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Letter of Transmittal

to: Mr. Jerry Harbert
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from: Joe Hayes

re: Harbert Transportation, 19984 Meekland Avenue, Hayward, California

date: July 30, 2004

Number of Copies	*Date of Documents*	*Description*
1	July 30, 2004	*Revised Site Conceptual Model*

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REVISED
SITE CONCEPTUAL MODEL

Former Durham Transportation Facility
19984 Meekland Avenue, Hayward, Alameda County

July 30, 2004

Prepared For:

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EXECUTIVE SUMMARY

This *Revised Site Conceptual Model (SCM)* describes the subject site, the hydrogeologic setting, a summary of previous investigations including initial well conduit study, source removal excavation operations, interim remedial action source removal operations, as well as identifies data gaps which are necessary to complete for a comprehensive SCM for obtaining site closure.

Alameda County Environmental Health Services (ACEHS) prepared a Technical Memorandum, dated May 13, 2004 which requested additional information to provide supporting data to elaborate on or revise the current SCM. In response, WHA prepared this*Revised Site Conceptual Model* and a has developed a *Soil and Groundwater Investigation Workplan (*WHA, July 30, 2004*)*. Specifically, the *Workplan* will address whether or not there is an impact to the next groundwater bearing zone, determine whether or not groundwater concentrations, specifically benzene, is below the revised groundwater cleanup goal prior to migrating offsite, complete another conduit study for permitted and un-permitted wells for determining potential impact to sensitive receptors and for updating the subsurface hydrogeology, re-surveying the site monitoring well network for horizontal orientation due to minor discrepancies in maps in WHA reports, (specifically 2/14/01 map and 6/24/03 map as identified by ACEHS), and conduct another round of monitoring well network sampling to show the groundwater concentrations continue to attenuate.

This revised SCM, along with additional information collected from the *Soil and Groundwater Investigation Workplan* will confirm the existing SCM and show;

- no significant groundwater plume migrating offsite,
- no significant residual contamination onsite,
- no contamination relating to releases from this property in the deeper groundwater bearing zone,
- no sensitive receptors are being impacted by residual contamination and,
- the clean-up goals for soil and groundwater have been met.

SITE DESCRIPTION

The site is located at the northeastern corner of Meekland Avenue and Blossom Way intersection, a mixed light commercial and residential area in Alameda County, California (Figure 1). The site is located at an elevation of approximately 55 feet above mean sea level (msl). The site is relatively flat, and covers an area of approximately 21,000 square feet. The site is located approximately 2,500 feet south of San Lorenzo Creek, and approximately 15,000 feet east of the San Francisco Bay (Figure 1). There are no ecologically sensitive areas such as surface water or wetlands or homes to endangered species within 1,000 feet of the site.

The site is bounded by single family residences to the north and east, Meekland Avenue to the west, and Blossom Way to the south. Further west across Meekland Avenue is an apartment complex. On the northwestern corner of the intersection is Hank's Liquor Store. On the southwestern corner is Hoang's Auto Repair Shop and on the southeastern corner, there is mixed light commercial retail

stores. Both the auto repair shop and the liquor store locations were previously gasoline stations. Figure 2 shows the intersection, the site and surrounding parcels.

In March 1990, existing structures at the site were demolished and removed. Currently the site is fenced off on all sides and contains no structures. The ground surface is covered with concrete and asphalt except were previous excavations were located.

Water Use:
Drinking water for the area is supplied by East Bay Municipal Utility District (EBMUD), Hayward Water, and Moreland Mutual Water District (MMWD). EBMUD water is imported from the Mokulume River system, with additional contributions from EBMUD Reservoir network located in the East Bay hills. Hayward Water is supplied by San Francisco Water Department, which imports water from Hetch Hetchy Reservoir. MMWD obtains their supply from groundwater pumped from the Lower Aquifer Zone (discussed in Regional and Local Hydrogeologic Setting Section below) at a production well located approximately 5 miles southwest of the site. It has been reported by Alameda County Flood Control and Water Conservation District (ACFC-WCD) that the Shallow Zone Aquifer (also discussed below) should not be used for domestic water supply.

It should be noted that the subject site previously contained a 4-inch diameter PVC well which was destroyed by tremie grouting operations by HEW Drilling Inc. with oversight by CTTS on December 12, 1989 (CTTS, February 16, 1990). This well is discussed in further details in the Well and Conduit Study Section later in this report.

Planned Land Use:
It is WHA understanding that the planned redevelopment of the site will be residential, however it is also WHAs' understanding that there is not yet a development plan that shows the locations of planned structures nor type of construction.

REGIONAL AND LOCAL HYDROGEOLOGIC SETTING

Regional Geology:
The site is located within the Coast Ranges province of California. The site is situated west of the active northwest trending Hayward Fault, and east of San Francisco Bay and the active northwest trending San Andreas Fault. The basement rock type between these two faults is the Franciscan Formation which consists of a heterogeneous unit of sedimentary, volcanic, and metamorphic rocks consisting of interbedded shale, chert, limestone, greenstone, and greenschist- blueschist metamorphic facies (Sutch and Dirth, 2000). Overlaying the Franciscan Formation are younger sedimentary rocks derived from the erosional process of the Mt. Diablo Range, and locally the San Leandro Hills. The regional geology of the area consists of a alluvial cone and fluvial depositional environments which were generated during the Quaternary Period and are up to 300 to 800 feet thick. Locally, the alluvial cones, and fluvial deposits, were generated during the erosion of the San Leandro Hills east of the site. The alluvial cones generally consist of a mixture of permeable gravels, sands and clays, and range in thickness from 50 feet at fan heads and canyons and 20 feet where these deposits interfinger with fluvial deposits at the outer margins of the fans (Helley, Lajoie, and Burke, 1972). In general the particle size, particle distribution and bed thickness of the alluvium decreases with increasing distance from the San Leandro Hills, westward toward San Francisco Bay. Based on review of site lithology (dominantly clays and silts with interbeds of sands and clayey sands), and distance from the San Leandro Hills, the site appears to be positioned near

the outer margin of the alluvial fan sequence, and interfingering with fluvial deposits near the bay margin (Figure 4).

Regional Hydrogeology:
The majority of the following hydrogeologic discussion has been referenced from State of California Department of Water Resources Bulletin No.118-1, *Evaluation of Ground Water Resources: South San Francisco Bay Volume II: Additional Fremont Study Area*, August, 1973.

The area is an mild arid climate which contains cool winters, and hot summers. Winter precipitation occurs from storms generated in the north Pacific Ocean with the most precipitation occurring in November through March. Average annual rainfall for the City of Hayward is approximately 18 inches. Recharge to the underlying aquifer system is from infiltration from precipitation, irrigation return flow, and stream flow.

The area has been divided into two aquifer zones, Upper and Lower Zone. The Upper Zone is located from ground surface to approximately 400 feet bgs while the Lower Zone is from 400 to 800 feet bgs. The Upper Zone aquifer contains three separate groundwater bearing subzones. These distinct groundwater bearing subzones (in depth increasing order) are known as the, Newark, Centerville, and Fremont Aquifers. The Newark, Centerville, and Fremont Aquifers consist of discontinuous beds of sand and gravel which extend westward beneath San Francisco Bay each being confined from above and below by layers that are of significantly less permeability. These layers, or aquitards create leaky aquifers indicating there is some degree of hydraulic connectivity between the above mentioned aquifers, hence, the group of aquifers and aquitards in the area should be considered asa a multiple aquifer system rather than a group of individual aquifers.

Newark aquifer can be further divided into one more subzone known as the Shallow Aquifer. The Shallow Aquifer generally occurs at depths ranging from ground surface to approximately 50 feet bgs. The Shallow Aquifer is generally limited in areal extent and is semi-confined or perched. The thickness of the Shallow Aquifer pinches out toward the west intersecting the Newark Aquitard near the bay as depicted on Figure 4. The monitoring wells at the subject site are screened within the Shallow subzone of the Upper Zone Aquifer (Figure 5).

Site Geology:
The lithology at the site has been observed to depths of 46 feet and only one groundwater bearing zone has been penetrated. Boring logs indicate there are at least seven unconsolidated units comprising the upper 46 feet beneath the site which consists of (in depth increasing order); sand/gravel fill, clay, sandy clay and/or clayey silt, clayey and/or silty sand, fat and/or lean clay, poorly graded and/or silty sand, and lean clay as the bottom most unit (unit seven).

Based on monitoring well logs reviewed (CTTS, Inc. April 1991 & November 1992), and logs of driven probe borings (WHA June 2001 & February 2002) the subsurface lithology appears fairly homogeneous beneath the site, and laterally (within 175 feet) offsite (Figure 6). Geologic logs of borings and monitoring wells are included in Appendix A, and B.

Monitoring Wells (MW), MW-3, 4, 8, 9, 10, 11, and 12 are constructed to 40 feet bgs. MW-8, and MW-9 are constructed with 20 feet of screen from 20 to 40 feet bgs, and MW-10, 11, and 12 are constructed with 15 feet of screen from 25 to 40 feet bgs. There is no well construction logs for either MW-3, or MW-4, although it is believed to be constructed similar to the other 40 foot wells

with 15 or 20 feet of screen. MW-5, 6, and 7 are all completed to 45 feet bgs with 20 feet of screen from 25 to 45 feet bgs.

Driven Probe (DP) borings DP-2, 3, 4, 5 terminate at 28 feet bgs, and DP- 6, 7, 8, 9 terminate at 25 feet bgs. Boring DP-1 terminates at 46 feet bgs and landfill acceptance borings (LABDP-1, LABDP-2) termiante at 40 and 38 feet bgs respectively. The general lithology of the site is depicted in cross sections A-A', B-B', and C-C' on Figure 6.

The general lithology between the shallow borings termination depth of 25 to 28 feet bgs and the deep borings and monitoring wells termination depths of 40 and 45 feet bgs indicate that the fifth unit (fat clay) extends to depths of 30 to 35 feet bgs, which is underlain by a relative thin (approx. 5 feet) poorly graded sand and/or silty sand unit (facies change) which is underlain by either a fat or lean clay (unit 7). The aquifer beneath the site appears to be semi-confined due to rise of groundwater levels to 22-23 feet bgs only after penetrating the deeper sand unit (unit 6) at depth. WHA believes the basal clay unit (unit 7) is an aquitard for the upper shallow groundwater bearing zone and that there is another deeper groundwater bearing zone below this clay. Specifically the lithology consist of;

- Unit #1: Sand/Gravel Fill is present in monitoring well logs MW-3, 4, 6, 7, 12 from just below the asphalt surface to 2 to 4 feet below ground surface (bgs) depending. Generally the fill is in the northern portion of the site and at the southwestern corner (at MW-4).

- Unit #2: Clay is consistently present in most all borings and well logs to depths of either 3.5 or 7 feet bgs depending on logs reviewed. The unit is generally 2 to 4 feet thick and is described as being a fat clay with some moisture but not water bearing.

- Unit #3: Sandy clay is consistently present in all borings and well logs from depths of 3.5 or 7 feet bgs to depths of either 10 or 23 feet bgs, giving a general thickness of 6 to 16 feet, depending on lithologic log. This unit is generally stiff, lacking moisture and mottled. A clayey sand was observed at the base of this unit in MW-5 and DP-3 and is probably linked to the clayey sand unit below, and may be acting as the main transporting lithologic unit to deeper depths. Based on logs reviewed, the sandy clay unit appears to be thinning to the west toward MW-10 and MW-11 (Figure 6).

- Unit #4: Clayey sand is consistently present in all borings and well logs except DP-1 and MW-12 (which could be due to different logging techniques) starting at depths of 10 or 15 feet bgs and generally only 4 feet thick, except in DP-10 where it is 10 feet thick and MW-4 where it is 15 feet thick (i.e thinnest under majority of the site). This unit is be described as being moist to very moist (depending on time of year logged) although is not a water bearing unit.

- Unit #5: Fat and/or lean clay is consistently present in all borings and well logs starting at depths of 20 feet bgs and is consistently 10 feet thick and up to 15 feet thick in MW-5 and 20 feet thick in MW-3, MW-6, MW-11, with interbeds of sands in the lower half. This unit has been described as being both moist and dry (lean) and medium stiff to very stiff depending on lithologic log and/or logger. Although this unit has been described as being moist and is submerged in all monitoring wells constructed onsite, this unit is not believed to be the groundwater bearing unit. The site appears to be semi-confined with the

groundwater level rising to 22 to 23 feet bgs, after penetrating the lower unit (unit #6).

- Unit #6: Poorly graded and/or silty sand is in most of the boring logs and in half of the well logs. This unit starts around 30 to 35 feet bgs and is generally 5 to 7 feet thick, and up to 10 feet thick in MW-10. This unit is absent in MW-4, 8, 11, 12 (the southern and northern portions of site) leaving a northwest and southeast trend of this unit in the subsurface, similar to groundwater flow direction and perhaps a distinct preferential flow path. Based on drilling conducted, this is the groundwater bearing unit. Once this unit is penetrated groundwater rises to static levels of 22- 23 feet bgs.

- Unit #7: Lean clay is generally present in all borings and well logs, and it the basal unit for drilling conducted at the site. This unit has been logged as being 10 feet thick in MW-7 and DP-1 and is generally logged as being 5 feet thick or less depending on depth of boring drilled. Most monitoring wells terminate 2 to 5 feet into this unit. There has not been any further drilling beyond this unit at the site.

Site Hydrogeology:
The monitoring wells at the subject site are screened within the Shallow subzone of the Upper Zone Aquifer (Figure 5). The Shallow Aquifer generally occurs at depths ranging from ground surface to approximately 50 feet bgs. As mentioned before and based on field observations during drilling, the aquifer appears to be semi-confined. Although the depth to groundwater in the monitoring wells is approximately 22-23 feet bgs, groundwater was not encountered during drilling operations until a depth of approximately 30-35 feet bgs depending on what depth the poorly graded sand and/or silty sand unit is encountered. Once encountered, groundwater rises slowly to static levels of 22-23 feet bgs. The hydraulic gradient is relatively flat, on the order of 0.003 feet per foot and consistently in a westward direction toward the San Francisco Bay as depicted on Figure 7.

Site Hydrogeologic Summary:
Based on the regional and local site hydrogeology, it is evident that there is a link from the former source through preferential pathways (clayey sand stringers interbeded in clay) to the groundwater bearing zone and then laterally downgradient.

Based on the information presented, WHA has developed a *Soil and Groundwater Investigation Workplan* which will address potential impact to the deeper groundwater bearing aquifer (Newark Aquifer). Additionally, WHA will perform a second sensitive receptor conduit search to reevaluate whether offsite wells have the potential to be impacted by residual low level PHCs. Refer to WHA *Soil and Groundwater Investigation Workplan*, for details.

SUMMARY OF PREVIOUS INVESTIGATIONS

The subject site was operated as a motor vehicle fueling station since the 1940's. In the 1960s Harbert Transportation purchased the site and operated it as a vehicle fueling and maintenance facility until 1986. In 1986, Durham Transportation of Austin Texas purchased the property and operated the site as a fueling and maintenance facility until 1989.

In August 1989, four underground storage tanks (USTs) were removed from the site and properly disposed of. Soil and groundwater investigations at the site, conducted by Applied Geosystems, CTTS, and AGI Technologies, indicated that soil and groundwater at the site were impacted by petroleum hydrocarbons (PHCs) and volatile organic compounds (VOCs). Ten groundwater monitoring wells currently exist at the site. Documentation indicates that excavated soil following the UST removals was returned to a plastic-lined excavations (CTTS, November 1, 1992). Documentation also indicates that two USTs were removed from the site in the early 1950's (adjacent to former dispensers removed in 1989), and that a sump located in the northern portion of the site contained PHCs (CTTS, November 27, 1990).

In March 1990 the site structures were demolished and removed. Following site demolition CTTS continued quarterly monitoring through June 1993. Based on data by CTTS, the monitoring well network was sampled twice in 1994 (third and fourth quarters), once in 1995 (third quarter) and twice in 1996 (first and third quarters).

Between approximately December 1, 1992 and December 31, 1993 onsite groundwater pump and treat remediation operations were conducted by CTTS Inc. Monitoring Wells MW-5, 6, and 7 were setup to pump groundwater from the subsurface through three carbon canisters inline with each other to a holding tank and ultimately to the sanitary sewer.

On March 29, 1996 AGI submitted a final report on the development of Risk-Based Cleanup Standards on February 4, 1998 and September, 28, 1998 AGI submitted revised reports on the development of Risk-Based Cleanup Standards.

In October 1999, WHA submitted, *Clarification of Development of Risk Based Cleanup Standards* (WHA, October 29, 1999) to ACEHS. ACEHS replied to our report and indicated that quarterly groundwater sampling should recommence, and that the clean-up goals for benzene should be revised.

In the third quarter 2000, WHA initiated a groundwater monitoring program at the site. Groundwater analytical data from the first two rounds of quarterly monitoring as well as documentation that excavated soils from the UST removal operations was placed back into plastic-lined excavations (CTTS, November 1, 1992) indicated that there appeared to be a remaining source in the subsurface. **Although PHCs remained in the shallow groundwater aquifer, the plume appeared limited in extent and stable. Furthermore, Methyl tert Butyl Ether (MTBE) nor other fuel oxygenates (Di-isopropyl Ether, tertiary Butyl Alcohol, Ethyl tertiary Butyl Ether, and tertiary Amyl Methyl Ether) have ever been detected in groundwater at the site.**

On August 8, 2000 in a meeting of the RWQCB all parties agreed to conditionally approved soil cleanup levels.

Pursuant to the understandings reached at the RWQCB meeting in September, 2000 WHA submitted a Workplan (WHA, September 7, 2000) to ACEHS. The purpose of the Workplan was to determine the lateral and vertical extent of PHCs remaining in the unsaturated zone. The Workplan was approved by ACEHS in a letter dated November 1, 2000.

On February 14, 2001, WHA collected soil samples from the sites subsurface to determine the lateral and vertical extent of remaining PHCs in the unsaturated zone. Analysis of the data collected

indicated that the soils at the site were predominately fine grained, and confirmed that significant concentrations of PHCs remained in soils at two isolated areas;

- Beneath the former dispensers (removed 1989) and,
- Beneath the former excavation pit (excavated in 1989) which was reportedly backfilled with the excavated material (CTTS, November 1, 1992)

In June, 2001, WHA submitted a Interim Remedial Action (IRA) report (WHA, June 18, 2001) to ACEHS. The IRA recommended using large diameter augers to drill-out/excavation the residual PHCs. The IRA was approved by ACEHS in a letter dated June 26, 2001.

In October 2001, WHA completed drilling to obtain soil samples for analysis of constituents of concern for profiling the soil for landfill acceptance, so that during large diameter auger excavation operations, that excavated spoils could be hot loaded and transported directly to the landfill with no downtime. During the drilling of the landfill acceptance borings, a deeper sand unit from approximately 34-40 feet bgs was identified to contain significant contamination which needed removal.

From January 7 through 10, 2002 WHA conducted the IRA using six foot diameter augers, drilling 40 foot shafts to remove contaminated soils from the subsurface. The IRA addressed the removal of contamination within the former excavation pit and beneath the former dispensers (contamination $\geq$15 feet bgs), the vadose zone, the soil/groundwater interface, smear zone, and the vertical extent of the deeper groundwater bearing sand unit, to a depth to 40 feet bgs. For specific details on the IRA, see Source Removal Operations Section below and WHA report; *Interim Remedial Action: Large Diameter Auger Excavation Operations and 4th Quarter 2001 Quarterly Groundwater Monitoring,* dated February 8, 2002.

In the first quarter 2002, WHA recommended that the frequency of sampling in monitoring well MW-7 be reduced to semi-annually (second and fourth quarters) and that the frequency of sampling in monitoring wells MW-4, 8, 11 and 12 be reduced to annually (fourth quarter only). ACEHS concurred with our recommendations in a telephone conversation on July 29, 2002.

In December, 2002, WHA submitted, *Proposed Site-Specific Clean-up Goals & Groundwater Monitoring Report- Third Quarter 2002* (WHA, December 27, 2002) to ACEHS. In a telephone conversation with ACEHS staff, they indicated too busy to respond to report, although they requested that semi-annual monitoring continue. This sampling program was ongoing through second quarter of 2003 (February 14, 2003).

In March, 2003 WHA submitted, *Proposed Site-Specific Clean-up Goals - REVISED & Groundwater Monitoring Report- Fourth Quarter 2002, & Workplan for Conduit Study* (WHA, March 27, 2003) to ACEHS. Communications with Roger Brewer at California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SFBR) indicated that the revised site specific clean-up goals were sufficient and that it appeared that the site soil and groundwater concentrations were within the site clean-up goals (e-mail from Roger Brewer, April 18, 2003). Additionally, this report indicated that there were no sensitive receptors within close proximity to the site that could be potentially impacted by residual PHCs.

In August, 2003 WHA submitted, *Fuel Leak Case Closure Request & Groundwater Monitoring*

Report - Second Quarter 2003 (WHA, August 22, 2003) to ACEHS demonstrating that remediation efforts had met the risk-based cleanup standards agreed by the RWQCB. ACEHS responded to our report in a Technical Memorandum RO0000047, dated May 13, 2004 which indicated case closure for the site was denied and required new clean-up goals and additional information.

Conclusions of Summary of Previous Investigations:
Based on ACEHS Technical Memorandum (ACEHS, May 13, 2004), WHA has revised the groundwater clean-up goals to levels directed by ACEHS (10x MCL), as well as clarify and/or supply of additional information for a new SCM.

In order to provide additional data for the revised SCM, WHA has developed a *Soil and Groundwater Investigation Workplan*. Specifically, the *Workplan* will address whether there is an impact to the next groundwater bearing zone, complete another conduit study for updating the subsurface hydrogeology, and re-surveying the site monitoring well network for horizontal orientation. Refer to WHA *Soil and Groundwater Investigation Workplan*, for further details.

WELL AND CONDUIT STUDY

A well/conduit study was implemented for the site following the approval of our *WorkPlan for Conduit Study* (WHA, March 27, 2003) by ACEHS in their e-mail dated April 15, 2003. ACEHS also requested that the search be expanded to identify the presence of all wells within ½ mile radius of the site (i.e., monitoring and production wells; active, inactive, standby, destroyed, abandoned), provide details of their construction (where available), and an interpretation of their possible contribution to plume dispersal, should there be any. The results of this study were used to refine the SCM and determine whether utility conduits or offsite wells would allow the spread of PHC-contaminated groundwater.

WHA implemented the *WorkPlan* by contacting all utility companies which have underground or above ground utilities near the site, as well as contacting the Alameda County Public Works Agency (ACPWA) Land Development Department, Maintenance & Operations Department and Water Resources Section to obtain information on any type of well within ½-mile radius of the site.

Well Conduit Study:
On July 19, 2003 ACPWA Water Resources Section sent us their query results on wells within ½-mile radius of our site. This data was compiled onto Table 3 according to well number (Township, Section, and Range). Included in the query, if available were; site addresses and city; well owners; drilling dates; elevations of well heads; total depth of wells; groundwater depths; well diameters; well types; and whether or not there was a drilling log associated with the well. A total of 78 wells were identified within ½ mile of our subject site by ACPWA Water Resources Section. The well use identified by ACPWA were either: domestic well; monitoring well; irrigation well (irrigation well could also be domestic well); boring; abandoned well (but not destroyed through permit); destroyed well (destroyed through permit); test well; or, unknown type of well (well use not reported).

Utility Conduit Study:
On July 28th, 2003 WHA staff mapped above ground and below ground utilities in the intersection of Blossom Way and Meekland Avenue. Each manhole cover was identified and mapped, as was

all street lighting and overhead electrical. Following field mapping and after receiving utility maps from the utility companies (Oraloma Sewer, EBMUD, and Pacific Gas & Electric) , a utility map was created. Based on our field inspections the deepest conduit at the site is approximately 8 feet bgs, approximately 14 feet above the groundwater table. **Based on the information gathered and field observations, there are no utility conduits near the subject site that could serve as a horizontal conduit for transporting PHC-contamination to the shallow groundwater bearing zone.**

After completing the utility mapping at the site, WHA staff confirmed the location of each well identified by ACPWA within ½ mile radius of the site by driving by and looking for pump houses or electrical poles which service the pump house. Generally, the irrigation wells were located at a large residential complex (mobile home, apartments, or condominiums), while the monitoring wells were located at active or abandoned gasoline stations. Domestic wells were generally noted by observing a pump house on the property. Particular attention was given to those wells which were near the site, especially domestic and irrigation wells. The closest two wells (3S2W17C1; 3S2W17C2) were approximately 600 feet northwest (cross-gradient) of the site, and were listed by ACPWA to be irrigation wells. Although neither depth to groundwater nor sanitary seal depths were reported for these wells, they are not located within the limits of the sites' dissolved PHC plume and therefore are not believed to be vertical conduits for transport of PHC-impacted groundwater. We also note that well MW-11 is northwest of the site and does not contain any PHCs. The groundwater plume at the subject site is estimated to be at a maximum, 120 feet long as depicted on Figure 7. None of the other wells are close to the subject site. **Based on the information gathered, there are no wells that are potentially threatened, impacted, nor that could serve as vertical conduits for transporting PHC-contamination to a deeper groundwater bearing zone.**

Based on all field work conducted and information obtained, no utility conduits, nor any wells identified within ½-mile radius of the site appear to be conduits that could allow transport of PHC-contamination to the shallow groundwater bearing zone.

Although our conclusions indicate that there is no sensitive receptors which are likely to be impacted by the sites groundwater plume, ACEHS doe not concur with our results and has requested (Technical Memorandum, dated May 13, 2004) that another ½ mile well radius sensitive receptor search be conducted to expand/revise the subsurface hydrogeology and SCM.

Conclusions to Well and Conduit Study:

In this Revised SCM, WHA will evaluate a 4-inch diameter PVC well which was destroyed under permit by tremie grouting operations by HEW Drilling Inc. with oversight by CTTS on December 12, 1989 (CTTS, February 16, 1990). It was reported that the well was 67.9 feet deep, with static groundwater at 29.9 feet bgs. Additionally, it was reported that the groundwater in the well was sampled prior to it being destroyed. The groundwater sample obtained from this well (depth unknown) contained concentrations of TPH-g, at 1,800 parts per billion (ppb), benzene at 200 ppb, ethylbenzene at 24 ppb, toluene at 18 ppb, and xylene at 34 ppb, 1,2 DCA at 0.15 ppb and lead at 2,100 ppb. No TCE, or PCE was detected. It should be noted that it is uncertain whether the lead concentration is accurate (i.e. was the groundwater sample filtered and acidified in the field prior to lead analysis or not?).

In light of ACEHS request for an additional sensitive receptor well radius search, and to evaluate the onsite destroyed well, WHA has developed a *Workplan* that will address the additional ½ mile

well radius search request and the destroyed well. Refer to *Soil and Groundwater Investigation Workplan* , dated July 30, 2004 for specific details.

ESTIMATION OF RELEASE MASS

A calculation of the estimation of release mass was not conducted by the original consultant (CTTS Inc.) and an estimation of the mass release performed now would likely be inaccurate.

SOURCE REMOVAL ACTIVITIES

Documentation indicates that two USTs were removed from the site in the early 1950's (adjacent to former dispensers which removed in 1989), and that four additional USTs were removed from the site in 1989. Following the 1989 UST removal operations, documentation indicatesthat excavated soil following the UST removals was returned to a "now" plastic-lined excavation (CTTS, November 1, 1992).

In June, 2001, WHA submitted a Interim Remedial Action (IRA) report (WHA, June 18, 2001) to ACEHS. The IRA recommended using large diameter augers to drill-out/excavation the residual PHC impacted soils which were placed back into the plastic-lined excavation following over-excavation operations. The IRA was approved by ACEHS in a letter dated June 26, 2001.

From January 7 through 10, 2002 WHA conducted the IRA using six foot diameter augers, drilling 40 foot shafts to remove contaminated soils from the subsurface. The IRA addressed the removal of contamination within the former excavation pit and beneath the former dispensers (contamination $\geq$15 feet bgs), the vadose zone, the soil/groundwater interface, smear zone, and the vertical extent of the deeper groundwater bearing sand unit, to a depth to 40 feet bgs. The following are specific details of the IRA:

- Thirteen Large Diameter (LD) shafts were drilled within and encompassing the former excavation pit for completely removing the previously excavated spoils, and for removing a zone of high contamination at depths of 35-40 feet bgs discovered from landfill acceptance boring - driven probe DP-2.
- Three LD shafts were drilled within and encompassing the former dispensers for removing contamination discovered from landfill acceptance boring - driven probe DP-1.
- Approximately 670 cubic yards (yds^3) of soil was removed from the subsurface.
- 594 yds^3 of the soil was PHC-impacted, and was transported to Forward Landfill in Manteca.
- The remaining 76 yds^3 of clean overburden was reused on-site as the upper backfill material.
- 3,000 gallons of PHC impacted groundwater was removed from the subsurface and properly disposed of by Integrated Waste Management (IWM).
- 400 pounds of Oxygen Release Compound® (ORC) was added to the saturated zone in each LD shaft to promote microbial growth and enhance the ability of aerobic microbes to degrade contaminants.
- Each LD shaft was backfilled with 10 feet of control density fill (30-40' bgs), 20 feet of self compacting fill sand (10-30' bgs) and 10 feet of clean overburden (0-10 feet bgs).
- Twelve soil sidewall samples and two bottom soil samples were obtained from the LD auger shaft excavation operations and indicate that the remaining source soil was removed. All of the soil sidewall samples were either non detect or extremely low level for the constituents

of concern , with the highest detection being TPH-g at 34 parts per million (ppm).

Below is a Table showing comparison of maximum residual PHC concentrations (in ppm) for soil sidewall and bottom samples from large diameter excavation operations with soil cleanup goals derived from Environmental Screening Levels (ESLs) which were established by CRWQCB-SFBR.

Identification	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes
Highest Soil Sample Concentrations	34ppm	0.041ppm	0.014ppm	0.12ppm	0.6
Soil Cleanup Goal ESLs	100 ppm	0.044ppm	2.9 ppm	3.3 ppm	1.5 ppm

This summary shows that residual soil concentrations are *below* ESLs.

Following source soil removal operations the following data exists for the monitoring well network at the site:

- Groundwater concentrations in closest wells (MW-3, 5, 6, and 9) decreased periodically, following source removal operations, although based on the most recent groundwater concentrations data (June 2003), groundwater concentrations in these monitoring wells still appear to be oscillating, and two of the four monitoring wells MW-5, and 9 have concentrations of benzene above the groundwater cleanup goal of 10 ppb.

- Monitoring well MW-7 is now non detect for constituents of concern,

- Monitoring wells MW-4, 8, 11, 12 which have historically (since WHA started monitoring) been non detect, continue to be non detect and,

- Monitoring well MW-10 is showing a continual decline in groundwater concentrations following source removal operations.

Conclusions of Source Removal Activities:
Based on the information provided above, the residual source(s) were removed during large diameter excavation operations. Specifically, soil sidewall and bottom soil samples were obtained from the former dispenser location and former 1989 excavation pit. The soil samples were analyzed for constituents of concern and indicate that all sidewall and base soil samples are either non detect for the constituent of concern or are very low level, meeting the soil cleanup goals. **Therefore WHA believes there is no further reason to sample onsite soils.**

In regards to the two monitoring wells containing benzene concentrations above the groundwater cleanup goal. WHA plans to drill two borings, one downgradient of MW-9 at the property line, and one at the northwestern property corner to confirm that if groundwater contamination is present, the concentrations are below a maximum plume concentration that may migrate beyond the borders of the site. WHA proposes to use ACEHS's goal of 10 times the MCL for TPH-g and M-BTEX concentrations. Refer to *Soil and Groundwater Investigation Workplan* (WHA July 30, 2004) for specific details.

REMEDIATION ACTIVITIES

Between approximately December 1, 1992 and December 31, 1993 onsite groundwater pump and treat remediation operations were conducted by CTTS Inc. Monitoring Wells MW-5, 6, and 7 were setup to pump groundwater from the subsurface through three carbon canisters inline with each other to a holding tank and ultimately to the sanitary sewer.

RESPONSE TO TECHNICAL MEMORANDUM

Included within this section are revised groundwater clean-up goals to 10x the MCLs, additional supplemental information required by ACEHS, and a response to technical comments made in ACEHS Technical Memorandum (ACEHS, May 13, 2004).

Soil Cleanup Goals:
The soil cleanup goals have not be revised, as they are considered satisfactory. Additionally, all soil samples obtained following source removal operations using the large diameter augers meet the site-specific cleanup goals as indicated in the Table above.

Revised Groundwater Cleanup Goals:
Weber, Hayes and Associates has revised the groundwater cleanup goals to 10x MCL (considered reasonable by ACEHS), to reflect a maximum plume concentration that may migrate beyond the borders of the subject site. Groundwater cleanup goals are presented in the Table below along with the latest round of monitoring well samples from impacted wells (June 24, 2003) to serve as a comparison to show that all of the impacted wells except two (MW-5, and MW-9) are below the groundwater clean-up goals.

Well ID	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-3	260	ND	ND	5.6	2.8	ND*
MW-5	3,800	**100**	58	310	670	< 1.5*
MW-6	1,500	< 5	< 5	35	15	< 0.6*
MW-9	2,900	**25**	9.1	230	270	< 1.5*
MW-10	750	< 2.5	< 2.5	< 2.5	< 5	< 1.5*
PQLs	50	0.5	0.5	0.5	1	1
Groundwater Cleanup Goal (10x MCL. AL for TPH-g and secondary MCL for MTBE)	10,000 ppb	10 ppb	1,000 ppb	7,000 ppb	17,500 ppb	50 ppb

BOLD = Concentrations in bold indicates concentration exceeds groundwater cleanup goal.
* = Confirmed by EPA 8260 Method.

Based on the revised groundwater cleanup goals, only two wells(MW-5, and MW-9) contain concentrations of benzene that exceed the groundwater cleanup goals, while all other wells contain concentrations that meet groundwater cleanup goals. Based on this review, WHA plans to drill two borings, both downgradient at the property line to determine whether benzene concentrations decline below the groundwater cleanup goal (10 ppb) prior to migrating offsite. Refer to WHA *Soil and Groundwater Investigation Workplan*, dated July 30, 2004 for further details.

Additional Supplemental Information for SCM:
Additional supplemental information was requested in ACEHS Technical Memorandum to be submitted with this Revised SCM. WHA is in the process of compiling all information requested to validate the SCM.

The additional information supplied within this current Revised SCM includes;

- Revised groundwater clean up goals (10x MCLs),
- Re-evaluation and minor edits of geologic cross sections A-A', and B-B' to reflect uncertainties where distances between logged borings are great, and include large diameter auger excavation shaft locations,
- Creation of another geologic cross section (C-C') along the long axis of the plume to include monitoring wells MW-3, 5, 6, and 11,
- Creation of a Site Map which includes the area(s) of the site which were subjected to remedial soil excavation operations, and an accurate depiction of boring locations and site monitoring wells and,
- Preparation of a large format site map including; previous identified production, irrigation, and domestic wells, within 1,000 feet of the site, on and offsite structures, road ways, and site monitoring wells.

Response to Technical Comments:
ACEHS Technical Memorandum (page 2 of 6, paragraph 4, sentence 2), indicated that there was errors in lithologies and total depths for boring DP-2. This response is for clarification of their comment.

It should be noted that there are two borings labeled DP-2, and two boring labeled DP-1. Although they are labeled the same, there were drilled during two different investigations and have different purposes. Driven probe borings drilled during WHAs first delineation investigation (WHA, 2001) are labeled DP-1, and DP-2. The second set of borings although labeled DP-1 and DP-2 are actually Landfill Acceptance Borings drilled later on. These borings have been relabeled on the provided Site Map (Figure 2) for clarification purposes.

CONCLUSIONS

Weber, Hayes and Associates has developed a new *Soil and Groundwater Investigation Workplan*. The *Workplan* will address whether there is an impact to the next groundwater bearing zone, determine whether groundwater concentrations, specifically benzene, is below the revised groundwater cleanup goal prior to migrating offsite, complete another conduit study for permitted and un-permitted wells for determining potential impact to sensitive receptors and for updating the subsurface hydrogeology, re-surveying the site monitoring well network for horizontal orientation due to discrepancies in maps in WHA reports, (specifically 2/14/01 map and 6/24/03 map as identified by ACEHS), and conduct another round of monitoring well network sampling to show the groundwater concentrations continue to are attenuate. Refer to WHA *Soil and Groundwater Investigation Workplan*, dated July 30, 2004 for further details.

LIMITATIONS

Our service consists of professional opinions and recommendations made in accordance with generally accepted geologic and engineering principles and practices. This warranty is in lieu of all others, either expressed or implied. The analysis and proposals in this report are based on sampling and testing which are necessarily limited. Additional data from future work may lead to modification of the opinions expressed herein.

Thank you for the opportunity to aid in the assessment and cleanup of this site. If you have any questions or comments regarding this project please call us at (831) 722 - 3580.

Sincerely yours,

FOR:

Aaron Bierman
Senior Staff Geologist, RG #7490

REGISTERED GEOLOGIST
JOSEPH P. HAYES
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CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Joseph Hayes
Principal Hydrogeologist

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Table 1: Summary of Soil Sample Analytical Results
Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, CA
Weber, Hayes and Associates Project H9042

Investigation & Date	*Sample ID*	*Sample Depth (feet bgs)*	*TPH-g (mg/kg)*	*Benzene (mg/kg)*	*Toluene (mg/kg)*	*Ethylbenzene (mg/kg)*	*Xylenes (mg/kg)*	*MTBE (mg/kg)*
Proposed Cleanup Levels	--	--	100	0.045	2.6	2.5	1.0	NA
Interim Remedial Action Large Diameter Auger Drilling & Source Removal (January 7, 8, 9, 10, 2002)	Soil Reuse #1a,b,c,d	4-point composite (0 - 10')	ND	ND	ND	ND	ND	ND
	Soil Reuse #2a,b,c,d	4-point composite (0 - 20')	ND	ND	ND	ND	ND	ND
	Soil Reuse #3a,b,c,d	4-point composite (0 - 20')	ND	ND	ND	ND	ND	ND
	LD#1 SW-E	35'	ND	ND	ND	0.005	0.011	ND
	LD#2 SW-W	35'	ND	ND	ND	ND	ND	ND
	LD#3 BC-N	40'	ND	ND	ND	ND	ND	ND
	LD#4 SW-N	40'	1.2	ND	0.012	0.005	0.006	ND
	LD#5 SW-N	40'	ND	ND	ND	ND	ND	ND
	LD#8 SW-S	40'	ND	ND	ND	ND	ND	ND
	LD#9 SW-E	40'	ND	ND	ND	ND	ND	ND
	LD#10 SW-E	40'	ND	ND	ND	ND	ND	ND
	LD#11 SW-W	40'	ND	ND	0.014	0.013	0.062	ND
	LD#12 SW-E	18'	ND	ND	ND	ND	ND	ND
	LD#13 SW-E	18'	ND	ND	ND	ND	ND	ND
	LD#13 SW-E	40'	ND	ND	0.006	ND	0.022	ND
	LD#14 SW-W	40'	ND	ND	ND	ND	ND	ND
	LD#15 BC-S	40'	ND	ND	ND	ND	ND	ND
	LD#16 SW-W	18'	ND	ND	ND	ND	ND	ND
	LD#16 SW-W	40'	34	0.041	ND	0.12	0.62	ND
Landfill Acceptance Borings (October 18, 2001)	DP-1c,d,e,f	4-point composite (15-30')	ND	ND	ND	ND	ND	ND
	DP-2c,d,e,f	4-point composite (15-30')	130	ND	0.13	0.37	1.2	ND
Soil Sampling Additional Site Assessment (February 14, 2001)	DP-1a	2	ND	ND	0.010	ND	0.025	ND
	f	23	ND	ND	ND	ND	ND	ND
	g @ 24'	24	ND	ND	ND	ND	0.007	ND
	g@27'	27	ND	ND	ND	0.007	0.015	ND
	DP-2a	2	ND	ND	0.019	0.020	0.13	ND
	d	13.5	1,800	< 0.5	4.5	19	270	ND*
	e	18.5	8,700	18	720	230	1,600	< 0.5*
	g	24	1,800	3.5	52	39.0	250	ND*
	DP-3a	2	ND	ND	0.017	0.006	0.054	ND
	b	7.5	ND	ND	0.063	0.020	0.12	ND
	e	18.5	ND	ND	ND	ND	ND	ND
	g	27.5	18	0.036	0.067	0.070	0.060	ND*
	DP-4a	2	ND	ND	0.014	0.008	0.058	ND
	e	19.5	ND	ND	ND	ND	ND	ND
	g @ 25'	25	ND	ND	ND	ND	ND	ND
	g @ 27'	27	ND	ND	ND	ND	ND	ND
	DP-5a	2	ND	ND	ND	ND	ND	ND
	d	12	ND	ND	ND	ND	ND	ND
	f	20	ND	ND	ND	ND	ND	ND
	g	24	ND	ND	ND	ND	ND	ND
	DP-6a	2	ND	ND	ND	ND	ND	ND
	d	14	ND	ND	ND	ND	ND	ND
	e	18	ND	ND	ND	ND	ND	ND
	g	24	ND	ND	ND	0.009	ND	ND
	DP-7a	2	ND	ND	ND	ND	ND	ND
	d	14	ND	ND	ND	ND	ND	ND
	e	18	ND	ND	ND	ND	ND	ND
	g	24	ND	ND	ND	ND	ND	ND
	DP-8a	2	ND	ND	ND	ND	ND	ND
	d	13	ND	ND	ND	ND	ND	ND
	e	18	ND	ND	ND	ND	ND	ND
	g	24	ND	ND	ND	ND	ND	ND
	DP-9a	2	ND	ND	ND	ND	ND	ND
	d	13	ND	ND	ND	ND	ND	ND
	e	18	ND	ND	ND	ND	ND	ND
	g	24	18	0.020	0.020	0.19	0.30	ND*
Laboratory's Practical Quantitation Limits:			1	0.005	0.005	0.005	0.005	0.05

NOTES:

Proposed Cleanup Levels: RBSLs for Surface and Subsurface Soils from *Application of Risk Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater*, SFBay RWQCB, December 2001

TPH-g : Total Petroleum Hydrocarbons as gasoline

BTEX: B. Benzene, T Toluene, E Ethylbenzene; and X. Total Xylenes

MTBE: Methyl-tert-Butyl Ether.

bgs. below ground surface

ND: Not detected at or above the lab's practical quantitation limit

<X : Not detected at the elevated PQL, X PQL elevated due to laboratory dilution.

*: MTBE Analysis confirmed by EPA Method 8260

Table 2: Summary of Groundwater Elevation and PHC Analytical Data

Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, Ca.

Weber, Hayes and Associates Project H9042

Monitoring Point Information						Laboratory Analytical Results							Field Measurements	
						Total Petroleum Hydrocarbons	Volatile Organic Compounds							
Well I.D.	TOC Elevation (feet, NGVD)	Screen Interval (feet, bgs)	Date Sampled	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, NGVD)	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	Fuel Oxygenates (ug/L)	Dissolved Oxygen (mg/L)	Redox Potential (ORP) (mV)
MW-3	55 44	20 - 40?												
			06/24/03	22.53	32 91	260	ND	ND	5.6	2.8	ND*	–	0.18	-2
			03/21/03	22.41	33.03	460	3 3	1.4	5.6	< 2.5	ND*	–	0.15	-34
			12/30/02	21.32	34.12	70	ND	ND	2.1	< 1	ND*	–	0.14	536
			08/27/02	23.87	31 57	350	0.56	1.1	14	3.4	ND	–	0.13	216
			06/13/02	22 92	32.52	300	1 1	1.4	4	1.8	ND	–	0 14	194
			03/21/02	21.96	33.48	240	0.94	2 5	12	11.7	ND	–	0.1	–
			12/18/01	23 59	31.85	270	1 6	1 7	13	5.4	ND	–	–	–
			09/20/01	24.16	31 28	380	1 7	2.6	32	8.9	ND	–	0 4	–
			06/20/01	23.55	31.89	760	4 4	2.4	62	23	ND*	–	–	–
			03/29/01	22.02	33 42	170	1.1	ND	10	1.6	ND	–	0.6	–
			01/12/01	23.41	32.03	310	2 4	2.2	4.4	10	ND	–	0 7	–
			09/27/00	23.09	32.35	430	ND	ND	44	ND	ND	ND	1	–
MW-4	55.71	20 - 40?												
			06/24/03	22.74	32.97	–	–	–	–	–	–	–	1 01	22
			03/21/03	22.49	33.22	–	–	–	–	–	–	–	1 03	18
			12/30/02	21.50	34.21	ND	ND	ND	ND	< 1	ND	–	0.41	368
			08/27/02	24.07	31.64	–	–	–	–	–	–	–	0.21	187
			06/13/02	23.15	32.56	ND	ND	ND	ND	ND	ND	–	0 20	392
			03/21/02	22.15	33.56	ND	ND	ND	ND	ND	ND	–	0.2	–
			12/18/01	23.80	31.91	ND	ND	0 9	ND	ND	ND	–	–	–
			09/20/01	24.32	31.39	ND	ND	ND	ND	ND	ND	–	0 4	–
			06/20/01	23.74	31.97	ND	ND	ND	ND	ND	ND	–	–	–
			03/29/01	22.22	33.49	ND	ND	4.2	ND	ND	ND	–	0 5	–
			01/12/01	23.60	32.11	ND	ND	ND	ND	ND	ND	–	0 7	–
			09/27/00	23.25	32.46	ND	ND	ND	ND	ND	ND	ND	2 5	–
MW-5	56.03	25 - 45												
			06/24/03	23.08	32.95	3,800	100	58	310	670	< 1 5*	–	0.05	-67
			03/21/03	22.99	33.04	4,800	190	82	370	700	< 5*	–	0.07	-72
			12/30/02	21 88	34.15	130	5.8	1.0	9.9	5 9	ND*	–	0.14	251
			08/27/02	24.42	31.61	1,900	170	14	210	93	ND*	–	0.43	207
			06/13/02	23.57	32.46	1,500	24	16	120	110	ND*	–	0.06	144
			03/21/02	24.69	31.34	360	11	9 4	28	62	ND	–	0.1	–
			12/18/01	23.15	32.88	780	21	12	86	94	ND*	–	–	–
			09/20/01	24.75	31.28	2,300	46	41	280	330	ND*	–	0.3	–
			06/20/01	24 15	31.88	6,500	120	130	740	940	ND*	–	–	–
			03/29/01	22.69	33.34	13,000	220	510	1000	2700	ND*	–	0.4	–
			01/12/01	23 97	32.06	1,100	62	40	150	290	ND*	–	0.3	–
			09/27/00	23 69	32 34	18,000	840	2.9	1200	3500	< 30	ND	0.4	–
MW-6	56 01	25 - 45												
			06/24/03	23.06	32 95	1,500	< 5	< 5	35	15	< 0.6*	–	0.09	-23
			03/21/03	22 96	33.05	1,200	6.3	< 5	54	< 10	ND*	–	0.09	-45
			12/30/02	21 91	34 10	670	2 5	< 1.25	29	2.7	ND*	–	0.15	321
			08/27/02	24 44	31 57	1,300	< 2.5	7.2	210	55	ND*	–	0.14	231
			06/13/02	23.53	32.48	1,600	<1.25	4.7	67	5.3	< 1.5*	–	0.53	233
			03/21/02	23.11	32 90	750	0.77	1 2	39	3 2	ND*	–	0 1	–
			12/18/01	24.16	31.85	3,700	33	8 7	320	110	< 1.5*	–	–	–
			09/20/01	24.72	31.29	2,500	11	8 6	240	94	ND*	–	0.3	–
			06/20/01	24.13	31.88	1,800	14	4 6	160	79	ND*	–	–	–
			03/29/01	22.56	33.45	610	2.2	ND	37	4 6	ND*	–	0.5	–
			01/12/01	23.97	32.04	2,300	16	3.5	290	83	ND*	–	0.5	–
			09/27/00	23.56	32.45	1,300	ND	4.3	200	17	ND	ND	0.5	–

Table 2: Summary of Groundwater Elevation and PHC Analytical Data

Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, Ca.

Weber, Hayes and Associates Project H9042

Monitoring Point Information						Laboratory Analytical Results							Field Measurements	
						Total Petroleum Hydrocarbons	Volatile Organic Compounds							
Well I.D.	TOC Elevation (feet, NGVD)	Screen Interval (feet, bgs)	Date Sampled	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, NGVD)	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	Fuel Oxygenates (ug/L)	Dissolved Oxygen (mg/L)	Redox Potential (ORP) (mV)
MW-7	56.66	25 - 45												
			06/24/03	23.62	33.04	–	–	–	–	–	–	–	0.58	32
			03/21/03	23.50	33.16	–	–	–	–	–	–	–	0.51	20
			12/30/02	22.34	34.32	ND	ND	ND	ND	< 1	ND*	–	0.17	370
			08/27/02	24.98	31.68	–	–	–	–	–	–	–	0.22	369
			06/13/02	24.07	32.59	ND	ND	ND	ND	ND	ND	–	0.20	370
			03/21/02	23.05	33.61	ND	ND	ND	ND	ND	ND	–	0	–
			12/18/01	24.70	31.96	290	ND	ND	119	4.6	ND	–	–	–
			09/20/01	25.27	31.39	290	0.98	ND	12	4 5	ND*	–	0 4	–
			06/20/01	24.68	31.98	430	2.4	0.96	30	9.7	ND*	–	–	–
			03/29/01	23.10	33.56	ND	ND	ND	ND	ND	ND	–	0.5	–
			01/12/01	24.49	32 17	1,600	13	0.86	150	35	ND*	–	0.5	–
			09/27/00	24.18	32 48	270	13	6.6	11	ND	ND	ND	0.5	–
MW-8	56.16	20 - 40												
			06/24/03	23.03	33.13	–	–	–	–	–	–	–	1 71	12
			03/21/03	22.91	33.25	–	–	–	–	–	–	–	1.62	15
			12/30/02	21.79	34.37	ND	ND	ND	ND	< 1	ND*	–	1.36	365
			08/27/02	24.43	31.73	–	–	–	–	–	–	–	1.98	402
			06/13/02	23.54	32.62	ND	ND	ND	ND	ND	ND	–	1.96	394
			03/21/02	22.51	33.65	ND	ND	ND	ND	ND	ND	–	2.4	–
			12/18/01	24.16	32.00	ND	ND	ND	ND	ND	ND	–	–	–
			09/20/01	24.68	31.48	ND	ND	ND	ND	ND	ND	–	1.6	–
			06/20/01	24.09	32.07	ND	ND	ND	ND	ND	ND	–	–	–
			03/29/01	22.56	33.60	ND	ND	0.8	ND	ND	ND	–	1.9	–
			01/12/01	23.93	32.23	ND	ND	ND	ND	ND	ND	–	2 1	–
			09/27/00	23.59	32.57	ND	ND	ND	ND	ND	ND	ND	1.9	–
MW-9	55.21	20 - 40												
			06/24/03	22.30	32.91	2,900	25	9 1	230	270	< 1.5*	–	0.08	-66
			03/21/03	22.17	33.04	5,900	190	24	470	630	< 5*	–	0 10	-84
			12/30/02	21.09	34.12	2,800	140	25	200	370	ND*	–	0 15	276
			08/27/02	23.69	31.52	310	27	2.5	20	20	ND*	–	0.18	154
			06/13/02	22.76	32.45	5,100	140	21	490	300	< 1.5*	–	0.14	135
			03/21/02	21.76	33 45	510	26	4.6	50	52	ND	–	0.1	–
			12/18/01	23.38	31.83	6,400	640	120	630	1300	< 1.5*	–	–	–
			09/20/01	23.94	31.27	3,400	270	38	390	430	ND*	–	0.3	–
			06/20/01	23.36	31 85	8,300	330	88	850	1700	< 0.6*	–	–	–
			03/29/01	21.61	33 60	1,600	110	14	240	150	ND*	–	0.4	–
			01/12/01	23.17	32 04	10,000	550	110	1200	2200	ND*	–	0.5	–
			09/27/00	22.90	32.31	1,000	40	6.7	110	55	ND	ND	0.5	–
MW-10	54.74	25 - 40												
			06/24/03	22.21	32.53	750	< 2.5	< 2.5	< 2..5	< 5	< 1.5*	–	0.09	-22
			03/21/03	22.00	32.74	700	3.4	1.4	0.71	1	ND*	–	0.06	-62
			12/30/02	20.78	33.96	1,200	5.6	< 5	< 5	< 10	ND*	–	0 18	267
			08/27/02	23.46	31.28	1,800	< 2.5	15	3.9	5	ND*	–	0.14	183
			06/13/02	22.56	32 18	1,700	0.77	6.2	3.3	2.9	< 0.3*	–	0.28	201
			03/21/02	21.53	33.21	1,500	ND	11	3.1	ND	ND*	–	0.1	–
			12/18/01	21.11	33.63	1,500	7.9	2.9	ND	ND	< 0.6*	–	–	–
			09/20/01	23.70	31.04	1,200	6	9.9	1.2	3.9	ND*	–	0.4	–
			06/20/01	23.17	31.57	810****	3	1.6	5.1	13	ND*	–	–	–
			03/29/01	21.63	33 11	600****	2	0.65	ND	0.72	ND	–	0.5	–
			01/12/01	22.99	31.75	530	3.7	1.9	2.1	4.5	ND	–	0.6	–
			09/27/00	22.72	32.02	880	ND	ND	ND	ND	ND	ND	0 4	–

Table 2: Summary of Groundwater Elevation and PHC Analytical Data

Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, Ca.

Weber, Hayes and Associates Project H9042

Monitoring Point Information			Laboratory Analytical Results									Field Measurements	
						Total Petroleum Hydrocarbons	Volatile Organic Compounds						
Well I.D.	TOC Elevation (feet, NGVD)	Screen Interval (feet, bgs)	Date Sampled	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet, NGVD)	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	Fuel Oxygenates (ug/L)	Dissolved Oxygen (mg/L)	Redox Potential (ORP) (mV)
MW-11	55.20	25 - 40												
			06/24/03	22 37	32.83	--	--	--	--	--	--	--	0.43	21
			03/21/03	22 24	32.96	--	--	--	--	--	--	--	0.32	24
			12/30/02	21.11	34.09	ND	ND	ND	ND	< 1	ND	--	0.16	374
			08/27/02	23 68	31.52	--	--	--	--	--	--	--	0.13	369
			06/13/02	22 78	32.42	ND	ND	ND	ND	ND	ND	--	0.15	380
			03/21/02	21.76	33.44	ND	ND	ND	ND	ND	ND	--	0.1	--
			12/18/01	23 39	31.81	ND	ND	0 56	ND	ND	ND	--	--	--
			09/20/01	23.87	31.33	ND	ND	ND	ND	ND	ND	--	0 4	--
			06/20/01	23.39	31.81	ND	ND	ND	ND	ND	ND	--	--	--
			03/29/01	21.84	33.36	ND	ND	4 5	ND	ND	ND	--	0.6	--
			01/12/01	23.21	31.99	ND	ND	2.1	ND	ND	ND	--	0.6	--
			09/27/00	22.43	32.77	63	ND	ND	ND	ND	ND	ND	0.6	--
MW-12	56.49	25 - 40												
			06/24/03	23.41	33.08	--	--	--	--	--	--	--	1 25	29
			03/21/03	23.28	33.21	--	--	--	--	--	--	--	1 23	22
			12/30/02	22.16	34 33	ND	ND	ND	ND	< 1	ND	--	0 77	372
			08/27/02	24.68	31.81	--	--	--	--	--	--	--	0.60	410
			06/13/02	23.86	32.63	ND	ND	ND	ND	ND	ND	--	0.51	400
			03/21/02	22.86	33.63	ND	ND	ND	ND	ND	ND	--	0.7	--
			12/18/01	24.49	32.00	ND	ND	0 86	ND	ND	ND	--	--	--
			09/20/01	24.95	31.54	ND	ND	ND	ND	ND	ND	--	0 7	--
			06/20/01	24.47	32.02	ND	ND	ND	ND	ND	ND	--	--	--
			03/29/01	22.91	33.58	ND	ND	5	ND	ND	ND	--	1	--
			01/12/01	24.28	32 21	ND	ND	1.1	ND	ND	ND	--	1	--
			09/27/00	23.98	32.51	ND	ND	ND	ND	ND	ND	ND	1 2	--
Practical Quantitation Limit:						50	0.5	0.5	0.5	0.5	1	0.5	--	--
Site-Specific Cleanup Goals (10 X AL or MCL)						10,000	10	1,000	7,000	17,500	50	NA	--	--

NOTES:

T O C. = Top of Casing Elevation. Calculated groundwater elevation = TOC - Depth to Groundwater Referenced to NGVD

TPH-g = Total Petroleum Hydrocarbons as gasoline. MTBE = Methy - tert - Butyl Ether

F.O.'s = Fuel Oxygenates = Di-isopropyl ether (DIPE), tertiary Butyl Alcohol (TBA), Ethyl tertiary Butyl Ether (ETBE), tertiary amyl Methyl Ether (TAME)

VOC's = Volatile Organic Compounds D O. = Dissolved Oxygen

ug/L = micrograms per liter, parts per billion; mg/L = milligrams per liter, parts per million

ND = Not Detected at the Practical Quantitation Limit (PQL); <X = Not Detected at the elevated PQL, X. PQL elevated because of sample dilution

-- = Data not collected or measured, or analysis not conducted

MCL = Maximum Contaminant Level for drinking water in California (Department of Health Services).

** Confirmed by GC/MS method 8260*

*** = Action Level *** = Secondary MCL / water quality goal*

***** = Laboratory Report indicates results within quantitation range; chromatographic pattern not typical of fuel.*

TABLE 3

Alameda County Public Works Department 1/2-Mile Radius Well Search

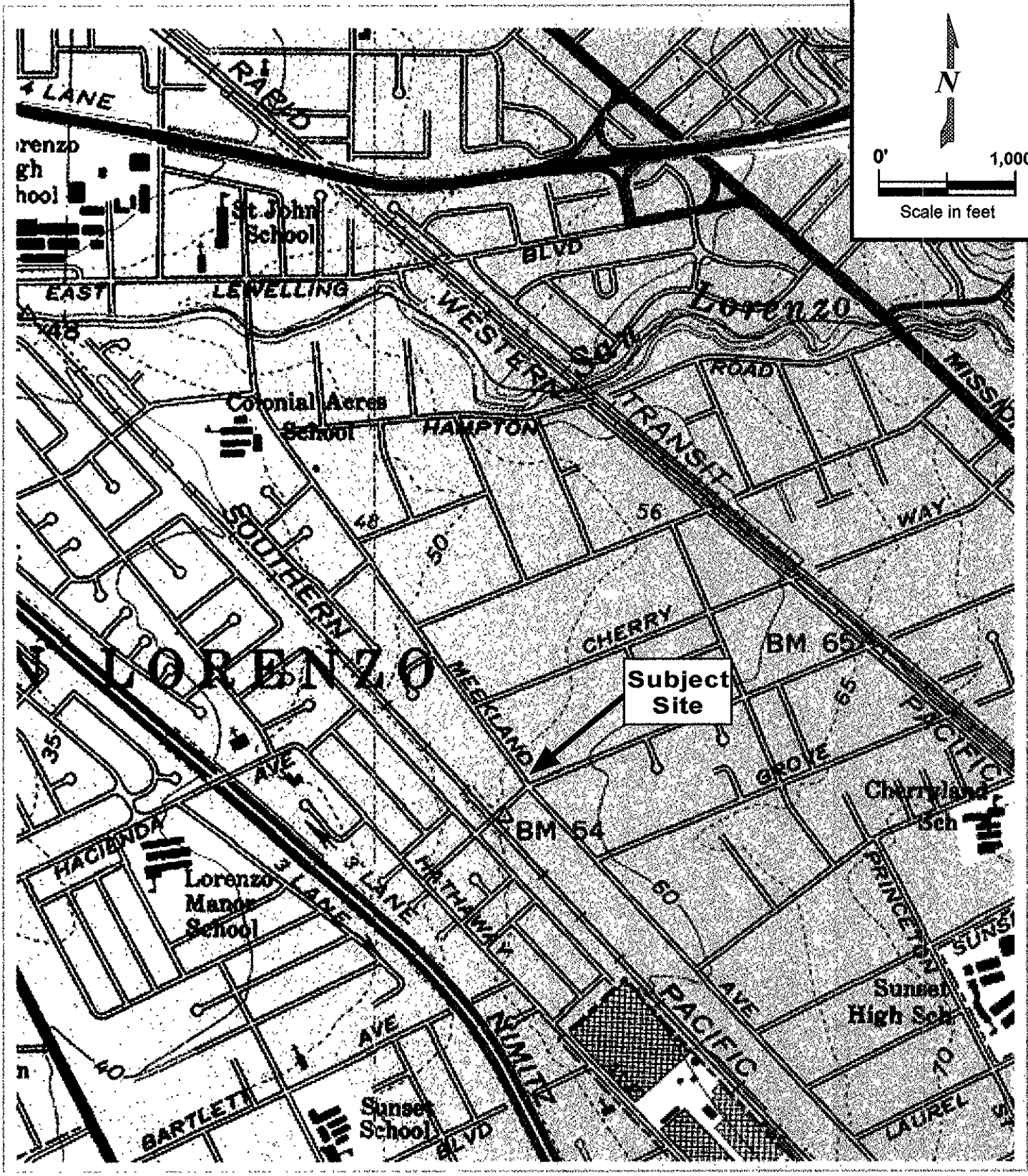
19984 Meekland Avenue
Hayward, California

Township	Section	Address	City	Owner	Updated	Drill Date	Elevation	Total Depth	Waterdepth	Diameter	Use	Log
3S/2W	8K 1	654 HAMPTON RD	San Leandro	G. FREITAS	8/3/1984	/55	60	50	0	6	IRR	?
3S/2W	8L 1	451 HAMPTON RD	San Leandro	GREENFIELD	8/3/1984	?	0	75	25	8	IRR	?
3S/2W	8L 2	18381 HAVEN ST	San Leandro	KINSEY	8/3/1984	/50	60	50	0	0	IRR	?
3S/2W	8L 3	988 LEWELLING BLVD	San Leandro	KNAPP'S NURSERY	8/3/1984	/42	57	211	0	10	IRR+	?
3S/2W	8M	17771 Meekland Ave	Hayward	Jocson Auto Electric	7/27/1993	6/92	0	22	18	0	BOR	G
3S/2W	8M 1	477 E LEWELLING BLVD	San Leandro	SCHRAGL	8/3/1984	/41	42	70	0	10	IRR	?
3S/2W	8M 2	16980 HARVARD AVE	San Leandro	SHIMAMURA	8/3/1984	?	50	58	0	8	IRR	?
3S/2W	8M 3	17662 MEEKLAND AV	Hayward	BURTON BUSK	12/12/1984	/68	48	85	22	8	DOM+	D
3S/2W	8M 4	29517 SHASTA RD	Hayward	CHARLES A. TAYLOR	8/3/1984	5/56	0	40	6	6	DOM	D
3S/2W	8M 5	171 Hampton Road	Hayward	Cherryland Homes	7/3/1990	Oct-89	0	40	0	0	DES	D
3S/2W	8M 6	171 Hampton Road	Hayward	Cherryland Homes	7/3/1990	Oct-89	0	0	0	0	DES	D
3S/2W	8M 7	17771 Meekland Ave	Hayward	Jocson Auto Electric MW-1	7/27/1993	6/92	0	31	20	2	MON	G
3S/2W	8M 8	17771 Meekland Ave.	Hayward	Jocson Auto Electric MW-2	7/27/1993	6/92	0	31	18	2	MON	G
3S/2W	8M 9	17771 Meekland Ave.	Hayward	Jocson Auto Electric MW-3	7/27/1993	6/92	0	31	22	2	MON	G
3S/2W	8N 1	16286 MEEKLAND AVE	Hayward	BITTNER	8/3/1984	/40	47	85	0	0	IRR	?
3S/2W	8N 2	17754 MEEKLAND AVE	Hayward	HOFFMAN	8/3/1984	/45	48	156	0	8	DES	?
3S/2W	8P 1	19231 LOWELL AVE	Hayward	VANDERBURG	8/3/1984	/55	56	50	0	0	IRR	?
3S/2W	8P 2	203 MEDFORD AVE	Hayward	R.A. PACE	8/3/1984	/36	56	64	0	0	IRR	?
3S/2W	8P 3	219 MEDFORD AVE	Hayward	NANCY SMITH	8/3/1984	1/78	0	80	28	6	IRR	D
3S/2W	8Q 1	546 CHERRY WAY	Hayward	ART CROWE	8/3/1984	1/43	58	86	24	10	IRR	D
3S/2W	8Q 2	19751 WESTERN BLVD	Hayward	DEXTER'S HATCHERY	8/3/1984	9/42	57	88	0	8	IRR	D
3S/2W	8Q 3	361 SAINT GEORGE AVE	Hayward	R.J CHASTAIN	8/3/1984	6/77	0	50	0	0	?	?
3S/2W	8Q 4	328 CHERRY WAY	Hayward	WILLIAM MATHEWS	8/3/1984	6/79	0	83	25	6	IRR	D
3S/2W	8Q 5	310 CHERRY WAY	Hayward	WILLIE DEDEK	8/3/1984	4/80	0	81	23	6	IRR	D
3S/2W	8Q 6	268 CHERRY WAY	Hayward	GUENTER MAHLER	4/1/1987	Mar-81	0	83	27	6	IRR	D
3S/2W	8R 1	839 CHERRY WAY	Hayward	HEITMAN	8/3/1984	/24	68	100	0	0	IRR	?
3S/2W	8R 2	823 BLOSSOM WAY	Hayward	BURROWES	12/18/1984	/08	69	90	0	6	IRR	?
3S/2W	8R 3	859 MEDFORD RD	Hayward	O. HIGGINS	8/3/1984	/39	68	85	0	10	IRR	?
3S/2W	8R 5	21070 WESTERN BLVD	Hayward	M VIERRA	8/3/1984	?	64	85	0	12	DOM+	?
3S/2W	8R 6	559 CHERRY WAY	Hayward	MANUEL GONSALVES	8/3/1984	4/77	0	64	31	5	IRR	D
3S/2W	8R 8	850 CHERRY WAY	Hayward	LELAND DE QUADROS	8/3/1984	Oct-77	0	100	41	6	IRR	D
3S/2W	8R 9	21065 WESTERN	Hayward	RON BAXTER	8/3/1984	Oct-78	0	100	33	0	IRR	D
3S/2W	8R10	21031 Western Blvd	Hayward	William and Kathy Florenc	3/12/1998	Dec-95	0	35	25	2	MON	D
3S/2W	8R11	21031 Western Blvd	Hayward	William and Kathy Florenc	3/12/1998	Dec-95	0	35	25	2	MON	D
3S/2W	8R12	21031 Western Blvd	Hayward	William and Kathy Florenc	3/12/1998	Dec-95	0	35	25	2	MON	D
3S/2W	17A 1	448 GROVE WAY	Hayward	NEVES	8/3/1984	/28	68	108	0	0	IRR	?
3S/2W	17A 2	854 BLOSSOM WAY	Hayward	SOUSA	8/3/1984	/28	67	76	0	0	IRR	?
3S/2W	17A 3	21671 HAVILAND AVE	Hayward	DAVID PEARSON	8/3/1984	5/77	0	72	40	5	IRR	D
3S/2W	17B 1	204 GROVE WAY	Hayward	COATES	12/19/1984	/48	62	88	0	8	IRR	?
3S/2W	17B 2	294 GROVE WY	Hayward	WILDE	7/30/1984	/33	61	100	0	0	IRR	?
3S/2W	17C	19984 Meekland Ave.	Hayward	Durham Transportation	3/14/1991	8/90	55	45	30	4	MON	G
3S/2W	17C	19984 MEEKLAND AVE	Hayward	HARBERT TRANSPORTATION	10/3/1986	Jun-86	0	23	0	0	BOR	G
3S/2W	17C 1	162 CHERRY LN [1]	Hayward	DEASON	7/30/1984	/40	53	72	0	6	IRR	?
3S/2W	17C 2	19126 MEEKLAND AV	Hayward	HARTWELL	1/29/1985	/31	52	91	0	8	IRR	?
3S/2W	17C 3	163 CHERRY WAY	Hayward	FRED DEADMAN	8/3/1984	5/77	0	56	28	6	IRR	D
3S/2W	17C 4	21005 MEEKLAND AVE	Hayward	ABREV EGG CO.	8/3/1984	7/77	0	77	37	6	IRR	D
3S/2W	17C 5	19984 MEEKLAND AVE	Hayward	HARBERT TRANSPORTATION	10/3/1986	Jun-86	0	42	24	2	MON	G
3S/2W	17C 5	19984 Meekland Ave.	Hayward	Durham Transp. MW1	7/21/1993	Dec-92	0	42	24	2	ABN	E
3S/2W	17C 6	19984 Meekland Road	Hayward	Durham Transportation	6/7/1990	Nov-89	0	68	0	4	ABN	?
3S/2W	17C 7	19984 Meekland Road	Hayward	Durham Transportation	6/7/1990	Nov-89	54	40	28	2	MON	?
3S/2W	17C 8	19984 Meekland Road	Hayward	Durham Transportation	6/7/1990	Nov-89	55	40	28	2	MON	?
3S/2W	17C 9	19984 Meekland Ave.	Hayward	Durham Transportation	3/14/1991	4/90	0	65	0	0	BOR	G
3S/2W	17C10	19984 Meekland Ave.	Hayward	Durham Transportation	3/14/1991	Oct-90	55	45	31	4	MON	G
3S/2W	17C11	19984 Meekland Ave	Hayward	Durham Transportation	3/14/1991	8/90	55	45	30	4	MON	G
3S/2W	17C11	19984 Meekland Ave	Hayward	Durham Transportation	8/2/1991	2/91	14	14	9	2	MON	G
3S/2W	17C12	19984 Meekland Ave	Hayward	Durham Transportation	8/2/1991	2/91	14	0	9	0	MON	G
3S/2W	17C13	19984 Meekland Ave	Hayward	Durham TransportationMW10	9/23/1992	1/92	0	40	30	4	MON	G
3S/2W	17C14	19984 Meekland Ave	Hayward	Durham TransportationMW11	9/23/1992	1/92	0	40	30	2	MON	G
3S/2W	17C15	19515 Meekland Ave	Hayward	Jon Otteson	6/17/1993	7/91	0	27	0	2	DES	E
3S/2W	17C16	19984 Meekland Ave.	Hayward	Durham Trans MW12	7/15/1993	Dec-92	0	40	32	2	MON	G
3S/2W	17D 1	24 VIA HERMOSA	Hayward	GHIGLIONE	7/30/1984	/53	45	50	0	10	IRR	?
3S/2W	17D 2	19288 MEDFORD CT	Hayward	LEDBETTER	7/30/1984	/55	52	45	0	6	IRR	?
3S/2W	17D 3	No address [2]	Hayward	R P. KING	8/3/1984	Oct-47	46	180	0	12	IRR	D
3S/2W	17D 4	No address [2]	San Lorenzo	R P KING	8/3/1984	5/30	0	273	0	0	?	D
3S/2W	17E 1	1330 SOLANO ST	San Lorenzo	DONALD H RUDE	8/3/1984	4/53	0	61	18	0	DOM	D
3S/2W	17E 2	1338 SOLANO ST	San Leandro	ALEX FARKAS	8/3/1984	4/53	40	61	11	4	DOM	D
3S/2W	17E 3	No address [2]	Hayward	TOM CAWATA	8/3/1984	4/49	0	104	0	0	?	D
3S/2W	17F 1	20161 TIMES AV	Hayward	URBANSKI	7/30/1984	/52	54	55	0	8	IRR	?
3S/2W	17F 2	20987 MEEKLAND AV	Hayward	SHIMAMURA	7/30/1984	/52	58	75	0	8	IRR	?
3S/2W	17F 3	20165 HATHAWAY	Hayward	PERKINS	7/30/1984	6/31	55	200	0	0	IRR	D
3S/2W	17F 4	310 Bartlett	Hayward	Anderson Lift Truck MW1	9/23/1992	4/92	52	37	23	2	MON	D
3S/2W	17F 5	310 Bartlett Ave	Hayward	Anderson Lift Truck MW-2	9/23/1992	4/92	52	38	22	2	MON	G
3S/2W	17F 6	310 Bartlett Ave	Hayward	Anderson Lift Truck MW-3	9/23/1992	4/92	52	38	22	2	MON	G
3S/2W	17G	21123 Meekland Blvd	Hayward	Beck Roofing B-1	9/30/1992	Oct-91	0	26	0	0	BOR*	G
3S/2W	17G	21560 MEEKLAND AVE	Hayward	JACA CONSTRUCTION	12/14/1988	Jun-88	0	25	0	0	DES	D
3S/2W	17G 2	21568 MEEKLAND AV	Hayward	FUENTES	7/30/1984	5/34	60	92	0	8	IRR	D
3S/2W	17G 3	21455 MEEKLAND	Hayward	JOHN DE NOBRIGA	8/3/1984	Oct-77	0	80	37	6	IRR	D
3S/2W	17G 4	21123 Meekland Avenue	Hayward	Beck Roofing	3/9/1992	Oct-91	0	39	32	2	MON	D
3S/2W	17G 5	21123 Meekland Avenue	Hayward	Beck Roofing	3/9/1992	Oct-91	0	38	32	2	MON	D
3S/2W	17G 6	21123 Meekland Avenue	Hayward	Beck Roofing	3/9/1992	Oct-91	0	38	32	2	MON	D
3S/2W	17G 7	21123 Meekland Ave	Hayward	Beck Roofing MW-1	10/3/1992	Oct-91	0	46	31	2	MON	G
3S/2W	17G 8	21123 Meekland Ave	Hayward	Beck Roofing MW-2	10/3/1992	Oct-91	0	38	33	2	MON	G
3S/2W	17G 9	21123 Meekland Ave	Hayward	Beck Roofing MW-3	10/3/1992	Oct-91	0	38	33	2	MON	G
3S/2W	17G10	21454 Meekland Ave	Hayward	Jon Otteson	6/17/1993	8/91	0	36	0	2	DES	E
3S/2W	17G11	21123 Meekland Ave	Hayward	Beck Roofing MW-4	4/17/1995	7/94	0	40	28	2	MON	D
3S/2W	17H 1	308 SUNSET BLVD	Hayward	CRITES	7/30/1984	/56	71	75	0	6	IRR	?
3S/2W	17H 2	447 WILLOW AV	Hayward	KANE	7/30/1984	/52	72	82	0	8	IRR	?
3S/2W	17H 3	815 POPLAR ST	Hayward	J.F. TAWNEY	12/19/1984	?	75	100	0	8	STO	?
3S/2W	17H 4	231 SUNSET	Hayward	E. BILLENGER	8/3/1984	9/54	0	83	0	6	DOM	D
3S/2W	17H 5	22008 Meekland Ave	Hayward	Kid Cedar MW-1	9/18/1992	7/91	0	49	36	2	MON	D
3S/2W	17H 6	22008 Meekland	Hayward	Kid Cedar MW2	9/18/1992	7/91	0	49	36	2	MON	D
3S/2W	17H 7	22008 Meekland	Hayward	Kid Cedar MW-3	9/18/1992	7/91	0	49	36	2	MON	D
3S/2W	17K2	W. A ST & HATHAWAY ST	Hayward	HUNT FOOD PRODUCTS INC.	8/3/1984	7/85	0	680	0	0	TES	D
3S/2W	17L 1	21335 HATHAWAY AV	Hayward	BRANELLA	7/30/1984	/51	55	70	0	8	IRR	?
3S/2W	17L 2	442 SUNSET BLVD	Hayward	SILVERA	7/30/1984	/51	52	80	0	8	DOM	?
3S/2W	17M	21134 ROYAL AVE.	Hayward	STAN FELSON	2/2/1988	6/82	0	65	0	8	DES	D
3S/2W	17M 1	421 BARTLETT ST	Hayward	LEYMURA	8/8/1984	/48	46	60	0	8	DOM	?
3S/2W	17M 2	20555 GARDEN AV	Hayward	FERNANDES	8/8/1984	/53	49	72	30	6	IRR	D

NOTES:

[1] Cherry Lane is not a listed road in Hayward; WHA assumed well listed as being on Cherry Lane should be on Cherry Way

[2] Wells could not be located due to insufficient information.



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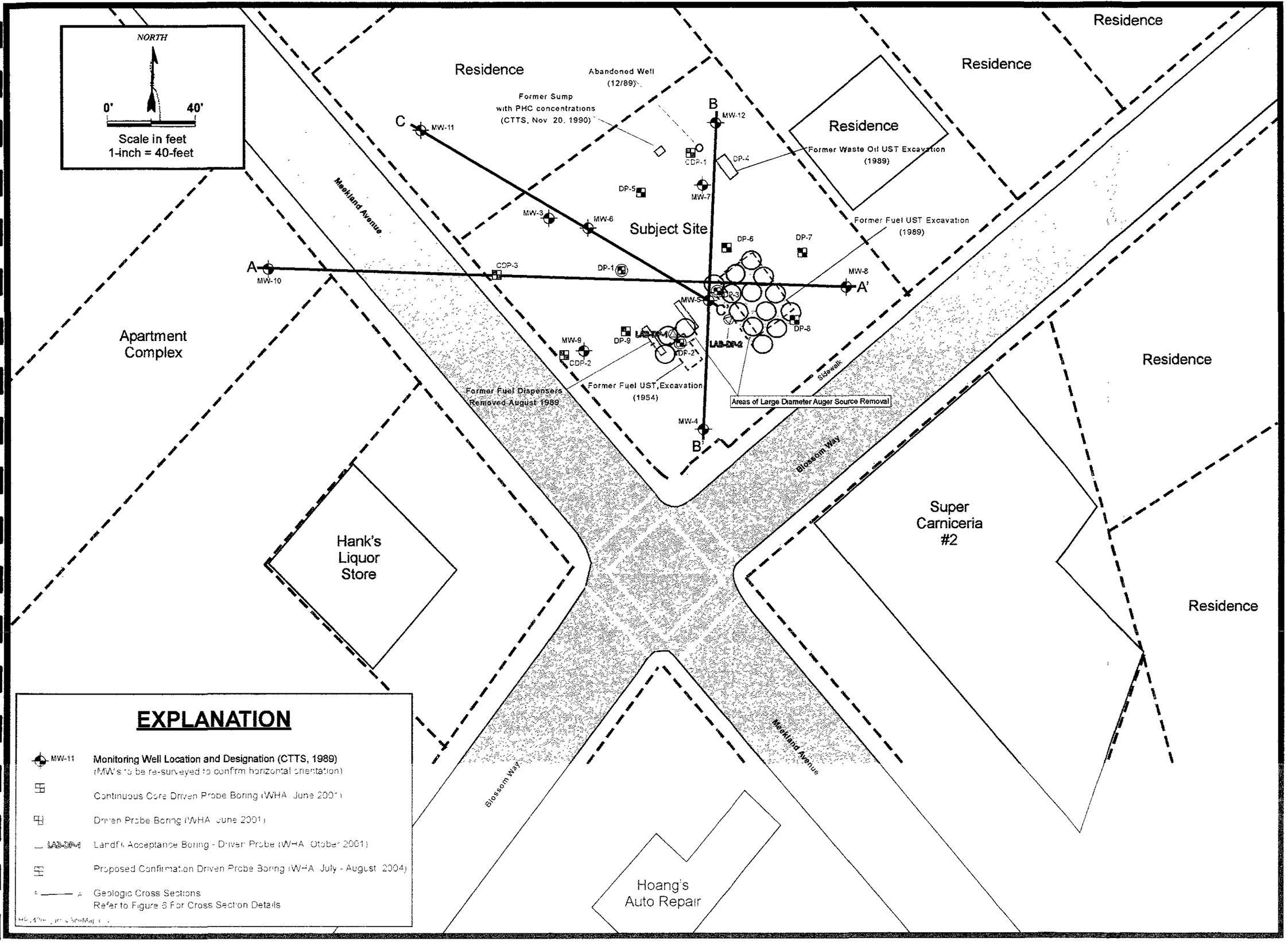
Location Map
Former Harbert Transportation Facility
19984 Meekland Avenue
Hayward, California

Figure 1
Job # H9042



EXPLANATION

- MW-11 — Monitoring Well Location and Designation (CTTS, 1989) (MW's to be re-surveyed to confirm horizontal orientation)
- Continuous Core Driven Probe Boring (WHA June 2001)
- Driven Probe Boring (WHA June 2001)
- LAB-DP-1 — Landfill Acceptance Boring - Driven Probe (WHA Otober 2001)
- Proposed Confirmation Driven Probe Boring (WHA July - August 2004)
- A —— A' — Geologic Cross Sections Refer to Figure 6 For Cross Section Details

FIGURE 2
Job # H9042

Site Map
Former Harbert Transportation Facility
19984 Meekland Avenue
Hayward, California

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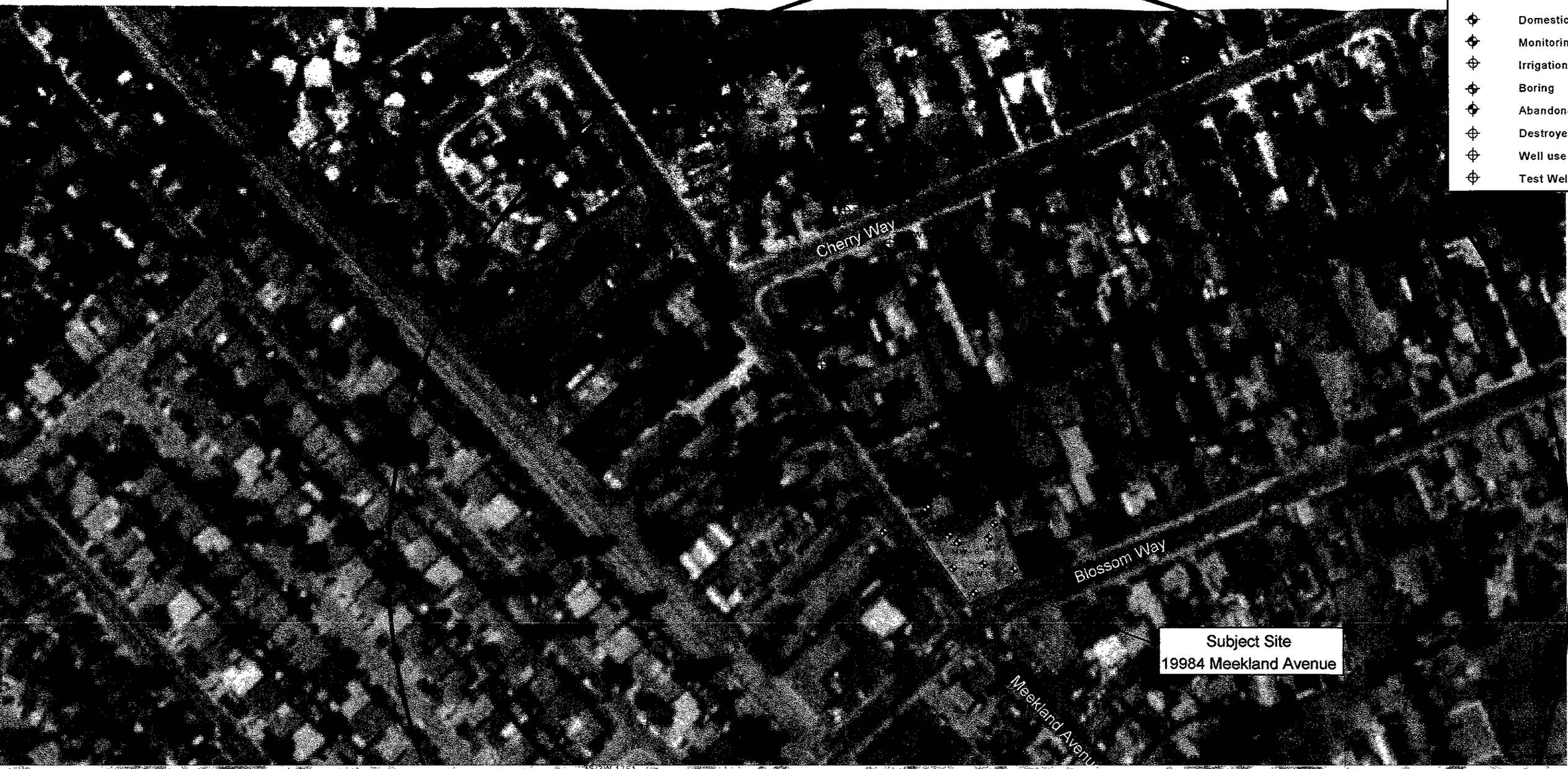

EX

Domestic Well
Monitoring We
Irrigation Well
Boring
Abandoned W
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Test Well

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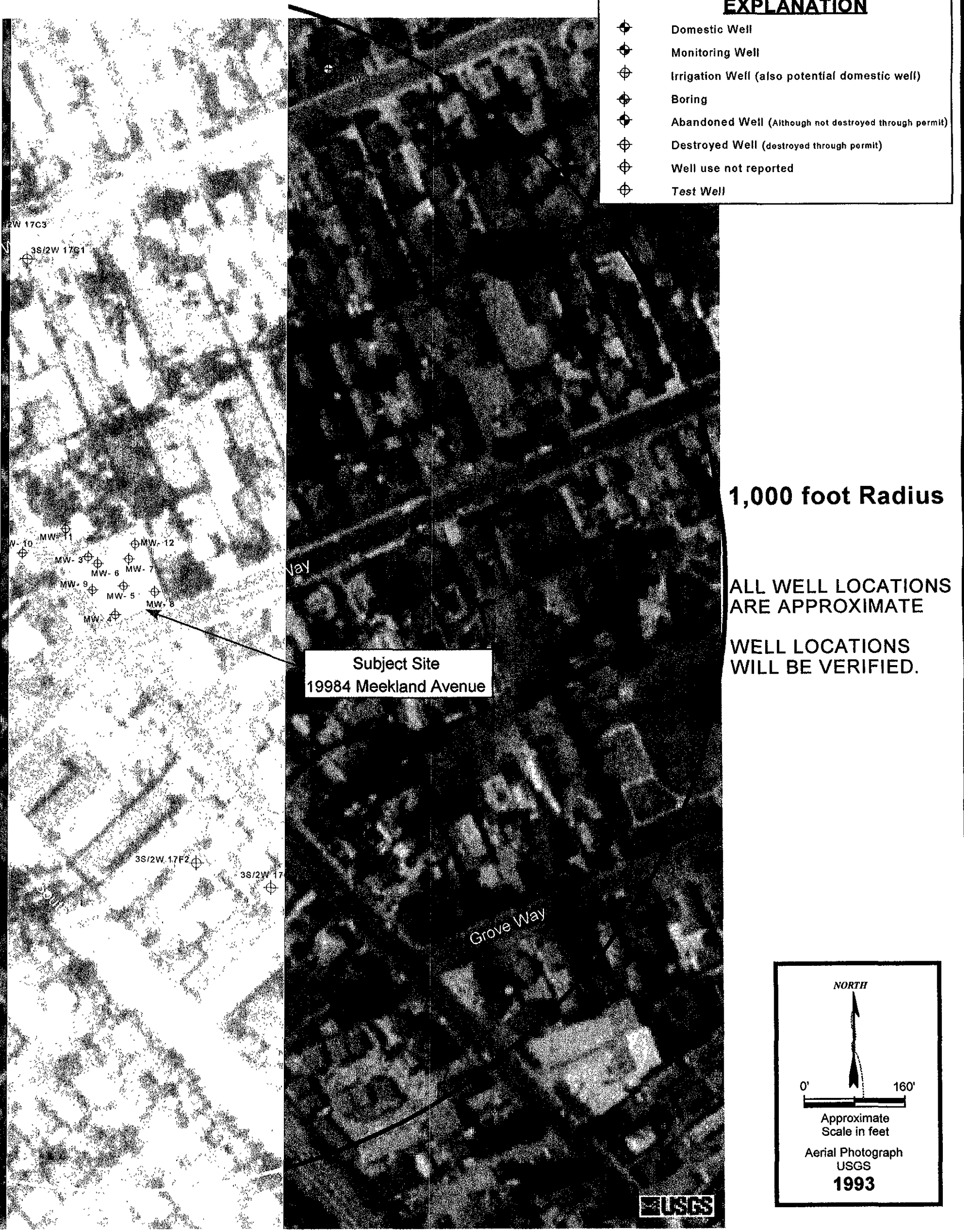

EXPLANATION

- Domestic Well
- Monitoring Well
- Irrigation Well (also potential domestic well)
- Boring
- Abandoned Well (Although not destroyed through permit)
- Destroyed Well (destroyed through permit)
- Well use not reported
- *Test Well*

1,000 foot Radius

ALL WELL LOCATIONS ARE APPROXIMATE

WELL LOCATIONS WILL BE VERIFIED.

NORTH

0' 160'

Approximate Scale in feet

Aerial Photograph USGS **1993**

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FIGURE 3
Job # 23022

Aerial Site Map
Former Harbert Transportation
19984 Meekland Avenue
Hayward, California

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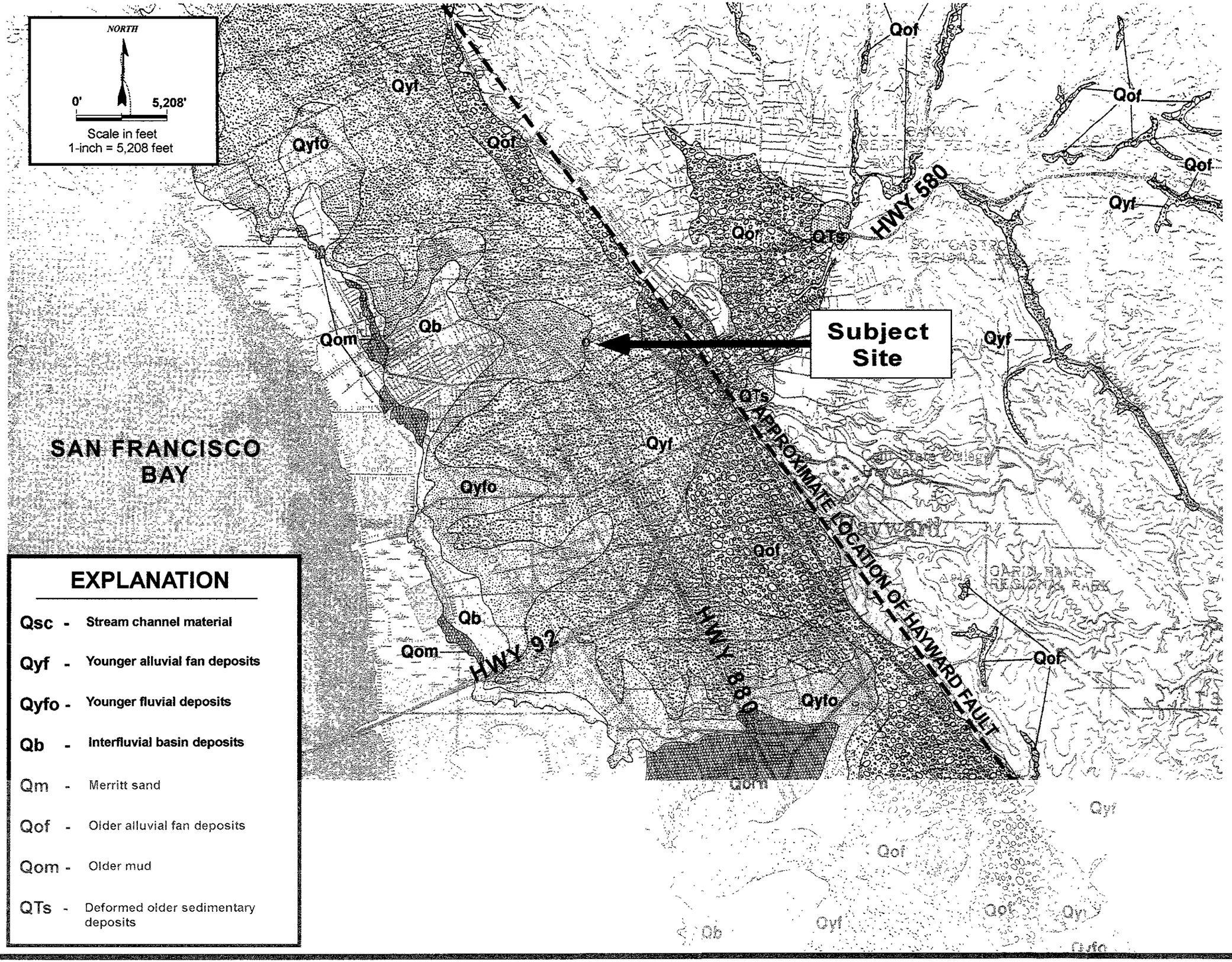
Hathaway Avenue
Highway 880



EXPLANATION

- **Qsc** - **Stream channel material**
- **Qyf** - **Younger alluvial fan deposits**
- **Qyfo** - **Younger fluvial deposits**
- **Qb** - **Interfluvial basin deposits**
- Qm - Merritt sand
- Qof - Older alluvial fan deposits
- Qom - Older mud
- QTs - Deformed older sedimentary deposits

FIGURE 4
Job # H9042

Geologic Map
Former Harbert Transportation Facility
19984 Meekland Avenue
Hayward, California

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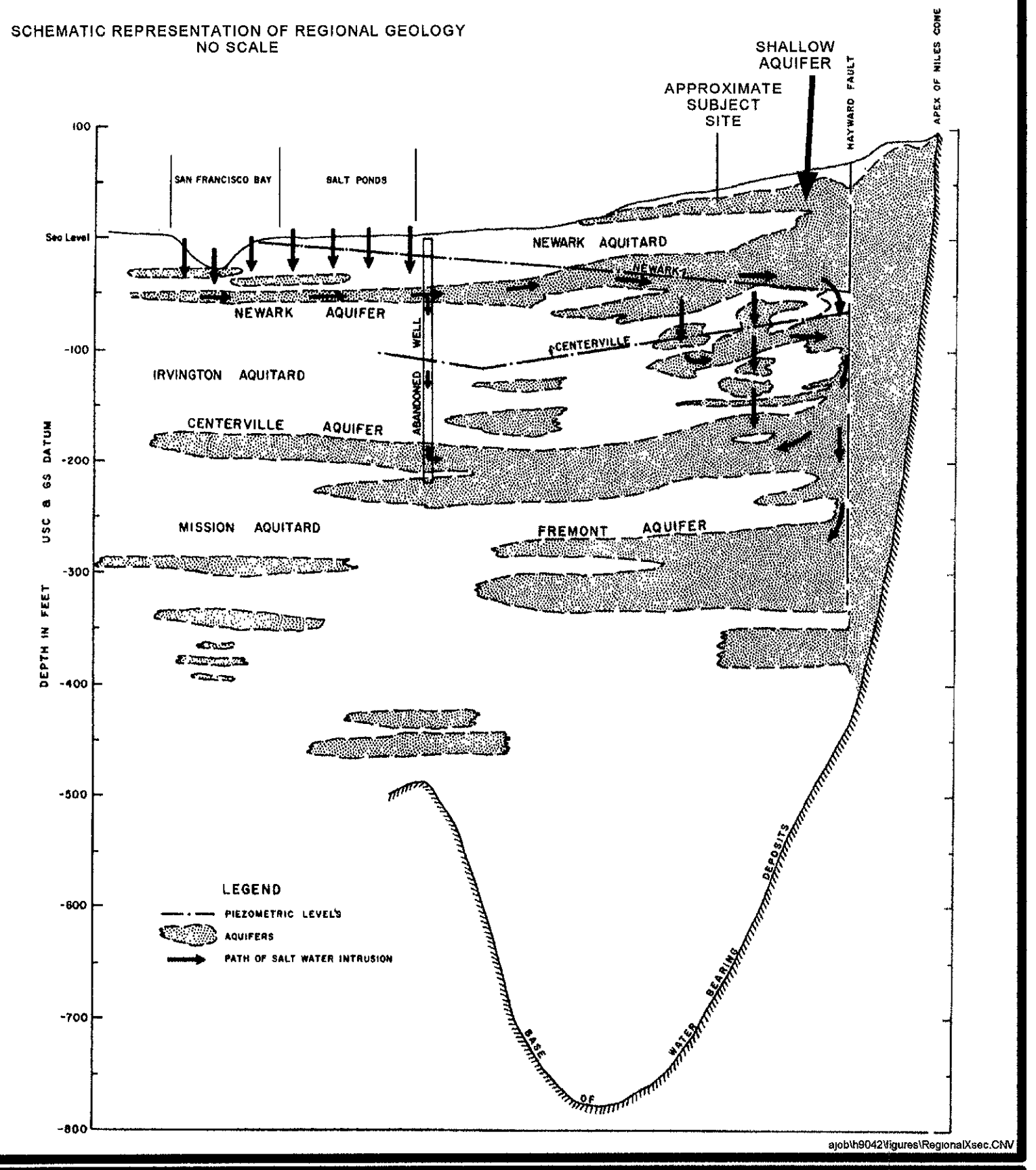

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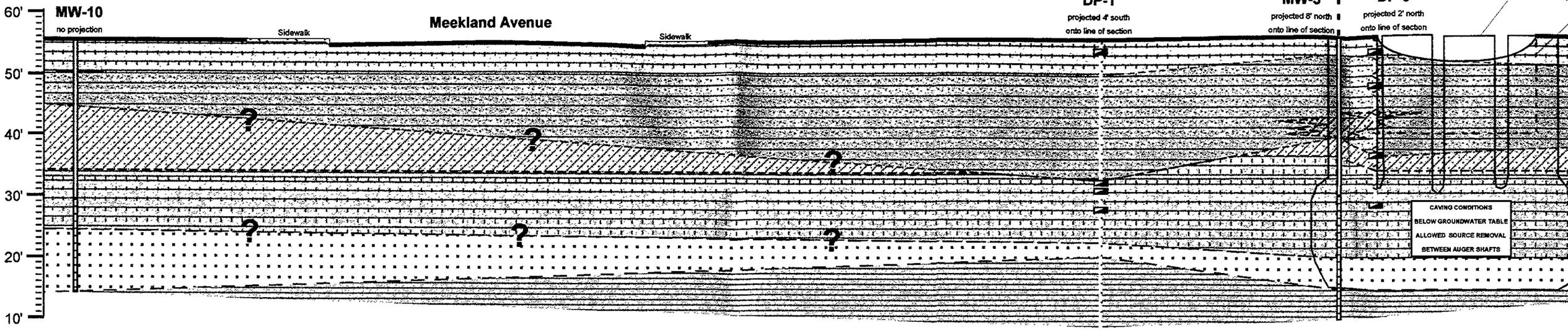
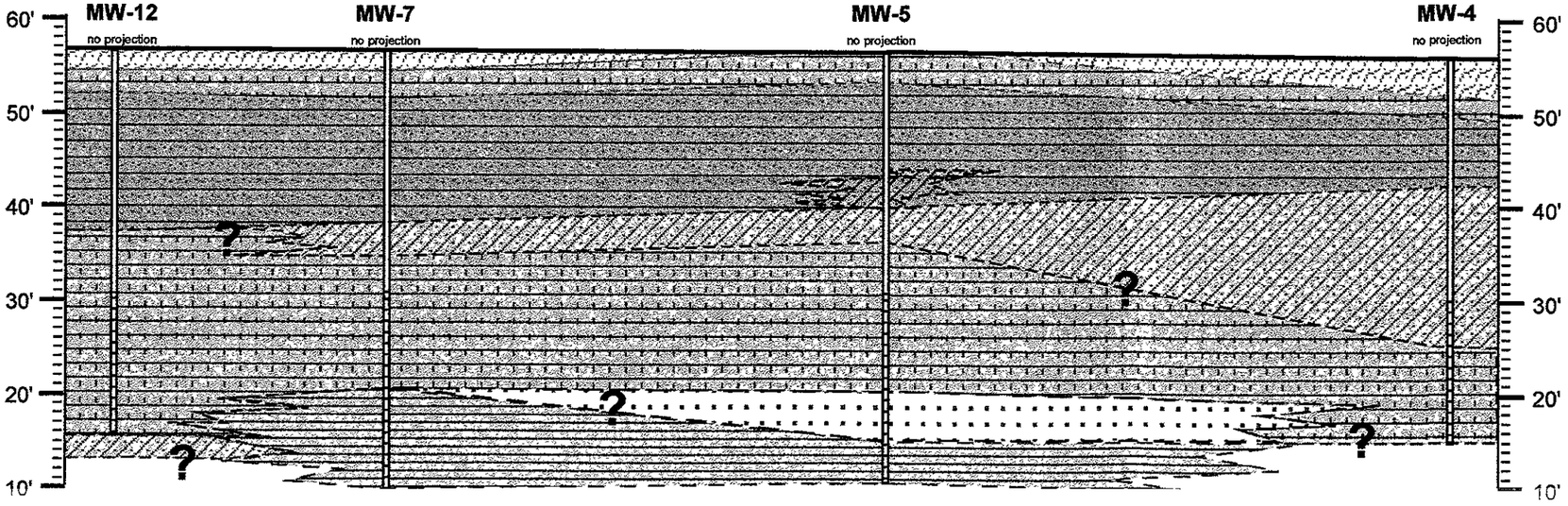
Regional Geologic Cross Section
Former Harbert Transportation Facility
19984 Meekland Avenue
Hayward, California

Figure 5
Job # H9042

A

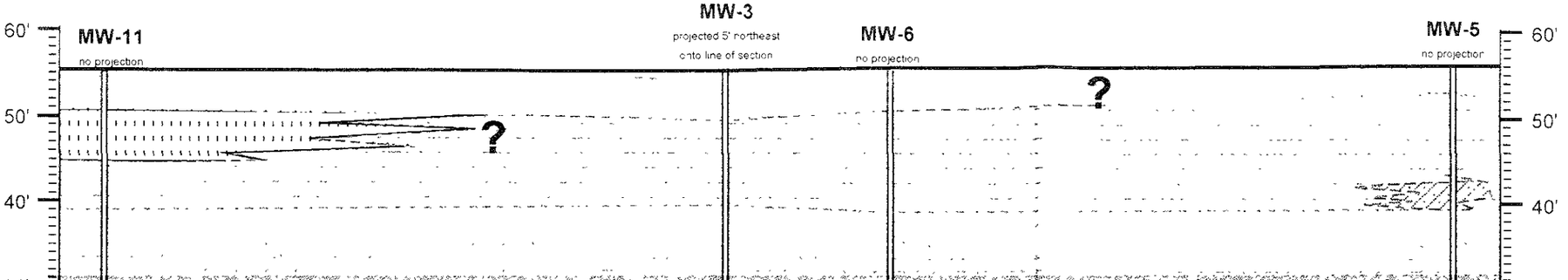


B



B'

C



C'

EXPLANATION:

- **Asphalt.**
- **Lithologic Unit #1 - Sand/Gravel Fill**
- **Lithologic Unit #2 - Fat & Lean CLAY:** Dominantly clay with some sand that is
- **Lithologic Unit #3 - Sandy CLAY to Silty CLAY:** Dominantly clay with some sa
  Appears to be laterally continuous with discontinuous interbeds of clayey sand a
- **Lithologic Unit #4 - Clayey Silty SAND:** Dominantly sand with silt and clay bind
- **Lithologic Unit #5 - Fat CLAY:** Dominantly clay with some sand that is moist wi
- **Lithologic Unit #6 - Poorly Graded SAND and/or Silty SAND:** Dominantly san
- **Lithologic Unit #7 - Lean CLAY:** Dominantly clay with some sand that is very s
- **Cement:** Used in sealing driven probe borings.

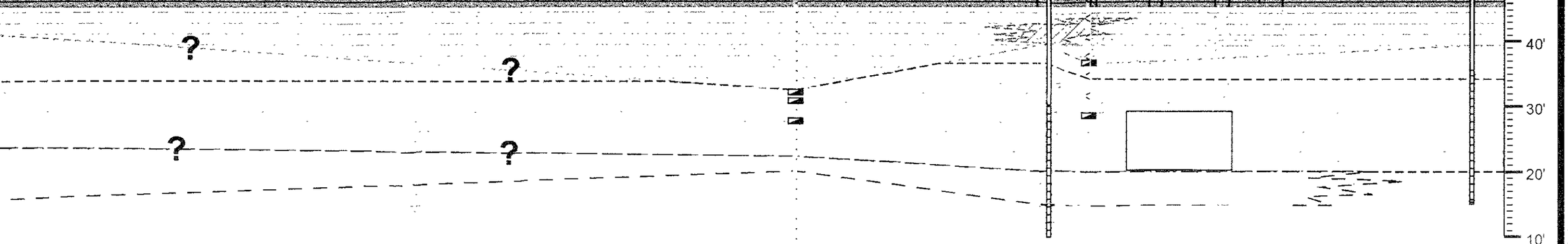
Soil sample analyzed at this depth

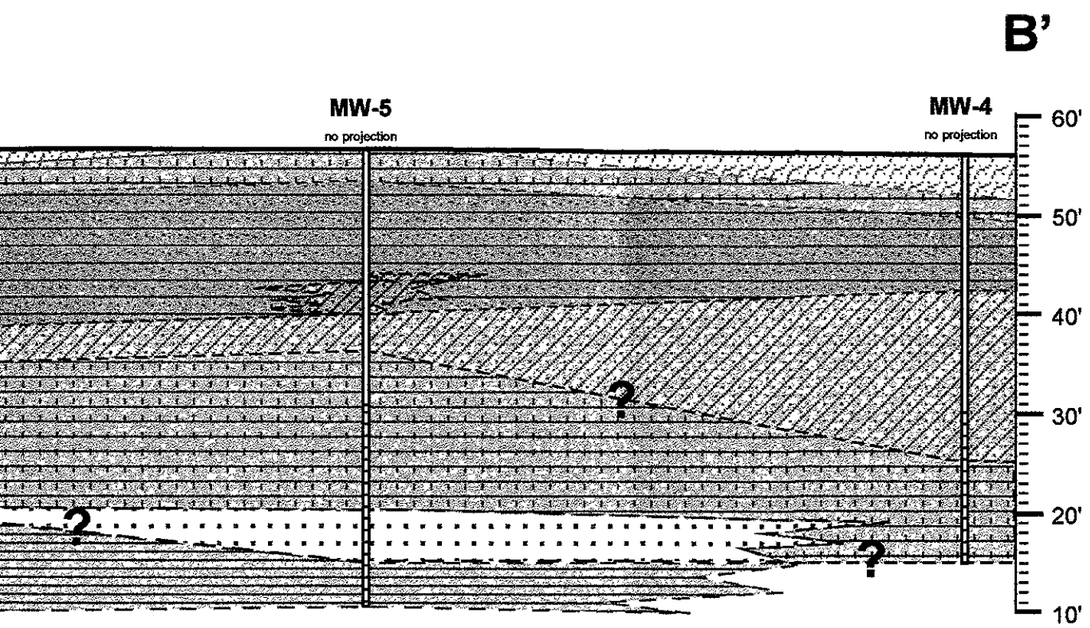
Monitoring well location designation completion depth and screened interval

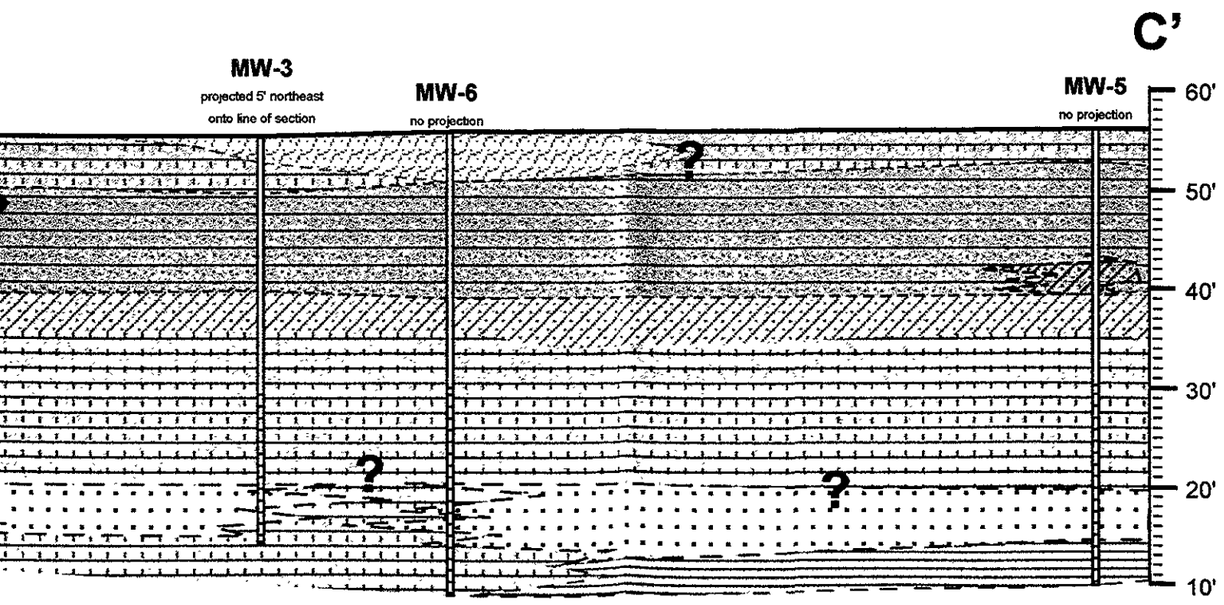
Groundwater elevation in monitoring wells from March 29 2001 groundwater mo

NOTES

See Figure 2 for plan view of geologic cross-sections A-A' B-B' and C-C
Lithology compiled from monitoring well geologic logs (completed by others) and driven pr
All elevations are referenced to National Geodetic Vertical Datum of 1929 Mean Sea Leve
No well construction information was contained on MW-3 or 4 geologic logs Well constru
well construction data from other onsite wells







EXPLANATION:

- **Asphalt.**
- **Lithologic Unit #1 - Sand/Gravel Fill**
- **Lithologic Unit #2 - Fat & Lean CLAY:** Dominantly clay with some sand that is moist.
- **Lithologic Unit #3 - Sandy CLAY to Silty CLAY:** Dominantly clay with some sand and silts. Appears to be laterally continuous with discontinuous interbeds of clayey sand and/or gradational into clayey sand.
- **Lithologic Unit #4 - Clayey Silty SAND:** Dominantly sand with silt and clay binder, with occasional basal gravel.
- **Lithologic Unit #5 - Fat CLAY:** Dominantly clay with some sand that is moist with discontinuous interbeds of sand lens.
- **Lithologic Unit #6 - Poorly Graded SAND and/or Silty SAND:** Dominantly sand with little or no fines - groundwater bearing unit.
- **Lithologic Unit #7 - Lean CLAY:** Dominantly clay with some sand that is very stiff, and low moisture content - aquitard unit.
- **Cement:** Used in sealing driven probe borings.
- Soil sample analyzed at this depth.
- Monitoring well location, designation, completion depth and screened interval.
- Groundwater elevation in monitoring wells from March 29, 2001 groundwater monitoring event.

NOTES:

See Figure 2 for plan view of geologic cross-sections A-A', B-B', and C-C'
Lithology compiled from monitoring well geologic logs (completed by others), and driven probe boring geologic logs (WHA)
All elevations are referenced to National Geodetic Vertical Datum of 1929 Mean Sea Level (MSL).
No well construction information was contained on MW-3, or 4 geologic logs. Well construction inferred based on total depth and other well construction data from other onsite wells.

Site Geologic Cross Sections A-A', B-B' & C-C'
Former Harbert Transportation
19984 Meekland Avenue
Hayward, California

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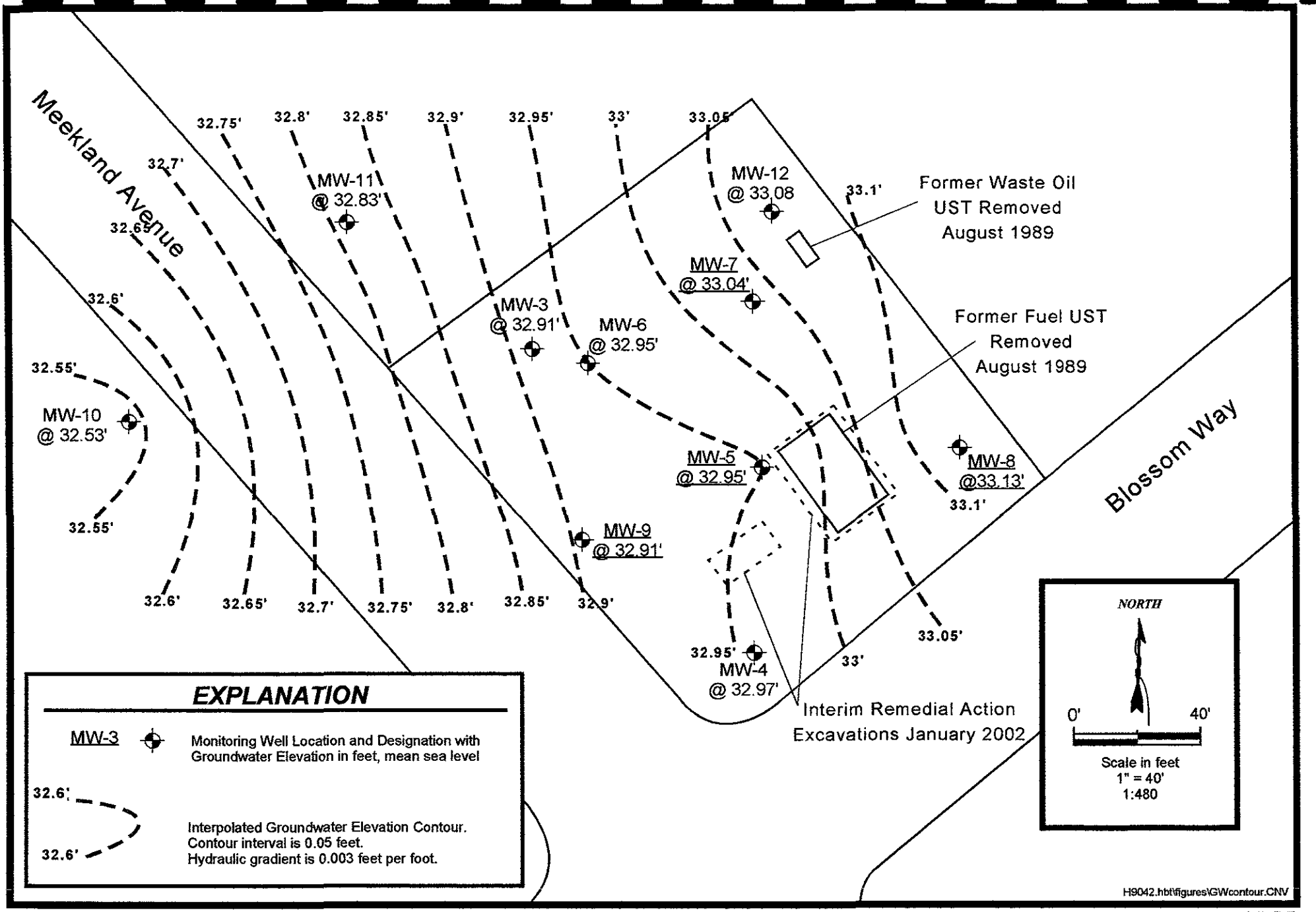

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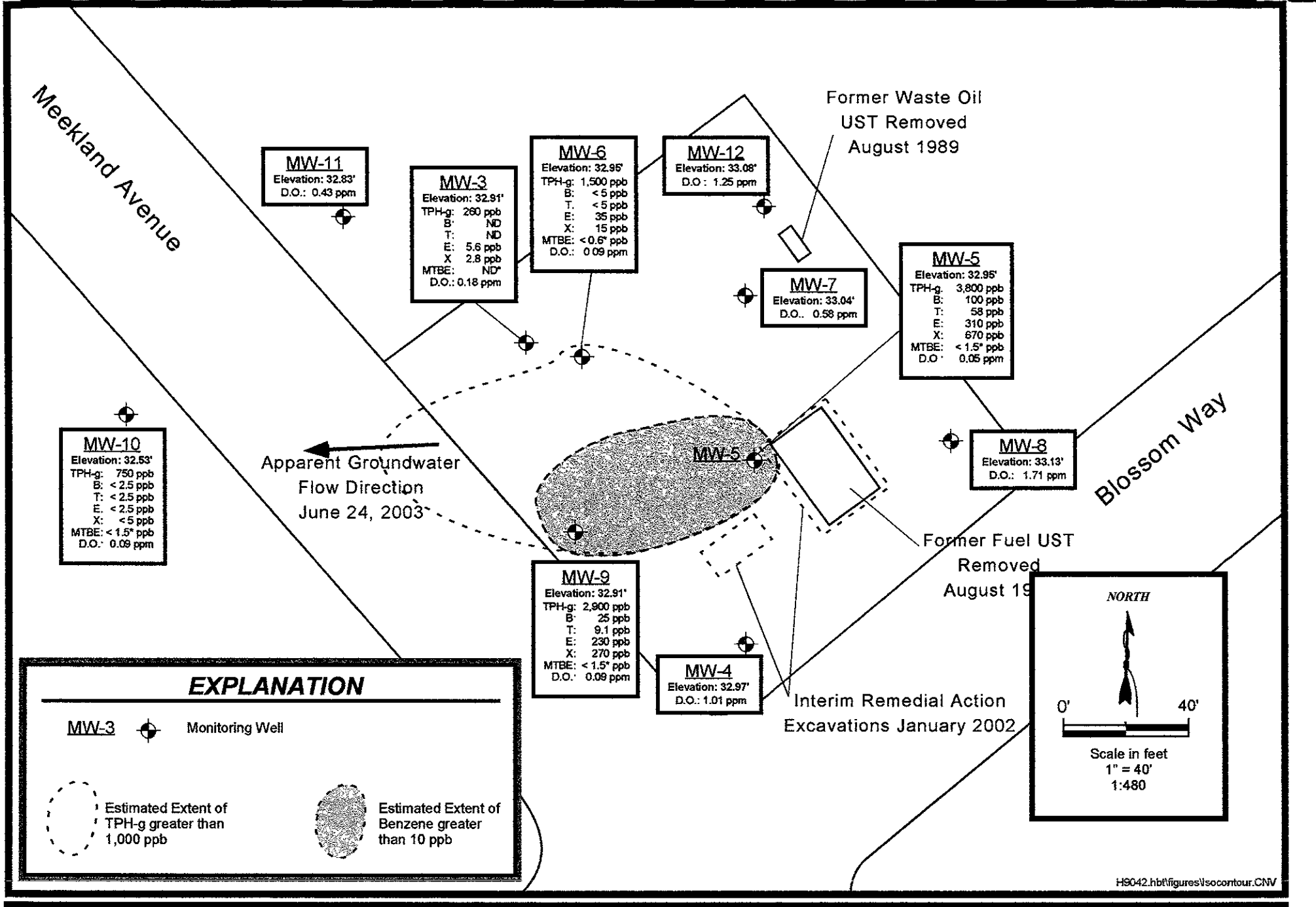
Site Map with Groundwater Gradient and Direction
June 24, 2003
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 7
Project H9042



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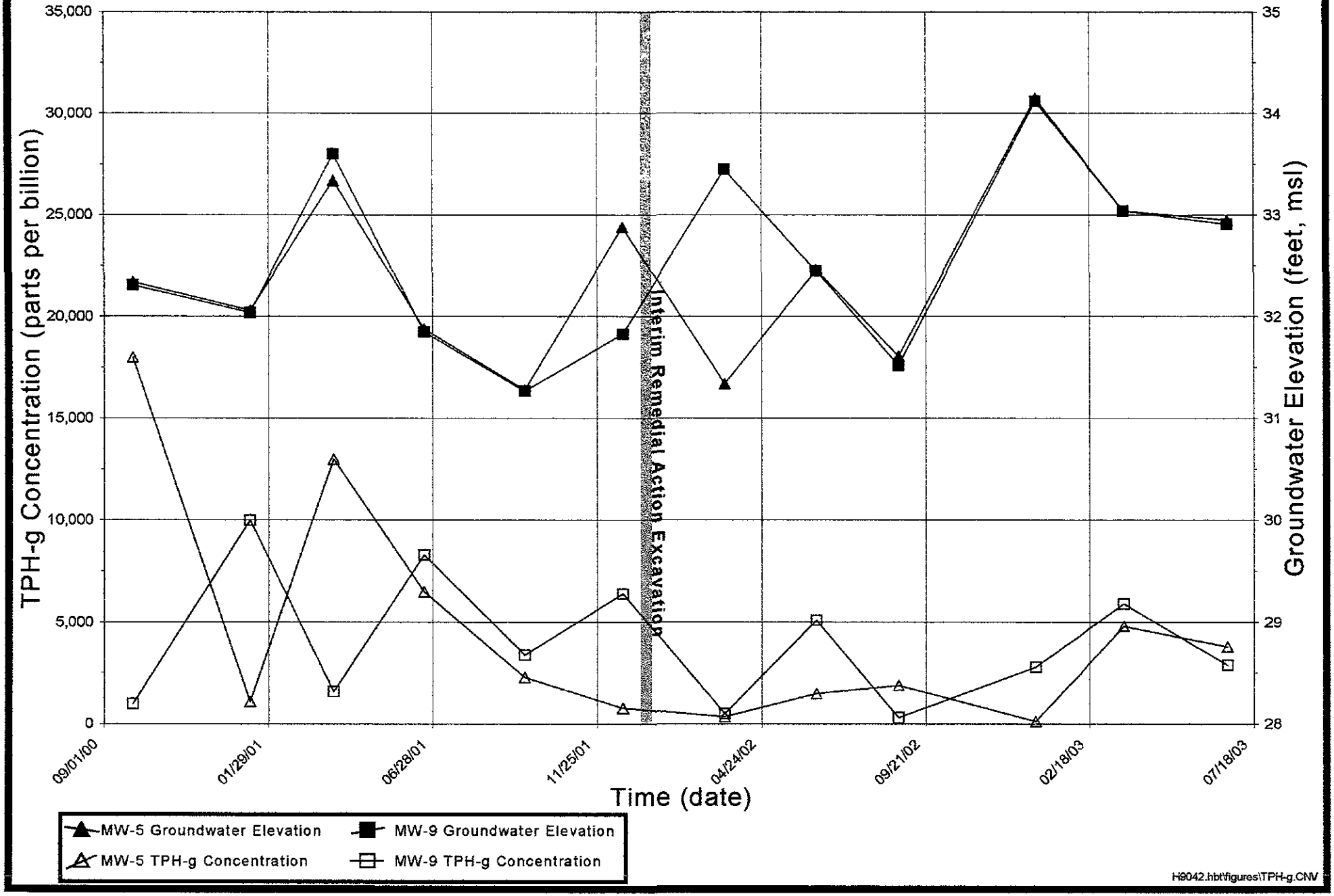
Site Map with Current Isoconcentration Contours
June 24, 2003
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 8
Project H9042



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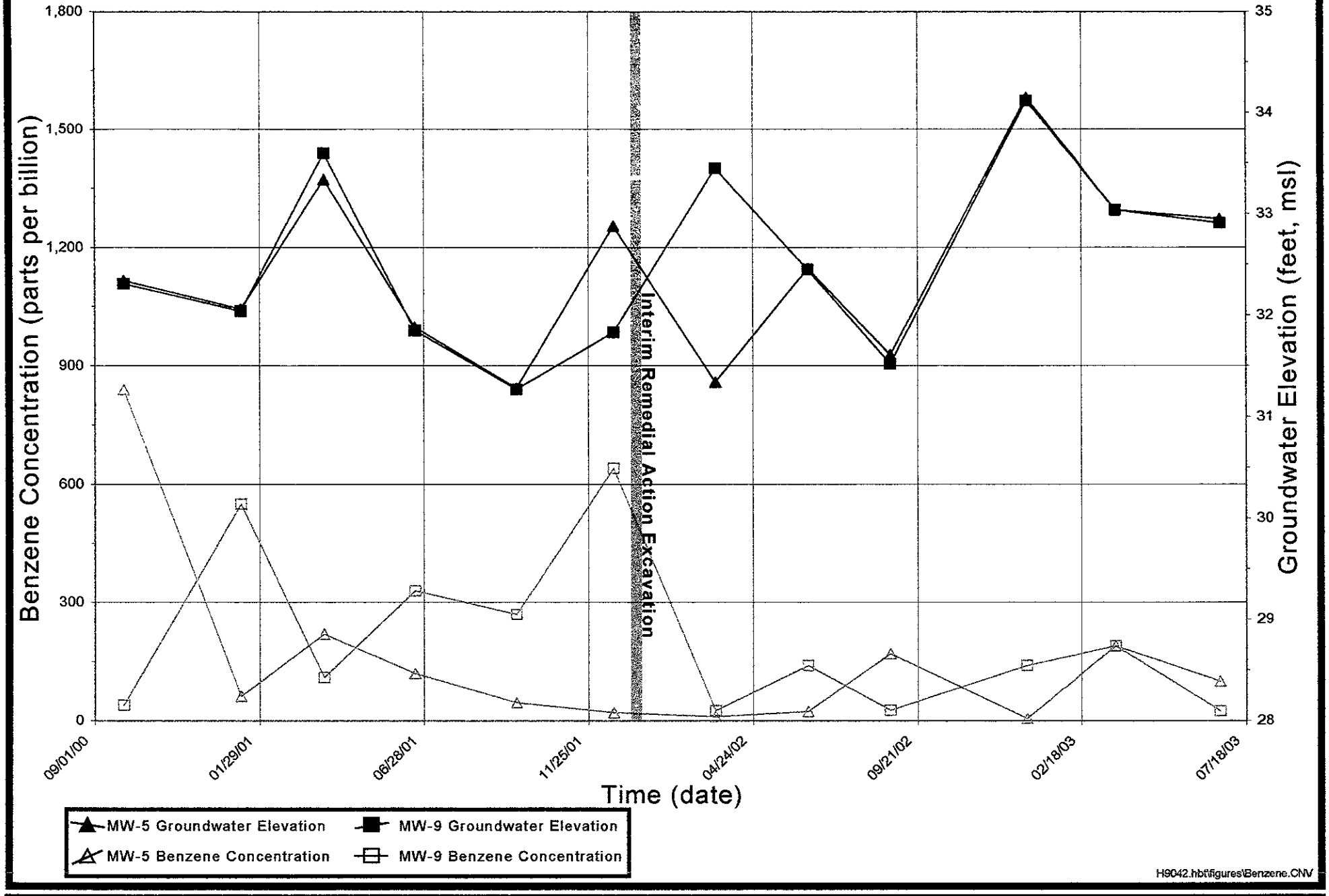
MW-5 & MW-9 TPH-g Concentrations -vs-
Groundwater Elevation & Time
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 9
Project H9042



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MW-5 & MW-9 Benzene Concentrations -vs-
Groundwater Elevation and Time
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 10
Project H9042

APPENDIX A

Geologic Logs of Monitoring Wells

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS (more than half is larger than No. 200 sieve)	GRAVELS (more than half coarse fraction is larger than No. 4 sieve size)	Clean gravels with little or no fines	GW	Well graded gravels, gravel - sand mixtures
			GP	Poorly graded gravels, gravel - sand mixtures
		Gravels with over 12% fines	GM	Silty gravels, poorly graded gravel - sand - silt mixtures
			GC	Clayey gravels, poorly graded gravel - sand - clay mixtures
	SANDS (more than half coarse fraction is smaller than No. 4 sieve size)	Clean sands with little or no fines	SW	Well graded sands, gravelly sands
			SP	Poorly graded sands, gravelly sands
		Sands with over 12% fines	SM	Silty sands, poorly graded sand - silt mixtures
			SC	Clayey sands, poorly graded sand - clay mixtures
FINE GRAINED SOILS (more than half is smaller than No. 200 sieve)	SILTS AND CLAYS (liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic clays and organic silty clays of low plasticity
	SILTS AND CLAYS (liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt	Peat and other highly organic soils

Depth through which sampler is driven

Relatively undisturbed sample (Calif. Modified Sampler)

Disturbed sample

Bag or grab sample

Ground water level observed in boring

1-2 Sample No.

Sand pack

Bentonite annular seal

Neat cement annular seal

PVC blank

Machine-slotted PVC

BLOW/FT. REPERSENTS THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH THE LAST 12 INCHES OF AN 18 INCH PENETRATION.

LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDRIES ONLY. ACTUAL BOUNDRIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

Applied GeoSystems
5 Mission Blvd. Suite B Fremont, CA 94539 (415) 657-1906

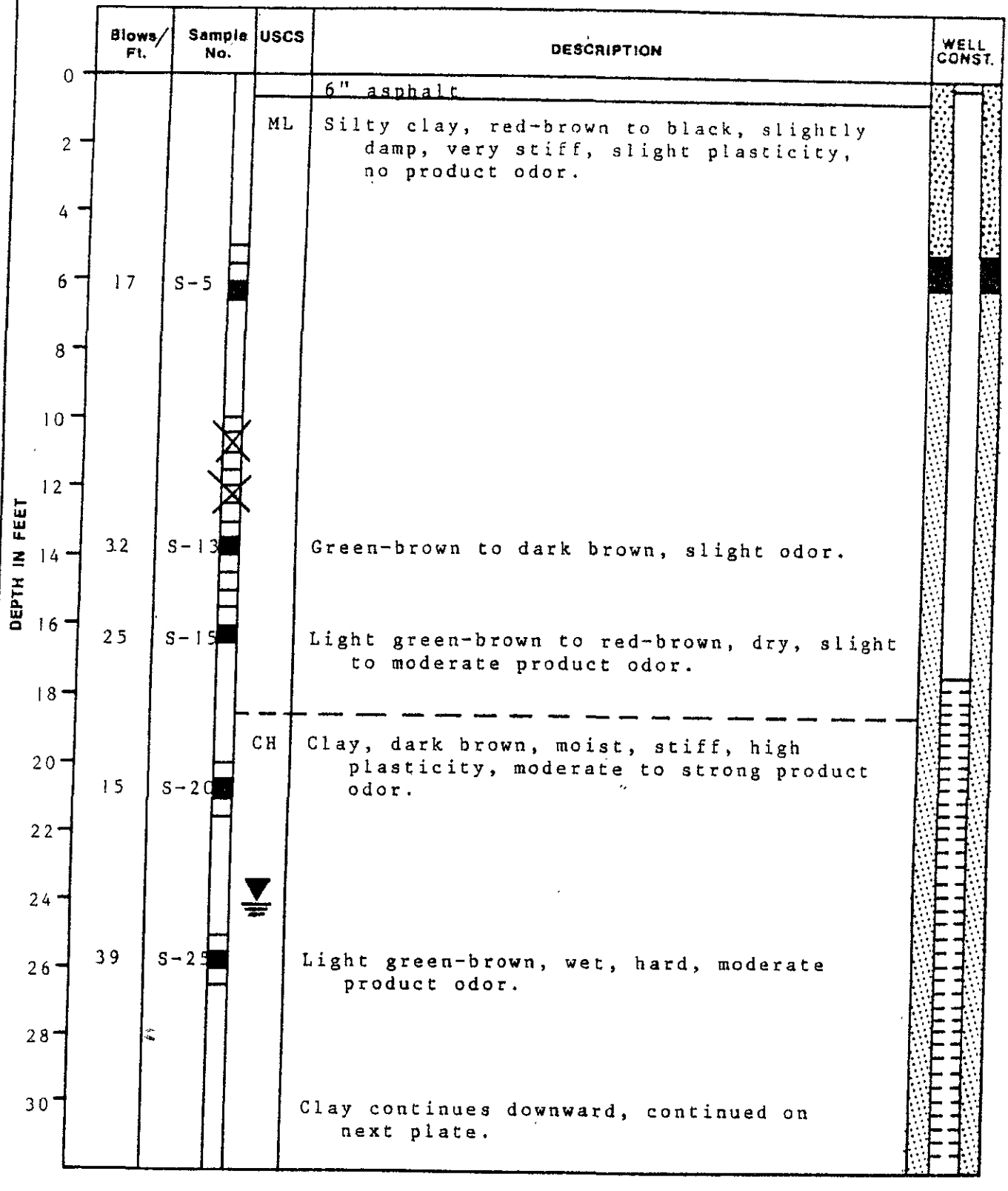
PROJECT NO. 8660-1

UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY

Harbert Transportation
Hayward, California

PLATE P-3

Destroyed



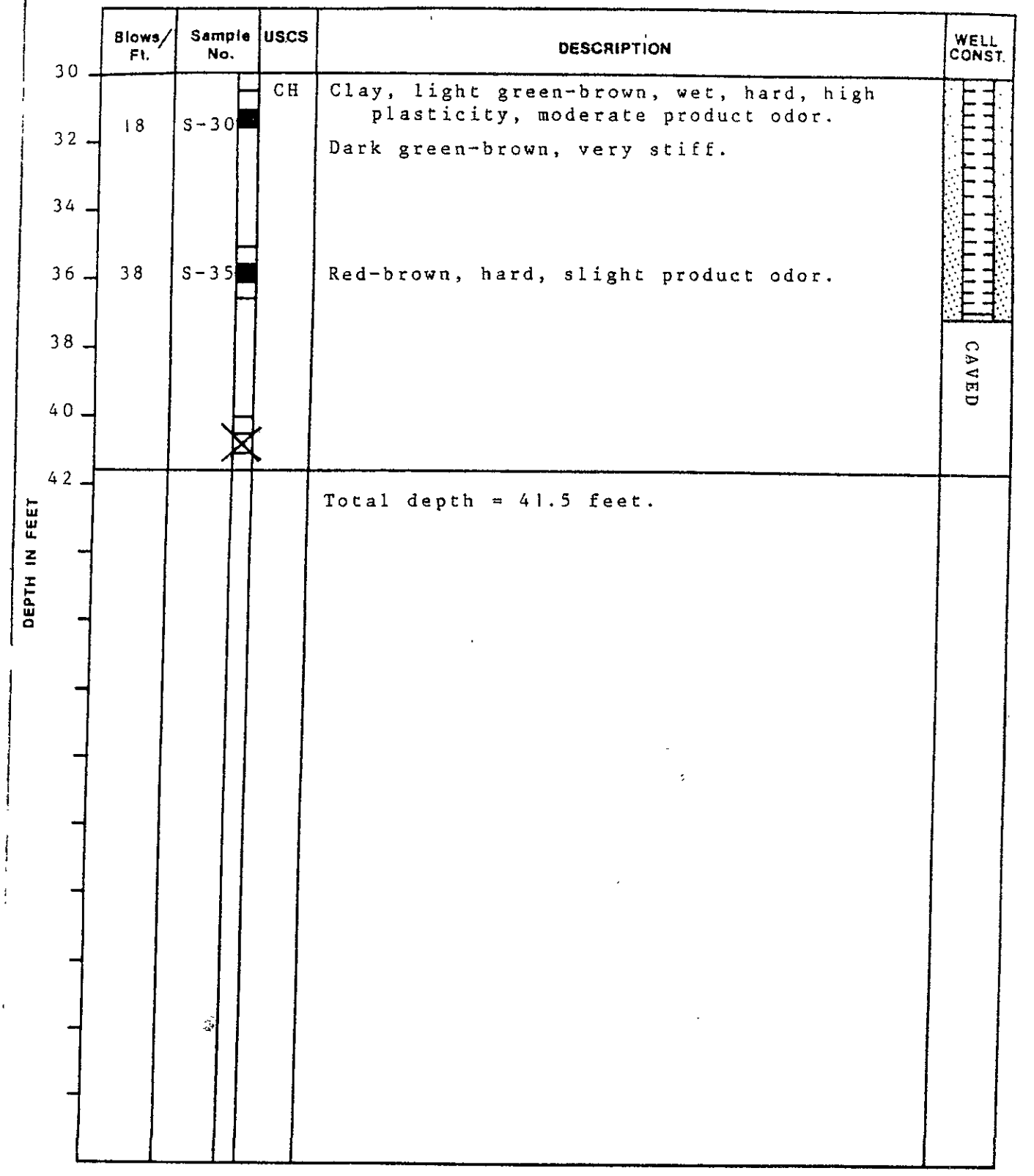
Applied GeoSystems

LOG OF BORING B1/MW-1

Harbert Transportation
Hayward, California

PLATE P-4

PROJECT NO. 8660-1



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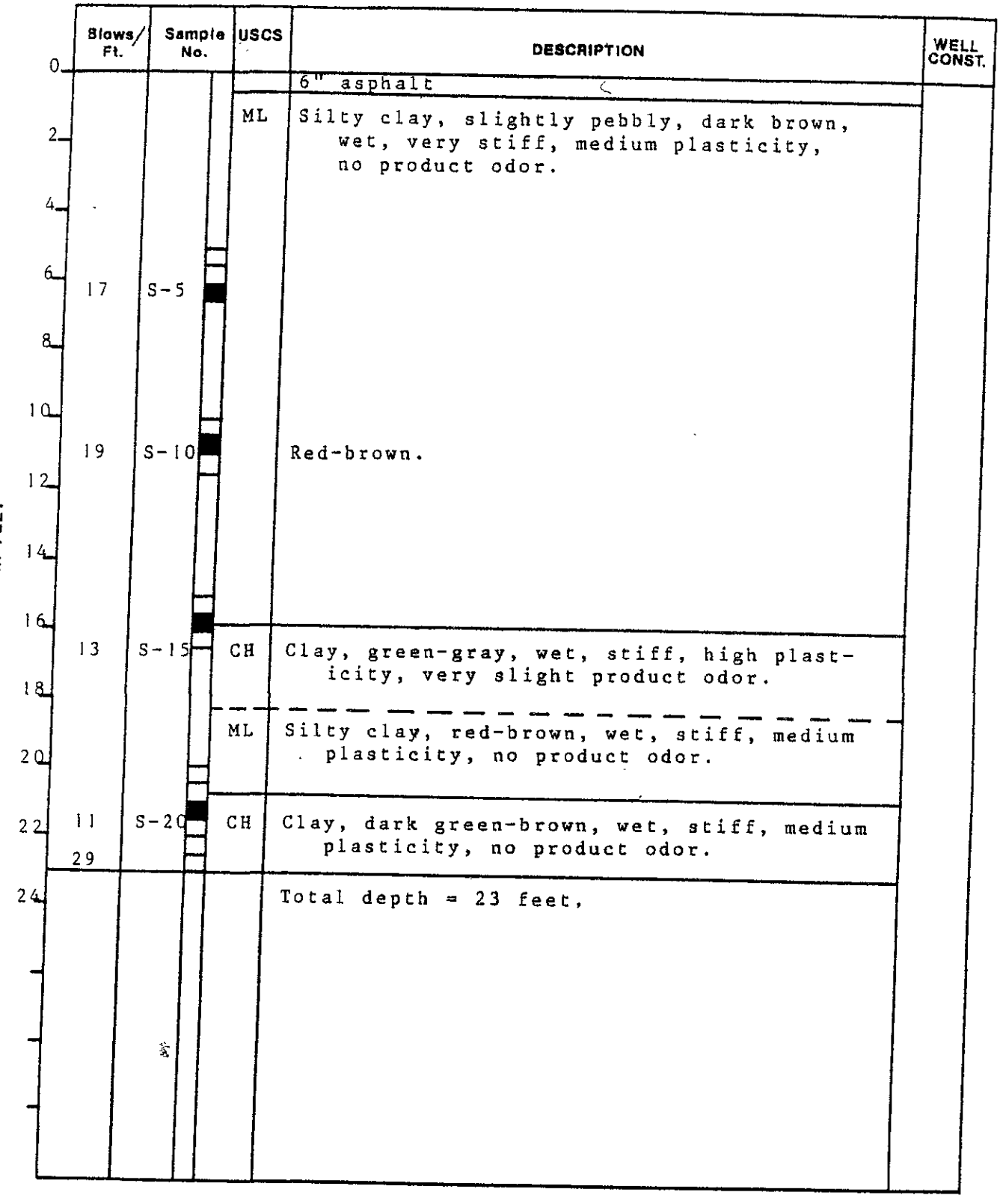
LOG OF BORING B-1/MW-1

Harbert Transportation
Hayward, California

PLATE P-5

PROJECT NO. 8660-1



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PROJECT NO. 8660-1

LOG OF BORING B-2

Harbert Transportation
Hayward, California

PLATE

P-6

Meekland and Blo[illegible]m Ave

HEW Drilling | DRILLER Jeff

CME 55

Monitoring Well

ELEVATION AND D

DATE STARTED 11-28-89 | DATE FINISHED 11-28-89

COMPLETION DEPTH (FT) 40 | ROCK DEPTH (FT) -

NO. OF UNDIST. SAMPLES 7 | CORE

WATER FIRST DEPTH(FT) 34 | COMPL. 2"

LOGGED BY: J. Alt | CHECKED BY:

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG LITHOLOGY	SAMPLES NO.	SAMPLES TYPE	BLOW COUNT	DRILLING RATE/TIME	REMARKS
	Fill						
	dark brown clay, dry, adobe				6		
5					8		
	reddish brown fine sandy silt with some clay, dry				10		
	Tan sandy silt to silty sand. Thin lens of coarse sand at 11 ft.; dry, becoming moist at 15 ft.				3		
10					5		
					8		
					2		
15					4		
					6		
					2		
20					4		
	Gray clay, moist, mottled brown, moderately plastic				5		
					4		
25					7		
					10		
30							

Project Durham Site

ject No.

LOG OF BORING B-3 /MW3

DESCRIPTION	GRAPHIC LOG LITHOLOGY	NO.	TYPE	BLOW COUNT	DRILLING RATE/TIME	REMARKS
Gray clay mottled brown, moist, moderately plastic.				4 4 5		
Brown clayey sand and gravel, grades downward to brown clayey silt.				5 7 11		
Bottom of boring No sample						

55

60

65

70

Project

ect No.

CONT. LOG OF BORING B-3

LOCATION	Meekland and Blossom Ave	ELEVATION AND DATUM	
DRILLING CONTRACTOR	HEW Drilling / DRILLER Jeff	DATE STARTED 11-28-89	DATE FINISHED 11-28-89
DRILLING EQUIPMENT	CME 55	COMPLETION DEPTH (FT) 40	ROCK DEPTH (FT) -
DIAMETER OF BORING		NO. OF UNDIST. SAMPLES 7	CORE
PURPOSE OF BORING	Monitoring Well	WATER DEPTH(FT) FIRST	COMPL. 2" Diameter
SAMPLING EQUIPMENT		LOGGED BY: J. Alt	CHECKED BY:
COMMENTS			

DEPTH (FEET)	DESCRIPTION	GRAPHIC LOG LITHOLOGY	SAMPLES NO.	SAMPLES TYPE	SAMPLES BLOW COUNT	SAMPLES DRILLING RATE/TIME	REMARKS
	Fill - Sand and Gravel						
5	Dark brown clay, dry				8 6 4		
	Tan silty clay, dry						
10					5 6 9		
	brown sandy gravel						
15	Gray clayey silt to silty clay, locally sandy				2 4 4		
20	Same as above moist				1 4 4		
25	Same as above with brown mottlings				4 5 6		
30							

Project Durham Site

Project No.

LOG OF BORING B-4 /mw4

DESCRIPTION	GRAPHIC LOG LITHOLOGY	SAMPLES NO.	SAMPLES TYPE	SAMPLES BLOW COUNT	SAMPLES DRILLING RATE/TIME	REMARKS
Gray clay, moist, mottled brown				4 7 13		
Brown silty clay, wet				6 7 9		
bottom of boring						

30 35 40 45 50 55 60 65 70

Project

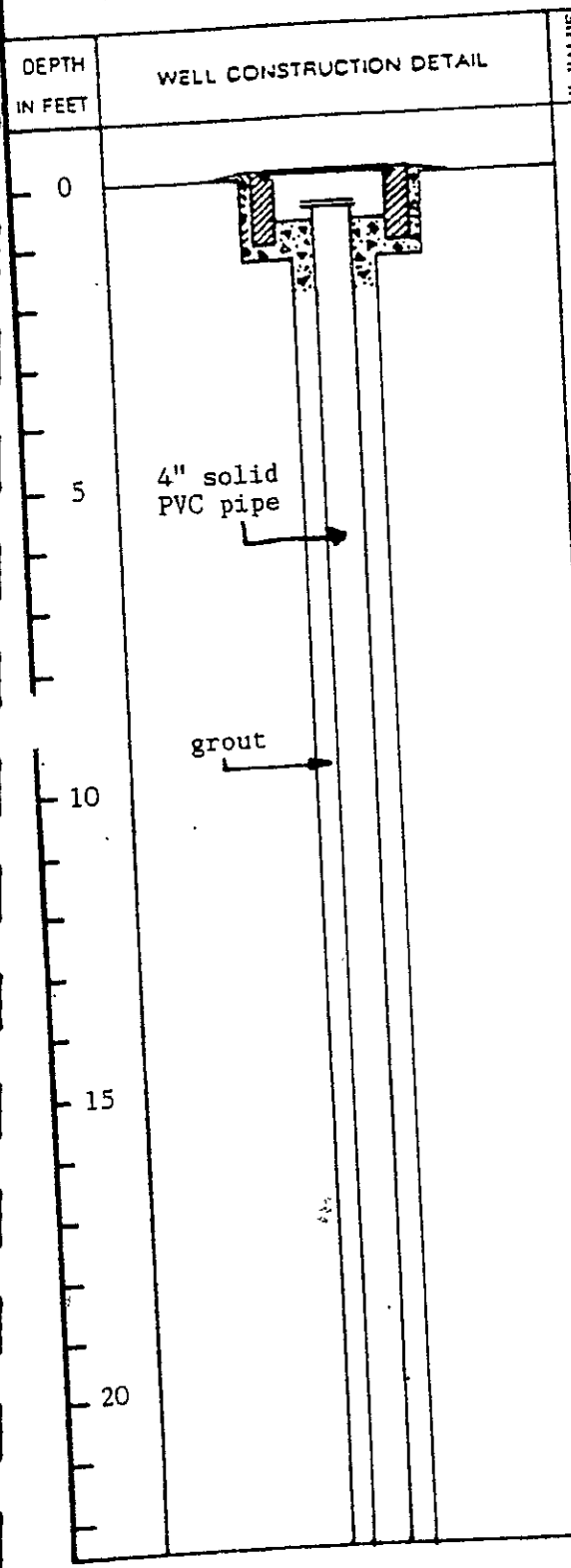
oject No.

CONT. LOG OF BORING B-4

BORING LOG

Project: Durham Transportation
Location: see location map
Job #: 90-4
Geologist/Engineer: J. Alt
Drill Agency: HEW Drilling

Hole/Well #: MW-5
Diameter of Drill Hole: 8"
Total Depth of Hole: 45 ft.
Date Started: Aug. 31, 1990
Date Completed: Aug. 31, 1990



DEPTH IN FEET	N-VALUE	SAMPLE	GRAPHIC SYMBOL	DESCRIPTION
0				gravelly sand-fill, dry dark brown clay-soil horizon
5	14	1		medium brown sandy clay, moist
10	7	2		blue gray sandy clay grading to a clayey sand, moist
15	12	3		grayish brown sandy clay, moist, scattered small gravel
20	4	4		grayish brown fine to medium grained sand, moist
				light brown clay, moist plastic, reddish brown mottling

ORING LOG

PROJECT: Durham Transportation
JOB NUMBER: 90-4

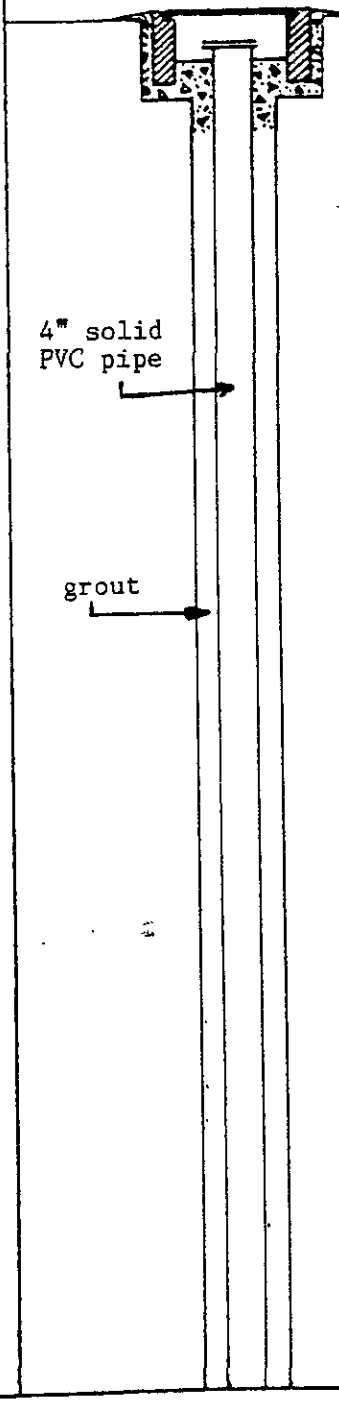
HOLE / WELL #: MW-5
PAGE: 2 OF 2

DEPTH (FEET)	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
25	bentonite seal	5	18		gray motted brown clay, moist to damp, plastic gray clay; motted brown, moist, plastic
30	sand pack	6	6		
35	4" slotted PVC casing	7	16		brown clay, moist, silty, moderately plastic
40		8	15		
45		9	8		tight brown, fine to medium grained sand, wet, dark brown

BORING LOG

Project: Durham Transportation
Location: see location map
Job #: 90-4
Geologist/Engineer: J. Alt
Drill Agency: HEW Drilling

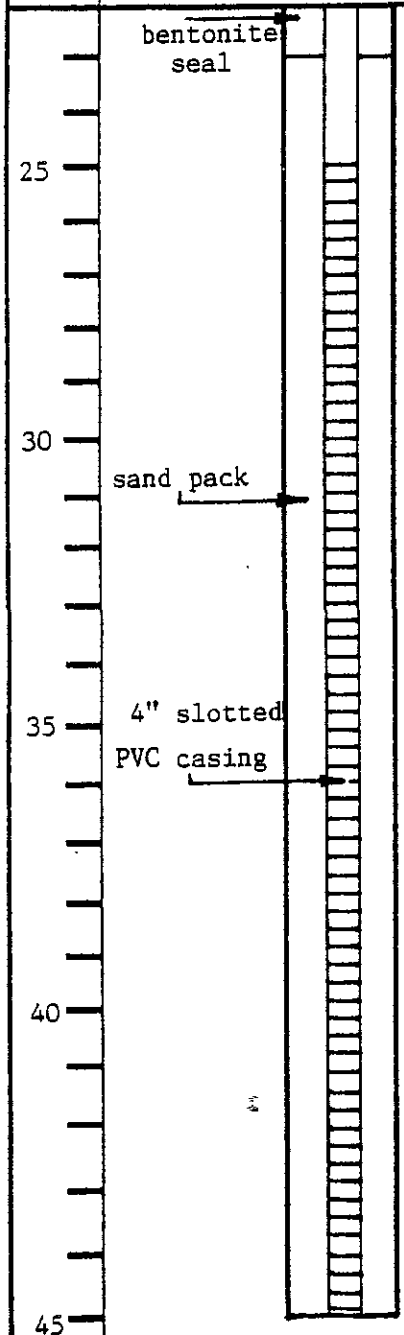
Hole/Well #: MW-6
Diameter of Drill Hole: 8 inches
Total Depth of Hole: 45 ft.
Date Started: Aug. 30, 1990
Date Completed: Aug. 30, 1990

DEPTH IN FEET	WELL CONSTRUCTION DETAIL	N-VALUE	SAMPLE	GRAPHIC SYMBOL	DESCRIPTION
0					3" asphalt sand and gravel
5	4" solid PVC pipe	11	1		
10	grout	12	2		medium brown silty to sandy clay, moist, locally scattered gravel up to 1/2" in size medium brown clay to clayey silt
15		7	3		brown fine-grained sand, loose, moist
20		NA	4		gray motted brown clay, moist to damp, plastic

ORING LOG

PROJECT: Durham Transportation
JOB NUMBER: 90-4

HOLE / WELL #: MW-6
PAGE: 2 OF 2

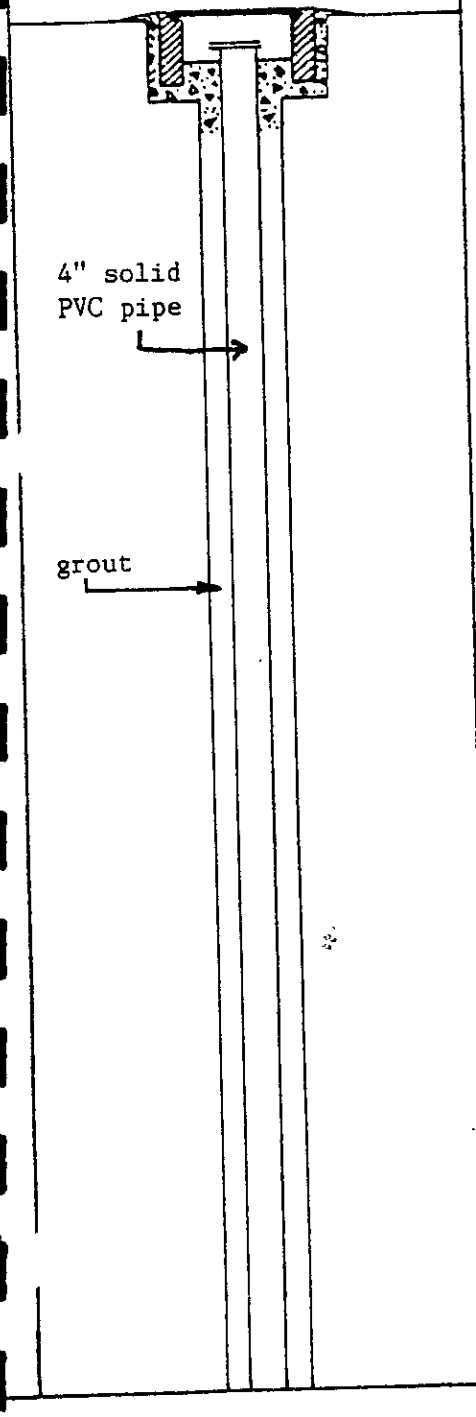


DEPTH (FEET)	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
	5	20		light brown clay, moist plastic, reddish brown mottling
				same as above, except grading to gray in color
	6	11		gray clay, wet, plastic, locally sandy
	7	17		
				light brown clay, wet plastic
	8	7		light brown clay, wet plastic, locally silty to sandy
				light brown sandy clay, wet plastic
	9	15		

BORING LOG

:t Durham Transportation
Location see location map
Job # 90-4
Geologist/Engineer J. Alt
Drill Agency HEW Drilling

Hole/Well # M W - 7
Diameter of Drill Hole 8"
Total Depth of Hole 45 ft.
Date Started Oct. 1, 1990
Date Completed Oct. 1 , 1990



WELL CONSTRUCTION DETAIL	N-VALUE	SAMPLE	GRAPHIC SYMBOL	DESCRIPTION
				4" concrete
				fill - sand and gravel
				dark brown clay, damp grading to medium brown silty clay
	17	1		medium brown clayey silt, damp
	8	2		
	9	3		gray sand, medium grained, damp
	4	4		gray clay, moist with brown mottering

RING LOG

PROJECT: Durham Transportation
JOB NUMBER: 90-4

HOLE / WELL # : MW-7
PAGE : 2 OF 2

DEPTH (FEET)	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
	bentonite seal				gray clay, moist with brown mottering
25		5	13		tan motteled gray silty clay, locally sandy
30	sand pack	6	12		
35	4" slotted PVC casing	7	16		tan clay; very plastic
40		8	10		tan clay-motted brown; very plastic, some silt
45		9	11		fine grain tan-mottled brown silty sand; very wet, some plasticity

BORING LOG

Project Durham Transportation
Location see location map
Job # 90-4
Geologist/Engineer J. Alt
Drill Agency HEW Drilling

Hole/Well # B-1
Diameter of Drill Hole 8 inches
Total Depth of Hole 25 ft.
Date Started Oct. 1,1990
Date Completed Oct. 1,1990

PTH ET	WELL CONSTRUCTION DETAIL	N-VALUE	SAMPLE	GRAPHIC SYMBOL	DESCRIPTION
0					backfill gravel, etc.
5		15	1		
10	boring log only; no well was installed	13	2		fine grain sand green with hydrocarbons; slightly silty the first foot, brown clay with black streaks
15		10	3		gravel fill in first foot, next comes green soil (silty, sandy clay), odor of old petroleum, last foot sandy clay gray (slight green tinge), some plastcity
20		8	4		dark gray silty clay; very plastic mottled brown down to approximately 21'; has greenish tint.

ORING LOG

PROJECT: Durham Transportation
JOB NUMBER: 90-4

HOLE / WELL #: B-1
PAGE : 2 OF 2

DEPTH (FEET)	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
25		5	15		gray with slight green tinge first 10". brown clay, mottled green and orange; very plastic soil, still pretty dry.

BORING LOG

Project: Durham Transportation
Location: see location map
Job #: 91-6
Geologist/Engineer: J. Alt
Drill Agency: HEW Drilling

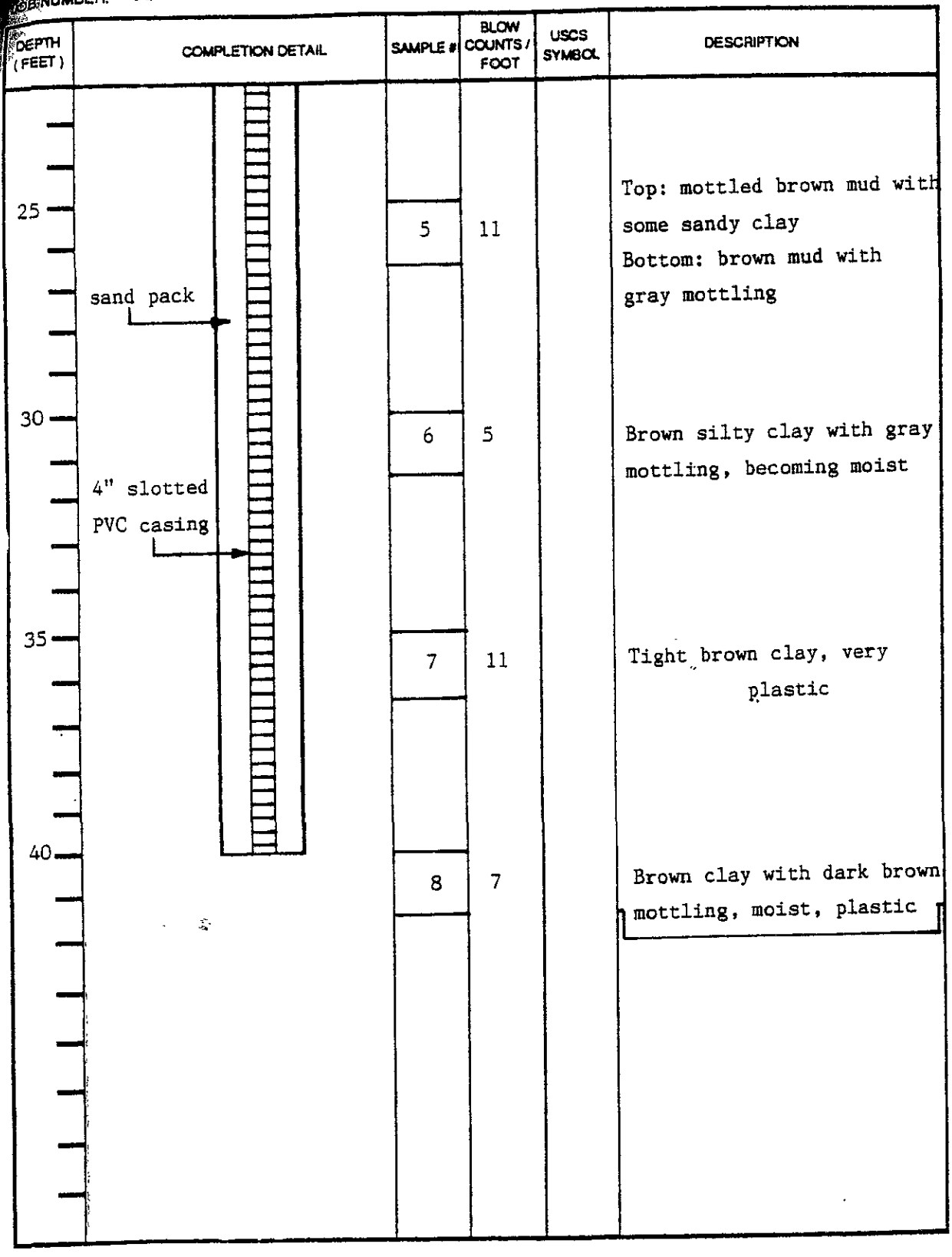
Hole/Well #: MW-8
Diameter of Drill Hole: 10"
Total Depth of Hole: 40'
Date Started: Feb. 13, 1991
Date Completed: Feb. 13, 1991

DEPTH IN FEET	WELL CONSTRUCTION DETAIL	N-VALUE	SAMPLE	GRAPHIC SYMBOL	DESCRIPTION
0					
5	4" solid PVC pipe	15	1		Brown clay, somewhat plastic, dry
10	grout	15	2		Brownish gray sandy clay
15	bentonite seal	18	3		Brownish clay, somewhat plastic; clay lead to medium coarse sandy clay-had pebbles in it and was quite dry. This leads to brown sand
20		5	4		Brown clayey sand grading to gray clay, mottled brown, very plastic

BORING LOG

PROJECT: Durham Transportation
JOB NUMBER: 91-6

HOLE / WELL #: MW-8
PAGE: 2 OF 2



BORING LOG

Project: Durham Transportation
Location: see location map
Job #: 91-6
Geologist/Engineer: J. Alt
Drill Agency: HEW Drilling

Hole/Well #: MW-9
Diameter of Drill Hole: 10"
Total Depth of Hole: 40'
Date Started: Feb. 13, 1991
Date Completed: Feb. 13, 1991

DEPTH IN FEET	WELL CONSTRUCTION DETAIL	N-VALUE	SAMPLE	GRAPHIC SYMBOL	DESCRIPTION
0					
5	4" solid PVC pipe	15	1		Medium brown clayey silt, somewhat plastic, some small angular rock fragments, dry
10	grout	8	2		Same as above
15	bentonite seal	12	3		Brown clayey silt, locally sandy, moderated to low plasticity, grading to fine grain sand, loose, moist
20		6	4		Brown sandy clay, gray mottling

ORING LOG

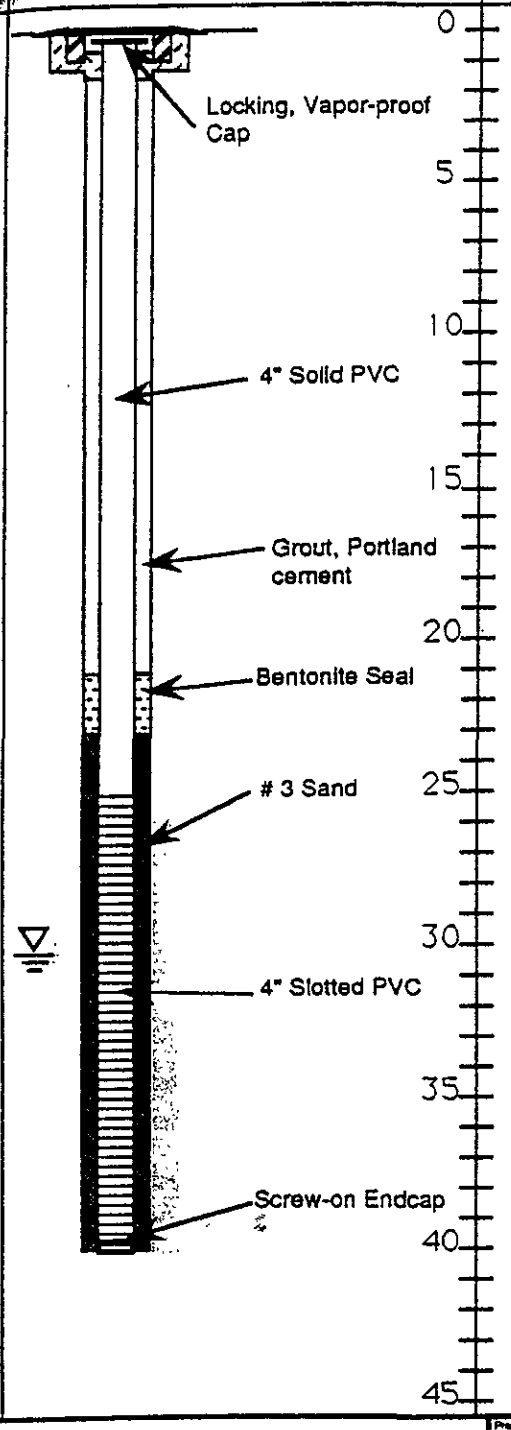
PROJECT: Durham Transportation
JOB NUMBER: 91-6

HOLE / WELL #: MW-9
PAGE: 2 OF 2

DEPTH (FEET)	COMPLETION DETAIL	SAMPLE #	BLOW COUNTS / FOOT	USCS SYMBOL	DESCRIPTION
25					Greenish-gray clay
		5	9		
	sand pack				
30					Brown clay with some silt, greenish gray mottling
		6	10		
	4" slotted PVC casing				
35					
		7	15		Medium brown clay, gray mottling, moist
40					Medium brown clay, very plastic, moist
		8	7		

LOG AND RECORD OF MONITORING WELL INSTALLATION

Figure 1
MW-10



N-VALUE	SAMPLE #	DESCRIPTION
		4" Asphalt over 1" Gravel Base, Sandy
		Dark brown clay, Organic Plastic, Moist
		Reddish brown clay, Moist, Moderately plastic
4/4/10		Light brown clayey silt, Moist, No odor Grades to silty clay
4/4/8		Light brown clayey sand, Scattered coarse sand to pebbles, Moist Grading to sandy gravel
3/3/5		Light brown sandy to silty clay Plastic, Moist Thin (~2" thick) lenses of coarse sand No hydrocarbon odor
4/5/7	1	Gray clay with brown mottling Moist, moderately plastic Abundant root holes No hydrocarbon odor
4/8/9	2	Gray clay, brown mottling Moist, Plastic
3/7/9	3	Light brown clayey fine sand, Grey mottling, Faint hydrocarbon odor (locally moderate), Scattered pebbles
5/10/12		Light brown clayey fine sand to fine sandy clay, Moist (not saturated), Very faint hydrocarbon odor, Grey mottling, Oxidized roots
		End of Boring

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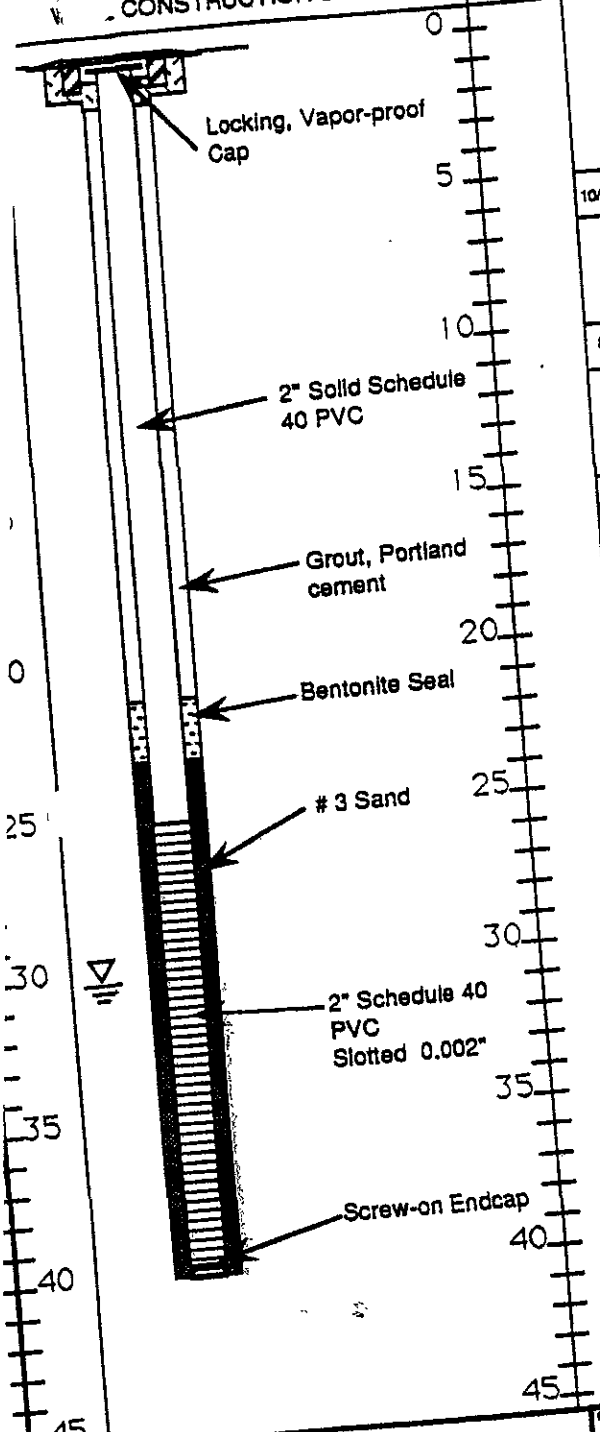
Project	Durham Transportation	Hole/well #	10
Location	Apartment, 19875 Meekland Ave	Diameter of Drill Hole	10"
Job #	91-15	Total Depth of Hole	40'
Geologist/Engineer	J. N. Alt	Date Started	1/21/92
Driller	HEW	Date Completed	1/21/92

LOG AND RECORD OF MONITORING WELL INSTALLATION

Figure 2
MW-11



N-VALUE	SAMPLE #	DESCRIPTION
		4" Concrete over 6" Base Dark brown clay, Moist, Plastic
10/10/11		Light brown silty fine sand, Moist
8/10/10		Light brown clayey silt with some fine sand, Moist, No hydrocarbon odor
4/6/8		Medium brown silty clay Moderately plastic, Moist, No hydrocarbon odor, Grades into clayey to silty sand
3/5/5	1	Gray clay, Moist, Plastic, No hydrocarbon odor
8/12/15		Lost most of sample-- Tan sandy clay with gray mottling, Very faint hydrocarbon odor
4/6/7	2	Tan sandy clay, Wet, Grey mottling, Moderate hydrocarbon odor
8/9/10	3	Medium brown silty to fine sandy clay, Grey mottling, Moist to wet, No hydrocarbon odor
		End of Boring

Project	Durham Transportation	Notebook #	11
Location	Residence, 19870 Meekland Ave.	Diameter of Drill Hole	8"
Job #	91-15	Total Depth of Hole	40'
Geologist/Engineer	J. N. Alt	Date Started	1/24/92
Driller	HEW	Date Completed	1/24/92

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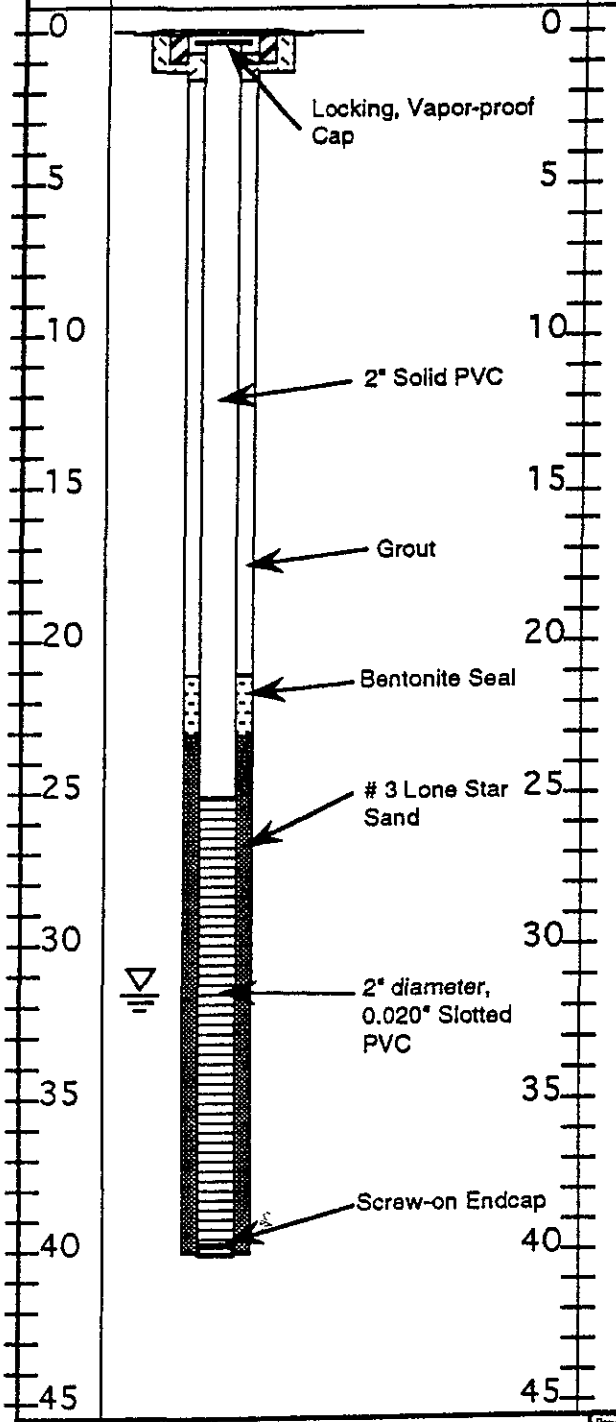
BORING LOG AND RECORD OF MONITORING WELL INSTALLATION

Plate 2
MW-12



N-VALUE	SAMPLE #	DESCRIPTION
		4" Asphalt
		Fill, Brown sand
		Dark brown clay, Organic, Dry, Locally silty
22/23/18	1	Reddish brown clayey silt, Dry, Grading to yellowish brown silt
6/7/8	2	Brown clayey silt, Dry
4/5/7	3	Brown clayey silt, Dry, Tan mottling, locally *with very fine sand*
3/3/4	4	Gray silty clay with reddish brown mottling, Moist, Plastic
5/6/9	5	Brownish gray clay with reddish brown mottling, Moist, Plastic Mottling is oxidation along small root zones
5/6/8	6	Brownish gray clay with blue green mottling, *Moist to wet, Plastic*
5/6/9	7	Brown clay with reddish brown oxidation, Wet, Plastic
4/6/8	8	Grayish brown silty to sandy clay with reddish brown mottling, Wet, Grading to clayey silt
		End of Boring

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Project	Durham Transportation	Hole/well #	10
Location	19984 Meekland Ave	Diameter of Drill Hole	10"
Job #		Total Depth of Hole	40'
Geologist/Engineer	J. N. Alt	Date Started	12/14/92
Driller	HEW	Date Completed	12/14/92

APPENDIX B

Geologic Logs of Driven Probe Borings
and
Landfill Acceptance Borings

Geologic Logs of Driven Probe Borings

GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-1

Depth (feet)	Sampling Interval	Sample Analyzed	Sample Identification & OVA Data (ppmv)	Groundwater Depth	Lithologic Pattern	USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						--	**ASPHAULT**
1						CH	**Fat CLAY**, very dark grayish brown (10 YR 3/2), moist to wet, firm, moderate to high plasticity, no dilatency, low toughness, dominantly clay with few fine grained sands, subrounded grains, no odor, no discoloration.
2			DP-1a				
3							
4							- Coarsening downward, gradational contact.
5						CL	**Sandy CLAY**, brown (10 YR 4/3), damp, moderate plasticity, no dilatency, contains some subrounded sands, no odor, no dicoloration.
6			DP-1b				
7							
8							
9							
10			DP-1c				
11							
12							
13							- Thin lenses of fine grained sands with some clays.
14			DP-1d				
15							
16							
17							
18			DP-1e				- Thin lenses of fat clays wiht trace sands.
19							
20							
21							
22			DP-1f				- Color change to gray (10 YR 4/1) associated with hydrocarbon contamination, moderate hydrocarbon odor.
23							
24			DP-1g			CH	**Fat CLAY**, dark -gray (10 YR 4/1), damp to moist, soft, very high plasticity, no dilatency, low toughness, trace sands, discolored due to hydrocarbons, moderate to high odor.
25							
26							
27			DP-1g				- Moisture increase to wet, groundwater encountered.
28							
29			DP-1h				
30							

GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-1
Sheet 2 of 2

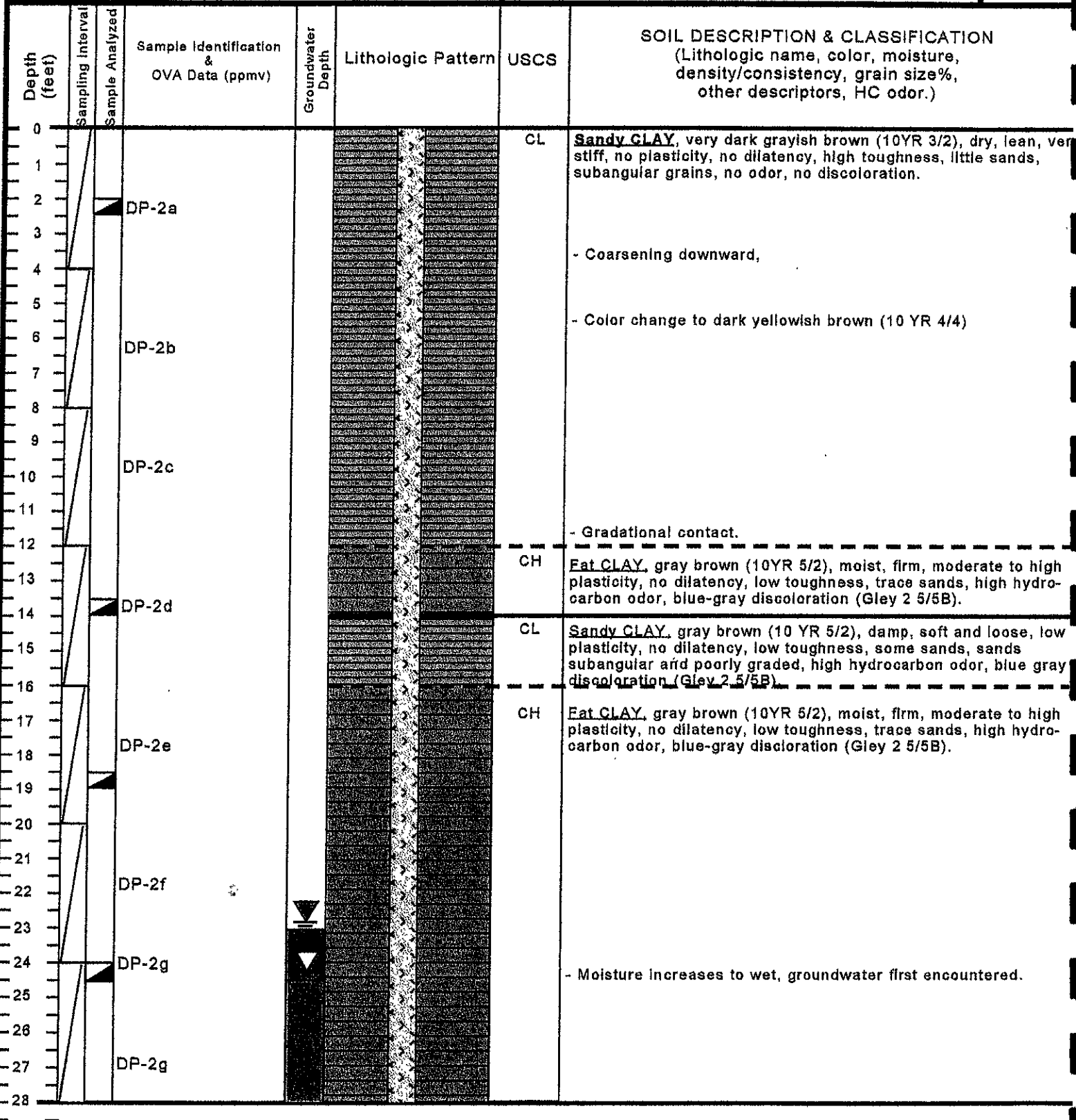
Depth (feet)	Sampling Interval	Sample Analyzed	Sample Identification & OVA Data (ppmv)	Groundwater Depth	Lithologic Pattern	USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
30						CH	Fat CLAY, dark-gray (10 YR 4/1), damp to moist, soft, very high plasticity, no dilatency low toughness, trace sands, discolored due to hydrocarbons, moderate to high odor.
31							
32			DP-1h				
33						SC	Poorly Graded Clayey SANDS, gray (10 YR 5/1), wet, medium dense, slight plasticity, fine grained sands, sub rounded, 30% clays, discoloration, moderate to high odor.
34							
35						CH	Fat CLAY, brown (10YR 5/4), damp, moderate plasticity, no dilatency, contains few to some sands, no odor, no discoloration
36			DP-1i				
37							
38							
39							
40			DP-1j				
41							
42							
43							
44			DP-1k				
45							
46							Boring terminated at 46 feet bgs. Backfill with Portland Cement Slurry to ground surface.
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-2
Sheet 1 of 1

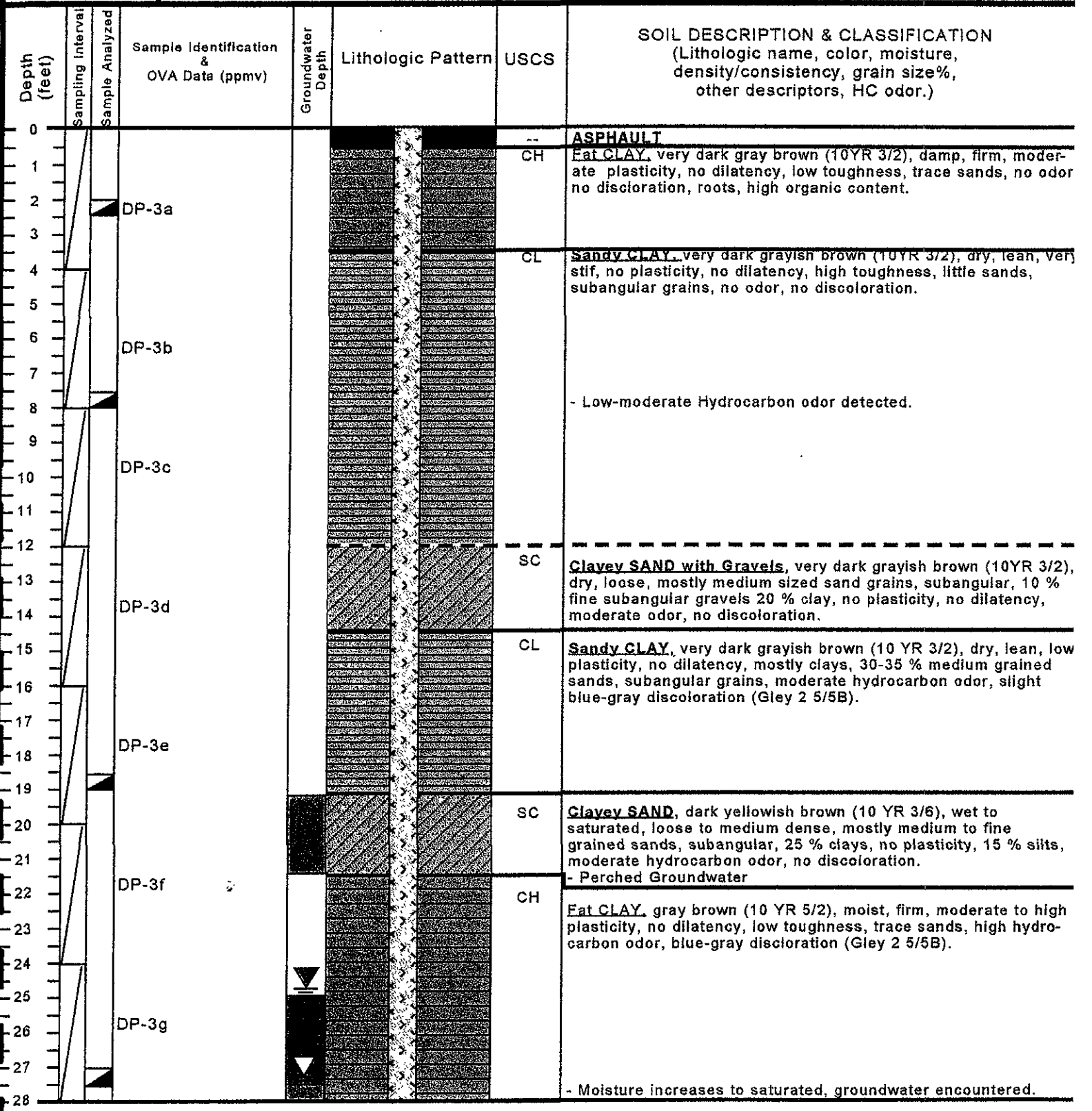


GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-3
Sheet 1 of 1

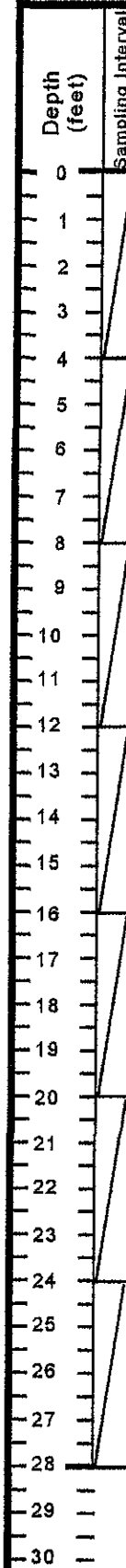


GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-4
Sheet 1 of 1



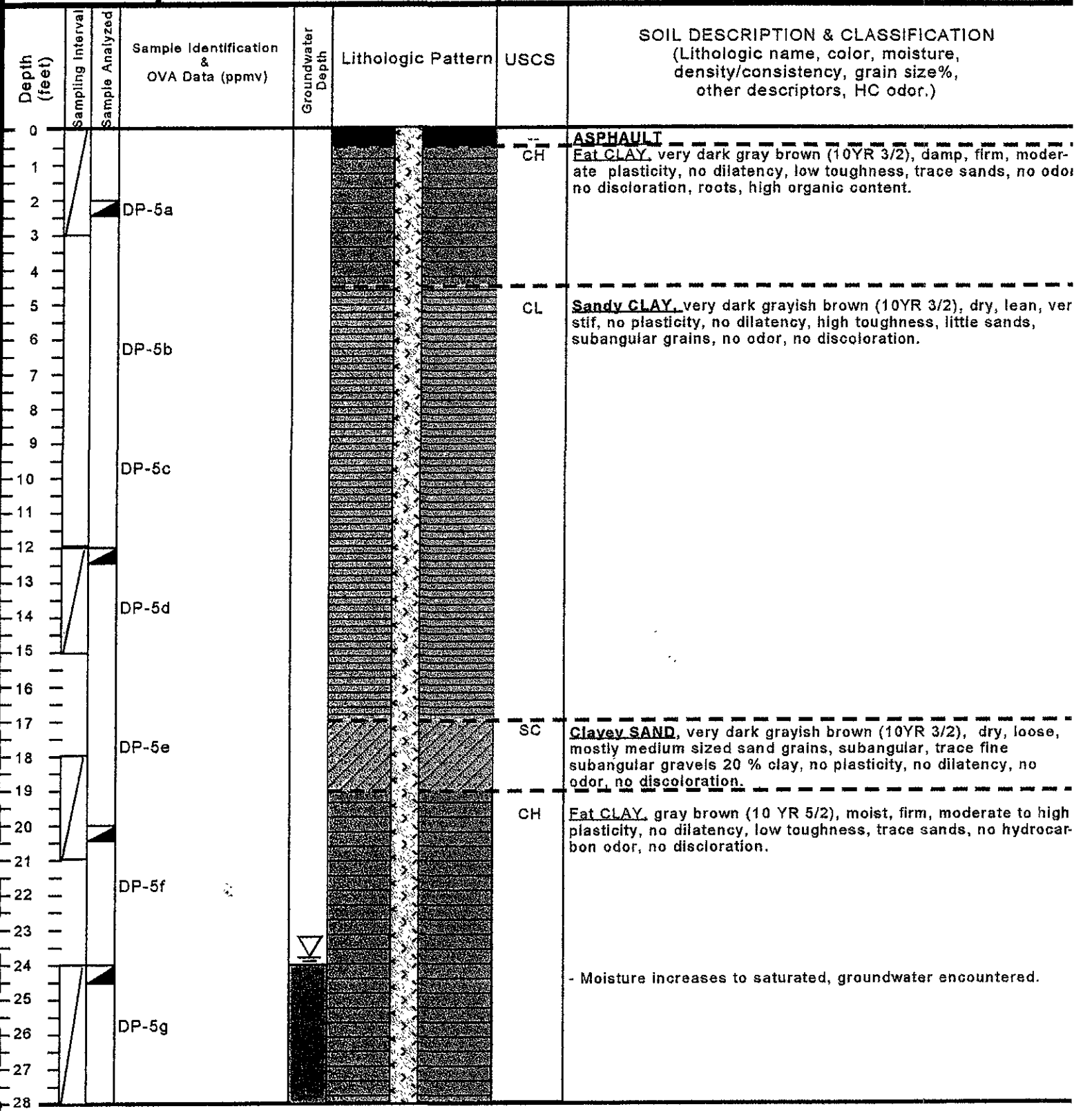
USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
CH	**Fat CLAY**, very dark gray brown (10YR 3/2), damp, firm, moderate plasticity, no dilatency, low toughness, trace sands, no odo no discloration, roots, organic content.
CL	**Sandy CLAY**, grayish brown (10YR 5/2), dry, lean, very stiff, no *plasticity, no dilatency, high toughness, little fine to medium* sands, subangular grains, no odor, no discoloration. - Coarsening downward sequence. - Sands increase to some. - Few subrounded to rounded gravels and pebbles present.
SC	**Clayey SAND**, very dark grayish brown (10YR 3/2), dry, very dense, mostly sands, fine to medium subangular grains, 35-40% clays, no plasticity, no odor, no discoloration.
CH	**Fat CLAY**, gray brown (10 YR 5/2), moist, firm, moderate to high plasticity, no dilatency, low toughness, trace sands, no hydrocarbon odor, no discoloration. - Moisture increases to saturated, groundwater encountered.

GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-5
Sheet 1 of 1



GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-6
Sheet 1 of 1

Depth (feet)	Sampling Interval	Sample Analyzed	Sample Identification & OVA Data (ppmv)	Groundwater Depth	Lithologic Pattern	USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						--	ASPHAULT
1						CH	Fat CLAY, very dark gray brown (10YR 3/2), damp, firm, moderate plasticity, no dilatency, low toughness, trace sands, no odor no discloration, roots, high organic content.
2			DP-6a				
3							
4							
5						CL	Sandy CLAY, very dark grayish brown (10YR 3/2), dry, lean, ve stif, no plasticity, no dilatency, high toughness, little sands, subangular grains, no odor, no discoloration.
6			DP-6b				
7							
8							
9							
10			DP-6c				
11							
12							
13							
14			DP-6d				
15							
16							
17							
18			DP-6e				
19							
20							
21						CH	Fat CLAY, gray brown (10 YR 5/2), moist, firm, moderate to high plasticity, no dilatency, low toughness, trace sands, no hydrocarbon odor, no discloration.
22			DP-6f				
23							
24							
25			DP-6g				- Moisture increases to saturated, groundwater encountered.
26							
27							
28							
29							
30							

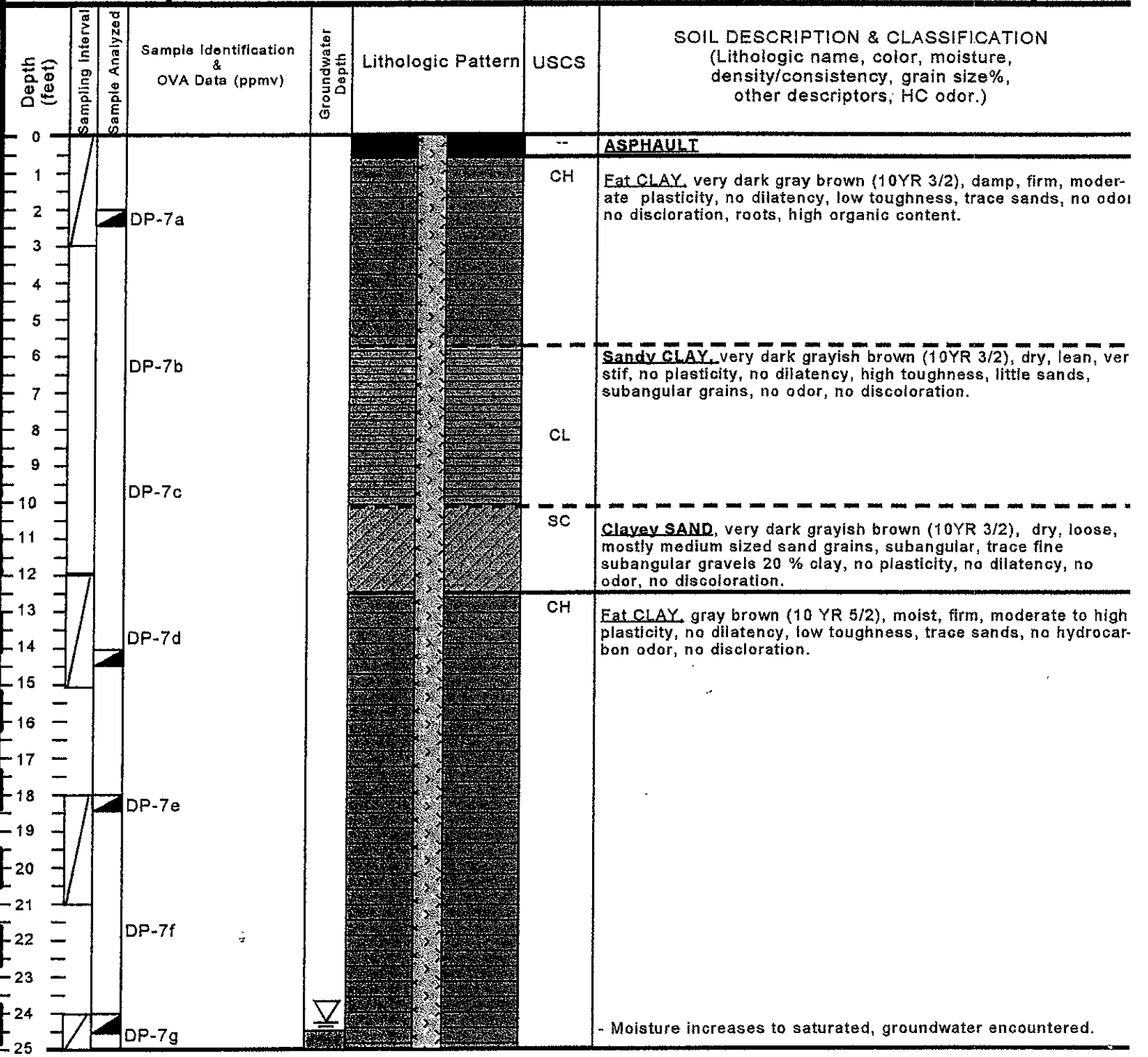
GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-7

Sheet 1 of 1



GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-8
Sheet 1 of 1

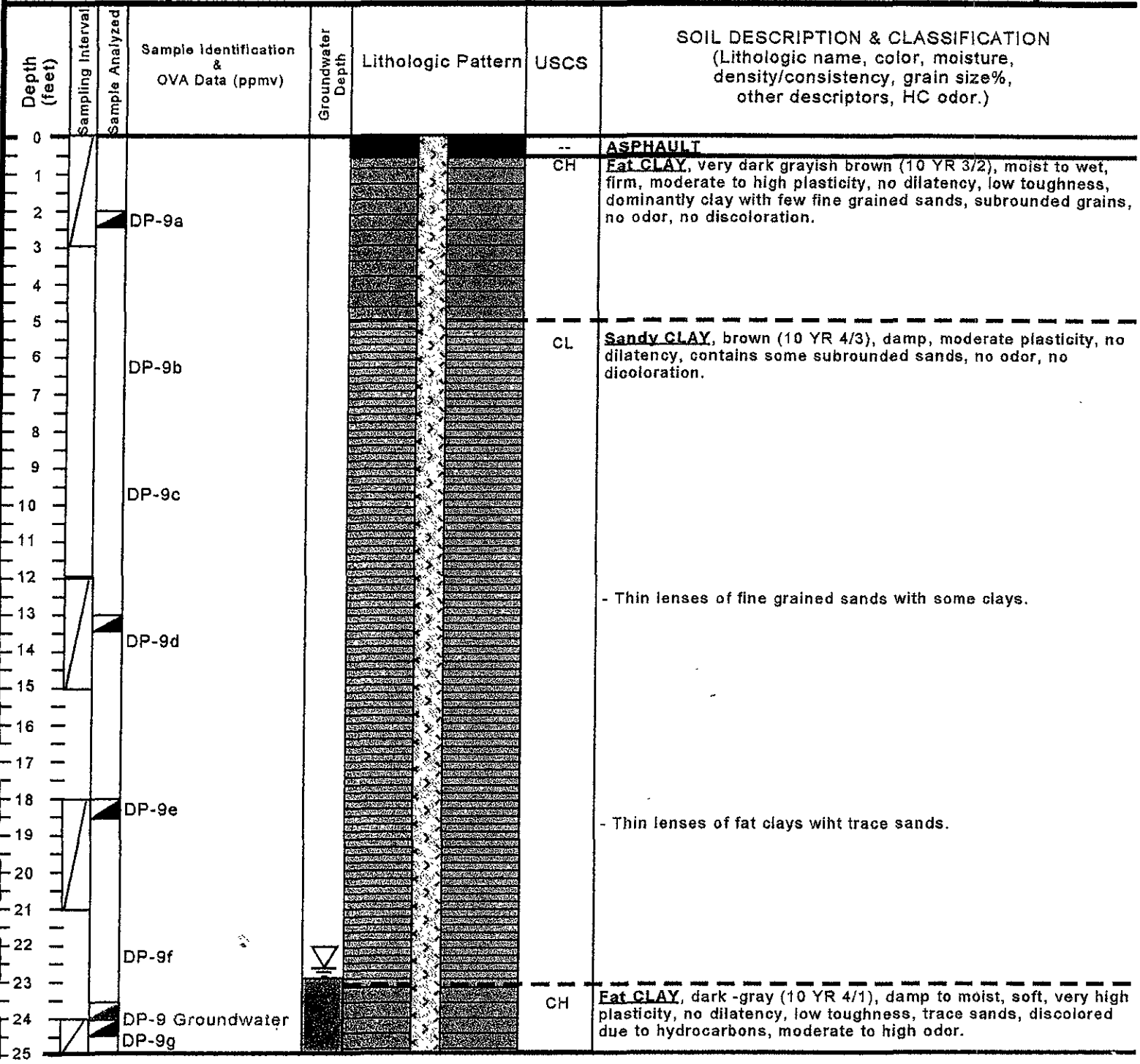
Depth (feet)	Sampling Interval	Sample Analyzed	Sample Identification & OVA Data (ppmv)	Groundwater Depth	Lithologic Pattern	USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
0						--	**ASPHAULT**
1						CH	Fat CLAY, very dark gray brown (10YR 3/2), damp, firm, moderate plasticity, no dilatency, low toughness, trace sands, no odor no discloration, roots, high organic content.
2		DP-8a					
3							
4							
5							
6			DP-8b				
7							
8						CL	Sandy CLAY, very dark grayish brown (10YR 3/2), dry, lean, very stif, no plasticity, no dilatency, high toughness, little sands, subangular grains, no odor, no discoloration.
9							
10			DP-8c				
11							
12							
13						SC	Clayey SAND, very dark grayish brown (10YR 3/2), dry, loose, mostly medium sized sand grains, subangular, trace fine subangular gravels 20 % clay, no plasticity, no dilatency, no odor, no discoloration.
14		DP-8d					
15							
16						CH	Fat CLAY, gray brown (10 YR 5/2), moist, firm, moderate to high plasticity, no dilatency, low toughness, trace sands, no hydrocarbon odor, no discloration.
17							
18		DP-8e					
19							
20							
21							
22			DP-8f				
23							
24				▽			
25		DP-8g					- Moisture increases to saturated, groundwater encountered.
26							
27							
28							
29							
30							

GEOLOGIC LOG

Exploratory Borehole

JOB NO.: H9042.B DATE: February 14, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: C. Taylor SAMPLED BY: C. Taylor
DRILLER: En Probe (Dennis)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-9
Sheet 1 of 1



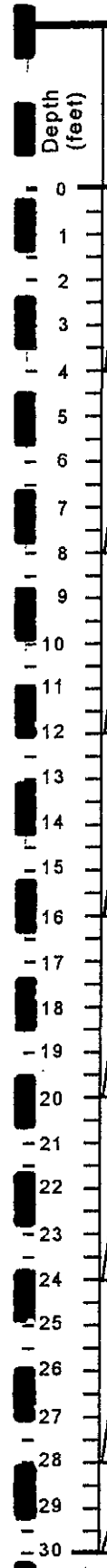
Geologic Logs of Landfill Acceptance Borings

GEOLOGIC LOG

Driven Probe Boring

JOB NO.: H9042.C DATE: October 18, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: A. Bierman SAMPLED BY: A. Bierman
DRILLER: EnProbe (Dennis Ott)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # LAB DP-1



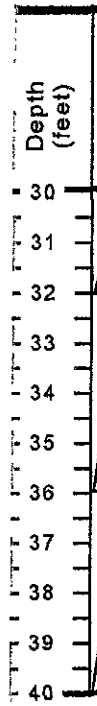
Sampling Interval	Sample Analyzed	Sample Identification & OVA Data (ppmv)	Groundwater Depth	Lithologic Pattern	USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
					CH	**Former Excavation Footprint: Clayey SAND**, very dark grayish brown (10YR 3/2), damp to dry, medium stiff to stiff, slightly friable, 30% fines 60% fine sands, 10% trace fine angular gravels, low plasticity, no odor, no discoloration.
					SM/SC	*-Gradational contact*
		DP-1a			SC	**SANDY CLAY**, brown (10YR 5/3) with dark gray (10YR 3/1) mottling, damp, moderate plasticity , 70% fines, 30% fine sands, no odor, no discoloration.
		DP-1b				-Coarsening downward to 40% fine sands, 60% fines, moist -Color changes to olive gray (5Y 4/2), moderate to strong odor.
		DP-1c				-Moderate to strong odor and discolored olive gray (5Y 4/2).
					SC-SM	-clay fines diminish, gradational contact.
		DP-1d			SM	**SILTY SAND**, olive gray (5Y 4/2), damp to moist, soft to very soft, 70% fine sands 30% silts, moderate odor.
		4-point composite			SM-CH	-Formation becomes medium stiff, gradational contact.
		DP-1e			CL	**Lean CLAY**, olive gray (5Y 4/2), with yellowish brown mottling (10YR 5/4), stiff to very stiff, moderate to low odor.
						-Groundwater stablizes at 27.55 feet bgs, rising from 32 feet bgs.
		DP-1f			CL	-Geologic log continued next page.

GEOLOGIC LOG

Driven Probe Boring

JOB NO.: H9042.C DATE: October 18, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: A. Bierman SAMPLED BY: A. Bierman
DRILLER: EnProbe (Dennis Ott)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-1
Sheet 2 of 2



Depth (feet)	Sampling Interval	Sample Analyzed	Sample Identification & OVA Data (ppmv)	Groundwater Depth	Lithologic Pattern	USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
30			DP-1f			CL	Lean CLAY, olive gray (5Y 4/2) with yellowish brown mottling (10YR 5/4), damp, stiff to very stiff, moderate to low odor.
31							
32							-Color changes to yellowish brown (10YR 5/4), with olive gray mottling (5Y 4/2), very stiff, low to no odor.
33							
34				▼		CL-SM	-Gradational contact. First encountered groundwater at 35' bgs, rising to 27.5 feet bgs.
35			DP-1g			SM	SILTY SAND to Poorly Graded SAND, greenish gray (5GY 5/1), wet, soft, 70% fine sands, 30% silts, moderate odor, coarsening downward to 90% medium to fine sands, 5% fines, moderate odor.
36							
37							
38						SM	-Abrupt contact.
39							
40			DP-1h			CL	Lean CLAY, brown (10YR 4/3), dry, stiff to very stiff, no odor, no discoloration.
41							-Boring terminated at 40 feet bgs.
42							-Seal boring with portland cement to groundsurface.
43							
44							
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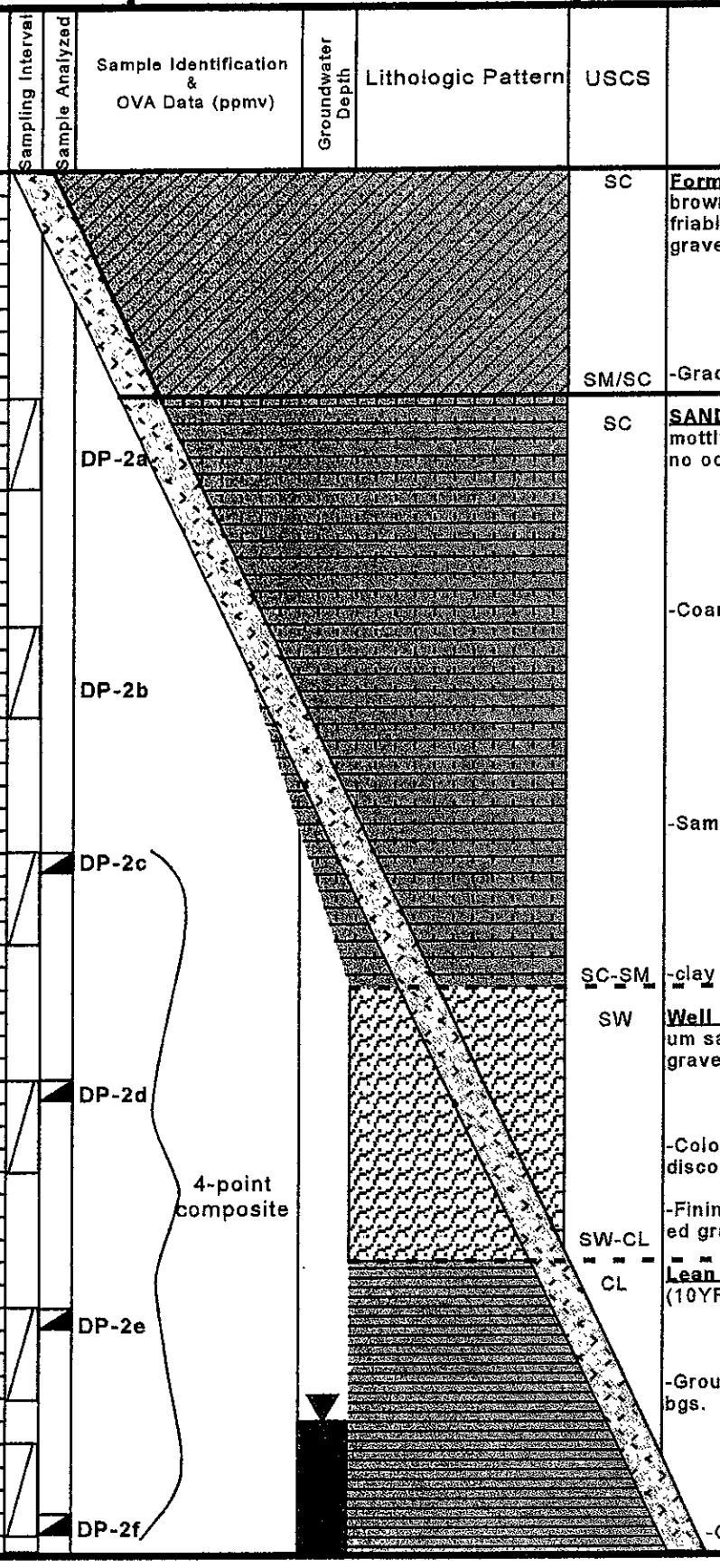
GEOLOGIC LOG

Driven Probe Angle Boring

JOB NO.: H9042.C DATE: October 18, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: A. Bierman SAMPLED BY: A. Bierman
DRILLER: EnProbe (Dennis Ott)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # LAB DP-2



USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
SC	**Former Excavation Footprint: Clayey SAND**, very dark grayish brown (10YR 3/2), damp to dry, medium stiff to stiff, slightly friable, 30% fines 60% fine sands, 10% trace fine angular gravels, low plasticity, no odor, no discoloration.
SM/SC	-Gradational contact
SC	**SANDY CLAY**, brown (10YR 5/3) with dark gray (10YR 3/1) mottling, damp, moderate plasticity , 70% fines, 30% fine sands, no odor, no discoloration.
	-Coarsening downward to 40% fine sands, 60% fines, moist
	-Same as above, no odor, no discoloration.
SC-SM	-clay fines diminish, gradational contact.
SW	**Well Graded SAND**, brown (10YR 4/3), damp, loose, 60% medium sands, 30% coarse rounded sands, 10% fine rounded gravels, trace fines, no odor no discoloration.
	-Color changes to olive gray (5Y 4/2), moderate odor, and discolored.
	-Fining downward to 70% fine sands, 20% fines, 10% fine rounded gravels, loose to medium stiff, gradational contact.
SW-CL	
CL	**Lean CLAY**, olive gray (5Y 4/2), with yellowish brown mottling (10YR 5/4), stiff to very stiff, moderate to low odor.
	-Groundwater stablizes at 27.55 feet bgs, rising from 32 feet bgs.
	-Geologic log continued next page.

GEOLOGIC LOG

Driven Probe Angle Boring

JOB NO.: H9042.C DATE: October 18, 2001
CLIENT: Harbert Transportation
LOCATION: 19984 Meekland Avenue, Hayward, California
LOGGED BY: A. Bierman SAMPLED BY: A. Bierman
DRILLER: EnProbe (Dennis Ott)
DRILL METHOD: Hydraulic Driven Large Bore and Macro-Core Probes

BORING # DP-2
Sheet 1 of 2

Depth (feet)	Sampling Interval	Sample Analyzed	Sample Identification & OVA Data (ppmv)	Lithologic Pattern	USCS	SOIL DESCRIPTION & CLASSIFICATION (Lithologic name, color, moisture, density/consistency, grain size%, other descriptors, HC odor.)
30					CL	**Lean CLAY**, olive gray (5Y 4/2), with yellowish brown mottling (10YR 5/4), stiff to very stiff, moderate to low odor.
31						
32						
33						-color changes to yellowish brown (10YR 5/4), odor decreases to very low to no odor.
34						-Formation increases in moisture, fine sands increase, gradational contact.
35					CL-SC	
36					SC	**CLAYEY SAND**, yellowish brown (10YR 5/4), very moist to wet, rises to 28 feet bgs, soft to slightly loose, 80% fine sands, 20% fines, no odor, no discolroation.
37			DP-2g			
38						-Boring terminated at 38 feet bgs. -Seal boring with portland cement to groundsurface.
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APPENDIX C

Summary of Historical Groundwater Elevation Data
AGI Technologies, Inc.

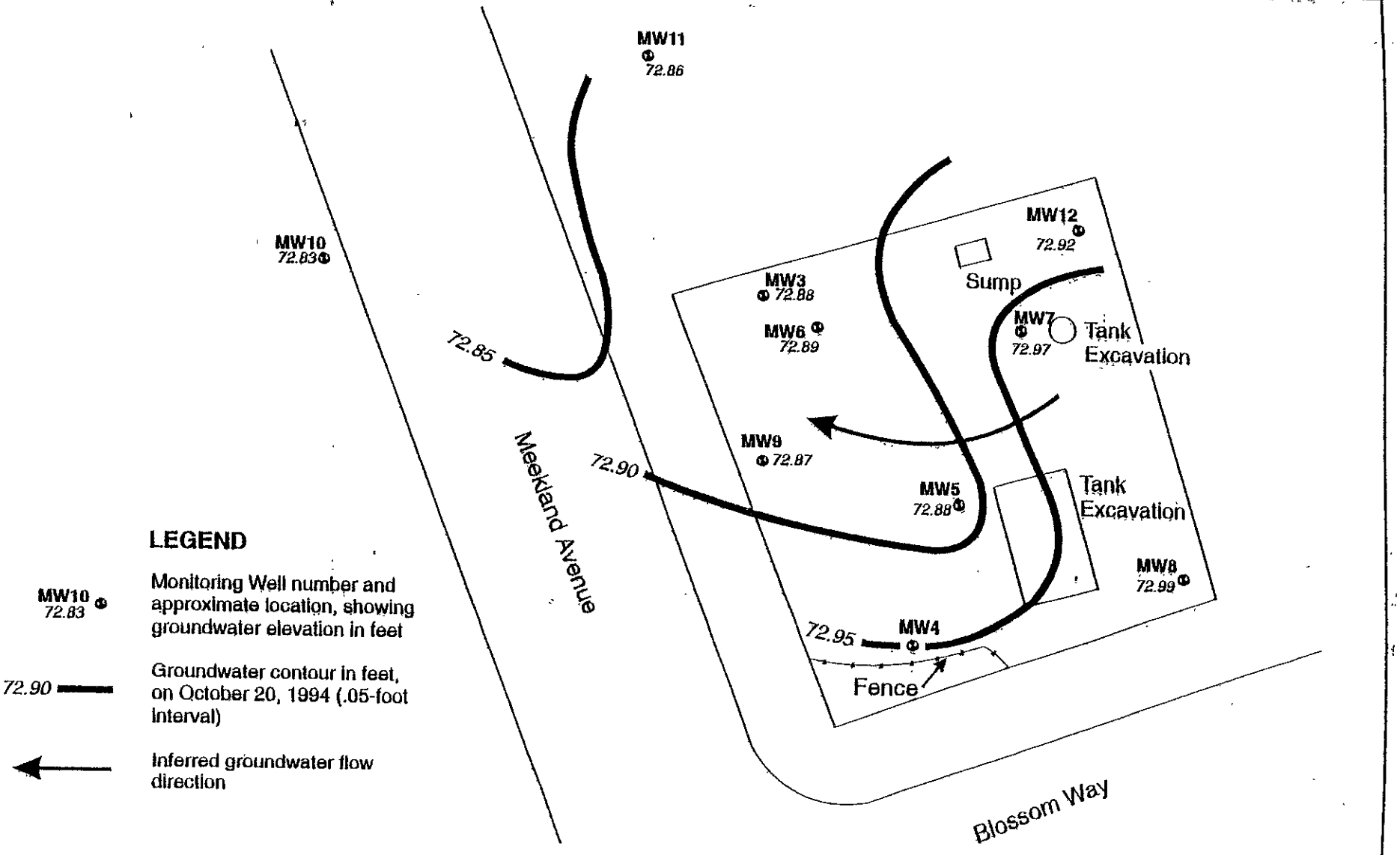
AGI TECHNOLOGIES

Table 1
Groundwater Elevation Data
Harbert Transportation/Meekland Avenue
Hayward, California

Well Number	Date Sampled	Top of Casing Elevation (feet)	Depth to Groundwater (ft bgs)	Groundwater Elevation (feet)
MW3	10/20/94	100.00	27.12	72.88
	09/15/95		24.22	75.78
	03/14/96		19.02	80.98
	09/26/96		23.61	76.39
MW4	10/20/94	100.27	27.32	72.95
	09/15/95		24.42	75.85
	03/14/96		19.23	81.04
	09/26/96		23.85	76.42
MW5	10/20/94	100.59	27.71	72.88
	09/15/95		24.87	75.72
	03/14/96		19.95	80.64
	09/26/96		24.38	76.21
MW6	10/20/94	100.57	27.68	72.89
	09/15/95		24.79	75.78
	03/14/96		19.54	81.03
	09/26/96		24.20	76.37
MW7	10/20/94	101.22	28.25	72.97
	09/15/95		25.35	75.87
	03/14/96		20.06	81.16
	09/26/96		24.75	76.47
MW8	10/20/94	100.72	27.73	72.99
	09/15/95		24.81	75.91
	03/14/96		19.52	81.20
	09/26/96		24.13	76.59
MW9	10/20/94	99.77	26.90	72.87
	09/15/95		24.01	75.76
	03/14/96		18.80	80.97
	09/26/96		23.50	76.27
MW10	10/20/94	99.29	26.46	72.83
	09/15/95		23.79	75.50
	03/14/96		18.62	80.67
	09/26/96		23.30	75.99
MW11	10/20/94	99.75	26.89	72.86
	09/15/95		24.05	75.70
	03/15/96		18.79	80.96
	09/26/96		23.53	76.22
MW12	10/20/94	101.03	28.11	72.92
	09/15/95		25.19	75.84
	03/14/96		19.84	81.19
	09/26/96		24.57	76.46

Note:

ft bgs - Feet below ground surface.



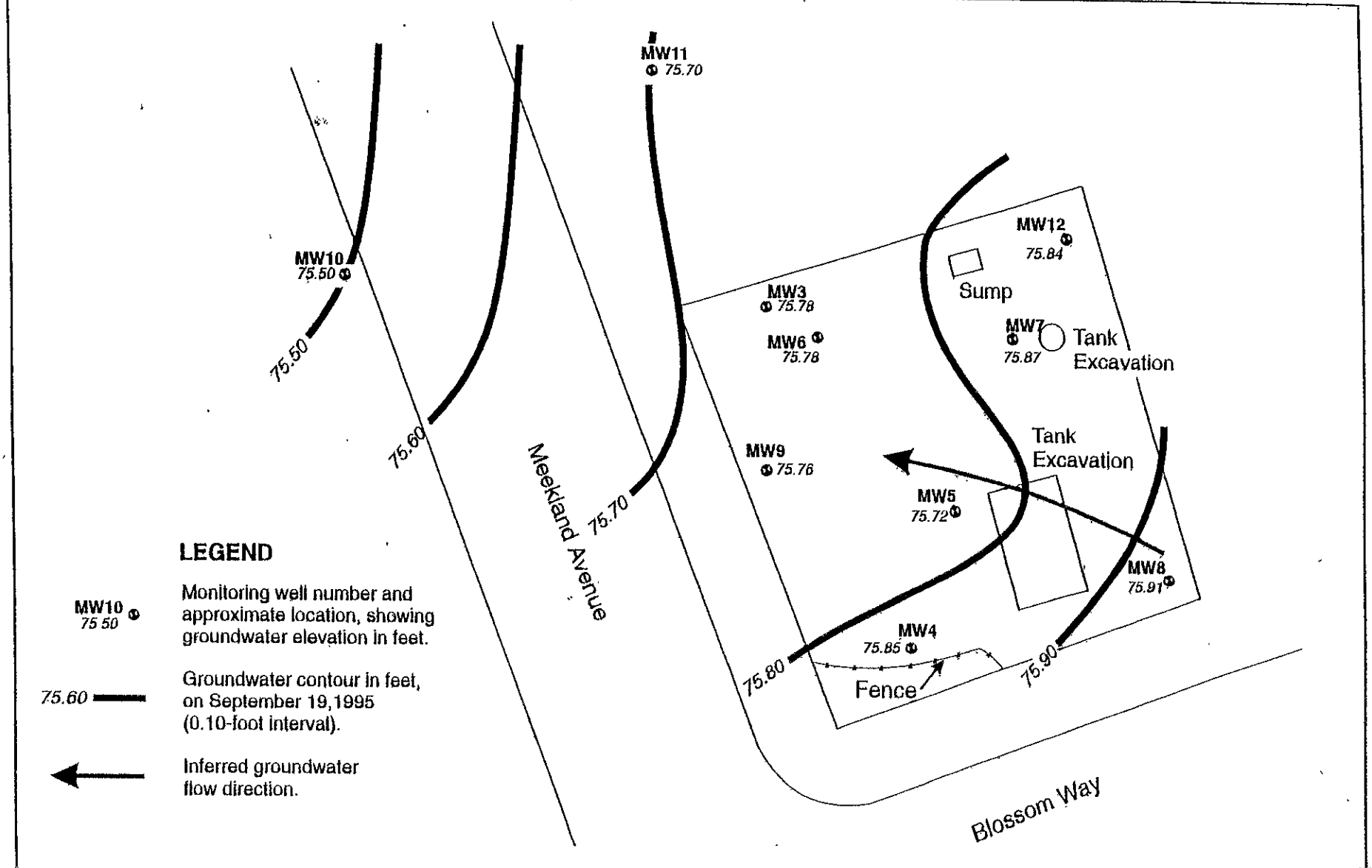
AGI TECHNOLOGIES

Groundwater Elevation and Contour Map 10/20/94

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 3

PROJECT NO.	DRAWN	DATE	APPROVED	REVISED	DATE
grdwat.cdr	15,833.002	DFF	29 August 94	DFF	23 Nov 94



AGI TECHNOLOGIES

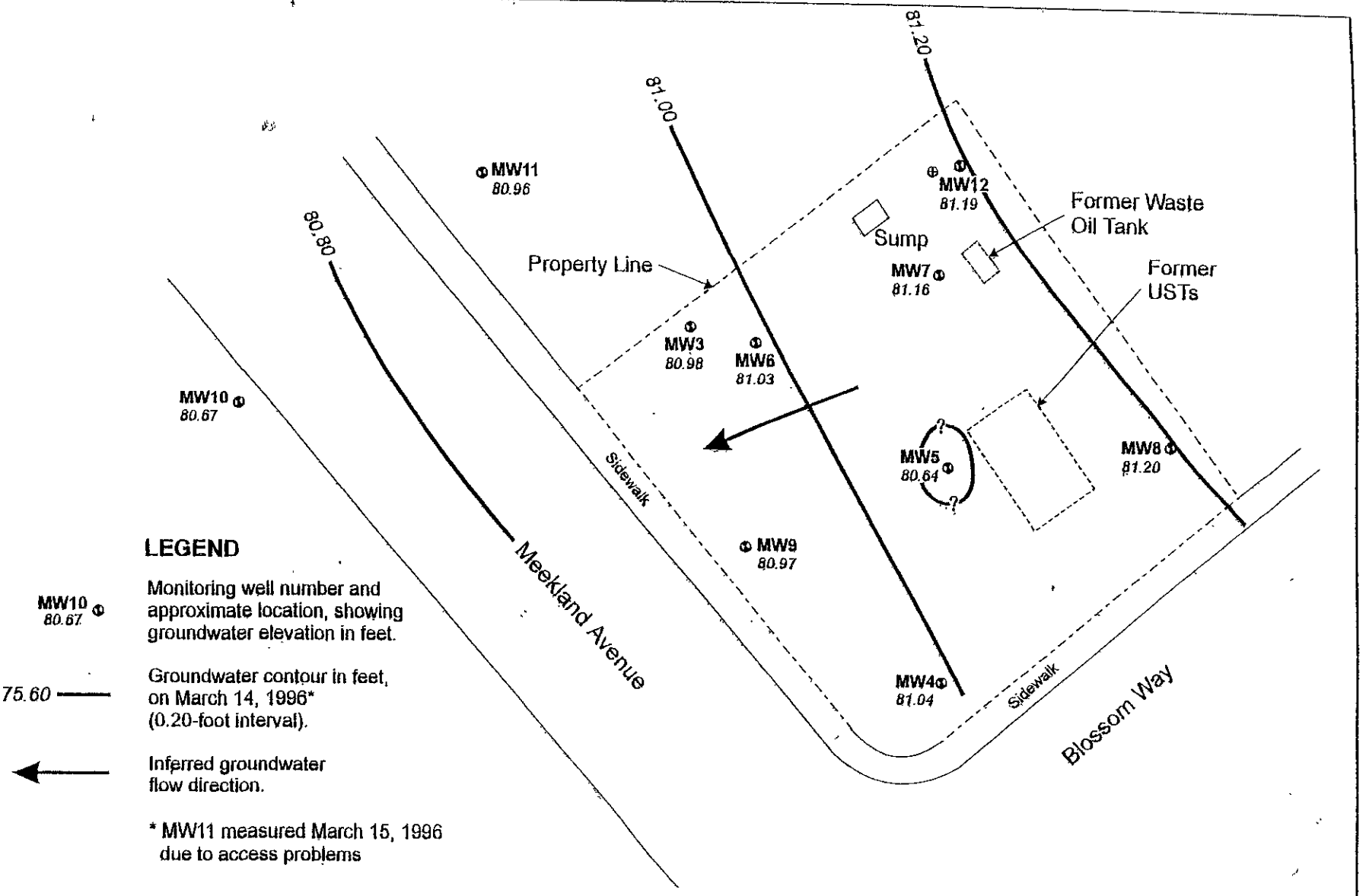
Groundwater Elevation and Contour Map

Harbert Transportation/Meekland Avenue
Hayward, California

9.19.95

FIGURE 3

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
grdwat.cdr	15,833.002	DFF	29 August 94	BJA	8 Nov 95



AGI TECHNOLOGIES

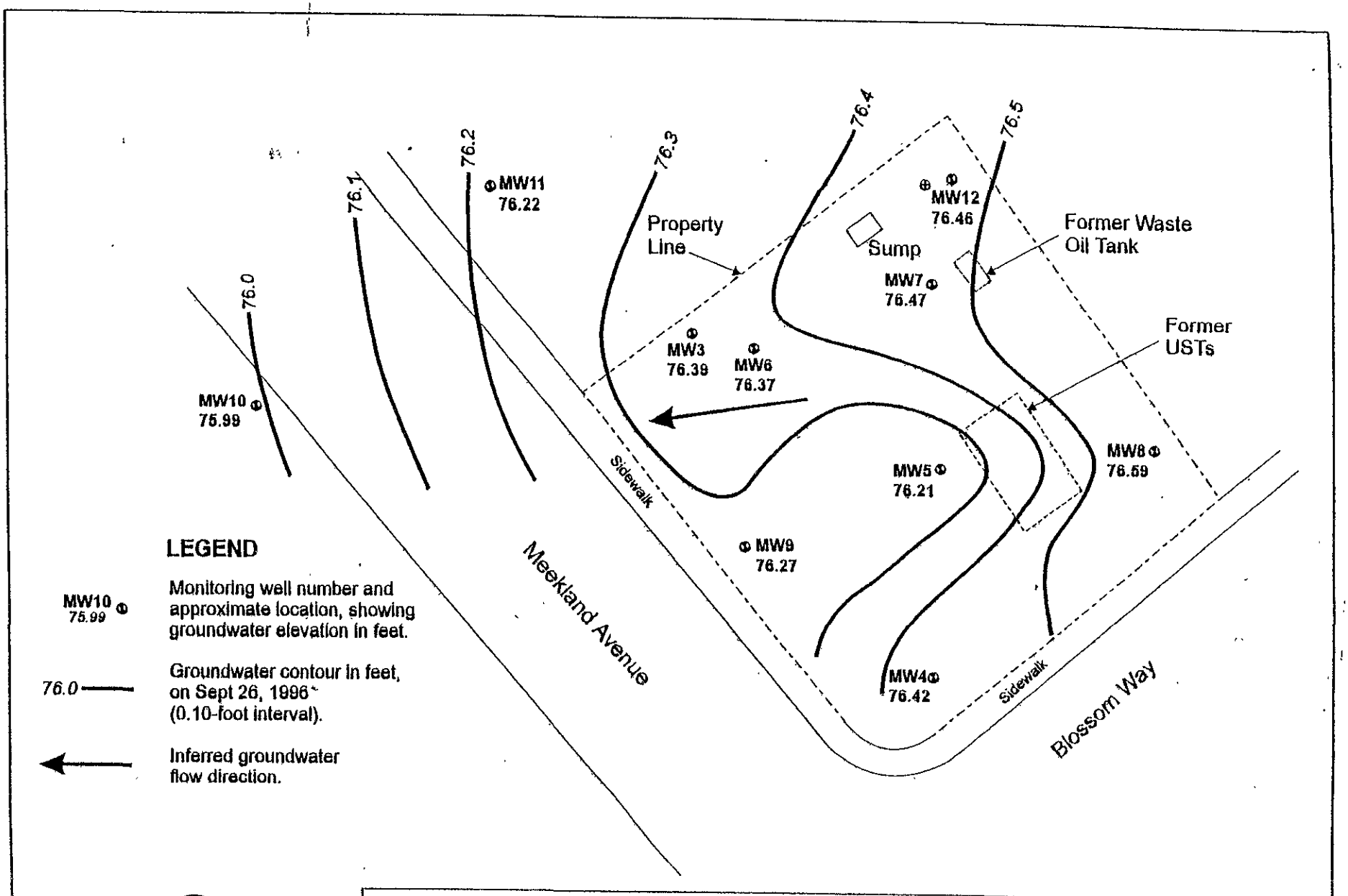
Groundwater Elevation and Contour Map

Harbert Transportation/Meekland Avenue
Hayward, California

3.14.96

FIGURE 3

PROJECT NO.	DRAWN	DATE	APPROVED	REVISED	DATE
gw-mar96.cdr	15,833.002	DFF	29 August 94		ALW	15 Apr 96



AGI TECHNOLOGIES

Groundwater Elevation and Contour Map

Harbert Transportation/Meekland Avenue
Hayward, California

9.26.96

FIGURE 3

PROJECT NO.	DRAWN	DATE	APPROVED	REVISED	DATE
gw-sep96.cdr	15,833.002	DFF	29 August 94		ALW	15 Apr 96

APPENDIX D

Summary of Historical Groundwater Analytical Results
AGI Technologies, Inc

Table 2
Summary of Historical Groundwater Analytical Data
Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			Other
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
		µg/L			µg/L				µg/L			µg/L
MW1	07/86	42,000	NA	NA	5,500	NA	4,900	6,100	NA	NA	NA	
	03/90	27,000	NA	NA	2,700	491	840	800	ND	ND	ND	
	07/90	27,000	11,000	ND	4,000	ND	1,500	4,400	ND	ND	62	
	10/90	43,000	8,500	ND	3,400	1,200	2,700	5,300	0.4	ND	26	
	01/91	22,000	2,700	ND	3,000	990	1,800	2,800	ND	ND	27	
	04/91	42,000	3,100 [a]	NA	5,100	1,200	3,700	3,200	ND	ND	120	
	07/91	46,000	4,300 [a]	NA	6,500	830	2,900	3,700	ND	ND	64	
	10/91	27,000	4,300 [a]	NA	4,400	1,100	1,400	3,200	ND	ND	25	
	01/92	27,000	14,000 [a]	NA	3,300	1,200	1,600	3,800	ND	ND	24	
	04/92	33,000	11,000 [a]	NA	8,900	1,200	3,500	3,700	ND	ND	120	
	07/92	41,000	19,000 [a]	NA	5,600	1,300	2,600	4,000	ND	ND	49	
	10/92	33,000	3,500 [a]	NA	4,400	1,200	2,100	4,000	ND	ND	61	
MW3	11/89	29,000	NA	NA	4,600	680	1,100	1,100	ND	ND	36	Lead 40
	11/89	NA	NA	NA	NA	NA	NA	NA	ND	ND	36	Lead 40
	03/90	12,000	NA	NA	2,300	59	300	490	ND	ND	ND	
	07/90	7,300	990	ND	5,200	ND	440	480	ND	ND	67	
	10/90	6,200	970	ND	75	7.5	150	250	ND	ND	48	
	10/90	NA	NA	NA	NA	NA	NA	NA	ND	ND	22	Lead 3
	01/91	4,600	680	ND	2,200	220	110	89	ND	ND	40	
	04/91	8,300	640 [a]	NA	2,800	370	490	760	ND	ND	43	
	07/91	6,600	890 [a]	NA	2,000	250	230	380	ND	ND	29	
	10/91	6,300	1,700 [a]	NA	2,000	410	330	550	ND	ND	27	
	01/92	4,000	790 [a]	NA	1,200	250	60	200	ND	ND	22	
	04/92	7,400	1,800 [a]	NA	730	370	180	640	ND	ND	19	
	07/92	3,000	2,400 [a]	NA	190	ND	2.8	410	ND	ND	30	
	10/92	5,000	970 [a]	NA	1,300	320	45	340	ND	ND	26	
	01/93	2,300	680 [a]	NA (2)	630	180	31	330	ND	ND	13	
	06/93	5,000	1,100 [a]	ND	730	240	43	380	ND	ND	13	

Table 2
Summary of Historical Groundwater Analytical Data
Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			Other
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
		µg/L			µg/L				µg/L			µg/L
MW4	11/89	ND	NA	NA	33	1.3	1	5.2	NA	NA	NA	Lead 12
	03/90	ND	NA	NA	7.4	2	2	1.1	ND	ND	ND	
	07/90	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	
	10/90	ND	ND	ND	ND	ND	ND	ND	0.7	ND	0.5	
	01/91	80	ND	ND	9.2	2.4	1.7	0.7	ND	ND	ND	
	04/91	1,400	130 [a]	NA	2,200	72	ND	17	ND	ND	ND	
	07/91	130	ND	NA	14	3.3	9.7	ND	ND	ND	0.81	
	10/91	ND	ND	NA	5.3	1	ND	0.8	ND	ND	ND	
	01/92	ND	ND	NA	6.8	1.3	ND	ND	ND	ND	ND	
	04/92	780	130 [a]	NA	ND	51	ND	4.8	ND	ND	1.6	
	07/92	ND	ND	NA	ND	ND	ND	ND	ND	ND	1.3	
	10/92	100	ND	NA	9.5	ND	ND	2.6	ND	ND	ND	
	01/93	960	240 [a]	NA	200	41	4.6	9.4	ND	ND	1	
	06/93	650	140 [a]	ND	150	21	ND	ND	ND	ND	3.7	
MW5	10/90	9,600	1,900	ND	1,200	70	160	520	ND	ND	22	Lead 3
	01/91	10,000	1,200	ND	1,600	720	200	510	ND	ND	33	
	04/91	18,000	860 [a]	NA	2,500	550	580	500	ND	ND	61	
	07/91	15,000	2,200 [a]	NA	4,800	610	1,100	760	ND	ND	62	
	10/91	14,000	3,300 [a]	NA	5,000	530	820	800	ND	ND	49	
	01/92	12,000	1,900 [a]	NA	4,300	390	380	590	ND	ND	56	
	04/92	23,000	6,400 [a]	NA	8,600	ND	2,600	1,900	ND	ND	125	
	07/92	27,000	5,900 [a]	NA	6,000	ND	1,500	1,600	ND	ND	93	
	10/92	13,000	2,100 [a]	NA	4,600	140	470	550	ND	ND	59	
	01/93	18,000	1,900 [a]	NA	5,800	560	1,900	1,600	ND	ND	110	
	01/93	19,000	2,100 [a]	NA	4,600	370	1,600	1,400	ND	ND	120	
	06/93	22,000	2,900 [a]	ND	8,300	740	2,500	1,900	ND	ND	110	
	06/93	23,000	2,300 [a]	ND	9,600	730	3,000	1,900	ND	ND	110	

Table 2
Summary of Historical Groundwater Analytical Data
Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			Other
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
		µg/L			µg/L				µg/L			µg/L
MW6	10/90	27,000	4,700	ND	2,700	450	2,900	3,300	ND	ND	40	Lead 9
	01/91	7,200	1,600	ND	1,400	ND	200	830	ND	ND	23	
	04/91	17,000	800 [a]	NA	2,800	610	1,200	1,800	ND	ND	53	
	07/91	11,000	1,400 [a]	NA	1,200	ND	380	750	ND	ND	29	
	10/91	4,800	1,600 [a]	NA	380	69	340	730	ND	ND	22	
	01/92	6,100	1,200 [a]	NA	460	160	200	590	ND	ND	26	
	04/92	7,200	1,800 [a]	NA	340	350	460	920	ND	ND	30	
	07/92	8,600	1,700 [a]	NA	1,300	380	280	1,100	ND	ND	35	
	10/92	1,600	110 [a]	NA	230	70	20	88	ND	ND	24	
	01/93	13,000	2,100 [a]	NA	2,500	370	540	2,400	ND	ND	36	
	06/93	7,400	1,900 [a]	ND	1,500	480	120	1,400	ND	ND	29	
MW7	10/90	14,000	2,700	ND	390	ND	18	1,200	ND	1.3	14	Lead 11
	01/91	4,500	1,400	ND	320	42	48	350	ND	ND	10	
	04/91	2,400	NA	NA	320	77	62	130	ND	0.6	11	
	07/91	2,000	910 [a]	NA	470	ND	24	88	ND	ND	9.7	
	10/91	ND	370 [a]	NA	ND	ND	ND	ND	ND	0.68	4.5	
	01/92	1,100	290 [a]	NA	230	45	7	88	ND	3.5	6.4	
	04/92	1,700	520 [a]	NA	310	78	28	170	ND	0.5	3.2	
	07/92	1,900	590 [a]	NA	410	78	21	170	ND	2.1	8.7	
	07/92 (dup)	1,200	700 [a]	NA	21	1	2.6	90	ND	2	8.2	
	10/92	1,800	320 [a]	NA	410	31	11	75	ND	1	7.4	
	01/93	2,100	660 [a]	NA	390	100	21	270	ND	0.6	3.7	
	06/93	4,400	1,100 [a]	ND	830	330	49	620	ND	ND	8.6	

Table 2
Summary of Historical Groundwater Analytical Data
Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	Other
		µg/L			µg/L				µg/L			µg/L
MW8	02/91	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	
	04/91	ND	ND	NA	ND	ND	ND	ND	ND	0.5	ND	
	07/91	ND	ND	NA	ND	ND	2	ND	ND	1.2	ND	
	10/91	ND	ND	NA	ND	ND	0.6	ND	ND	0.4	ND	
	01/92	ND	ND	NA	ND	ND	ND	ND	ND	0.68	ND	
	04/92	ND	ND	NA	ND	ND	ND	ND	ND	0.8	ND	
	07/92	ND	ND	NA	ND	ND	3.3	ND	ND	1.6	ND	
	10/92	ND	ND	NA	ND	ND	ND	ND	ND	1.4	ND	
	01/93	ND	ND	NA	ND	ND	ND	ND	ND	0.8	ND	
	06/93	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	
MW9	02/91	6,000	1,600	NA	180	19	170	200	ND	ND	13	
	04/91	4,200	410 [a]	NA	520	130	410	580	ND	ND	26	
	07/91	1,900	180 [a]	NA	190	12	52	77	ND	6.5	12	
	10/91	880	300 [a]	NA	160	31	44	83	ND	ND	10	
	01/92	380	120 [a]	NA	14	7.6	2.2	14	ND	ND	9.6	
	04/92	2,900	700 [a]	NA	510	80	260	260	ND	ND	11	
	07/92	4,400	1,300 [a]	NA	860	210	340	640	ND	ND	22	
	10/92	200	290 [a]	NA	6.8	1.4	2.1	7.8	ND	ND	12	
	01/93	8,500	740 [a]	NA	2,400	390	620	1,500	ND	ND	29	
	06/93	8,200	1,300 [a]	ND	2,400	360	480	1,500	ND	ND	29	
MW10	01/92	13,000	3,700 [a]	NA	130	580	110	3,000	ND	ND	33	
	05/92	15,000	5,000 [a]	NA	180	ND	18	2,700	ND	ND	20	
	05/92 (dup)	13,000	7,500 [a]	NA	240	490	65	2,500	ND	ND	22	
	07/92	6,100	4,400 [a]	NA	74	360	ND	1,100	ND	ND	29	
	10/92	3,200	1,500 [a]	NA	ND	ND	ND	320	ND	ND	25	
	01/93	7,500	2,200 [a]	NA	130	170	20	710	ND	ND	18	
	06/93	8,000	2,100 [a]	ND	69	7.9	ND	490	ND	ND	16	

Table 2
Summary of Historical Groundwater Analytical Data
Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods: 8015 Modified µg/L			8020 µg/L				8010 µg/L			Other µg/L
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
MW11	01/92	8,200	3,200 [a]	NA	23	250	ND	1,100	ND	ND	ND	
	04/92	160	1,200 [a]	NA	ND	ND	ND	ND	ND	ND	ND	
	07/92	2,100	710 [a]	NA	39	100	2.3	53	ND	ND	ND	
	10/92	660	220 [a]	NA	2.9	19	ND	3.8	ND	ND	ND	
	10/92	770	230 [a]	NA	3.2	26	ND	5.7	ND	ND	ND	
	01/93	780	370 [a]	NA	10	2.1	ND	39	ND	ND	ND	
	06/93	2,500	160 [a]	ND	27	99	ND	34	ND	ND	ND	
MW12	12/92	2,800	1,700 [a]	NA	14	ND	ND	ND	ND	ND	ND	
	06/93	1,100	750 [a]	ND	19	21	ND	57	ND	ND	ND	
B1	01/93	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	
	06/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
F3	02/93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Well Abandoned	12/89	1,800	NA	NA	200	24	18	34	ND	ND	0.15	Lead 2,100
Average [b]		8,865	1,883	250	1,562	235	517	871	0.21	0.41	24.8	
Laboratory Detection Limit		50	50	500	0.5	0.5	0.5	0.5	0.4	0.4	0.4	

Notes:

a) The detection for petroleum hydrocarbons as diesel appears to be due to the presence of lighter hydrocarbons rather than diesel.
b) Average of sampled data, ND equals 1/2 detection limit.
µg/L - Micrograms per liter is approximately equivalent to parts per billion, depending on density of water.
NA - Not analyzed.
ND - Not detected.
TPH-G - Total petroleum hydrocarbons quantified as gasoline.
TPH-D - Total petroleum hydrocarbons quantified as diesel.
TPH-MO - Total petroleum hydrocarbons quantified as motor oil.
TCE - Trichloroethylene.
PCE - Tetrachloroethylene.
1,2-DCA - 1,2-Dichloroethane.

AGI TECHNOLOGIES

Table 2
Summary of Groundwater Chemical Analyses
Halbert Transportation/Meekland Avenue
Hayward, California

Well	Date Sampled	EPA Test Methods								
		8015 M		BETX 5030/8020				8010		
		TPH Gasoline	TPH Diesel	Benzene	Ethylbenzene	Toluene	Xylenes	1,2-DCA	PCE	TCE
		µg/L	µg/L	µg/L				µg/L	µg/L	µg/L
MW3	07/28/94	7,700	970 [a]	1,800	810	ND	600	22	ND	ND
	10/21/94	7,400	810	1,900	900	37	780	25	ND	ND
	09/15/95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/14/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	09/26/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW4	07/28/94	120	ND	7.9	0.7	1.1	ND	ND	ND	ND
	10/21/94	69	ND	3.4	ND	ND	ND	ND	ND	ND
	09/15/95	110	ND	2.5	ND	0.85	ND	2.3	ND	ND
	03/14/96	300	69 [b]	3.3	0.74	ND	ND	1.6	ND	ND
	09/26/96	ND	ND	ND	ND	ND	ND	1.2	ND	ND
MW5	07/29/94	30,000	2,200 [a]	9,300	1,100	1,800	2,300	110	ND	ND
	10/21/94	23,000	1,500	7,900	780	1,500	2,900	85	ND	ND
	09/15/95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/14/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	09/26/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW6	07/29/94	15,000	2,100 [b]	3,100	1,100	71	2,000	37	ND	ND
	10/21/94	18,000	1,500	3,900	1,200	170	3,200	35	ND	ND
	09/15/95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/14/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	09/26/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW7	07/29/94	2,600	530 [c]	470	220	ND	310	2.7	6	ND
	10/21/94	1,700	280	290	140	4.5	240	1.8	0.74	ND
	09/15/95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/14/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	09/26/96	NS	NS	NS	NS	NS	NS	NS	NS	NS

AGI TECHNOLOGIES

Table 2
Summary of Groundwater Chemical Analyses
Harbert Transportation/Meekland Avenue
Hayward, California

Well	Date Sampled	EPA Test Methods								
		8015 M		BETX 5030/8020				8010		
		TPH Gasoline	TPH Diesel	Benzene	Ethylbenzene	Toluene	Xylenes	1,2-DCA	PCE	TCE
		µg/L	µg/L	µg/L				µg/L	µg/L	µg/L
MW8	07/26/94	ND	78 [a]	ND	ND	ND	ND	ND	ND	ND
	10/21/94	ND	ND	ND	ND	ND	ND	ND	0.72	ND
	09/15/95	ND	ND	ND	ND	ND	ND	ND	0.74	ND
	03/14/96	ND	ND	ND	ND	ND	ND	ND	0.63	ND
	09/26/96	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW9	07/26/94	6,000	1,300 [c]	90	170	27	370	26	ND	ND
	10/21/94	6,900	600	1,800	280	220	1,500	31	ND	ND
	09/15/95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/14/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	09/26/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW10	07/26/94	6,700	2,000 [c]	99	180	57	430	13	ND	ND
	10/21/94	8,600	2,000	93	200	ND	680	12	ND	ND
	09/15/95	2,100	1,900	9.9	49	ND	4.9	ND	ND	ND
	03/14/96	6,800	2,000 [b]	64	98	ND	33	6.5	ND	ND
	09/26/96	7,100	420	140	210	ND	32	9.1	ND	5.9
MW11	07/26/94	450	150 [a]	6.2	20	1.1	6.6	ND	ND	ND
	10/21/94	460	190	4.9	14	ND	12	ND	ND	ND
	09/15/95	9,600	550	130	180	ND	130	8.8	ND	5.6
	03/15/96	780	310 [b]	0.74	25	ND	1.8	ND	ND	ND
	09/26/96	480	710	ND	50	ND	ND	ND	ND	ND

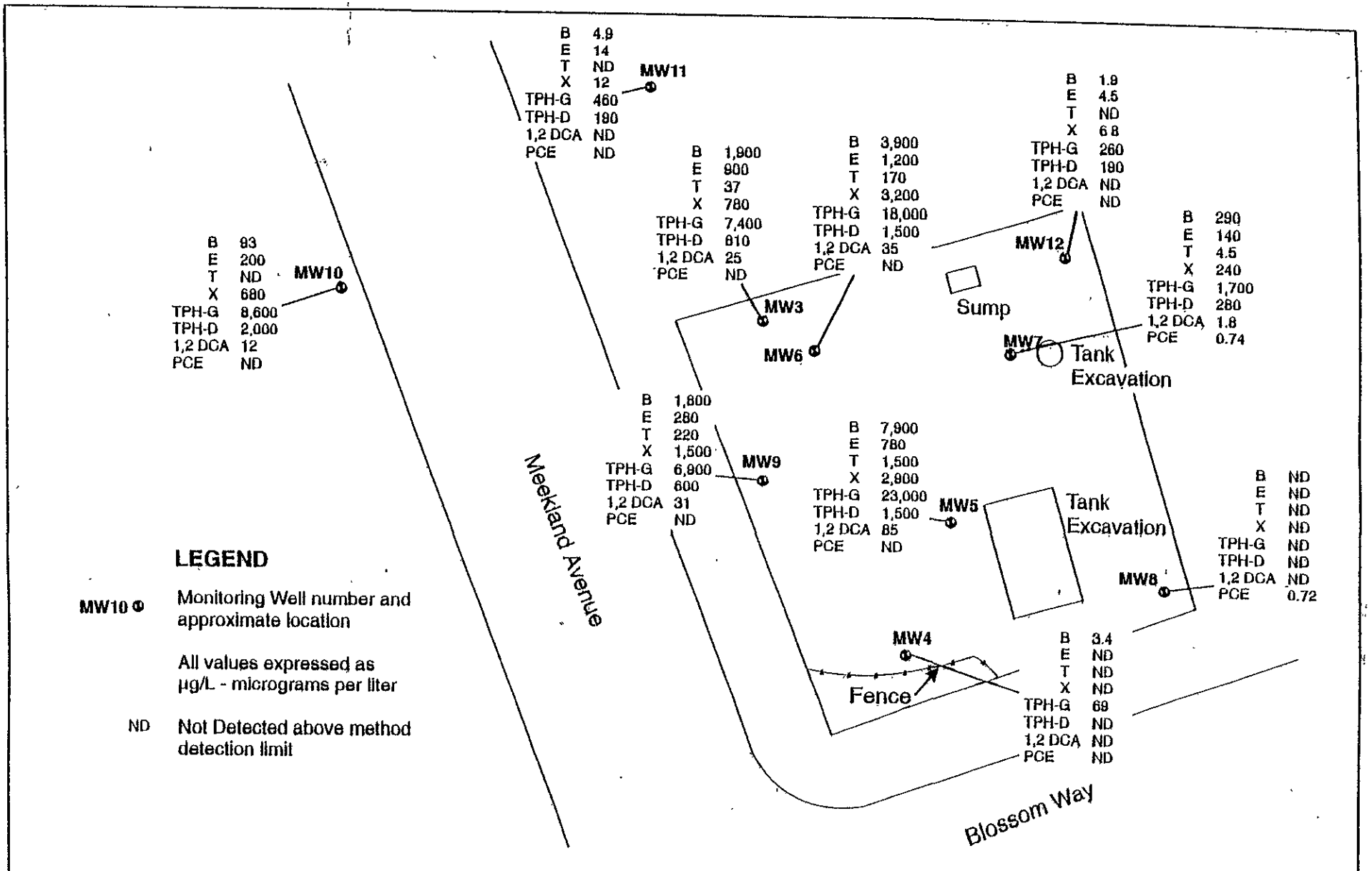
AGI TECHNOLOGIES

Table 2
Summary of Groundwater Chemical Analyses
Haibert Transportation/Meekland Avenue
Hayward, California

Well	Date Sampled	EPA Test Methods								
		8015 M		BETX 6030/8020				8010		
		TPH Gasoline µg/L	TPH Diesel µg/L	Benzene µg/L	Ethylbenzene µg/L	Toluene µg/L	Xylenes µg/L	1,2-DCA µg/L	PCE µg/L	TCE µg/L
MW12	07/28/94	240	160	1.9	12	ND	6.8	ND	ND	ND
	10/21/94	260	190	1.9	4.5	ND	6.8	ND	ND	ND
	09/15/95	NS	NS	NS	NS	NS	NS	NS	NS	NS
	03/14/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
	09/26/96	NS	NS	NS	NS	NS	NS	NS	NS	NS
Method Detection Limit		50	50	0.5	0.5	0.5	0.5	0.5	0.5	0.5

Notes:

a) Hydrocarbons quantified as diesel are primarily due to discrete peaks not indicative of diesel fuel.
b) Hydrocarbons quantified as diesel are primarily due to the presence of a lighter petroleum product (C_8-C_{12}), possibly gasoline.
c) Hydrocarbons quantified as diesel are due to the presence of a lighter petroleum product (C_8-C_{12}) and discrete peaks not indicative of diesel fuel.
1,2-DCE - 1,2-dichloroethane.
PCE - Tetrachloroethene.
TCE - Trichloroethene.
ND - Not detected at or above method detection limit.
NS - Not sampled.
TPH-Gasoline - Total petroleum hydrocarbons quantified as gasoline.
TPH-Diesel - Total petroleum hydrocarbons quantified as diesel.
µg/L - Micrograms per liter, equivalent to parts per billion.



10.20.94

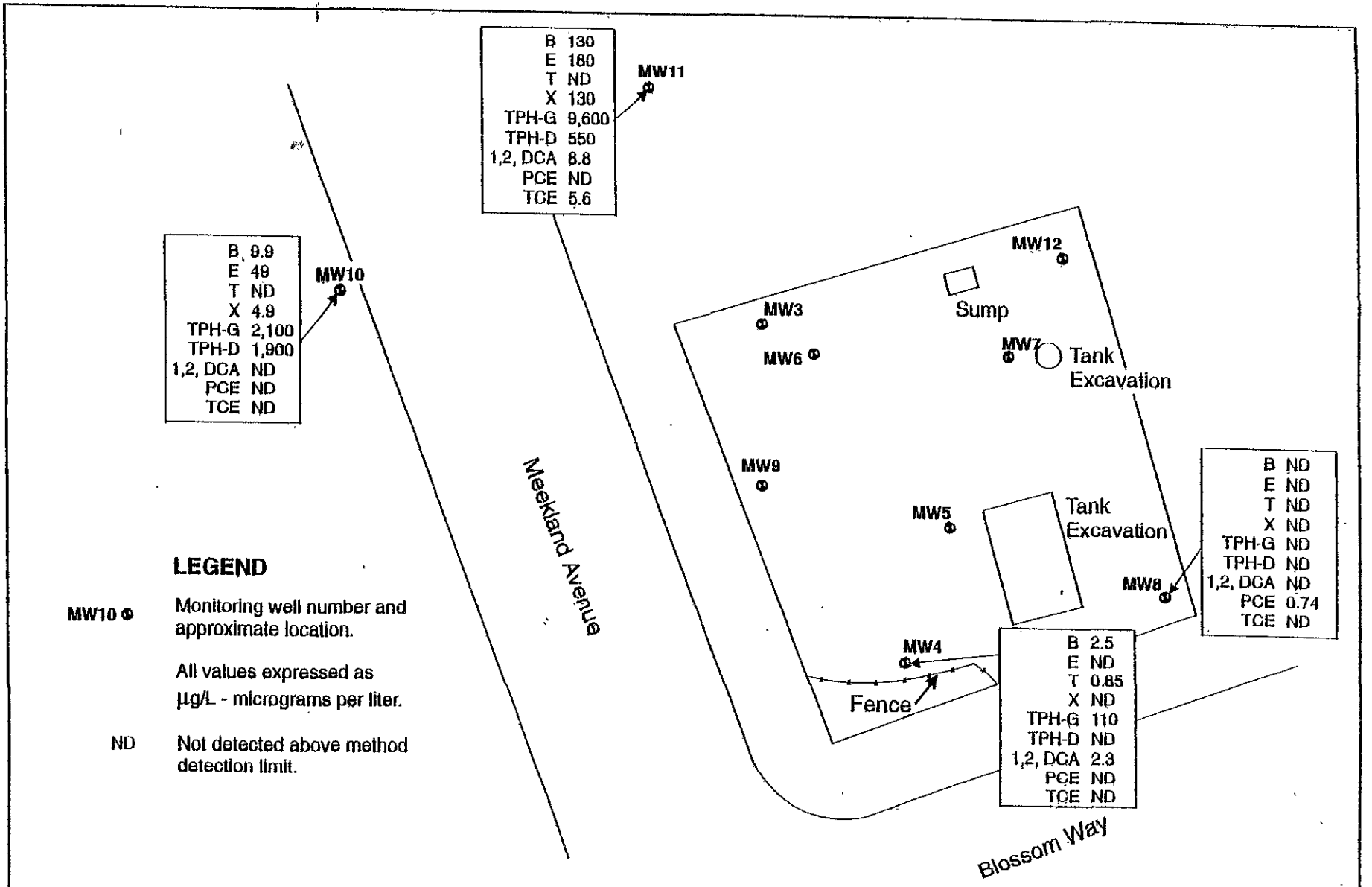
AGI TECHNOLOGIES

Site Plan

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE **4**

PROJECT NO.	DRAWN	DATE	APPROVED	REVISED	DATE
siteplan.cdr	15,833.002	DFF/ALW	01 February 95		



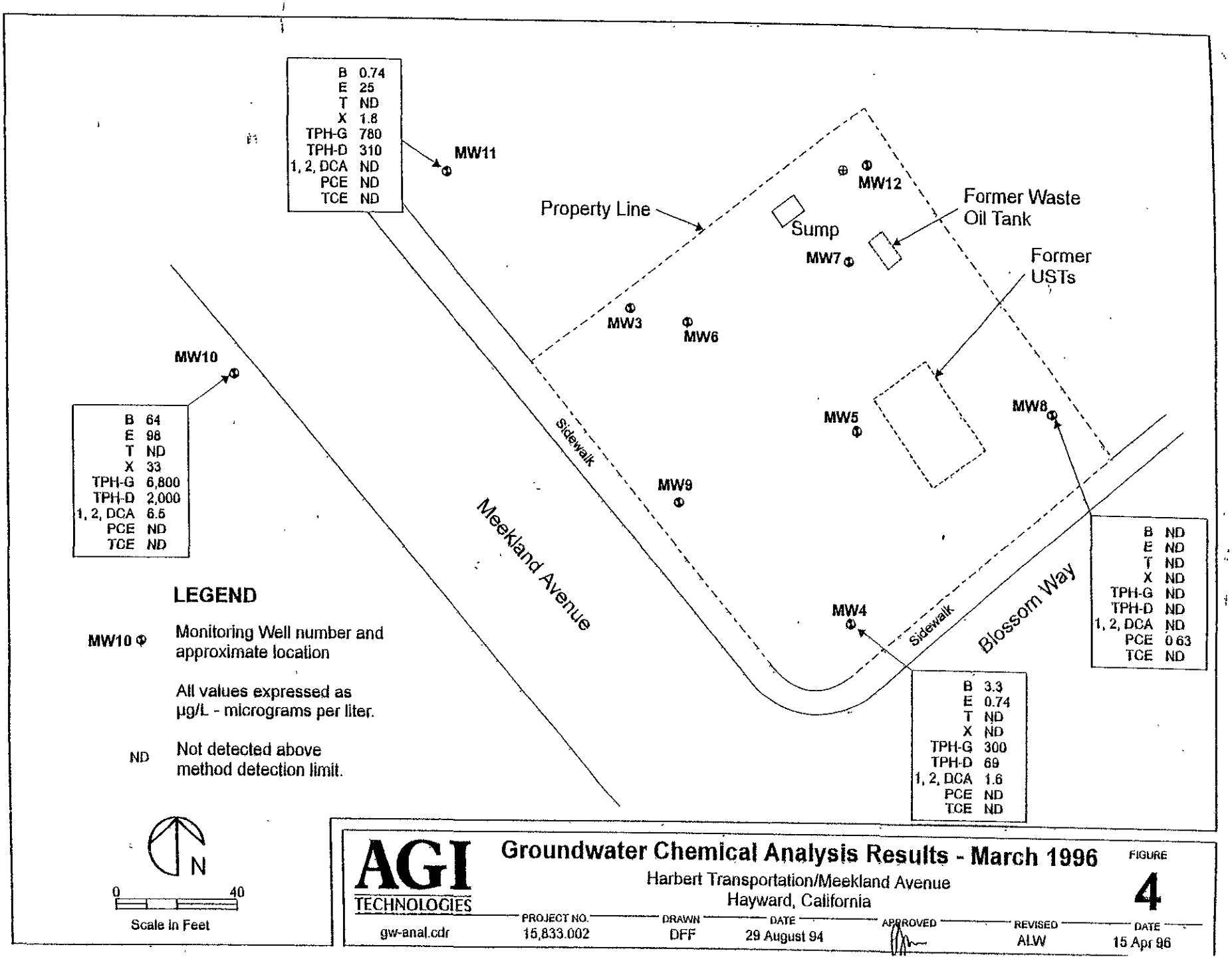
AGI TECHNOLOGIES

Groundwater Chemical Analysis Results - 9/15/95

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 4

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
83300201.cdr	15,833.002	DFF	1 Feb 95	BJA	8 Nov 95



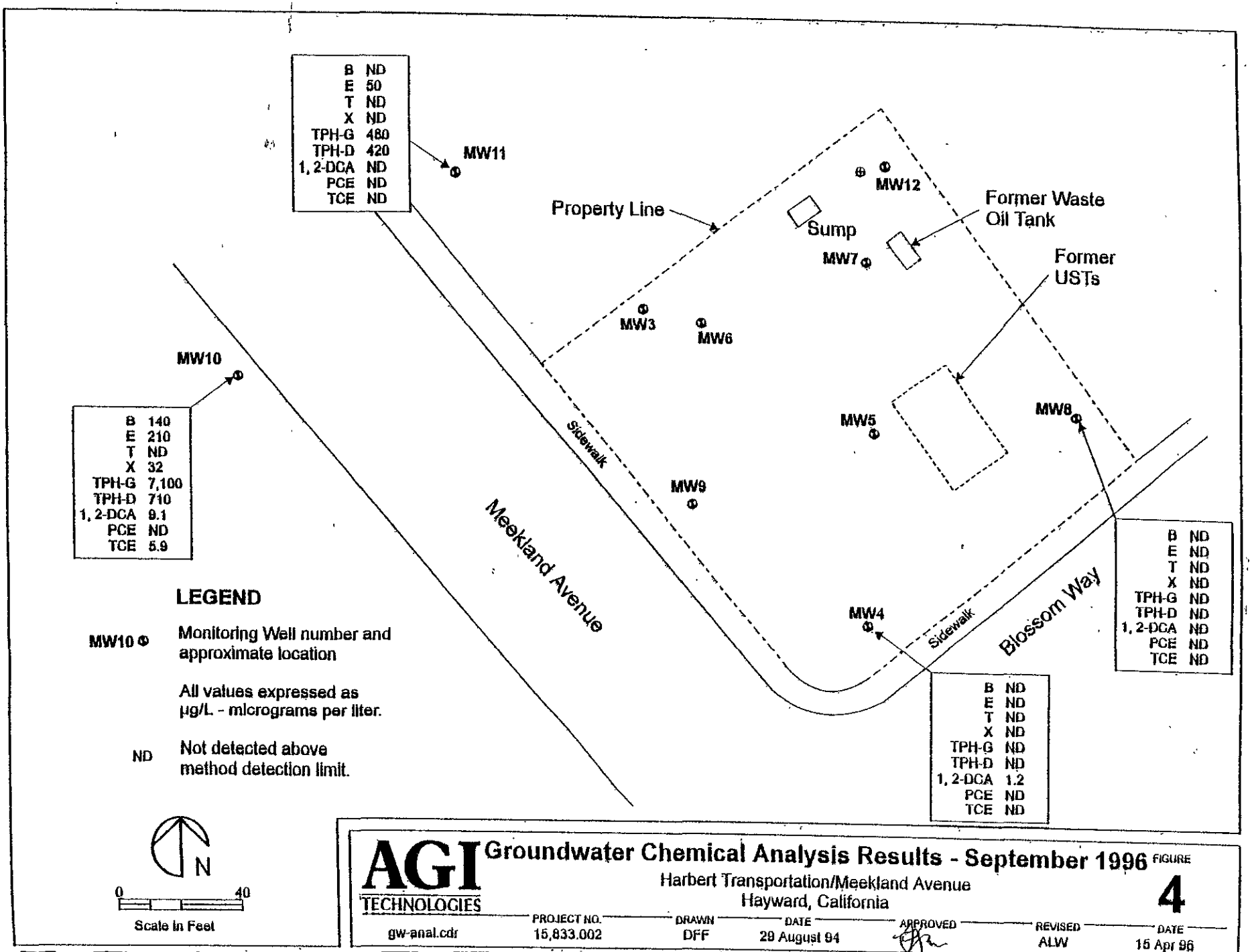
Groundwater Chemical Analysis Results - March 1996

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 4

AGI TECHNOLOGIES

PROJECT NO.	DRAWN	DATE	APPROVED	REVISED	DATE
gw-anal.cdr	15,833.002	DFF	29 August 94	ALW	15 Apr 96



AGI TECHNOLOGIES

Groundwater Chemical Analysis Results - September 1996

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE **4**

gw-anal.cdr	PROJECT NO. 15,833.002	DRAWN DFF	DATE 29 August 94	APPROVED	REVISED ALW	DATE 15 Apr 96