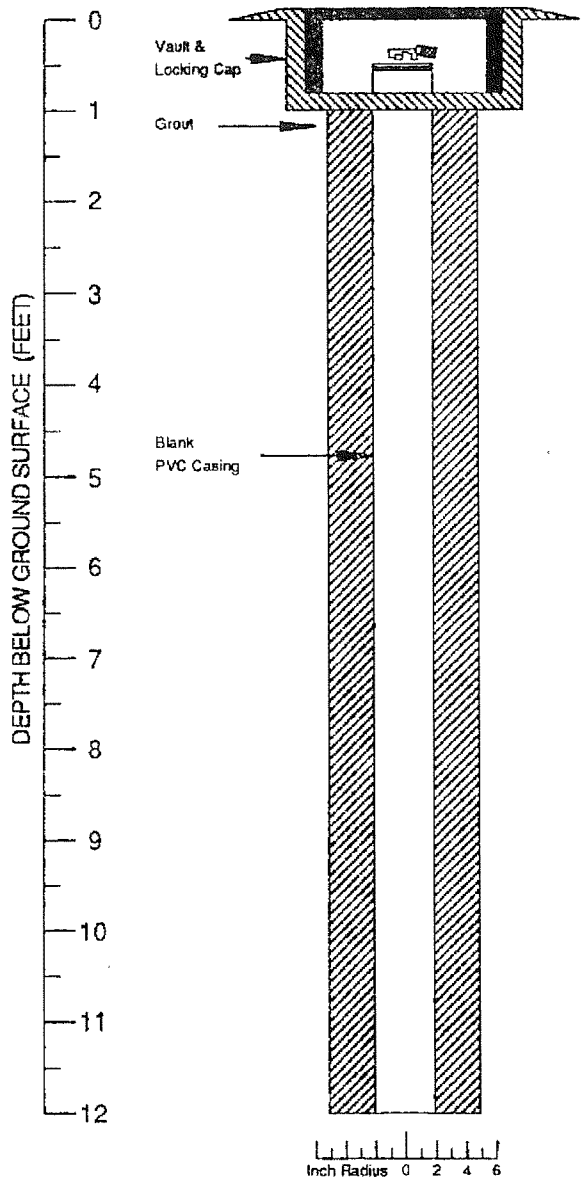
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

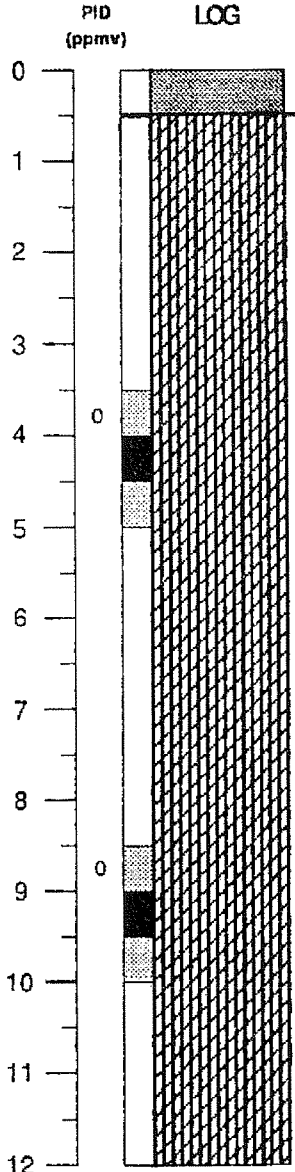
WELL

MW-3

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

0 asphalt

1 **CLAY (ML)**; olive gray, damp, slightly plastic, soft, no odor.

4 **SILT (ML)**; moderate yellowish brown, damp, soft, no odor.

9 same, sample collected, no odor.

Logged by: Mike Kitko
 Project Mgr: Brian Garber
 Date Drilled: Sept. 18, 1992 10:00 hrs

Drilling Company: B & F Drilling Co.
 Drilling Method: 10" Hollow Stem Auger
 Driller: Bob Gansberg & Chris Fiscus

Well Head Completion: Sept. 18, 1992 14:15 hrs
 Type of Sampler: Modified Calif. Split Spoon
 TD (Total Depth): 53.5 Feet

Explanation

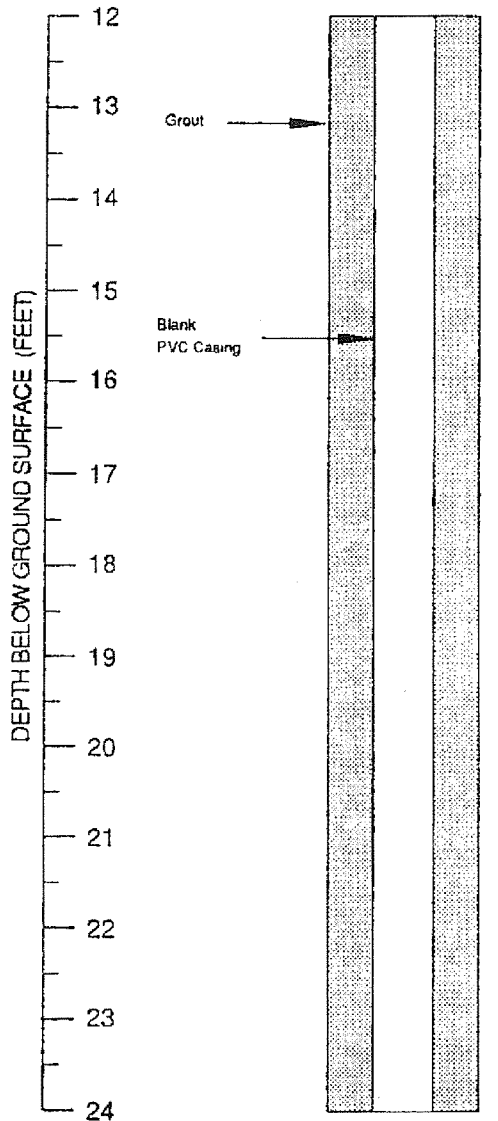
- | | | | |
|--|---|-------|---|
| | Water level during drilling | | Solid where certain |
| | Water level in completed well | | Dotted where approximate |
| | Location of recovered drill sample | | Dashed where uncertain |
| | Location of sample sealed for chemical analysis | | Hachured where gradational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



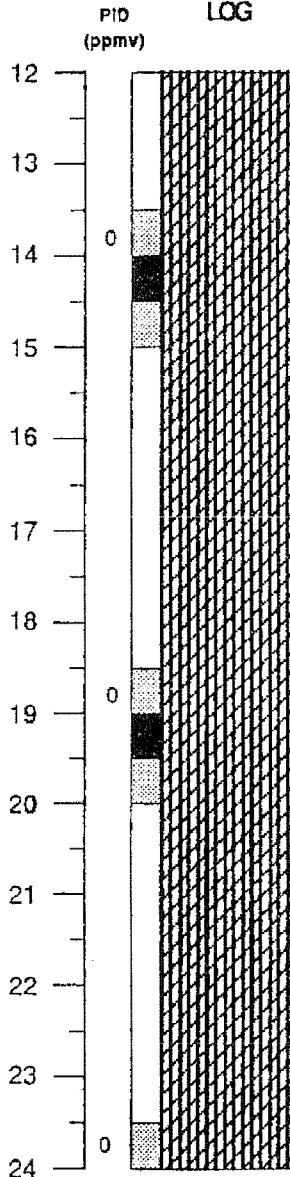
AEGIS ENVIRONMENTAL, INC.

Well Log	MW-4 *	JOB NUMBER 10-91001
Haber Oil Company 1401 Grand Avenue San Leandro, Calif.		WELL MW-4

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

same, sample collected, no odor.

same, sample collected, no odor.

same, sample collected, no odor.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K- primary, 2K- secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-4

JOB NUMBER

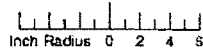
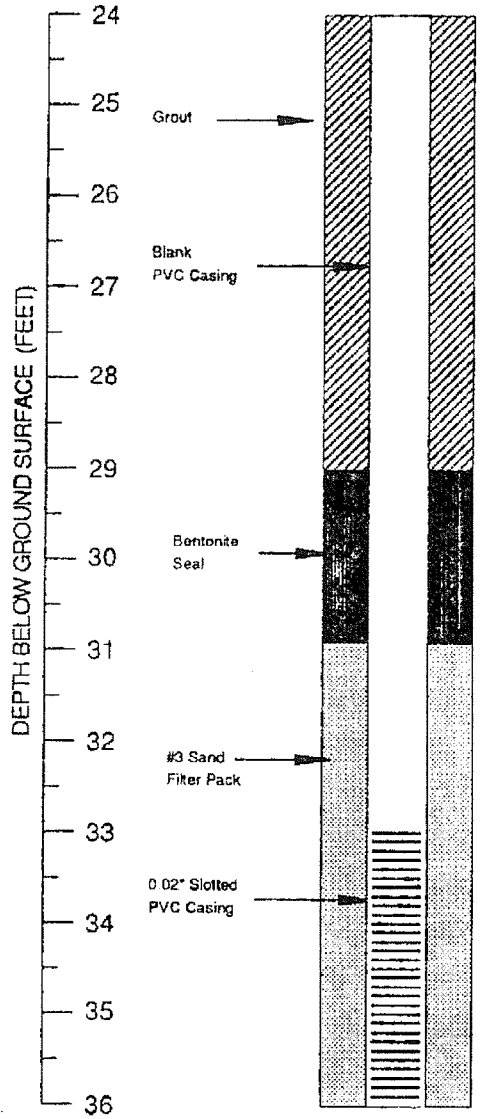
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

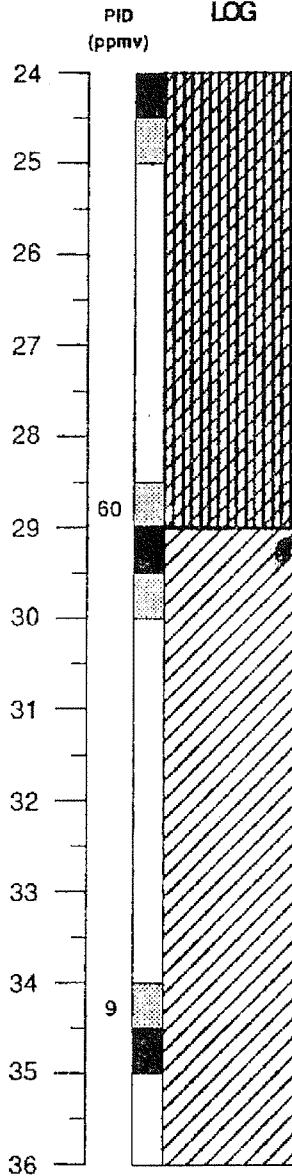
WELL

MW-4

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

SILTY SAND (SM); light olive gray, moist, poorly graded, fine-grained with strong hydraulic conductivity.

SAND (SM); greenish gray, damp, moderately graded, medium to coarse-grained, no odor.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K- primary, 2K- secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-4

JOB NUMBER

10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

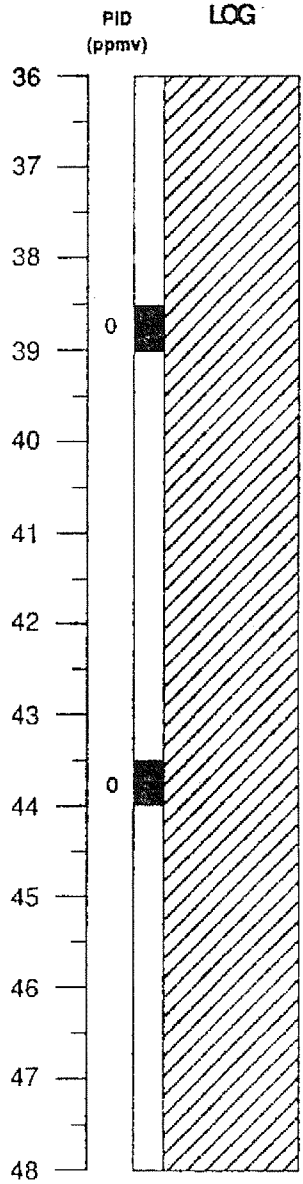
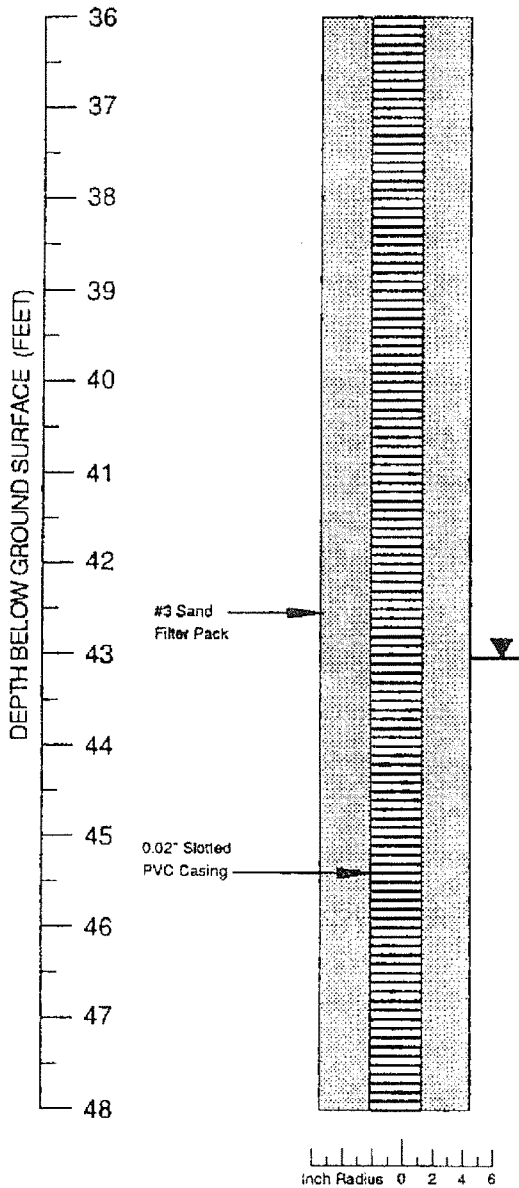
WELL

MW-4

BORING/WELL CONSTRUCTION DETAIL

GRAPHIC LOG

DESCRIPTION



same, sampled collected, no odor.

same, sampled collected, no odor.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-4

JOB NUMBER

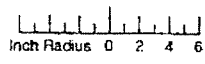
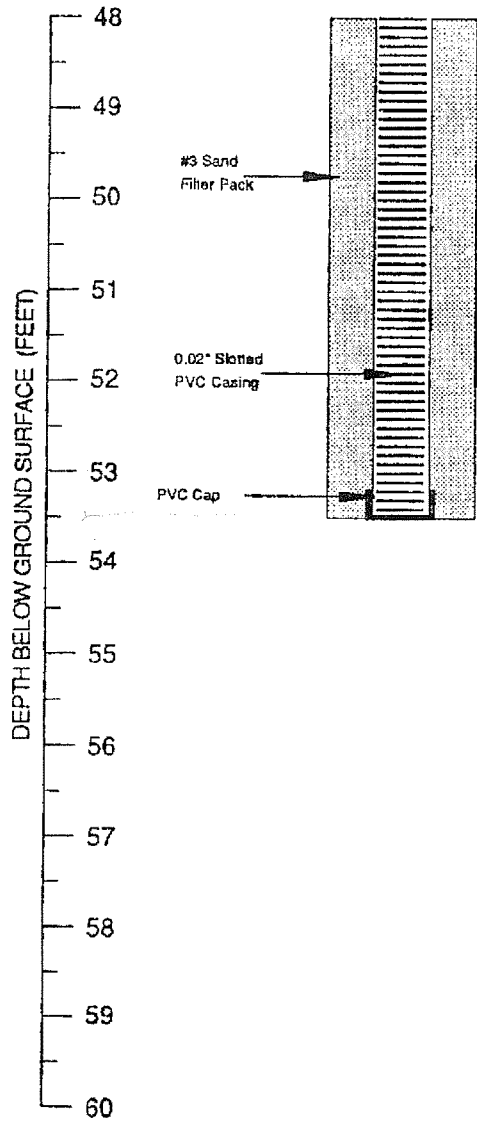
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

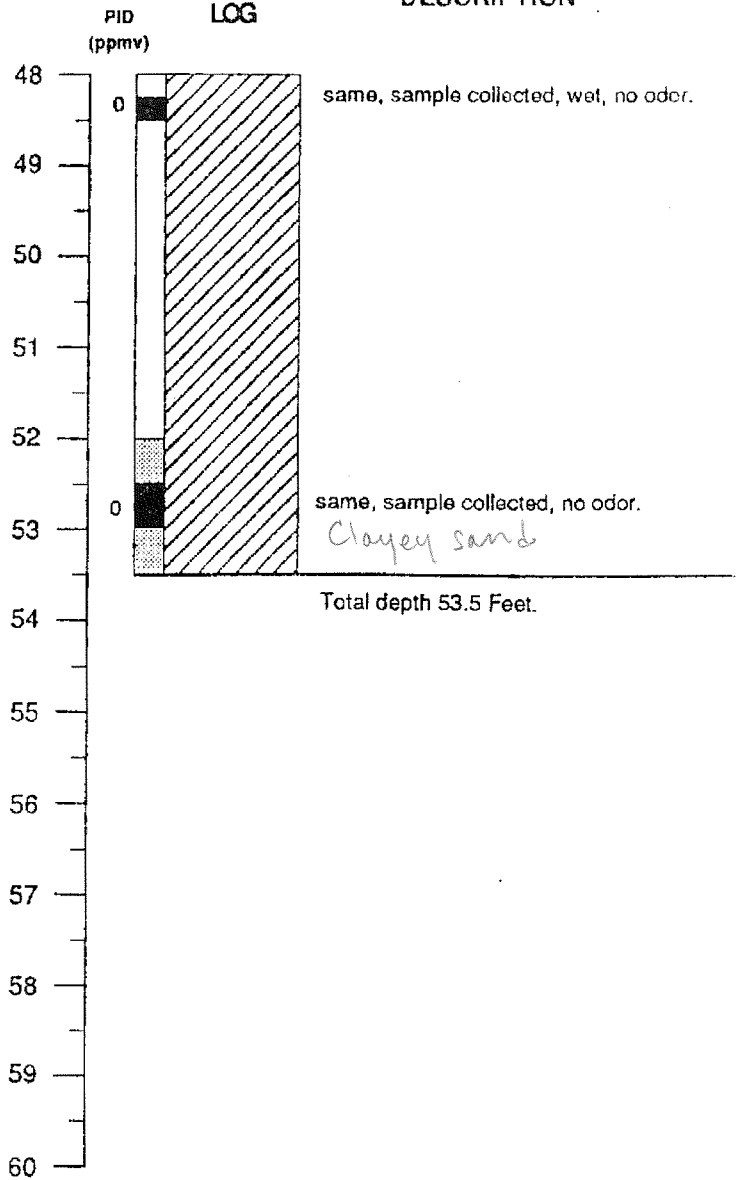
WELL

MW-4

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-4

JOB NUMBER

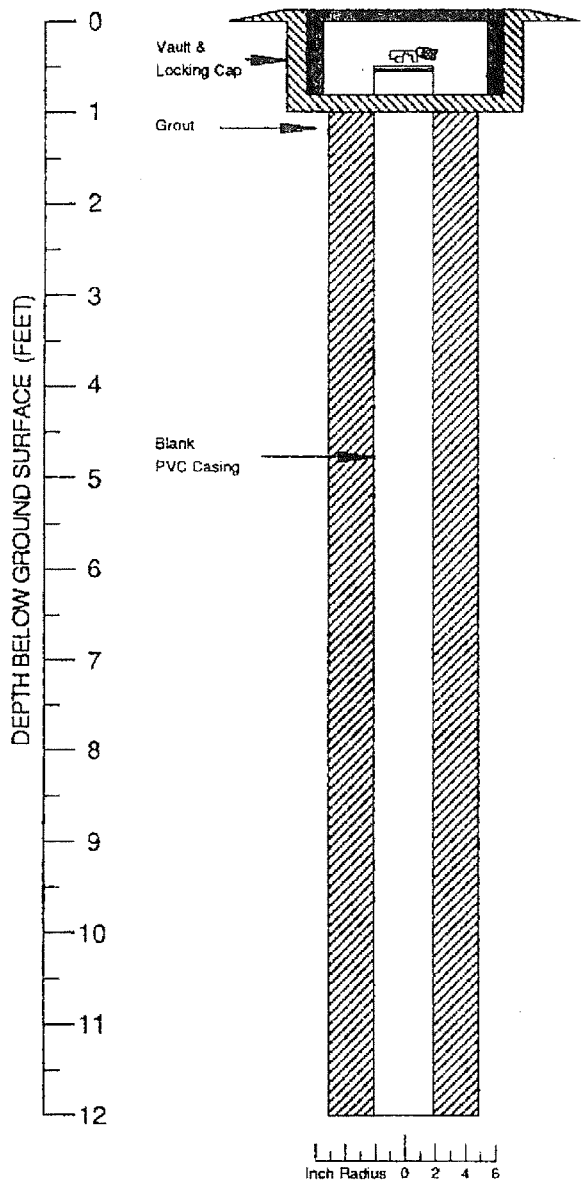
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

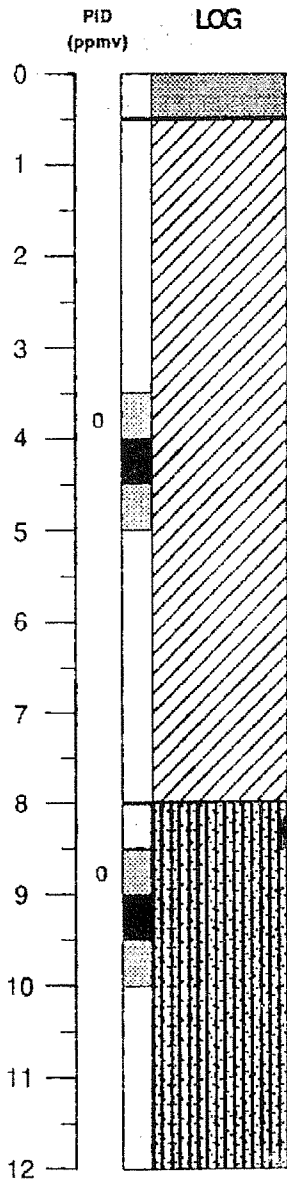
WELL

MW-4

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

0 asphalt

1 **CLAY (CL)**; dusky yellowish brown, damp, slightly plastic, soft, no odor.

4 same, sample collected, no odor.

8 **SANDY SILT (ML)**, dusky yellowish brown, (10 YR 2/2), damp, moderately, no odor.

Logged by: Mike Kitko
 Project Mgr: Brian Garber
 Date Drilled: Sept. 17, 1992 07:30 hrs

Drilling Company: B & F Drilling Co.
 Drilling Method: 10" Hollow Stem Auger
 Driller: Bob Gansberg & Chris Fiscus

Well Head Completion: Sept. 17, 1992 12:03 hrs
 Type of Sampler: Modified Calif. Split Spoon
 TD (Total Depth): 56.0 Feet

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hatched where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log



JOB NUMBER

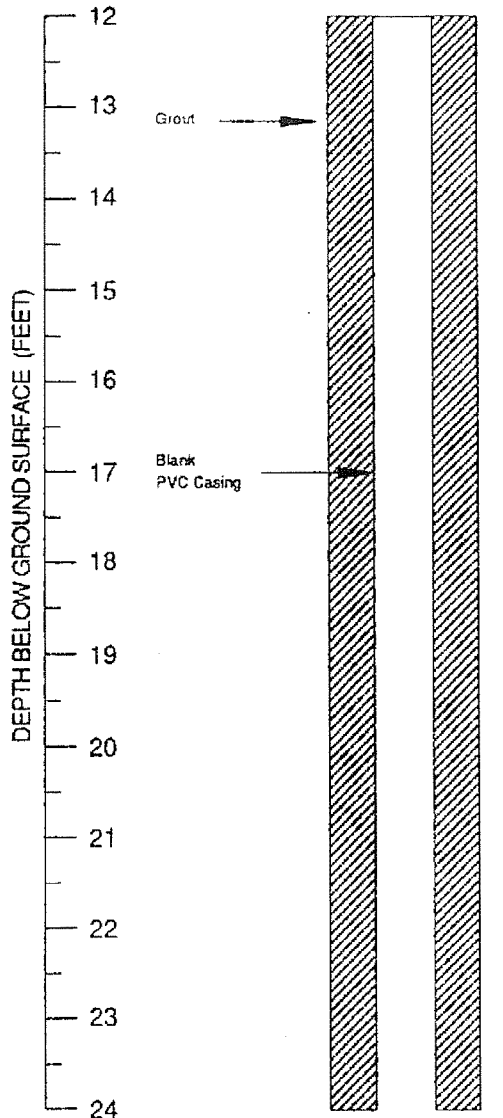
10-91001

Haber Oil Company
 1401 Grand Avenue
 San Leandro, Calif.

WELL

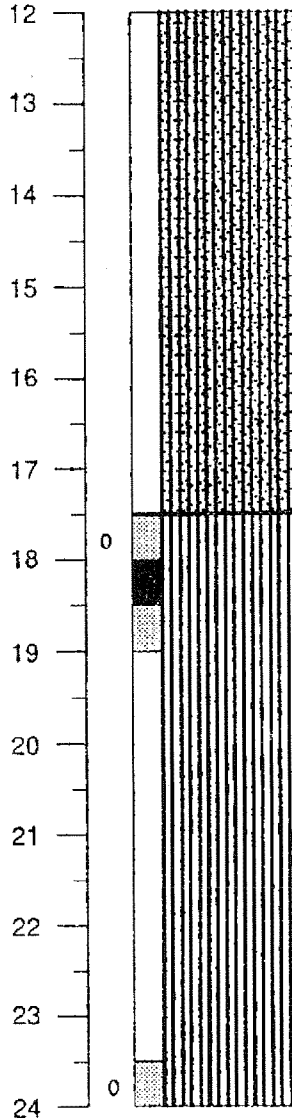
MW-5

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG

PID (ppmv)



DESCRIPTION

gravel, rock (cobble) encountered.

no sample collected - refusal.

SILT (ML); moderate yellowish brown, damp, soft, no odor.

same, sampled collected, no odor.

Explanation

Water level during drilling

Water level in completed well

Location of recovered drill sample

Location of sample sealed for chemical analysis

Sieve sample

Grab Sample

Contacts:

Solid where certain

Dotted where approximate

Dashed where uncertain

Hachured where gradational

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

NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

NW-5

JOB NUMBER

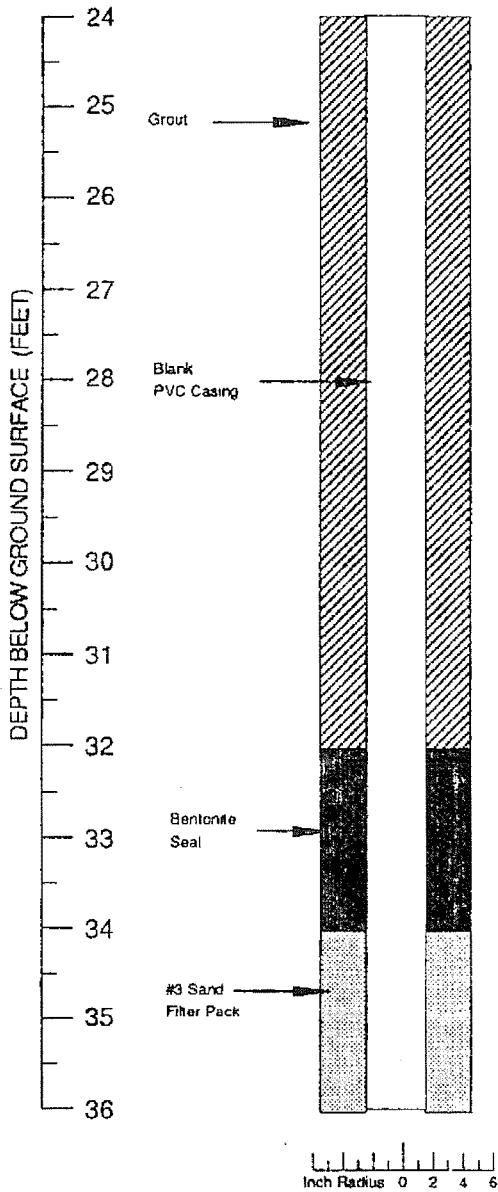
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

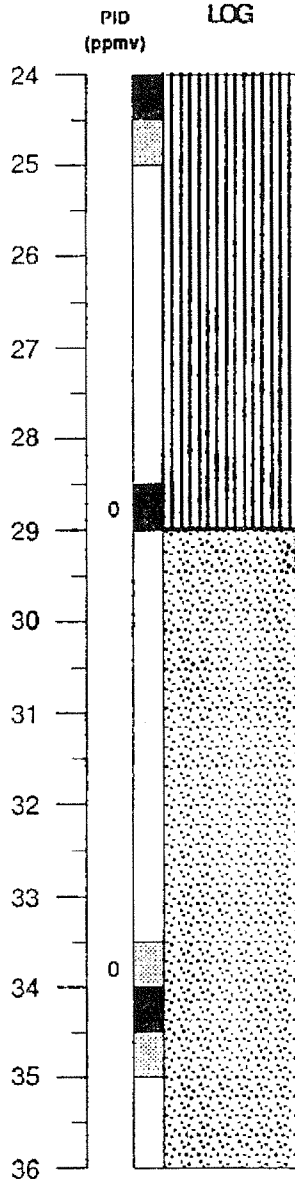
WELL

MW-5

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

SAND (SM); weathered, moderate yellowish brown, damp, poorly graded medium to coarse grained with gravel, no odor.

SAND (GM); greenish gray, damp, moderately graded medium to coarse grained, no odor.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-5

JOB NUMBER

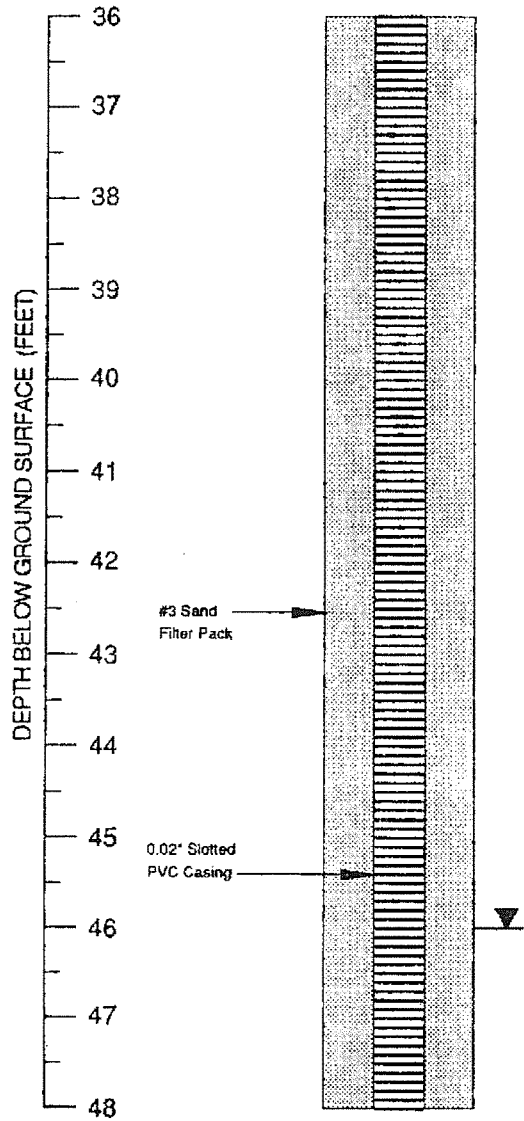
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

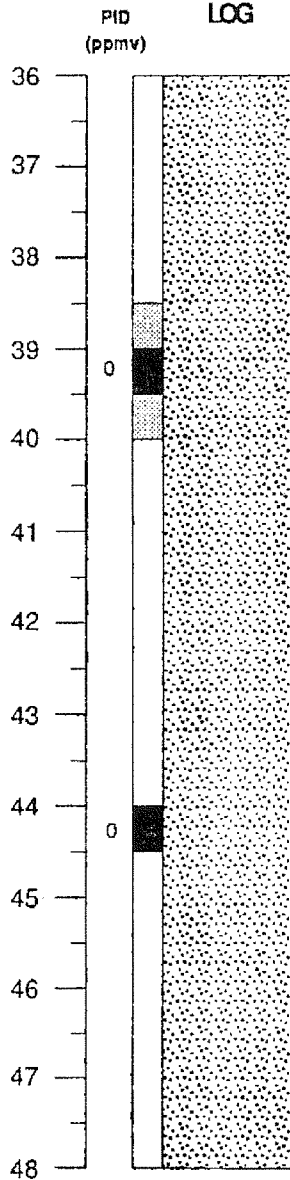
WELL

MW-5

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

same, sampled collected, no odor.

same, sampled collected, no odor.

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hatched where gradational
- est K Estimated permeability (hydraulic conductivity)
1K- primary, 2K- secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-5

JOB NUMBER

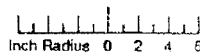
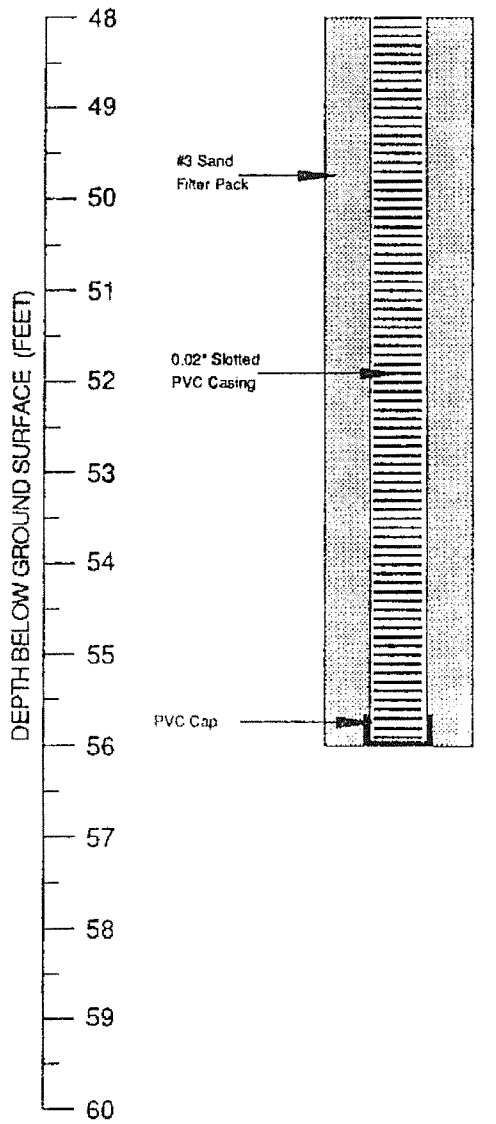
10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

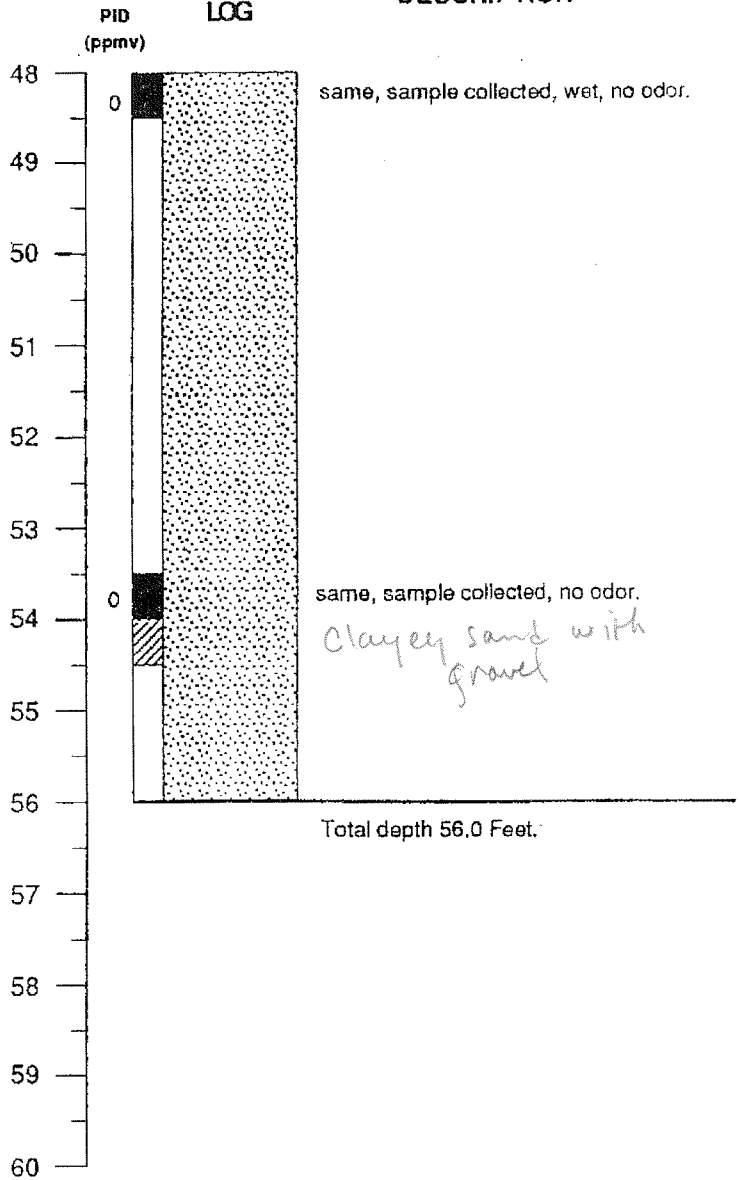
WELL

MW-5

BORING/WELL CONSTRUCTION DETAIL



GRAPHIC LOG



DESCRIPTION

Explanation

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

Contacts:

- Solid where certain
- Dotted where approximate
- Dashed where uncertain
- Hachured where gradational
- est K Estimated permeability (hydraulic conductivity)
1K= primary, 2K= secondary
- NR No Recovery



AEGIS ENVIRONMENTAL, INC.

Well Log

MW-5

JOB NUMBER

10-91001

Haber Oil Company
1401 Grand Avenue
San Leandro, Calif.

WELL

MW-5

BORING NO: MW6		PROJECT NO: 0055		PROJECT NAME: Former ARCO Service Station, San Leandro					
BORING LOCATION: In street, 4 ft from curb face in bus stop across street from site		ELEVATION & DATUM: Top of Well Casing = 84.02 Feet Mean Sea Level				DATE & TIME STARTED		DATE & TIME FINISHED	
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: John and Mike		DATE & TIME STARTED		DATE & TIME FINISHED			
DRILLING EQUIPMENT: Mobile B40 Hollow Stem Auger Rig		BEDROCK DEPTH: None Encountered		LOGGED BY: P.H.King		CHECKED BY:			
COMPLETION DEPTH: 50.0 Ft.		NO. OF SAMPLES: 4 Soil		DATE & TIME STARTED		DATE & TIME FINISHED			
FIRST WATER DEPTH: 40.3 Ft.		NO. OF SAMPLES: 4 Soil		DATE & TIME STARTED		DATE & TIME FINISHED			
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS		
0	Asphalt						Borehole drilled using 8" O.D. hollow stem augers. Samples collected using 2-1/2" O.D. California Modified split spoon sampler lined with brass tubes driven by a 140 lb hammer falling 30".		
	BROWN SILTY GRAVEL (baserock)	GM	See Attached Well Construction Diagram						
		CL							
5	BROWN SILTY CLAY (CL); fine to medium sand, black mottling, dry to moist, very stiff. No Petroleum Hydrocarbon (PHC) odor.			0		11 15 15			
10	BROWN SILTY CLAY (CL); fine to medium sand, minor black mottling, dry to moist, hard. No PHC odor.			0		15 28 30			
15	BROWN SAND (SW); fine to coarse sand, gravel 1/4" to 2" diameter, dry to moist, hard. No PHC odor.	SW		0		22 50 / 6"			
20	BROWN SAND (SW); fine to coarse sand, gravel 1/4" to 2" diameter, dry to moist, hard. No PHC odor.			0		20 50 / 5"			
25	BROWN SAND (SW); fine to coarse sand, gravel 1/4" to 2" diameter, dry to moist, hard. No PHC odor.			0		19 50 / 6"			
30	BROWN SILTY CLAY (CL); fine sand, dry, hard. No PHC odor.	CL		0		3 5 7			

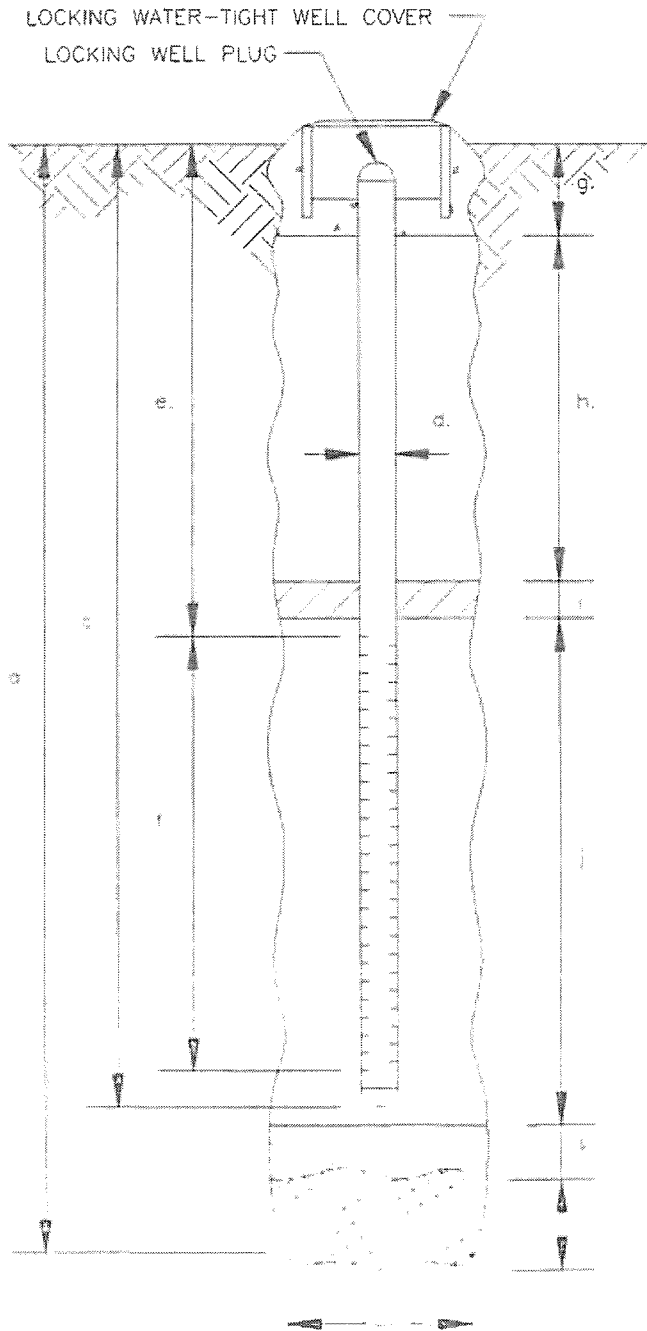
X

BORING NO. MW6		PROJECT NO. 0055		PROJECT NAME Former ARCO Service Station, San Leandro			
BORING LOCATION: In street, 4 ft from curb face in bus stop across street from site				ELEVATION & DATUM: Top of Well Casing = 84.02 Feet Mean Sea Level			
DRILLING AGENCY: Exploration Geoservices Inc.			DRILLER: John and Mike		DATE & TIME STARTED	DATE & TIME FINISHED	
DRILLING EQUIPMENT Mobile B40 Hollow Stem Auger Rig					6/15/95	6/15/95	
COMPLETION DEPTH: 50.0 Ft.			BEDROCK DEPTH: None Encountered		LOGGED BY:	CHECKED BY:	
FIRST WATER DEPTH: 40.3 Ft.			NO. OF SAMPLES: 4 Soil		P.H.King		
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	RID	SAMPLE INTERVAL	BLOW COUNT PER 8"	REMARKS
30	BROWN SILTY CLAY (CL);	CL					
		SC					
35	GRAY CLAYEY SAND (SC); fine to coarse sand, gravel 1/4" to 2" diameter, moist to wet, dense. No PHC odor.			0		30 19 18	
40	BROWN SILTY CLAY (CL); fine to medium sand, extensive gray mottling, moist, hard. No PHC odor.	CL ▽		0		22 28 30	3:29 PM 6/15/95 Groundwater first encountered at 40.3'.
45	BROWN SAND (SW); fine to coarse sand, minor gravel 1/4" to 1" diameter, saturated, very dense. No PHC odor.	SW		0		20 50 / 6"	No evidence of sheen or petroleum hydrocarbon odor on water from saturated samples.
50	BROWN SAND (SW); fine to coarse sand, minor gravel 1/4" to 1" diameter, saturated, very dense. No PHC odor.			0		50 / 4"	Borehole cleaned out to 50.0'.
55							
60							

WELL CONSTRUCTION DETAILS

PROJECT NUMBER 0055
 Former ARCO Station
 PROJECT NAME San Leandro, CA
 COUNTY Alameda
 WELL PERMIT NO. DATUM ~~95365~~

BORING/WELL NO. MW6
 TOP OF CASING ELEV. 84.02
 GROUND SURFACE ELEV. 84.38
 DATUM Feet Above Mean Sea Level



EXPLORATORY BORING

a. Total Depth 50.0 FT.
 b. Diameter 8.0 IN.
 Drilling Method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing Length 50.0 FT.
 Material PVC Schedule 40
 d. Diameter 2.0 IN.
 e. Depth to Top Perforations 35.0 FT.
 f. Perforated Length 15.0 FT.
 Perforated Interval from 35.0 to 50.0 FT.
 Perforation Type Factory Slot
 Perforation Size 0.010"
 g. Surface Seal 2.0 FT.
 Seal Material Concrete
 h. Backfill 31.0 ~~32.0~~ FT.
 Backfill Material Neat Cement
 i. Seal 1.0 FT.
 Seal Material Bentonite Pellet
 j. Gravel Pack 16.0 ~~15.0~~ FT.
 Pack Material #2-12 Lonestar Sack Sand
 Bottom Seal 1.0 FT.
 Seal Material Bentonite Pellet

MW-7

P & D ENVIRONMENTAL

BORING NO:		PROJECT NO:		PROJECT NAME:		DATE & TIME STARTED		DATE & TIME FINISHED			
0055		0055		Former ARCO Service Station, San Leandro		6/16/95		6/16/95			
BORING LOCATION:				ELEVATION & DATUM:				LOGGED BY:		CHECKED BY:	
In Payless Center planter across street from site				Top of Well Casing = 87.11 Feet Mean Sea Level				P.H.King			
DRILLING AGENCY:				DRILLER:							
Exploration Geoservices Inc.				John and Mike							
DRILLING EQUIPMENT:				COMPLETION DEPTH:							
Mobile B40 Hollow Stem Auger Rig				50.0 57							
FIRST WATER DEPTH:				BEDROCK DEPTH:							
43.7 ft.				None Encountered							
				NO. OF SAMPLES:							
				4 Soil							
DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PD	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS				
0			See Attached Well Construction Diagram				Borehole drilled using 8" O.D. hollow stem augers. Samples collected using 2-1/2" O.D. California Modified split spoon sampler lined with brass tubes driven by a 140 lb hammer falling 30".				
5	BLACK SILTY CLAY (CL): fine sand, trace medium sand, rootlets, moist, hard. No Petroleum Hydrocarbon (PHC) odor.	CL		0		7 15 19					
10	BROWN SILTY SAND (SM): fine sand, moist, dense. No PHC odor.	SM		0		11 19 20					
15	BROWN SILTY SAND (SM): fine sand, moist, dense. No PHC odor.			0		8 15 19					
20	BROWN SILTY SAND (SM): fine sand, moist, dense. No PHC odor.			0		9 14 17	Shoe contents of 20' sample indicated lithology change.				
25	BROWN SAND (SW): fine to coarse sand, gravel 1/4" to 1-1/2" diameter, moist, dense. No PHC odor.	SW		0		9 20 23					
30	BROWN SAND (SP): fine sand, moist, dense. No PHC odor.	SP		0		19 21 26	Shoe contents of 30' sample indicated lithology change.				

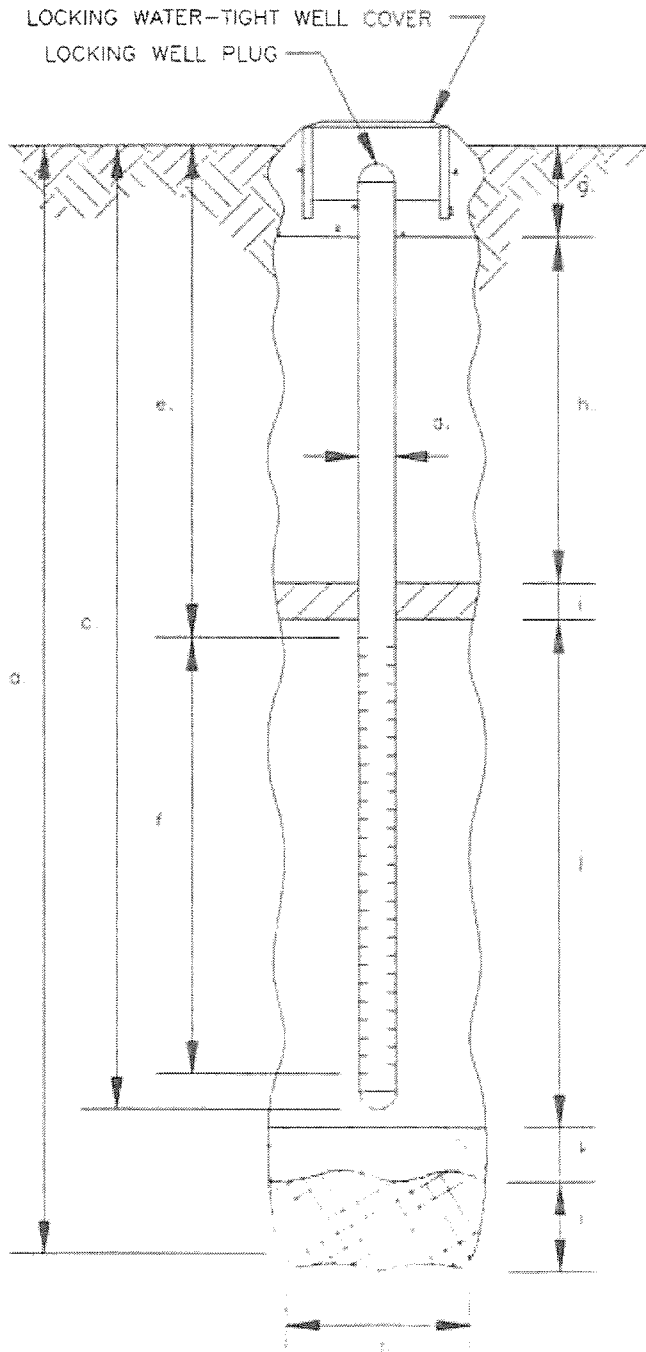
BORING NO: MW7		PROJECT NO: 0055		PROJECT NAME: Former ARCO Service Station, San Leandro			
BORING LOCATION: In Payless Center planter across street from site		ELEVATION & DATUM: Top of Well Casing = 87.11 Feet Mean Sea Level					
DRILLING AGENCY: Exploration Geoservices Inc.		DRILLER: John and Mike		DATE & TIME STARTED		DATE & TIME FINISHED	
DRILLING EQUIPMENT: Mobile B40 Hollow Stem Auger Rig				6/16/95		6/16/95	
COMPLETION DEPTH: 50.0 ft		BEDROCK DEPTH: None Encountered		LOGGED BY: P.H.King		CHECKED BY:	
FIRST WATER DEPTH: 43.7 ft.		NO. OF SAMPLES: 4 Soil					

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
30	BROWN SAND (SP)						
35	BROWN SILTY CLAY (CL); fine to medium sand, moist, hard. No PHC odor.	CL			0	20 31 36	
40	BROWN SILTY CLAY (CL); fine to medium sand, some black mottling, moist, hard. No PHC odor.				0	9 17 28	
45	BROWN SILTY CLAY (CL); fine to medium sand, moist, hard. No PHC odor.				0	21 40 50 / 4"	8:55 AM 6/16/95 Groundwater first encountered at 43.7'. 9:10 AM 6/16/95 Groundwater measured at 43.1'
50	BROWN CLAYEY SAND (SC); fine to coarse sand, abundant gravel 1/4" to 1-1/2" diameter, saturated, dense. No PHC odor.	SC			0	27 50 / 3"	No evidence of sheen or petroleum hydrocarbon odor on water from saturated samples. Borehole cleaned out to 50.0'. X
55							
60							

WELL CONSTRUCTION DETAILS

PROJECT NUMBER 0055
 Former ARCO Station
 PROJECT NAME San Leandro, CA
 COUNTY Alameda
 WELL PERMIT NO. ~~DATUM~~ 95365

BORING/WELL NO. MW7
 TOP OF CASING ELEV. 87.11
 GROUND SURFACE ELEV. 87.75
 DATUM Feet Above Mean Sea Level



EXPLORATORY BORING

a. Total Depth 50.0 FT.
 b. Diameter 8.0 IN.
 Drilling Method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing Length 50.0 FT.
 Material PVC Schedule 40
 d. Diameter 2.0 IN.
 e. Depth to Top Perforations 35.0 FT.
 f. Perforated Length 15.0 FT.
 Perforated Interval from 35.0 to 50.0 FT.
 Perforation Type Factory Slot
 Perforation Size 0.010"
 g. Surface Seal 2.0 FT.
 Seal Material Concrete
 h. Backfill 31.0 ~~30.0~~ FT.
 Backfill Material Neat Cement
 i. Seal 1.0 FT.
 Seal Material Bentonite Pellet
 j. Gravel Pack 16.0 ~~15.0~~ FT.
 Pack Material #2/12 Lonestar Sack Sand
 k. Bottom Seal 1.0 FT.
 Seal Material ...

NW-8

P & D ENVIRONMENTAL

BORING NO: 0055		PROJECT NO: 0055		PROJECT NAME: Former ARCO Service Station, San Leandro			
LOCATION: In planter adjacent to Grand Ave.		ELEVATION & DATUM: Top of Well Casing = 89.70 Feet Mean Sea Level					
DRILLING AGENCY: Exploration Geoservices inc.		DRILLER: John and Mike		DATE & TIME STARTED: 6/15/95		DATE & TIME FINISHED: 6/15/95	
DRILLING EQUIPMENT: Mobile B40 Hollow Stem Auger Rig		COMPLETION DEPTH: 50.0		BEDROCK DEPTH: None Encountered		LOGGED BY: P.H.King	
FIRST WATER DEPTH: 40.5 ft.		NO. OF SAMPLES: 4 Soil		CHECKED BY:			

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 6"	REMARKS
0	BROWN GRAVELLY SILT (ML); gravel 1/4" to 1" diameter, dry, hard. No Petroleum Hydrocarbon (PHC) odor.	ML	See Attached Well Construction Diagram				Borehole drilled using 8" O.D. hollow stem augers. Samples collected using 2-1/2" O.D. California Modified split spoon sampler lined with brass tubes driven by a 140 lb hammer falling 30".
5	GRAY BROWN SILTY CLAY (CL); fine to coarse sand, black mottling, moist, stiff. No PHC odor.	CL		0		17 6 7	
10	GRAY BROWN SILTY CLAY (CL); fine to medium sand, moist, very stiff. No PHC odor.			0		11 11 12	
15	BROWN SILTY CLAY (CL); fine to medium sand, extensive gray brown mottling, moist, very stiff. No PHC odor.			0		6 5 11	
20	BROWN SILTY CLAY (CL); fine to medium sand, dry to moist, very stiff. No PHC odor.			0		8 11 12	
25	BROWN SILTY CLAY (CL); fine to medium sand, minor gravel 1/4" to 1/2" diameter, dry to moist, hard. No PHC odor.			0		50 / 4"	
30	DARK BROWN SAND (SM); fine to medium sand, minor coarse sand, minor gravel 1/4" to 1/2" diameter, moist to wet, very dense. No PHC odor	SM		0		50 / 6"	

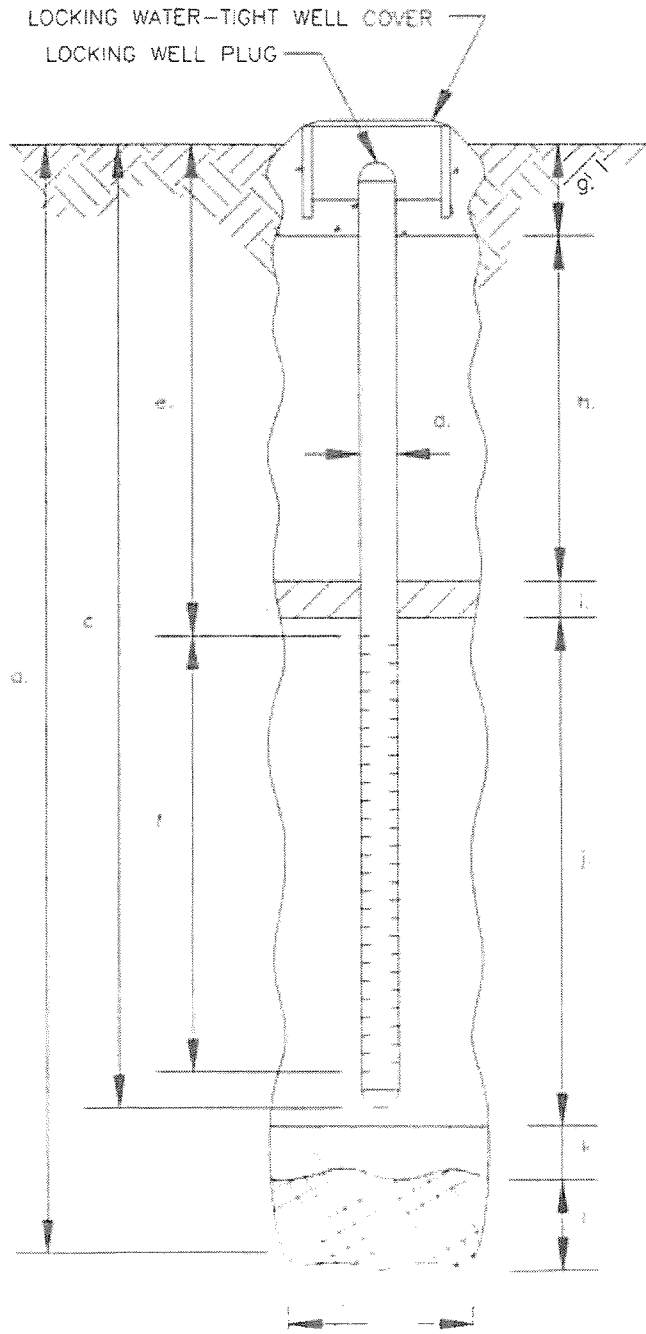
BORING NO: MW8		PROJECT NO: 0055		PROJECT NAME: Former ARCO Service Station, San Leandro			
BORING LOCATION: In planter adjacent to Grand Ave.				ELEVATION & DATUM: Top of Well Casing = 89.70 Feet Mean Sea Level			
DRILLING AGENCY: Exploration Geoservices Inc.			DRILLER: John and Mike		DATE & TIME STARTED	DATE & TIME FINISHED	
DRILLING EQUIPMENT: Mobile B40 Hollow Stem Auger Rig					6/15/95	6/15/95	
COMPLETION DEPTH: 50.0 ft.		BEDROCK DEPTH: None Encountered		LOGGED BY: P.H.King		CHECKED BY:	
FIRST WATER DEPTH: 40.5 ft.		NO. OF SAMPLES: 4 Soil					

DEPTH (FT.)	DESCRIPTION	GRAPHIC COLUMN	WELL CONSTRUCTION LOG	PID	SAMPLE INTERVAL	BLOW COUNT PER 8"	REMARKS
30	DARK BROWN SAND (SM)	SM					
35	BROWN SANDY SILT (ML); fine to coarse sand, gravel 1/4" to 1/2" diameter, dry to moist, hard. No PHC odor.	ML		0		50 / 6"	
40	BROWN SILTY SAND (SM); medium to coarse sand, gravel larger than 2" diameter, saturated, very dense. No PHC odor.	SM		0		50 / 6"	9" recovery. Sampler contents consisted of decomposed granite cobble.
45	BROWN SILTY SAND (SM); medium to coarse sand, gravel larger than 2" diameter, saturated, very dense. No PHC odor.			0		50 / 6"	9:40 AM 6/15/95 Groundwater first encountered at 40.5'. Stopped driving. 9:58AM 6/15/95 Groundwater measured at 39.4'
50	BROWN SILTY SAND (SM); medium to coarse sand, very dense, saturated. No PHC odor.			0		50 / 2"	No evidence of sheen or petroleum hydrocarbon odor on water from saturated samples. Borehole cleaned out to 50.0'.
55							
60							

WELL CONSTRUCTION DETAILS

PROJECT NUMBER 0055
 Former ARCO Station
 PROJECT NAME San Leandro, CA
 COUNTY Alameda
 WELL PERMIT NO. ~~DATUM~~ 95365

BORING/WELL NO. MW8
 TOP OF CASING ELEV. 89.70
 GROUND SURFACE ELEV. 89.98
 DATUM Feet Above Mean Sea Level



EXPLORATORY BORING

a. Total Depth 50.0 FT
 b. Diameter 8.0 IN.
 Drilling Method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing Length 50.0 FT
 Material PVC Schedule 40
 c. Diameter 2.0 IN.
 e. Depth to Top Perforations 35.0 FT
 f. Perforated Length 15.0 FT
 Perforated Interval from 35.0 to 50.0 FT
 Perforation Type Factory Slot
 Perforation Size 0.010"
 g. Surface Seal 2.0 FT
 Seal Material Concrete
 h. Backfill 31.0 ~~33.0~~ FT
 Backfill Material Neat Cement
 i. Seal 1.0 FT
 Seal Material Bentonite Pellet
 j. Gravel Pack 16.0 ~~18.0~~ FT
 Pack Material #2/12 Lonestar Sack Sand
 k. Bottom Seal 0 FT
 Seal Material Clay
 l. Bottom Seal 0 FT

APPD

RECEIVED

DEC 16 1992

VECTOR
ENGINEERING, INC.

Ans'd 91-001

CF/DIS

November 13, 1992
Job No. 89040.29

Mr. Mike Kitko
Aegis Environmental
1050 Melody Lane Suite 160
Roseville, CA 95678

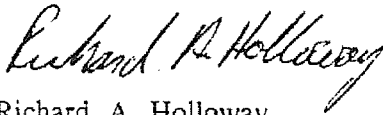
RE: Laboratory Test Results, Project #91-001

Dear Mr. Kitko,

As requested, we have performed the laboratory testing services on the samples you submitted. The testing standards utilized and the results of these procedures are presented below and/or attached.

It has been a pleasure being of service to you on this project. Should you have any questions or need further assistance, please do not hesitate to call this office.

Respectfully Submitted,
VECTOR ENGINEERING, INC.



Richard A. Holloway
Laboratory Manager

RAH:pr

DAILIES\89040.0



Project: AEGIS #91-001
Project No.: 893040.29

SIEVE ANALYSIS/CAL TRANS NO. 202

Sample No.: MW 2 @ 52.0'

<u>Sieve Size</u>	<u>% Passing</u>		<u>%</u>
3/4"	100		
1/2"	100	gravel	8.0
3/8"	99.1	Sand	61.7
#4	92.0	finer	30.3
#8	80.5		
#16	64.0		
#30	49.7		
#50	39.9	silty sand	
#100	33.9		
#200	30.3		

Sample No.: MW 3 @ 54.0'

<u>Sieve Size</u>	<u>% Passing</u>		<u>%</u>
3/4"	100		
1/2"	96.4		
3/8"	95.7	gravel	8.3
#4	91.7		
#8	84.8	Sand	59.0
#16	66.9	finer	32.7
#30	54.1		
#50	45.0		
#100	37.9		
#200	32.7	silty sand	

Project: AEGIS #91-001
Project No.: 893040.29

SIEVE ANALYSIS/CAL TRANS NO. 202

Sample No.: MW 4 @ 53.0'

<u>Sieve Size</u>	<u>% Passing</u>		<u>%</u>
3/4"	100	Gravel	9.7
1/2"	97.4		
3/8"	97.0	Sand	55.4
#4	90.3		
#8	79.0	fines	34.9
#16	67.3		
#30	56.8	silty sand	
#50	47.8		
#100	40.5		
#200	34.9		

Sample No.: MW 5 @ 54.0'

<u>Sieve Size</u>	<u>% Passing</u>		<u>%</u>
1"	100	Gravel	27.0
3/4"	93.5		
1/2"	87.5	Sand	60.3
3/8"	84.5		
#4	73.0	fines	12.7
#8	60.9		
#16	49.0	silty sand with gravel	
#30	36.8		
#50	25.3		
#100	17.0		
#200	12.7		

Project: Aegis #91-001

Project: 893040.29

LABORATORY TEST SUMMARY
Flexible Wall Permeability/ASTM D-5084

TEST NO.	DESCRIPTION	% MOIST./ DRY DENSITY (pcf)	SAMPLE DIA./HT. (cm)	CHAMBER PRESS. (psi)	INLET PRESS. (psi)	OUTLET PRESS. (psi)	TEMP. °c	PERMEABILITY: K (cm/sec)
MW2-52* Sample #11	Tan clayey Gravel*	24.6/100.2	4.90/7.40	70	62	60	20°	4×10^{-4}
MW3-54* Sample #11	Tan sandy clay Gravel*	21.2/108.9	4.90/6.20	70	62	60	20°	2×10^{-4}
MW4-53* Sample #10	Tan clayey Sand	21.3/112.4	4.90/7.80	70	63	60	20°	6×10^{-7}
MW5-54* Sample #10	Tan clayey Sand w/Gravel	23.2/99.0	4.90/8.00	70	63	60	20°	2×10^{-8}

Note: Permeant Liquid; De-Aired Water

* Sample may have been disturbed during shipping.

VECTOR ENGINEERING INC.
12438 Loma Rica Dr., Suite C
Grass Valley, CA 95945
(916) 272 - 2448

APPENDIX C

PLOTS OF GROUNDWATER MONITORING AND CHEMICAL ANALYTICAL DATA

November 11, 2011

HABER OIL PRODUCTS

1401 GRAND AVENUE

SAN LEANDRO, CA

ACEHD CASE # R000000370

GLOBAL ID # T0600101872

Page 1 of 9

Objective: Using analytical data collected to date, project time when concentrations would be expected to reach water quality objectives (WQO): GRO = 100 $\mu\text{g/L}$, benzene = 1.0 $\mu\text{g/L}$, MTBE = 13 $\mu\text{g/L}$.

Assumptions: Declining concentrations are a first order decay.

- Given:
- Decay trendline equations are derived using Excel (see attached graphs).
 - Data from "Quarterly Groundwater Monitoring Report - Second Quarter 2011" (Stratus, dated 8/8/11) and 4Q11 sampling event conducted 10/13/11.
 - Wells MW-1 through MW-5 first sampled on 9/29/92.
 - Wells MW-6 through MW-8 first sampled on 6/21/95.
 - For graphing purposes, the reporting limit is utilized when results are given as "< reporting limit"

1. Well MW-1

a. GRO: $y = 2642.3 e^{-7E-04x}$ [graph MW-1(a)]

$$\ln y = \ln(2642.3 e^{-7E-04x})$$

$$= \ln(2642.3) + \ln(e^{-7E-04x})$$

$$= 7.88 - 0.0007x$$

for WQO: $\ln(100) = 7.88 - 0.0007x$

$$4.61 = 7.88 - 0.0007x$$

$$4.61 - 7.88 = -0.0007x$$

$$-3.27 = -0.0007x$$

$$\frac{-3.27}{-0.0007} = x \approx 4677 \text{ days}$$

\Rightarrow GRO in well MW-1 has been reported at $< 50 \mu\text{g/L}$ since 6/22/05 (4649 elapsed days)

b. benzene: $y = 697.06 e^{-0.001x}$ [graph MW-1(a)]

$$\ln y = \ln(697.06 e^{-0.001x})$$

$$= \ln(697.06) + \ln(e^{-0.001x})$$

$$= 6.55 - 0.001x$$

for WQO: $\ln(1) = 6.55 - 0.001x$

$$0 = 6.55 - 0.001x$$

$$-6.55 = -0.001x$$

$$\frac{-6.55}{-0.001} = x \approx 6547 \text{ days}$$

\Rightarrow benzene concentrations in well MW-1 have been reported as \leq reporting limits since 6/3/04 (4265 elapsed days)

graph
Well MW-1(a)

- c. MTBE - the trendline for the entirety of the MTBE data set for this well indicates a slightly increasing trend. However, looking only at the data since 2/29/05, when the highest concentration of MTBE was recorded in this well (790 $\mu\text{g/L}$), there is an obvious, strongly downward trend to the data (see attached graph Well-MW-1b):

$$y = 2E+06 e^{-0.002x}$$

$$\ln(y) = \ln(2E+06) + \ln(e^{-0.002x})$$

$$= 14.51 - 0.002x$$

$$\ln(13) = 14.51 - 0.002x$$

$$2.56 = 14.51 - 0.002x$$

$$\frac{2.56 - 14.51}{-0.002} = x \approx 5972 \text{ days}$$

A total of 6953 days have elapsed since this Well was initially sampled. MTBE concentrations in this well have been \leq WQO during the two most recent sampling events.

2. Well MW-2

a. GRO

$$y = 39715 e^{-6E-05x} \quad [\text{graph MW-2(a)}]$$

$$\begin{aligned} \ln y &= \ln(39715 e^{-6E-05x}) \\ &= \ln(39715) + \ln(e^{-6E-05x}) \\ &= 10.59 - 0.00006x \end{aligned}$$

$$\text{for WQO: } \ln(100) = 10.59 - 0.00006x$$

$$4.61 = 10.59 - 0.00006x$$

$$\frac{4.61 - 10.59}{-0.00006} = x = \frac{-5.98}{-0.00006} \approx 99,739 \text{ days}$$

Total elapsed days to 10/13/11 = 6953.

Days remaining to WQO: $99,739 - 6953 = 92,786 \text{ days}$
 $\approx 250 \text{ years}$

Looking only at data since 7/15/03, when GRO concentrations were highest (78,000 $\mu\text{g/L}$), the trend is much steeper:

$$y = 746792 e^{-6E-04x} \quad [\text{graph MW-2(b)}]$$

$$\begin{aligned} \ln y &= \ln(746792) + \ln(-6E-04x) \\ &= 13.52 - 0.0006x \end{aligned}$$

$$\ln(100) = 13.52 - 0.0006x$$

$$\frac{4.61 - 13.52}{-0.0006} = x \approx 14864 \text{ days}$$

Days remaining to WQO: $14864 - 6953 = 7911 \text{ days}$
 $\approx 22 \text{ years}$

b. benzene:

$$y = 6225.9 e^{-2E-04x} \quad [\text{graph MW-2(a)}]$$

$$\ln(y) = \ln(6225.9) + \ln(e^{-2E-04x})$$

$$= 8.74 - 0.0002x$$

$$\text{for WQO: } \ln(1) = 8.74 - 0.0002x$$

$$0 = 8.74 - 0.0002x$$

$$\frac{-8.74}{-0.0002} = x \approx 43682 \text{ days}$$

$$\text{days to WQO: } 43682 - 6953 = 36,729 \text{ days}$$

$$\approx 100 \text{ years}$$

c. MTBE

$$y = 1811.6 e^{-9E-05x} \quad [\text{graph MW-2(a)}]$$

$$\ln(y) = \ln(1811.6) + \ln(e^{-9E-05x})$$

$$= 7.50 - 0.00009x$$

$$\text{for WQO: } \ln(13) = 7.50 - 0.00009x$$

$$\frac{2.56 - 7.50}{-0.00009} = x \approx 50,108 \text{ days}$$

$$\text{days remaining to WQO: } 50,108 - 6953 = 43,155 \text{ days}$$

$$\approx 118 \text{ years}$$

Looking only at the data since 4/17/03
(highest MTBE concentration), the trend is steeper:

$$y = 956242 e^{-0.001x} \quad [\text{graph MW-2(b)}]$$

$$\ln y = 13.77 - 0.001x$$

$$\text{for WQO: } \ln(13) = 13.77 - 0.001x$$

$$\frac{2.56 - 13.77}{-0.001} = x \approx 11,206 \text{ days}$$

days to WQO: $11,206 - 6953 = 4253$ days
 ≈ 12 years

3. Well MW-3

a. GRO

$$y = 2224.4 e^{-4E-04x} \quad [\text{graph MW-3(a)}]$$

$$\ln(y) = \ln(2224.4) + \ln(e^{-4E-04x})$$

$$= 7.71 - 0.0004x$$

for WQO: $\ln(100) = 7.71 - 0.0004x$

$$\frac{4.61 - 7.71}{-0.0004} = x \approx 7755 \text{ days}$$

days remaining to WQO: $7755 - 6953 = 802$

≈ 2.2 years

b. benzene

$$y = 431.04 e^{-8E-04x} \quad [\text{graph MW-3(a)}]$$

$$\ln(y) = \ln(431.04) + \ln(e^{-8E-04x})$$

$$= 6.07 - 0.0008x$$

for WQO: $\ln(1) = 6.07 - 0.0008x$

$$\frac{0 - 6.07}{-0.0008} = x \approx 7583 \text{ days}$$

days to WQO: $7583 - 6953 = 630$ days

≈ 1.7 years

(Note: benzene in Well MW-3 $< 0.50 \mu\text{g/L}$ during 2 most recent events!)

c. MTBE - considering the entire data set, the MTBE concentrations in this well exhibit a slightly increasing trend. However, since the highest concentration ($5,600 \mu\text{g/L}$) reported, on 6/22/05, data trend has been downward. Looking only at

graph MW-3(a)

segment of the data:

$$y = 2E+08 e^{-0.002x} \quad [\text{graph MW-3(b)}]$$

$$\begin{aligned} \ln(y) &= \ln(2E+08) + \ln(e^{-0.002x}) \\ &= 19.11 - 0.002x \end{aligned}$$

for WQO: $\ln(13) = 19.11 - 0.002x$

$$\frac{2.56 - 19.11}{-0.002} = x \approx 8,274 \text{ days}$$

days to WQO: $8,274 - 6,953 = 1,321 \text{ days}$

$\approx 3.6 \text{ years}$

(Note: MTBE in Well MW-3 was $1.4 \mu\text{g/L}$ during most recent sampling event)

4. Well MW-4

a. GRO - concentrations of GRO in Well MW-4 have been $< \text{WQO}$ since 5/23/07.

[graph MW-4(a)]

b. benzene - concentrations of benzene in Well MW-4 have been $< \text{WQO}$ since 4/11/11.

[graph MW-4(a)]

c. MTBE

$$y = 2455 e^{-3E-04x} \quad [\text{graph MW-4(a)}]$$

$$\begin{aligned} \ln(y) &= \ln(2455) + \ln(e^{-3E-04x}) \\ &= 7.81 - 0.0003x \end{aligned}$$

for WQO: $\ln(13) = 7.81 - 0.0003x$

$$\frac{2.56 - 7.81}{-0.0003} = x \approx 17,470 \text{ days}$$

However, the highest MTBE concentration ($8,800 \mu\text{g/L}$) was reported on 11/25/03, and since this time, concentrations show a steadily decreasing trend.

page 8 of 9

$$y = 4E+08 e^{-0.003x} \quad [\text{graph MW-4(b)}]$$

$$\ln(y) = \ln(4E+08) + \ln(e^{-0.003x})$$

$$= 19.81 - 0.003x$$

for WQO: $\ln(13) = 19.81 - 0.003x$

$$\frac{2.56 - 19.81}{-0.003} = x \approx 5,747 \text{ days}$$

(6953 days already elapsed)

The sample from 10/13/11 had MTBE reported at 2.6 $\mu\text{g/L}$.

5. Well MW-6 [graph MW-6]

a. GRO - has never been reported in this well.

b. benzene - has never been reported in this well.

c. MTBE - has been >WQO for only two times:

7/14/97	19 $\mu\text{g/L}$
8/14/06	72 $\mu\text{g/L}$

b. Summary:

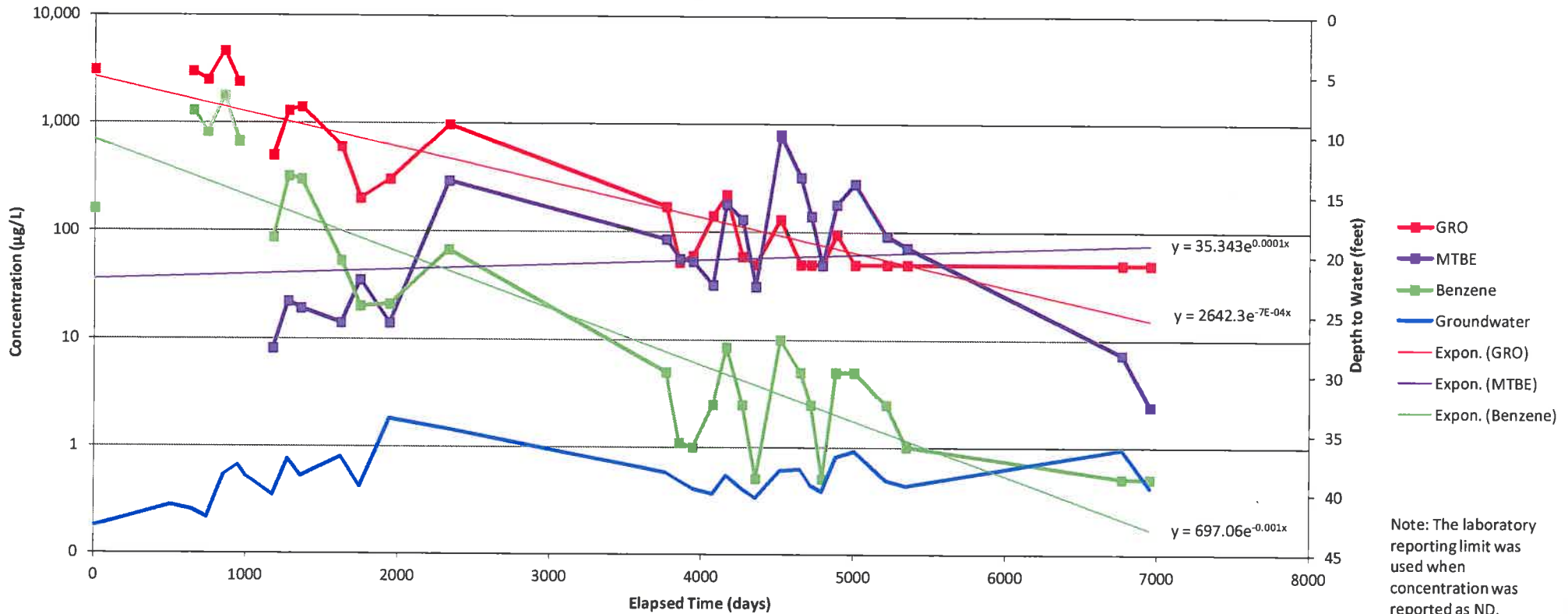
Well	COC	days to WQO	(years)
MW-1	GRO	*	
	benzene	*	
	MTBE	*	
MW-2	GRO	7,911	(22)
	benzene	36,729	(100)
	MTBE	4,253	(12)
MW-3	GRO	802	(2.2)
	benzene	*	
	MTBE	*	
MW-4	GRO	*	
	benzene	*	
	MTBE	*	
MW-6	GRO	*	
	benzene	*	
	MTBE	**	

* Concentrations have already reached WQO.

** Concentrations >WQO only twice in historical data.

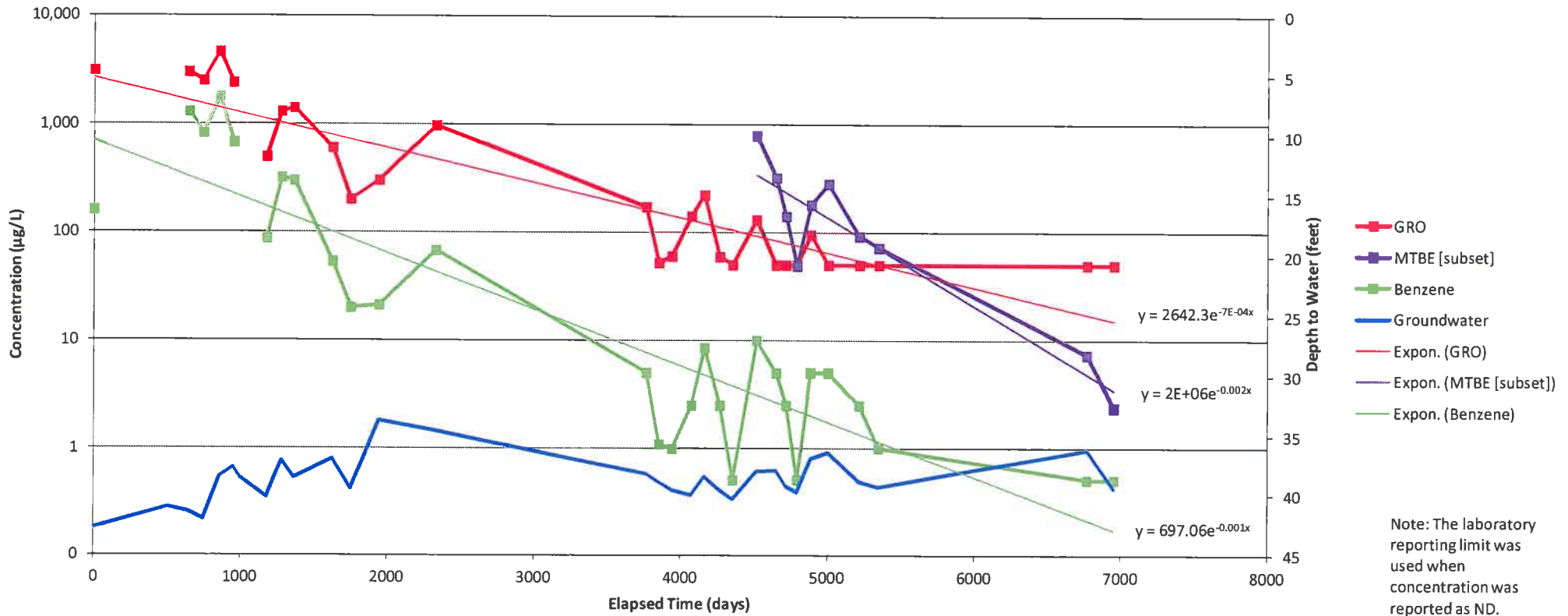
Groundwater Concentrations and Depth vs. Time - Well MW-1(a)

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



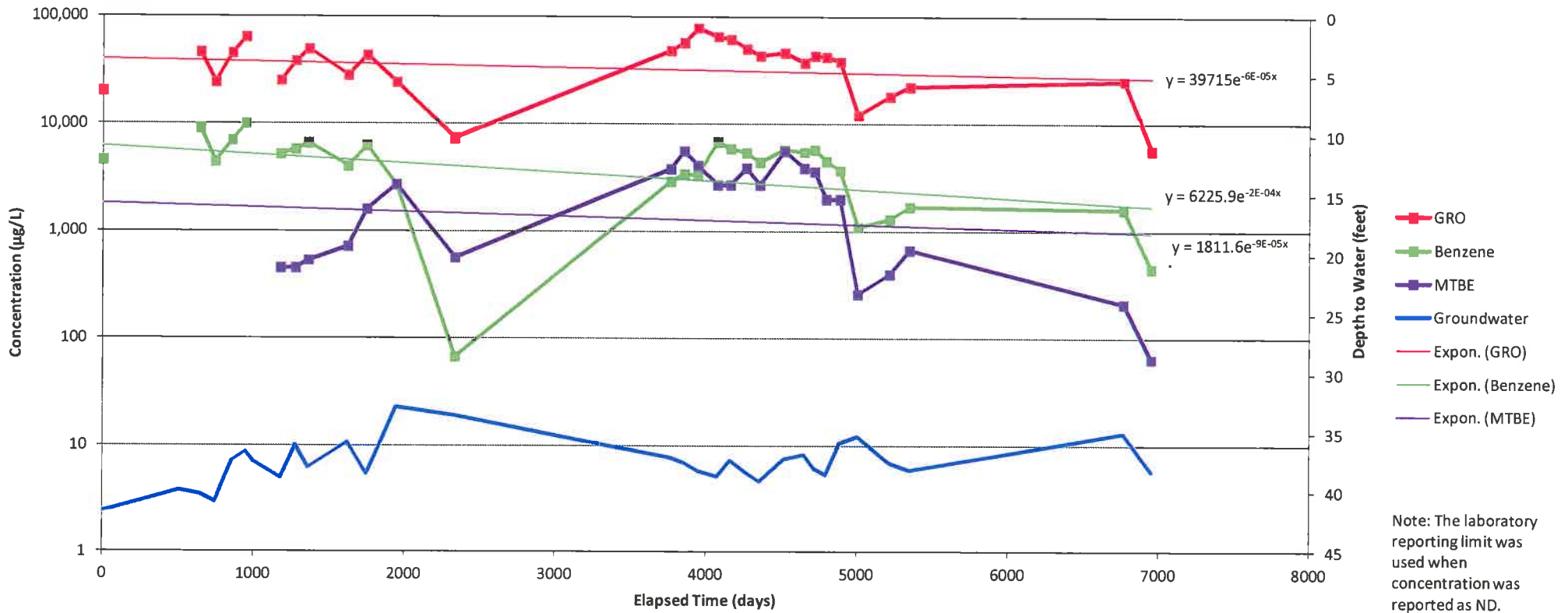
Groundwater Concentrations and Depth vs. Time - Well MW-1(b)

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



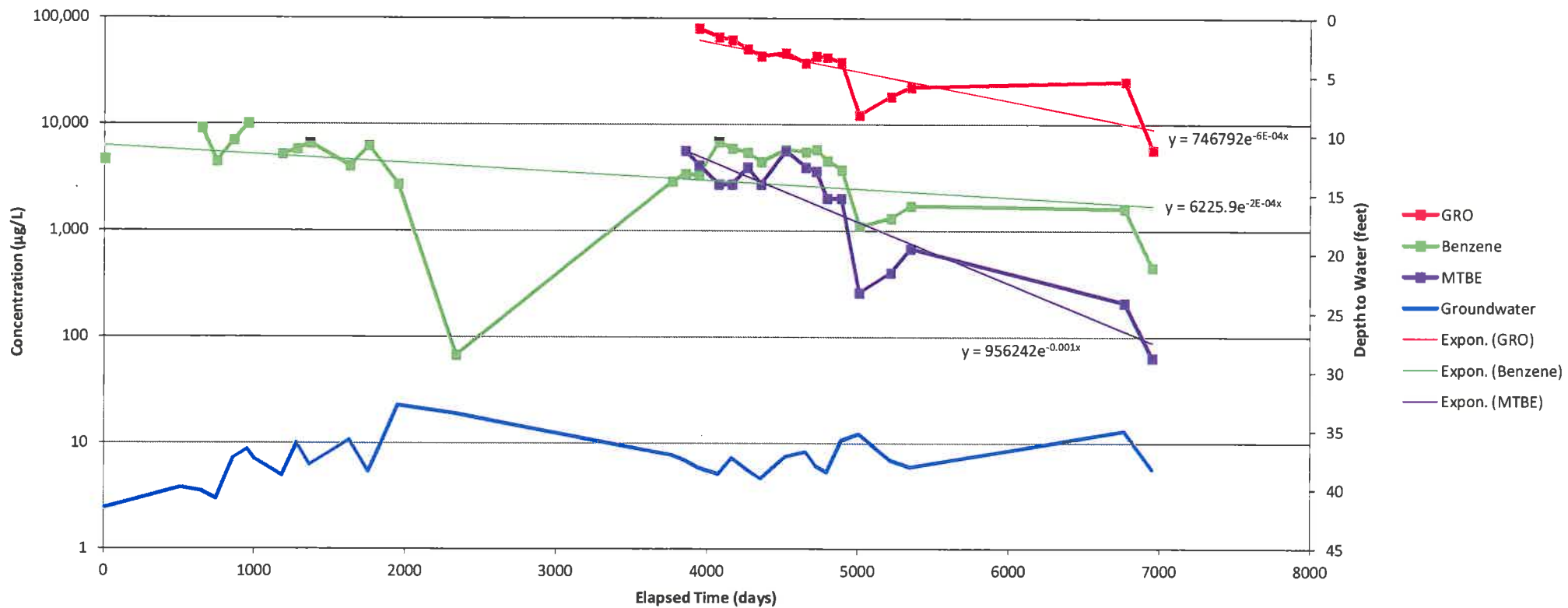
Groundwater Concentrations and Depth vs. Time - Well MW-2(a)

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



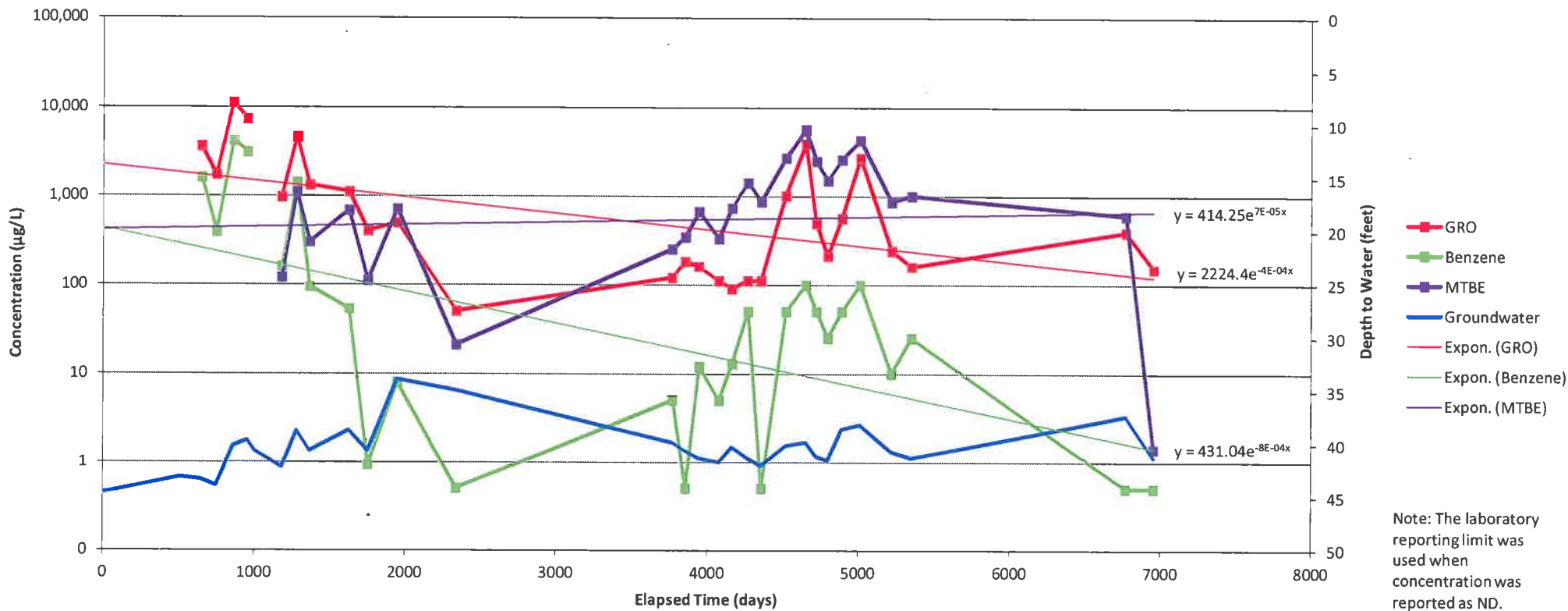
Groundwater Concentrations and Depth vs. Time - Well MW-2(b)

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



Groundwater Concentrations and Depth vs. Time - Well MW-3(a)

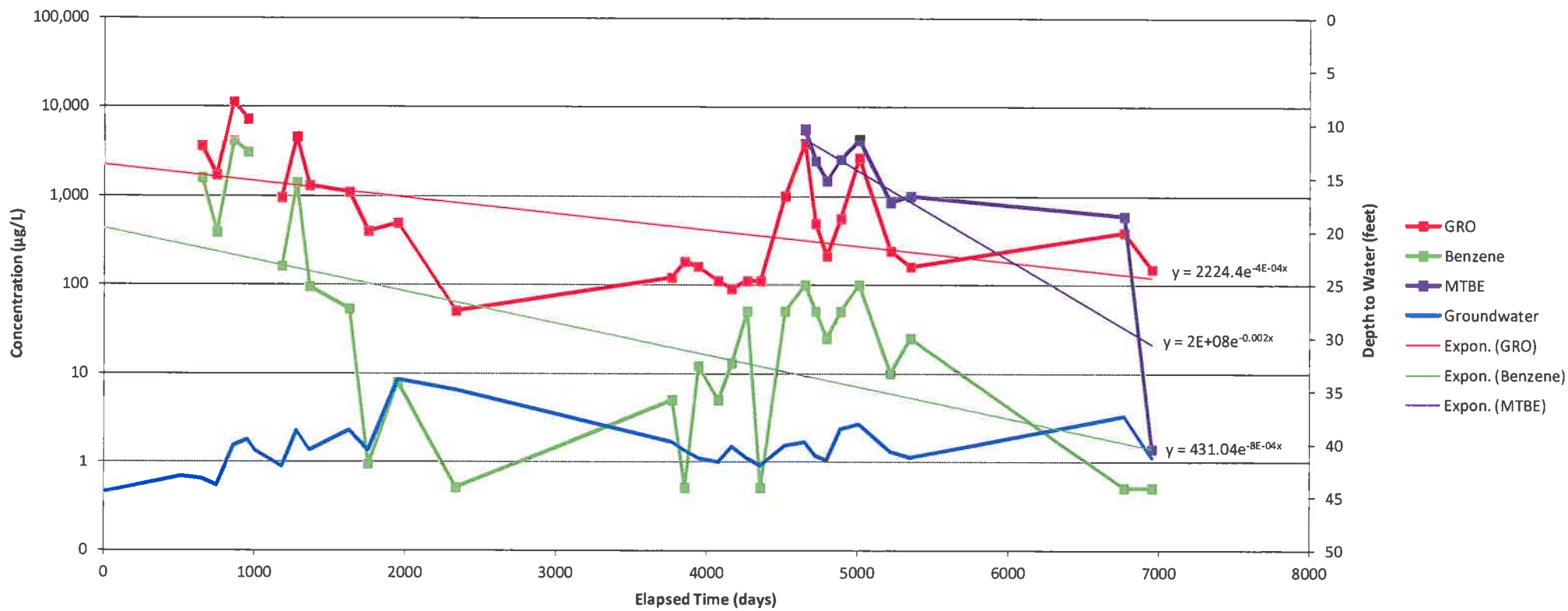
Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



Note: The laboratory reporting limit was used when concentration was reported as ND.

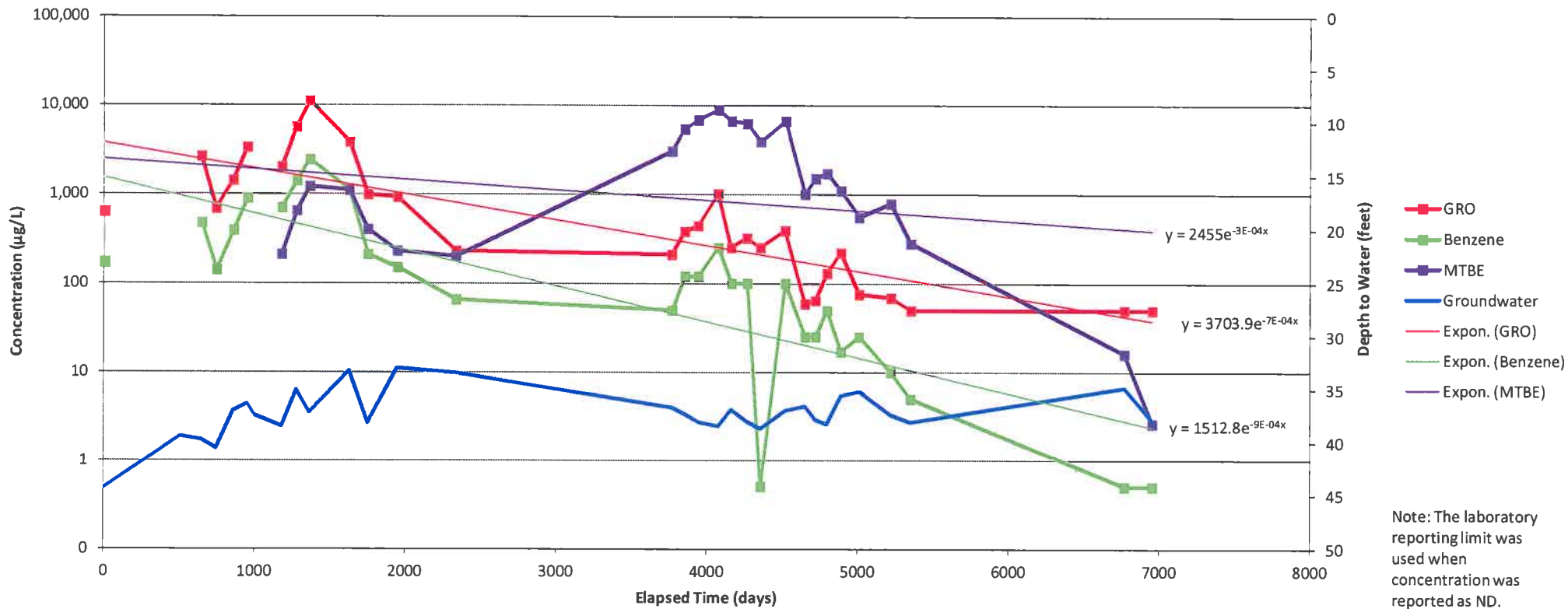
Groundwater Concentrations and Depth vs. Time - Well MW-3(b)

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



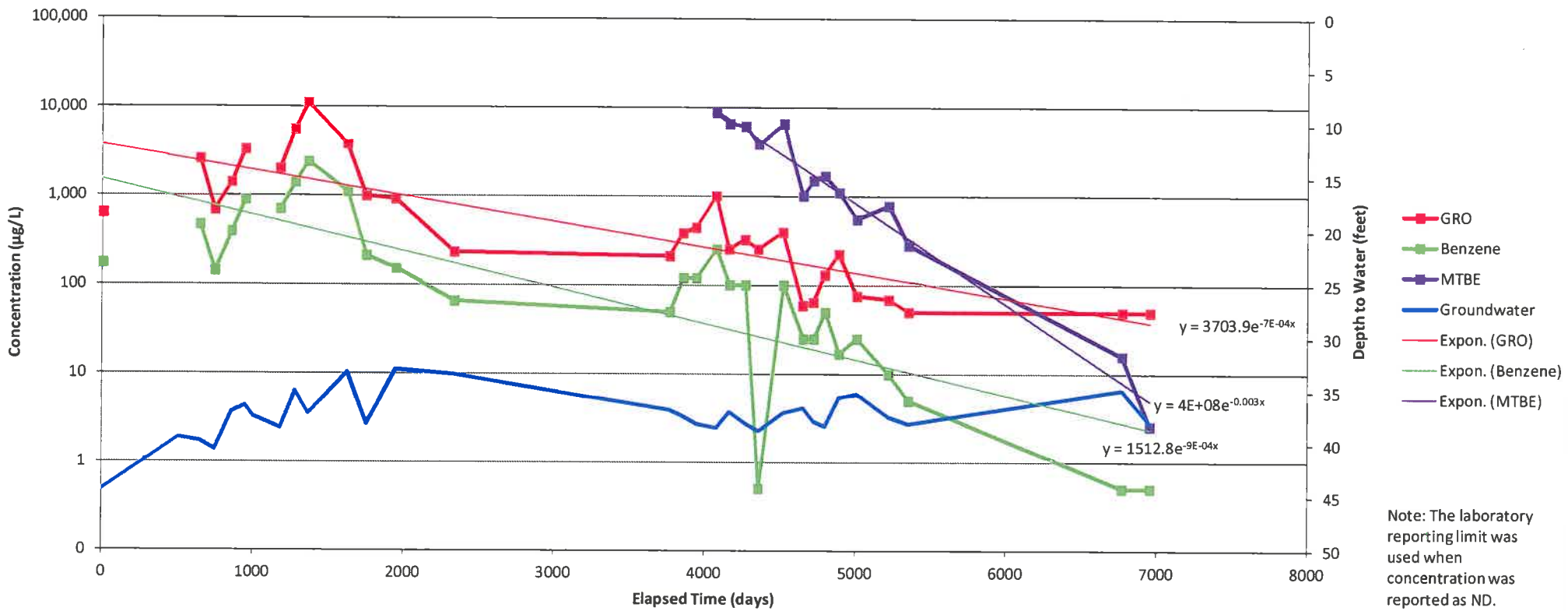
Groundwater Concentrations and Depth vs. Time - Well MW-4(a)

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



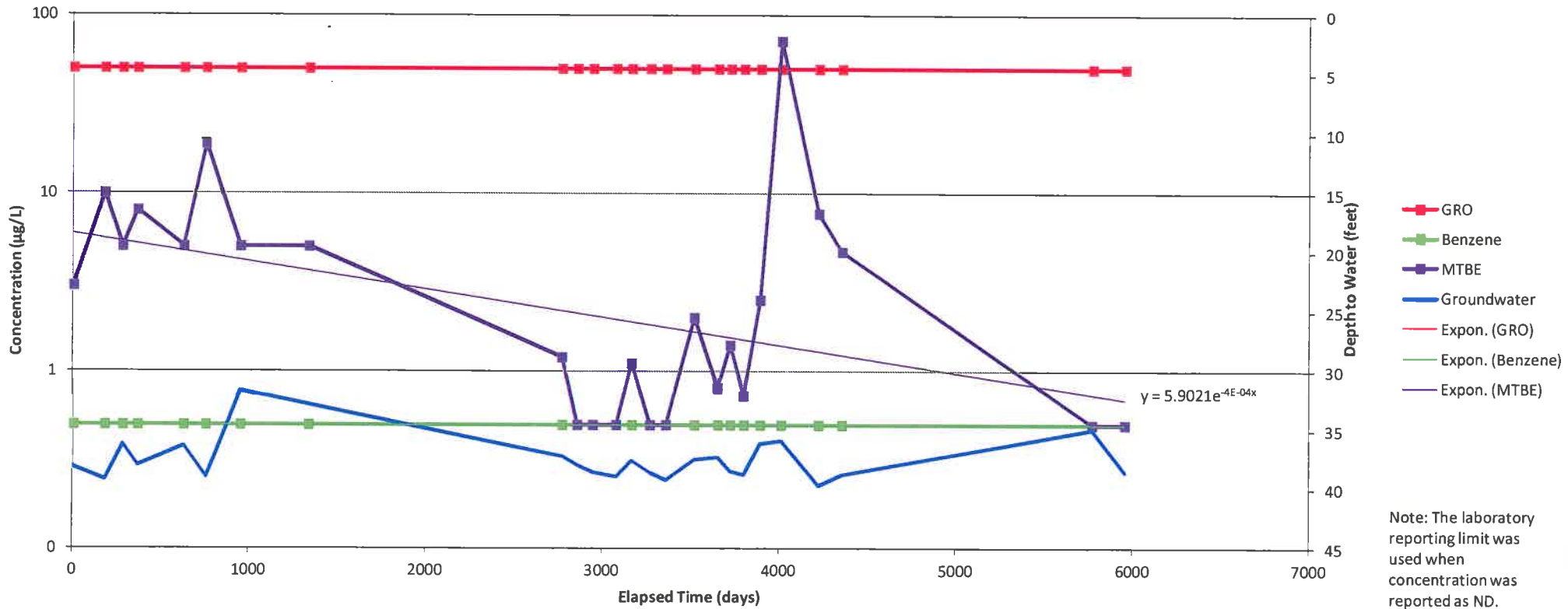
Groundwater Concentrations and Depth vs. Time - Well MW-4(b)

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



Groundwater Concentrations and Depth vs. Time - Well MW-6

Haber Oil Products, 1401 Grand Avenue, San Leandro, CA



Note: The laboratory reporting limit was used when concentration was reported as ND.

APPENDIX D
SLUG TEST DATA

Rising/Falling Head Slug Testing

Procedure

In rising/falling head slug testing the static groundwater elevation of an aquifer, at the location of a well, is either increased or decreased "instantaneously" by introducing or removing a known volume into a well. The total change in the elevation is recorded, and the recovery of groundwater to the static level is recorded at pre-determined time intervals. The equipment used in the test consisted a 5-foot-long, 3-inch-diameter PVC pipe, sealed at both ends and filled with clean sand. Prior to dropping the slug into the well, a pressure transducer was placed in the well and connected to a datalogger which recorded the changes in water level over time. Prior to the slug test, all equipment was cleaned either with steam or a tri-sodium phosphate solution to prevent the introduction of contaminants into the groundwater.

Data Analysis

Assumptions and site-specific conditions used in the analysis of this data include the following:

- Fully penetrating wells;
- Saturated thickness is equal to the wetted screen length;
- Well casing diameter is 4 inches;
- Well diameter is 12 inches;
- Water table (unconfined) aquifer;
- Static height of water in the well is equal to the wetted-screen length; and,
- The top elevation of the screened interval in the well is higher than the static and raised groundwater elevation.

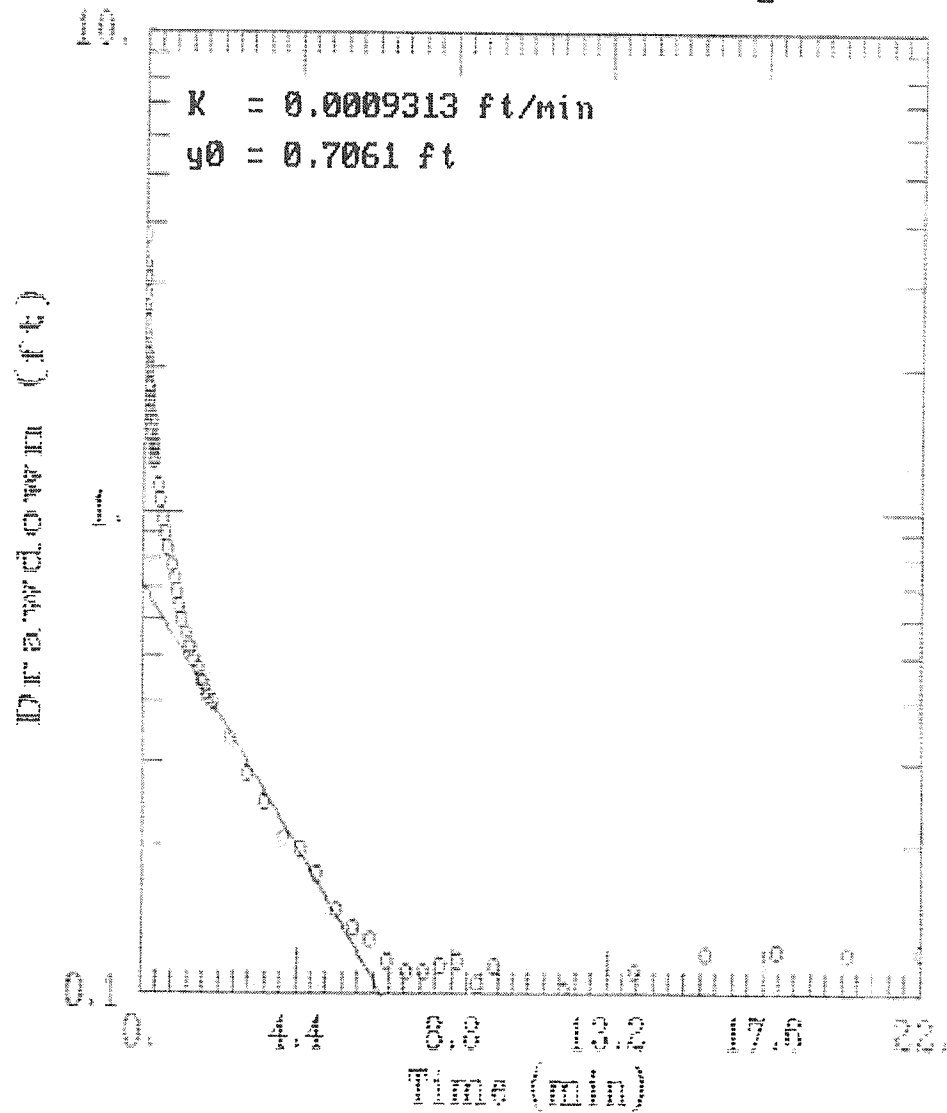
The above assumptions are based on soil boring and monitoring well logs, groundwater elevation data, and field data. Because of the site conditions and monitoring well construction, only the data collected during the falling-head testing was analyzed. The method used to analyze the data was the Bouwer and Rice slug test method for unconfined aquifers (Bouwer, et.al., 1976). To facilitate the analysis of the collected field data, a curve-matching computer program entitled "Aqtesolv" (Geraghty and Miller, 1989) was used.

List of Results and Data

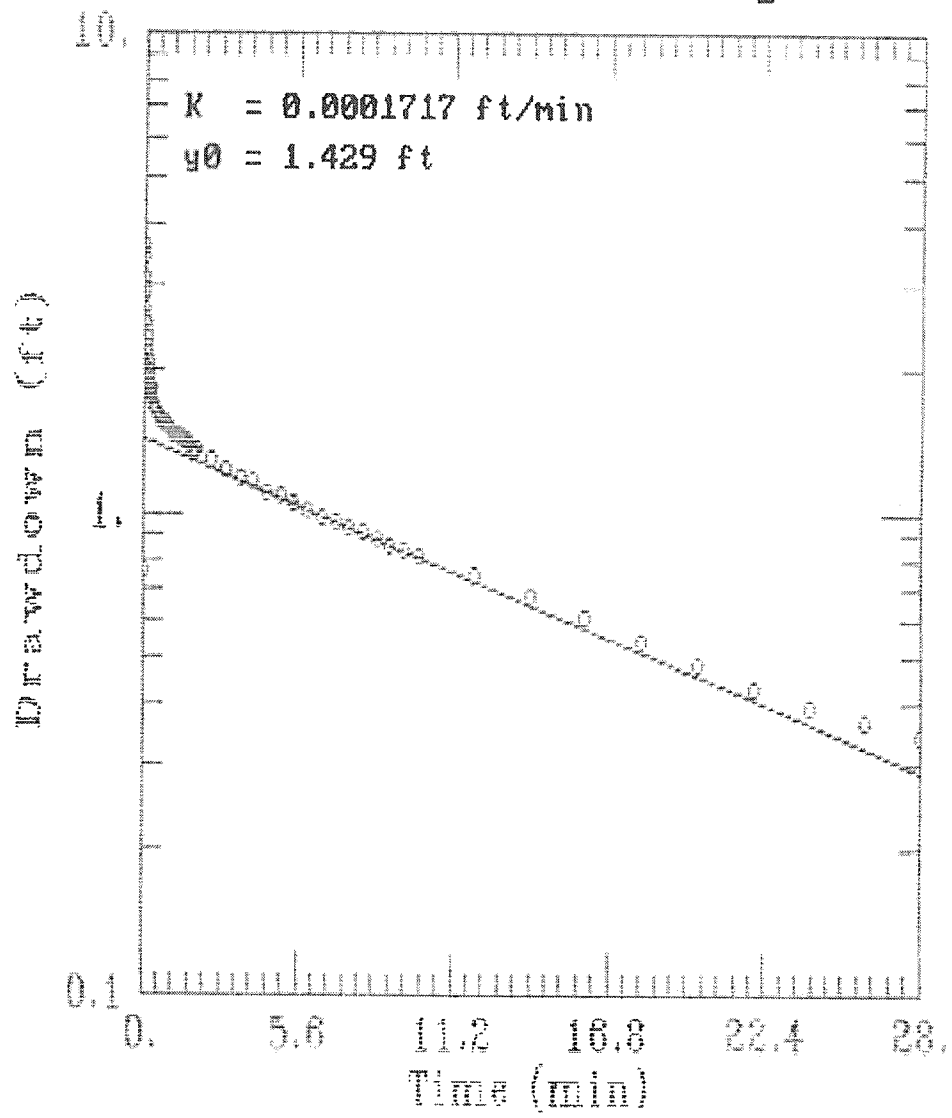
The following data and the graphical representation of the solutions are included as part of this appendix:

- For each well, the time and drawdown data as recorded by the datalogger are included.
- The graphical solutions are in the form of time-verses-drawdown graphs for each of the wells. Included on the graphs is a listing of the "y-intercept" and the hydraulic conductivity.

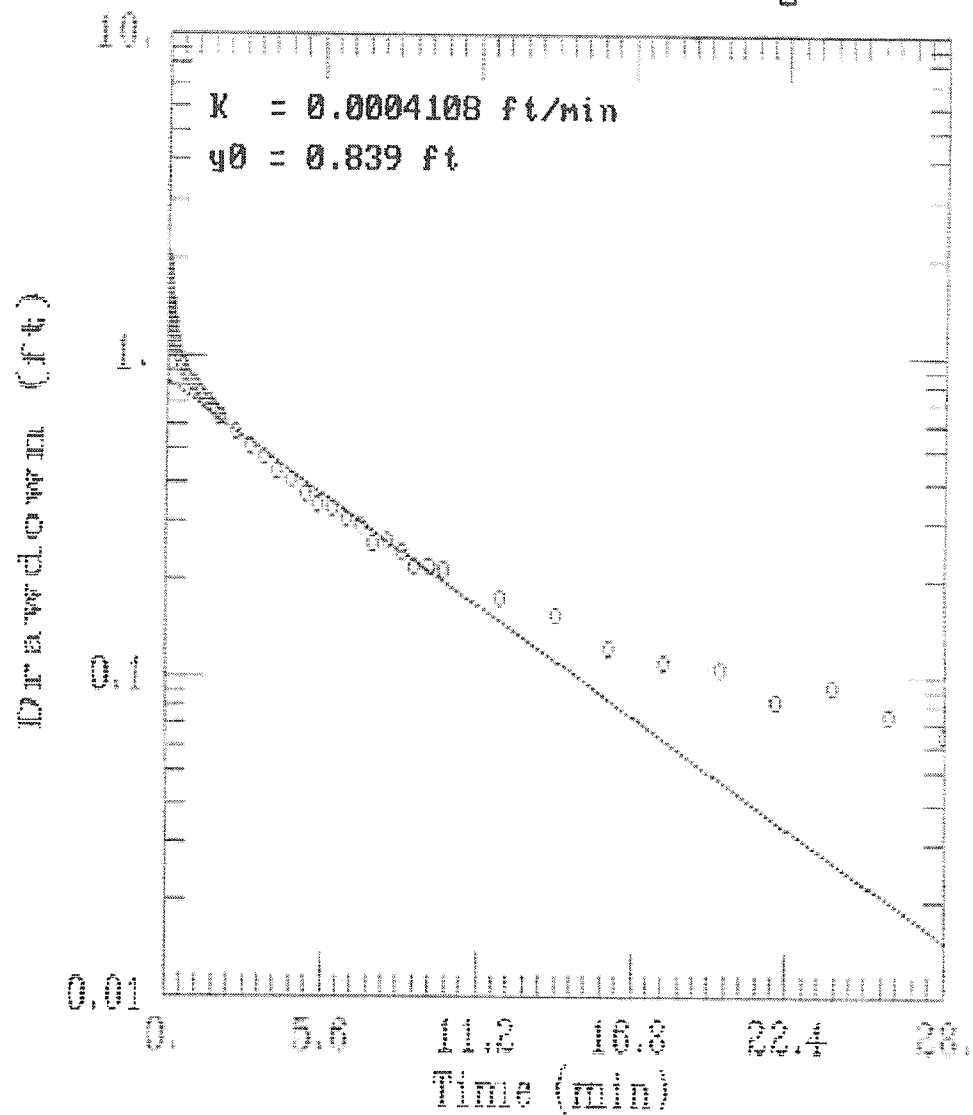
1401 Grand Ave. MW-1 Rising Head



1401 Grand Ave. MW-2 Rising Head



1401 Grand Ave. MW-4 Rising Head



APPENDIX E
SVE TEST DATA

TABLE 6

VAPOR EXTRACTION PILOT TEST DATA AND SUMMARY
OCTOBER 7, 1992

1401 GRAND AVENUE, SAN LEANDRO, CALIFORNIA

TEST 1: WELL MW-2
DURATION OF TEST: 2.5 HOURS

MW-1?

DATE	TIME	INFLUENT	WELL	WELL	CONCENTRATION (PPMV)			EXTRACTION RATES			VACUUM MEASUREMENTS (IN. H ₂ O)				COMMENTS
		VACUUM	TEMP.	AIRFLOW	TPH	TPH	BENZENE	TPH	TPH	BENZENE	MW-2	MW-3	MW-4	MW-5	
		(IN. H ₂ O)	(DEG. F)	(CFM)	FID	LAB	LAB	FID	LAB	LAB	DISTANCE FROM MW-1				
10/7/92	12:30 PM	-6	72	48	15250			9.7			38 ft	50 ft	50 ft	38 ft	
	1:00 PM							0			-0.1	-0.05	-0.25	0	Start test.
	1:30 PM	-7	73	51.2	10000			6.8							
	1:45 PM	-6.75	73	51.2	10000			6.8			-0.09	-0.06	-0.23	0	
	2:00 PM	-7	73	51.2	10000			6.8							
	2:15 PM	-6.75	73	50.7	10000			6.7							
	2:30 PM	-6.75	73	50.7	9250			6.2			-0.1	-0.07	-0.25	0	
	2:45 PM	-6.75	73	50.7	9250			6.2							
	3:00 PM	-6.75	73	50.7	9250	60000	2500	6.2	40.4	1.6	-0.11	-0.08	-0.25	0	Collected soil gas sample End of Test

TEST 2: WELL MW-1
DURATION OF TEST: 2 HOURS

DATE	TIME	INFLUENT	WELL	WELL	CONCENTRATION (PPMV)			EXTRACTION RATES			VACUUM MEASUREMENTS (IN. H ₂ O)				COMMENTS
		VACUUM	TEMP.	AIRFLOW	TPH	TPH	BENZENE	TPH	TPH	BENZENE	MW-2	MW-3	MW-4	MW-5	
		(IN. H ₂ O)	(DEG. F)	(CFM)	FID	LAB	LAB	FID	LAB	LAB	DISTANCE FROM MW-1				
10/7/92	3:15 PM	-31.5	79	91.6	11500			13.8			38 ft	50 ft	50 ft	38 ft	
	3:30 PM	-31.5	81	90.5	10000			11.8							Start test.
	3:45 PM	-32	80	90.5	9500			11.3			-0.08	-0.08	-0.02	-0.14	
	4:00 PM	-31.5	80	91.6	9250			11.1							
	4:15 PM	-32	79	91.6	9000			10.8			-0.09	-0.08	-0.02	-0.17	
	4:30 PM	-32.25	73	63	8750			10.5							
	4:45 PM	-32.5	74	63	8750			10.5			-0.09	-0.07	-0.01	-0.17	
	5:00 PM	-32.5	77	67	8750			10.5							
	5:15 PM	-33	76	91.6	8750	65000	1600	10.6	78.5	1.7	-0.09	-0.07	-0.02	-0.2	
	5:30 PM										-0.09	-0.07	-0.01	-0.17	Collected soil gas sample End test.

Notes:

- Airflow approximated from anemometer measurements.
- Extraction rate = Airflow X Concentration of constituent
- Molecular weight of gasoline assumed as 86 lb/lb mole.
- Molecular weight of benzene assumed as 78.12 lb/lb mole.
- CONSTRUCTION: 4 IN. DIA., TOTAL DEPTH - 63 FT. SCREENED INTERVAL: 38 FT (16 TO 53 FT BELOW GRADE)