SILICON VALLEY LAW GROUP
A LAW CORPORATION

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June 1, 2005

Robert Schultz
Hazardous Materials Specialist
Environmental Health Services
1131 Harbor Bay Parkway
Alameda CA 94502-6577

Re: Site Closure Report

Dear Mr. Schultz:

Attached please find the Site Closure Report prepared by Weber, Hayes and Associates. As part of the submission of the report I am providing the following statement:

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

Your assistance in bringing this project to closure is appreciated.

Very truly yours,
Silicon Valley Law Group

JEFFREY S. LAWSON

JSL/

Enclosure: Site Closure Report

Cc: Jerry Harbert
Mike Nolte

R047

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Letter of Transmittal

to: **Mr. Jerry Harbert**
46765 Mountain Cove Drive
Indian Wells, California 92210

from: Joe Hayes

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

date: June 2, 2005

Number of Copies	*Date of Documents*	*Description*
1	June 1, 2005	***Site Closure Report***

c: **Ms. Donna Drogos**
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SITE CLOSURE REPORT

with

Completion of Vertical Definition (Deep Groundwater Sampling), Soil and Groundwater Meeting Cleanup Objectives, and Responses to Technical Comments

Former Durham Transportation Facility
Alameda County Fuel Leak Case No. R00000047
19984 Meekland Avenue
Hayward, Alameda County

June 1, 2005

Cone Penetration and HydroPunch Rigs for Vertical Delineation

Prepared For:

Jerry Harbert
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For Submittal To:

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1.0 EXECUTIVE SUMMARY

This Closure Report documents the achievement of soil and water cleanup goals, the completion of final work tasks outlined in our Workplan Addendum dated January 27, 2005, and addresses technical comments provided by Alameda County Environmental Health (ACEH) in their workplan approval letter dated March 2, 2005.

This Closure Report, together with previous remedial work, extensive site characterization, and validation of a completed Site Conceptual Model (SCM), documents that 1) the site does not pose a significant threat to human health or the environment, and 2) water quality objectives have been substantially achieved throughout the site. Collected data validating these conclusions include:

- no significant residual soil or groundwater contamination remains onsite,
- no significant groundwater concentrations migrating offsite,
- the fuel release has not impacted the deeper groundwater bearing zone (Newark Aquifer),
- no sensitive receptors are being impacted,
- evidence of continuing natural attenuation of residual hydrocarbon concentrations.

Based on this data, we recommend that Alameda County issue a no further action letter for this site, that all 10 existing monitoring wells at the site be properly abandoned under permit, and that this fuel release investigation be closed. This report presents collected data in the following sections to document the validity of this recommendation:

Section 2: **Response to Technical Comments**: This section presents Weber, Hayes and Associates (WHA) responses to regulatory comments included in the ACEH Workplan Approval letter dated March 2, 2005.

Section 3: **Site Conceptual Model:** This portion of the report presents the validated SCM and includes subsections addressing regional and site hydrogeology.

Section 4: **Vertical Delineation:** This section presents results of the Cone Penetration and Hydropunch sampling work which completes the vertical delineation of residual contamination in groundwater by sampling from the deeper Newark Aquifer.. Using a cone penetrometer, we located the uppermost section of the Newark Aquifer (saturated gravelly sands) at a depth of 83 feet, which was overlain by a 20' silt and clay aquiclude. We collected both a soil core sample and a water sample from the of the Newark aquifer, saturated sand and gravel. The laboratory-analyzed water sample had no detectable impacts from dissolved hydrocarbons, including the volatile constituent compounds of BTEX, 1,2 DCA, or fuel oxygenates. These results complete the vertical delineation of the site in accordance with the ACEH approved workplan, and conclusively demonstrates that impact to groundwater was limited to the Shallow Zone, where extensive groundwater monitoring shows water cleanup goals have been reached.

This report includes summary information that has been presented in previous documents, and includes:

- a description of the subject site and adjoining lands,

- a description of the regional and local hydrogeologic setting,
- results of a conduit study and well search showing no nearby receptors,
- a summary of previous environmental characterization investigations and remedial actions including source removal excavation and pump and treat operations, and
- a summary of the most recent (March, 2005) sampling of the groundwater monitoring network to confirm low to non-detectable concentrations of hydrocarbons, and evidence of ongoing aerobic and anerobic bioremediation of remaining concentrations.

2.0 RESPONSE TO TECHNICAL COMMENTS

ACEH Technical Comments & Weber, Hayes and Associates Responses
1 ACEH Comment #1 - Vertical Definition: *"We suggest that you consider expedited analysis of the deeper groundwater sample from CDP-1 so that you can complete any additional delineation as part of the current field mobilization. A dynamic approach is recommended by ACEH and is approved under Condition No. 1"* **#1 Response:** Comment noted. We appreciate recommendation of an expedited, dynamic approach to the field investigation. However, we had cost-effective flexibility with our site-specific mobilization because we were able to secure an immediate remobilization return date from our drilling subcontractor (Gregg Drilling and Testing) for additional vertical delineation (if needed). This saved a mobile lab charge of $2,000. We concluded that additional deep sampling was not warranted based on the current results which included successfully identifying the deeper Newark Aquifer with boring CPT-1, and because the water sample collected from this deeper zone did not show any impacts to groundwater.
2 **ACEH Comment #2A** - Lateral Definition: A) Relative Location of Wells and former UST System: *"Figure 2 of your Workplan Addendum is significantly different from previous depictions. In previous maps well MW-9 was downgradient of the former UST system; however, the site layout presented in Figure 2 of the Workplan Addendum suggests that no sampling has been performed downgradient of well MW-5 and the source area"*
#2A Response: The details were resurveyed on July 14, 2004, by Robert McGregor, Licensed Land Surveyor, to provide confirmation information on the locations of all wells, fuel dispensers, and tank pits previously requested in the ACEH Technical Comments, dated December 2, 2004. The new survey was used to improve our site map, and is the basis for all the site maps included in WHA 2004 and 2005 reports (the previous well survey had been conducted in 1990 by CTTS). The re-survey documented a slight change in the outline of the property and the relative placement of monitoring wells but no change in the position of monitoring wells relative to the former UST tank, or relative to the groundwater flow direction. In summary, the wells remain in the same groundwater flow position relative to each other and relative to the source of the fuel release. The range of groundwater flow direction is northwesterly to southwesterly as calculated from water level measurements obtained between 1994 to the present (see Figure 2). Monitoring well MW-5 is located adjacent to the former UST tank pit on the downgradient side. In 10+ years of groundwater elevation measurement, groundwater flow has consistently been northwesterly to southwesterly, towards on-site wells MW-4 and/or MW-9 and off-site well MW-10. These three monitoring wells provide high-quality downgradient coverage of the former Underground Storage Tank (UST) release (MW-4, 5, and 9), and abundant downgradient groundwater sampling data (see Table 1). It should be noted that the 2004 resurvey established the previously undefined property boundaries. An earlier round of driven probes borings (DP-1 through DP-9 drilled in 2001) were inaccurately labeled on previous maps, based on non-surveyed distances from fences. The locations of these DP borings have been adjusted based on the new survey, resulting in a slight shift in several DP locations relative to earlier maps ((shown on Figure 2)). NOTE: this did not change any lithologic interpretations or conclusions on the subsurface extent or absence of contamination.

ACEH Technical Comments & Weber, Hayes and Associates Responses
ACEH Comment #2B - Lateral Definition (continued): B) Reliability of Existing Monitoring Points: *"Please evaluate the screening of well MW-9 and other key wells in your monitoring network. In the report requested below, please further support your argument that no additional downgradient sampling should be required, or if necessary, propose additional sampling prior to implementing your workplan".*
#2B Response: Monitoring well MW-9, located at the downgradient property line, is screened from 20-40 feet deep, with depth to water typically at about 24 feet. The geologic log for MW-9 shows it to be screened in silty clays to clays, logged as "moist" (Appendix B, WHA January 27, 2005). This well is screened in the first saturated zone, is located approximately 60 feet downgradient from the former UST pit, and is a highly suitable groundwater monitoring point, as indicated by its high concentrations of benzene and TPH-gas prior to 1995. The trendline of hydrocarbon concentrations in MW-9 shows a consistent decline over time and current TPH-gas and benzene concentrations exist at 1,100 parts per billion (ppb) and not-detect (<1), respectively (see Figures 10 and 11, *TPH-gas and Benzene in MW-9 versus Time*). Other key wells in the monitoring network are also screened appropriately for evaluating this site. Specifically, wells MW-5, MW-6, and MW-10 (which are all located downgradient of the UST source), are all screened from 25-40 feet deep. Each of these wells previously contained hydrocarbon concentrations, which have declined to below water quality objectives. Figures 12 and 13 show the concentrations of TPH-gas and benzene over time in well MW-10, which is located offsite, downgradient of well MW-9 and the UST source area. These wells constituted a complete network of monitoring wells, screened to monitor the uppermost groundwater. The results obtained from this network of monitoring wells accurately characterize this site and indicate there are no significant remaining concentrations of hydrocarbons in groundwater. This improvement is attributed to a groundwater pump and treat system (1992-93), excavation of source area contaminated soils with large diameter augers (2002), and years of biodegradation by aerobic and anaerobic processes since the tanks and piping were removed in 1989.
ACEH Comment 2C: - Lateral Definition (continued): C) Historical Data: *"Weber, Hayes's evaluation fails to include all historical investigation data. Significantly, no consideration of the results for borings DP-1, DP-5, and DP-9 was provided. Weber, Hayes' Additional Site Assessment and Groundwater Monitoring Report dated June 18, 2001 reported 25,00 TPHg, 680 ug/L benzene,..... in boring DP-9 on February 14, 2001. While these results appear consistent with results from MW-9 for that time period, we reiterate our December 2, 2004 request that you include all historical data in your site conceptual model and in your evaluation of the site.*
Response #2C: Weber, Hayes did consider the results of this 2001 driven probe investigation in our Site Conceptual Model. The locations of all driven probes and monitoring wells are shown on Figure 2. The soil and groundwater sampling results for the driven probe sampling were presented in our SCM report (Table 3: Soil Results: Summary of Recent and Historic Analytical Results). The results of this driven probe sampling 1) were used to define stratigraphy, 2) indicated the need for excavation of contaminated soil at the former UST pit only, and 3) showed dissolved hydrocarbons in groundwater similar to concentrations detected in monitoring wells. This information was used to develop the Interim Remedial Action plan dated December 11, 2001. As noted in the 2001 report, the dissolved hydrocarbon concentrations in DP-9 in June 2001 were very similar to dissolved concentrations in the closest monitoring well (MW-9, Jan. 2001, TPH-G=10,000 ug/L, B= 550 ug/L, see Table 1). Figures 10 and 11 of this report chart the concentrations of TPH-gas and benzene in MW-9 over time and show concentrations have dropped to meet water quality objectives. It is reasonable to conclude that a similar decreasing trend line condition is also occurring at the nearby DP-9 location.

ACEH Technical Comments & Weber, Hayes and Associates Responses
3 **ACEH Comment #3** - Cross-Section A-A' and Site Map : *"Until a final evaluation of site lithology is presented to ACEH, we can not review the completeness of lateral definition. Weber-Hayes Cross-section A-A' does not include a location or lithologic results for well MW-9 or boring DP-9. It appears that Figure 2 in your Workplan Addendum (dated January 27, 2005) which presents the cross section trace is significantly changed from the site map and location of cross-section A-A' presented in your July 30, 2004 SCM; however, the cross-section itself is left unchanged....We reiterate our May 13, 2004 request that you revise your maps of the site and correct the discrepancies between your figures. "* **Response #3:** Comment noted. We have added the lithology from the geologic boring log of MW-9 to the Geologic Cross Section A-A' (see Figure 3). The 1991 log of MW-9 is based on a 5-foot sampling interval, and shows the screened section of this well is in clayey silts (moist and locally sandy) and lean clay. Note: the log of DP-9 (not DP-1) was used to develop cross-section A-A' because DP-1 appears closer to the line of cross section A-A', and was cored to deeper depths (see Figure 2). The locations of all wells at the site and of fuel dispensers, tank pits and other details were resurveyed on July 14, 2004, by Robert McGregor, Licensed Land Surveyor, to address potential site map discrepancies (the previous well survey had been conducted by CTTS in 1990). The new survey was used to improve our site map, and is the basis for all the site maps included in WHA 2005 reports. The overall cross section length was adjusted approximately 11 feet in length on A-A', and lesser amounts on B-B' and C-C' to match the well locations shown on the new site map. There is no change in the subsurface lithology interpretation. The lateral definition of the site has been completed.
4 **ACEH Comment #4** -Concentration Trends over Time: *"Since benzene and TPH-g concentrations in the source area well MW-5 are currently at their highest levels in 2 years, additional evaluation is required. As discussed below, pre- and post remediation data should not be mixed, time series plots of groundwater concentrations should include post remedial concentrations only. We request that you evaluate the potential for groundwater concentrations to continue to rise as water levels drop."*

ACEH Technical Comments & Weber, Hayes and Associates Responses

#4 Response: This comment indicating there are high concentrations at MW-5 predates the most recent groundwater sampling. Dissolved hydrocarbon concentrations at MW-5 were very low in 2004 (see Table 1) and now are below Cleanup Goals/Water Quality Objectives. Recent sampling of all 10 groundwater monitoring wells at the site (WHA April 11, 2005), show significant further decline in the already low residual dissolved hydrocarbon concentrations. This recent sampling demonstrates that hydrocarbon concentrations are now **below** the Cleanup Levels proposed by ACEH, in all wells, for all constituents except one (TPH-gas was detected in MW-9 at 1,100 ug/L, versus a Cleanup Goal of 1,000 ug/L).

To emphasize the clear long term downward trend of hydrocarbon concentrations is not just a recent sampling event due to water level, WHA prepared six figures (Figures 8-13), showing Benzene and TPH-Gas trends (with groundwater elevations) over time in well MW-5 (located at the source), MW-9 (located at the property line) and MW-10 (downgradient, across the street). These time series plots were designed to show data throughout the pre- and post remediation timeline. The entire timeline was graphed to show the steady decline in hydrocarbons, which appears to be due in part to remedial action and significantly to natural attenuation. In WHA's opinion showing only post remediation data, would not be as instructive or as complete of a record. Nonetheless, to accommodate the ACEH comment all figures clearly delineate pre and post remedial action data thereby allowing any future reader easy access to all relevant information. The most recent drop in hydrocarbons coincided with a normal seasonal rise in groundwater levels. The data for all three wells shows:

1. Groundwater elevations are not at all time lows or highs, but are within normal historic levels, but hydrocarbons are much lower or gone.
2. The long term trend in declining concentrations indicate that the lack of any residual hydrocarbons is attributable to lack of a hydrocarbon source and ongoing natural attenuation over years. There is no data that suggests there are significant remaining dissolved concentrations. Therefore there is little potential for groundwater concentrations to rise significantly as water level drop.

Groundwater concentrations are not merely approaching Water Quality Objectives, they have met them. For this reason no estimate of the time to reach Water Quality Objectives is required. Confirmation of this record of decreasing concentrations to the point of Water Quality Objectives (WQOs) is a significant outcome. Achieving these WQOs was predicted in our Fuel Closure Request dated August 22, 2003. At ACEH request, we have subsequently collected a deep aquifer water sample from the underlying Newark Aquifer, completed additional groundwater monitoring for bioparameters, and sampled all 10 monitoring wells for gasoline, BTEX, MTBE, and 1,2 DCA, all with a positive outcome for site closure.

5 **ACEH Comment #5** -Case Closure Criteria

"In order for ACEH to close your case, we require that you demonstrate 1) the site does not pose a significant risk to human health and the environment and 2) water quality objectives will be achieved within a reasonable time. ..To facilitate review, we reiterate our December 2 2004 request that you should submit summary soil and groundwater tables. Also pre-remediation and post remediation data should be separated. ..Please submit your revised tables in the report requested below."

ACEH Technical Comments & Weber, Hayes and Associates Responses
#5 Response: This Closure Report, together with previous remedial work, extensive site characterization, and validation of a completed Site Conceptual Model, documents that 1) the site does not pose a significant threat to human health or the environment, and 2) water quality objectives have been substantially achieved throughout the site. Specifically: • no significant residual soil or groundwater contamination remains onsite, • there are no significant groundwater concentrations migrating offsite, • the fuel release has not impacted the deeper groundwater bearing zone (Newark Aquifer), • no sensitive receptors are being impacted , • there is strong evidence of natural attenuation in the aquifer for any remaining hydrocarbon concentrations. All soil and groundwater data is presented in attached summary tables. The difference between Pre- and Post-remediation groundwater data is clearly delineated on Figures 8, 9, 10, 11, 12, and 13, showing time-series plots of declining groundwater concentrations in key monitoring wells before, during and after remediation milestones.

3.0 REFINED SITE CONCEPTUAL MODEL

3.1 Site Description

The subject 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 property is zoned as Neighborhood Commercial ("CN"), which is a district designed to accommodate at convenient locations those limited commercial uses which are necessary to meet basic shopping and service needs of persons in the surrounding areas. The flat-lying, approximately 21,000 ft^2 commercial site previously operated as a motor vehicle fueling station from the 1940s through the late 1980s. In 1989-1990, the site's underground fuel storage tanks (USTs) and existing structures at the site were removed and no business has operated at the property since that time. The commercial site is fenced off on all sides and contains no structures. The site is encapsulated with concrete and asphalt except were at previous UST and remedial excavation locations.

The subject parcel is situated at an elevation of approximately 55 feet above mean sea level and is located approximately ½-mile south of the westward flowing San Lorenzo Creek, and approximately three miles east of the San Francisco Bay (Figure 1). There are no ecologically sensitive areas such as surface water or wetlands or habitat for endangered species within 1,000 feet of the site.

The fenced parcel is bounded by single family residences to the northwest and northeast and contains street frontage to the southwest (Meekland Avenue) and southeast (Blossom Way , see Figure 2). Parcels across Meekland Avenue and Blossom Way are commercial and include Hank's Liquor Store (southwest), Hoang's Auto Repair Shop (south), mixed commercial retail stores (southeast). Both the liquor store and the auto repair shop parcels previously contained gasoline stations (see Figure 2).

3.11 Water Supply: 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 groundwater supply from a production well located approximately 5 miles southwest of the site. Alameda County Flood Control and Water Conservation District (ACFC-WCD) has directed that the Shallow Zone Aquifer (also discussed below) is not to be used for domestic water supply.
The subject site previously contained a 4-inch diameter, PVC water supply well which was closed in December 1989 by tremie grouting (CTTS, February 16, 1990). Prior to closure, the base of this water well was tagged at a depth of 67.9' - additional details are provided in the Well and Conduit Study section of this report (see section 2.4).

3.12 Planned Land Use: No development design plans have been proposed. As noted above, the site has been vacant since the underground fuel storage tanks and site structures were removed in 1989-1990. The site is zoned for commercial business development.

3.2 Regional and Local Hydrogeologic Setting

3.21 Regional Geology: The site is located within the Coast Ranges province of California between the northwest-trending Hayward and San Andreas faults. The basement rock type between these two faults is the Franciscan Formation which is overlain by younger sedimentary rocks derived from the erosional process of the Mt. Diablo Range, and locally the San Leandro Hills.

Surface soils in the area were generated from erosion of the San Leandro Hills east of the site in alluvial cone and fluvial depositional environments and are up to 300 to 800 feet thick. 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, where interfingering of fluvial deposits is apparent (see Regional Geologic Map, Figure 4).

3.22 Regional Hydrogeology[1]: Average annual rainfall for the City of Hayward is approximately 18 inches and most of the precipitation occurs in November through March. Recharge to the underlying aquifer system is from infiltration of 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 westward-dipping aquifers separated by extensive aquicludes. The aquifers are identified in increasing depth as the Newark, Centerville,

[1]: CRWQCB- Region 2: *A Comprehensive Groundwater Protection Evaluation for the South San Francisco Bay Basins,* May 2003, andCalifornia 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.

and Fremont Aquifers (see Regional Geologic Cross-Section, Figure 5). The aquifers comprise of gravels and sands deposited from ancestral creeks as fluvial or alluvial deposits. The aquicludes comprise of silts and clays deposited from distal portions of the alluvial fans and from San Francisco Bay a marine and estuarian deposits.

The shallowest of these 3 main aquifers, the Newark Aquifer, is reported to contain an extensive permeable gravel layer which thickens from the forebay (20 foot thick) to the Hayward Fault (140 feet thick). The Newark Aquifer is first encountered at depths of 10-to-20 feet below mean sea level (MSL) in the vicinity of the subject site, and is estimated to be approximately 35-50 feet thick, based on the regional model and the closest, deep DWR well log: #17-F3, located 1,200 feet downgradient of the site (see Figure 3). This would place the top of the Newark Aquifer at a depth of approximately 65 to 75 feet below ground surface - ground surface at the subject site is 55 feet above MSL. The Newark Aquifer is reported to be overlain by a thick layer of silt and clay called the Newark Aquiclude. This regional model was validated during the current investigation. Specifically, the Newark Aquiclude was encountered onsite at a depth of 62-82 feet and the Newark Aquifer was encountered at 83 feet in our deep boring CBD-1 (See Section 4).

The Newark Aquifer is documented to contain an additional subzone known as the "Shallow Aquifer" (also known as the "shallow water bearing zone"). This "Shallow Aquifer" subzone is semi-confined or perched and is reported to be found at depths ranging from ground surface to approximately 50 feet below ground surface. It is limited in areal extent and pinches out toward the west as schematically shown on the Regional Geologic Cross-Section (see Figure 5). First-encountered, saturated soils beneath the site have been initially logged at depths ranging from 30-to-35 feet below ground surface (= elevation of 20-to-25 feet above MSL) and groundwater has generally risen approximately 10 feet after the aquifer is penetrated. The groundwater monitoring wells at the subject site appear to be screened within this "Shallow Aquifer subzone of the *Upper Zone* aquifer system given:

- *The subject site's surface elevation of 55 feet above MSL and is located in the vicinity of* the subzone known as the "Shallow Aquifer",
- Only one water bearing zone was encountered during drilling at the site which was encountered at an elevation of 20-to-25 feet above MSL,
- The projected depth of the top of the Newark Aquifer is approximately 15-to-20 feet below MSL.
- A recently completed Water Well Survey (section 2.4 of this report) uncovered 8 sites located within 1,000 feet radius of the subject site. Of these 8 sites, only 3 had logs describing subsurface soil type and saturation to a maximum depth of 83 feet bgs (the closest logged well is over 500 feet away - see Figure 3). The logs suggest there is a shallow saturated zone of low-permeability of silts and clays that is underlain by a saturated sand and gravel zone. For example:
  - Well 8-Q6, located 900 feet north of the site (Figure 4), contained wet silty-clay (12-38' bgs), separated from an underlying sand unit by 30 feet of clays and silts (38-68' bgs).
  - Well 17-F3, located 1,200 feet southwest of the site (Figure 4), contained a shallow sand unit (23-56' bgs), separated from a 36-foot thick sand & gravel unit by 30 feet of sandy clay (46–64' bgs).

Underlying the Newark Aquifer is a fairly impermeable aquiclude and then the Centerville Aquifer. The Centerville Aquifer is reported to be found at depths of approximately 180-200 feet below ground surface.

3.23 Site Soils: Boring logs indicate there have been at least seven unconsolidated units logged beneath the site to a depth of 46 feet which include (in depth-increasing order):

1. sand/gravel fill,
2. clay,
3. sandy clay and/or clayey silt,
4. clayey and/or silty sand,
5. fat and/or lean clay,
6. poorly graded and/or silty sand, and
7. lean clay, as the bottom-most unit (unit seven).

Shallow soil lithology beneath the site and laterally offsite (to within 175 feet) appears fairly homogeneous based on monitoring well logs reviewed (CTTS, Inc. April 1991 & November 1992), and logs of driven probe borings (WHA June 2001 & February 2002). The general lithology of the site is depicted in cross sections A-A', B-B', and C-C' on Figure 6. Drillers logs of soil lithology encountered during drilling of water wells within 1,000 feet of the site is included on Figure 3. Geologic logs of borings and monitoring wells drilled as part of the current fuel leak investigation are included in Appendix A as a reference.

- Monitoring Wells (MW) were constructed as follows:
- MW-5, 6, and 7 are all completed to 45 feet below ground surface (bgs) with 20 feet of screen;
  - MW-8 and MW-9 are constructed to 40 feet bgs (20 feet of screen);
  - MW-10, 11, and 12 are constructed to 40 feet bgs (15 feet of screen);
  - 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.
- Driven Probe (DP) borings were drilled as follows:
  - DP-1 terminates at 46 feet bgs,
  - DP-2, 3, 4, 5, 6, 7, 8, and 9 terminate at 25-28 feet bgs.
  - Landfill acceptance borings (LABDP-1, LABDP-2) terminate at 38-40 feet bgs

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. The basal clay unit encountered (unit 7) appears to be an aquitard underlying the upper shallow groundwater bearing zone. Specifically, the shallow lithology is described as follows:

- **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 generally 2 to 4 feet thick and consistently present in most all borings and well logs to depths of either 3.5 or 7 feet bgs. The unit is described as fat clay with some moisture but not water bearing.
- **Unit #3:** Sandy Clay, ranges in thickness from 6 to 16 feet, and 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. This unit is generally stiff, lacking moisture and mottled. The sandy clay unit generally appears to be thinning to the west toward MW-10 and MW-11 (Figure 6). A clayey sand was observed at the base of this unit in MW-5 and DP-3 and may be a preferential pathway.

- **Unit #4:** Clayey Sand, is generally around 4 feet thick, except in DP-10 and MW-4 where it is 10 and 15 feet thick, respectively. This clayey sand unit consistently encountered at depths of 10 or 15 feet bgs in all borings and well logs except DP-1 and MW-12 (different logging techniques?). This unit is not a water bearing unit but was described as being moist to very moist depending on time of year logged.
- **Unit #5:** Fat and/or Lean Clay, was logged to be consistently 10 feet thick and up to 15 and 20 feet thick wells MW-5 and MW-3, MW-6, MW-11. The clay was consistently present in starting at depths of 20 feet bgs and contained some 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. This clay is not believed to be a groundwater bearing unit even though it is submerged in all monitoring wells constructed onsite (semi-confined aquifer in the underlying unit (unit #6).
- **Unit #6:** Poorly Graded Sand and/or Silty Sand, is generally 5 to 7 feet thick (up to 10 feet thick in MW-10) and was logged in most of the boring logs and in half of the well logs at depths of around 30 to 35 feet bgs. This unit is absent in MW-4, 8, 11, and 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. This unit is interpreted to be the Shallow Aquifer and once it is penetrated, groundwater rises to static levels of 22- 23 feet bgs.
- **Unit #7:** Lean Clay, is generally logged as being 5 feet thick (up to 10 feet thick in MW-7 and DP-1) and is generally present in all borings and well logs, and is the deepest unit encountered during drilling at the site. Most monitoring wells terminate 2 to 5 feet into this unit.

3.24 Site Hydrogeology: First-encountered, saturated soils beneath the site were first logged at depths of about 30-to-35 feet below ground surface (= elevation of 20-to-25 feet above MSL) and groundwater has typically risen approximately 10 feet following aquifer penetration. As described above, the groundwater monitoring wells at the subject site appear to be screened within this "Shallow Aquifer subzone of the *Upper Zone* aquifer system given:

- The subject site is located in the vicinity of the subzone known as the "Shallow Aquifer" and at a surface elevation of approximately 55 feet above MSL.
- Only one water bearing zone was encountered during drilling in the upper 62 feet at the site which was a relatively thin, 5-10 feet thick sand unit which was encountered at an elevation of 20-to-25 feet above MSL (30-to-35 feet bgs).
- The top of the Newark Aquifer in the vicinity of the site was encountered at a depth of 83 feet (see Section 4) and the aquifer is reported to be upwards of 50 feet thick.
- Local driller's logs (Figure 3) do not show consistency between the few wells within 1,000 feet of the site. A deep well log does suggest the bottom of the Newark Aquifer is at a depth of approximately 100 feet below ground surface which is underlain by a 60-foot thick clay aquitard (see simplified log of well 17-F3, Figure 3).

The hydraulic gradient is relatively flat, on the order of 0.002 feet per foot and consistently in a westward direction toward the San Francisco Bay (see Figure 8). A typical silty sand -to-sand aquifer would have a generic hydraulic conductivity ranging from 10^{-7} to 10^{-5} m/s and a gradient of 0.002 feet per foot would have groundwater velocity's ranging between 5.9 and 591 feet per year . Dissolved plume migration would be further retarded by typical contaminant breakdown properties (dispersion, advection, biodegradation,).

3.25 Site Hydrogeologic Summary: Petroleum hydrocarbons compounds have been detected in the first encountered groundwater beneath the site that is a semi-confined aquifer. The detection indicates a pathway exists between the former fuel release (source) and the shallow aquifer. Downward transport of the fuel release (gravity) coupled with the observed presence of clayey sand stringers interbedded in the clay unit above the shallow aquifer, provide the potential mechanism and pathway for the vertical movement to the groundwater bearing zone. Subsequent lateral movement to the west (downgradient direction) has also been documented during water quality monitoring.

3.3 SUMMARY OF PREVIOUS INVESTIGATIONS & REMEDIAL ACTIVITIES

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. A number of environmental investigations and remedial actions have since occurred at the subject site and are documented in the list of environmental reports referenced at the end of this report. Environmental tasks included removal of the fueling facility installation, groundwater pumping and remedial excavation, delineation of soil and groundwater contamination including the installation of a number of groundwater monitoring wells which currently includes eight onsite and 2 off-site wells (Figure 2)

3.31 Underground Tank Closures and Initial Monitoring: In August 1989, four underground storage tanks (USTs) were removed from the site. Applied Geosystems, CTTS, and AGI-Technologies completed preliminary subsurface investigations and concluded that soil and groundwater beneath the subject site were impacted by petroleum hydrocarbons (PHCs). Reports indicate that soils excavated following the UST removals were backfilled within a plastic-lined excavations (CTTS, November 1, 1992). Documentation also indicates that two additional USTs located adjacent to dispensers removed in 1989 were pulled in the early 1950's, and that a sump located in the northern portion of the site contained petroleum hydrocarbon contamination (CTTS, November 27, 1990). In March 1990 the site structures were demolished and removed and the site has remained undeveloped and unoccupied since that time. CTTS records indicate quarterly monitoring continued through June 1993, and subsequently decreased to twice in 1994 (third and fourth quarters), once in 1995 (third quarter) and twice in 1996 (first and third quarters).

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

3.33 Source Removal - Interim Remedial Action: Soil sampling from a number of exploratory borings and groundwater sampling during ongoing monitoring indicated that elevated concentrations of fuel contamination was present at the former location of the former UST facility removed in 1989 (source). Specifically, sampling confirmed that significant concentrations of petroleum hydrocarbon contamination remained at two isolated areas:

- beneath the former dispensers (removed 1989) at a location which previously contained two USTs that were removed in the early 1950's, and,
- beneath the former excavation pit (excavated in 1989) which was reportedly backfilled with the excavated material (CTTS, November 1, 1992).

Despite the presence of elevated petroleum hydrocarbons at the source, groundwater monitoring showed the plume was limited in lateral extent and had no fuel oxygenates including MTBE. An Interim Remedial Action (IRA) which included removal of the residual petroleum hydrocarbon contamination was approved and in January 2002, six foot- diameter augers were used to drill out 40 foot shafts of contaminated soils from the excavation footprint (former excavation pit and the dispenser areas - see Figure 2). The excavation successfully removed approximately 600 yds^3 contaminated soil from the vadose zone, the soil/groundwater interface, the smear zone. In addition, 400 pounds of Oxygen Release Compound® (ORC) was added to the saturated zone to enhance the ability of aerobic microbes to degrade contaminants (WHA report; February 8, 2002). Fourteen soil samples (12 sidewall and 2 base) confirmed that the remaining source soil was removed to target cleanup levels (see table below):

Maximum IRA Soil Sample Results
All results in parts per million (mg/kg, ppm)

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

- ESLs: Environmental Screening Levels, which were established by CRWQCB-SFBR
- **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) have continued to show generally decreasing concentration trendlines following source removal operations, although some contaminant oscillation is apparent (see Figures10-15). Currently, only one well (MW-5) located a few feet from the source contains concentrations of benzene above the groundwater cleanup goal of 10 ppb (benzene = 470 ppb).
- The remaining upgradient and sidegradient wells are now non-detect for constituents of concern and provide good definition regarding the lateral extent of contamination (wells MW-4, -7, -8, -11, and -12).
- Downgradient well MW-10 continues to show a continual decline in hydrocarbon concentrations (see Figures 14 and 15).

3.34 Conclusions of Source Removal Activities: It is our opinion that the excavation of the soil contamination at the former underground tank locations, which included removal of fuel-impacted, saturated soils from the zone of fluctuating groundwater (smear zone), has significantly eliminated the primary source of ongoing groundwater contamination. Only three of the nine wells that make up the monitoring network currently contain elevated levels of Total Petroleum Hydrocarbons (TPH). Specifically, on-site wells MW-5, MW-6, and MW-9, all located within 60 feet of the source, contain TPH-gas concentrations ranging from 1,900-7,000 parts per billion (ppb) and only one well, MW-5 - located only a few feet from the former fuel tank pit, contained elevated benzene (470 ppb, see Figure 7). All remaining wells contain only trace to non-detectable contaminant concentrations including downgradient well MW-10 located 175 feet from the source.

3.35 Proposed Risk-Based Cleanup Goals: A number of assessments of risk were completed to assess potential risk to human health and the environment using Risk-Based Cleanup Standards[2] on the basis that shallow groundwater beneath the site was not used as a drinking water resource and there were no sensitive receptors within close proximity to the site that could be potentially impacted by residual petroleum hydrocarbon contamination (PHC). Preliminary communication 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, Appendix E). A request for site closure was submitted in August 2003, which was subsequently denied in May 2004 in an ACEH Technical Memorandum requiring new clean-up goals and additional information (ACEH directive, dated May 13, 2004).

Subsequently, new cleanup goals for groundwater were submitted in the *Revised Site Conceptual Model* report dated July 30, 2004. The proposed cleanup goals were intended to be 10 times the State Maximum Contaminant Levels (MCLs) for drinking water with the exception of TPH which has no established MCL. This was in agreement with levels recommended by ACEH in the May 13, 2004 directive ("the goal of 10x the MCL would be considered a reasonable proposal" for a maximum plume concentration that may migrate beyond the boarders of the subject site, page 4, section 3). However, as requested in the recent ACEH directive dated December 20, 2004, we have revised these proposed modified cleanup levels downward to be more conservative than MCLs for drinking water, and instead have based them on RWQCB-SFBR *Environmental Screening Levels.*

The modified cleanup levels listed below are site-specific concentrations proposed for this low-risk fuel release and are meant to achieve Basin Plan water quality objectives within a reasonable time period. The levels are meant to be the maximum plume concentrations that may not migrate beyond the boarders of the subject site.

[2]: California Regional Water Quality Control Board, San Francisco Bay Region's publication: *Application of Risk-Based Screening Levels and Decision Making to Sites with Impacted Soil and Groundwater* (2002, revised 2003).

Proposed Water Cleanup Levels - All concentrations in ug/L (parts per billion; ppb) -						
	TPH-gas	Benzene	Toluene	Ethyl-Benzene	Xylenes	MTBE
State MCL's for Drinking Water:	Not Established	1	100	300	1750	13
RWQCB-SFBR **Final ESLs** (basis)	100 (T&O)	1 (DWT)	40 (T&O)	30 (T&O)	13 (AHG)	5 (T&O)
Proposed Cleanup Levels (10 Times the ESLs)	1000	10	400	300	130	50

- **RWQCB-SFBR:** California Regional Water Quality Control Board, San Francisco Bay Region
- **Final ESL's**= "Final" Environmental Screening Levels, based on the lowest (most conservative) screening level (T&O, DWT, or AHG) established by RWQCB-SFBR for the protection of groundwater quality.
- **T&O**= Taste & Odor; **DWT**= Drinking Water Toxicity **AHG:** Aquatic Habitat Goal
- Proposed Cleanup Levels based on shallow groundwater being a potential groundwater resource.

Exposure pathways are limited and the risk to human health and the environment is considered insignificant due to the following conditions:

- Soil contamination has been satisfactorily remediated to health-based levels.
- Shallow groundwater contamination in access of proposed cleanup levels is limited to within the property boundaries and no documented shallow groundwater pumping occurs within 500 feet of the subject site which is well beyond the extent of the known plume limits.
- Deeper groundwater has been investigated during the current phase of drilling and sampling, and no hydrocarbon impacts were detected (see Section 4).
- There is virtually no potential for indoor air impacts as: 1) there are no structures on the site; 2) the plume of dissolved contaminants in groundwater is aged gas (majority of volatile compounds have degraded); 3) groundwater is encountered at relatively deep depths (30 feet bgs); and, 4) the source of shallow impacted soils has been removed and dissolved contaminants in groundwater are encountered below relatively low-permeability soils.
- In addition, the Tier 1 screening level for protection of indoor air under a residential exposure scenario is set at 1,900 ug/L (ppb) for benzene in groundwater (RWQCB-ESLs, Table E-1a).

3.36 Conclusions of Summary of Previous Investigations: Based on ACEH Technical Memorandum (ACEH, Dec 2, 2004), WHA has revised the groundwater clean-up goals to levels directed by Alameda County Environmental Health which are protective of a drinking water supply.

3.4 WELL AND CONDUIT STUDY

This section presents the results of a well and conduit study completed and previously reported in our January 27, 2005 report.

A well/conduit study was conducted which included investigation to identify water 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 Site Conceptual Model and determine whether utility conduits or offsite wells would allow the spread of petroleum hydrocarbon contaminated groundwater.

Private and public utility companies were contacted to obtain information subsurface utility installations and information on wells within ½-mile radius of the site. Agencies contacted included the Alameda County Public Works Agency (ACPWA) Land Development Department, Maintenance & Operations Department and Water Resources Section, and the Department of Water Resources.

3.41 Well Conduit Study: Both the California State Department of Water Resources (DWR) and the local ACPWA Water Resources Section sent us their query results on wells within ½-mile radius of our site. This data has been 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. The wells were field checked and are presented on Figure 9. Copies of ACPWA lists and all DWR well logs are included as Appendix A.

Even though municipal utilities provide the drinking water supply for businesses and residences within the City of Hayward, existing records show that 132 wells have been drilled within a ½ mile radius of the site since 1908, including 16 "orphan" locations having no specific address. A written log exists for 84 of the 132 wells (the remaining 48 wells, which were identified on the ACPWA list, did not have DWR well logs). Figure 3 presents the location and general lithology by depth, of water wells located within 1,000 feet of the subject site. None of the documented wells appear to be threatened based on the mapped extent of residual dissolved fuel contaminants (see Figure 7).

WHA staff confirmed the address location of wells identified to be within a 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 (17-C1, 17-C2, no geologic logs available) were approximately 600 feet northwest (cross-gradient) of the site, and were listed by ACPWA to be irrigation wells. These wells are not located near the limits of the sites' dissolved PHC plume and are not considered to be potential conduits for vertical transport of PHC-impacted groundwater. The groundwater plume at the subject site is estimated to be at a maximum, 120-160 feet long (Figure 7). None of the other wells are close to the lateral ends of the dissolved plume. **Based on the information gathered and field observations, there are no private or public water wells near the subject site that appear to have the potential to be a vertical conduit for transporting PHC-contamination to deeper groundwater bearing zones.**

3.42 Utility Conduit Study: On July 28, 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.**

3.43 Previous Water Well Abandonment: A 4-inch diameter PVC water well at the site was destroyed under permit by tremie grouting operations by HEW Drilling Inc. with oversight by CTTS on December 12, 1989 (CTTS, February 16, 1990). The location of this abandoned well is shown on Figure 2. 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.

This 1989 groundwater sample from the abandoned water well raised the potential of impact to deeper groundwater aquifer at the site. To address this concern, WHA designed a vertical delineation program to locate the former well, identify the vertical location of the deeper aquifer (Newark Aquifer) and obtain a groundwater sample from this deeper aquifer. Results of this work are presented in the next section.

4.0 RESULTS OF VERTICAL DELINEATION AND SAMPLING

Work tasks described in this section were described in our Workplan Addendum dated January 27, 2005, and approved by ACEH in their letter dated March 2, 2005. The tasks include:

Task 1: Pre-field Activities
Task 2: Identification and Confirmation Sampling of Deeper Groundwater Bearing Zone
Task 3: Confirmation Shallow Groundwater Sampling
Task 4: Additional Groundwater Monitoring & Testing for Bioparameters
Task 5: Summary Reporting

4.10 Pre-Field Activities (Task 1): Prior to conducting field work, WHA obtained boring permits from Alameda County Public Works Agency (ACPWA). WHA prepared a site health and safety plan to perform Workplan tasks. Underground Safety Alert (USA) was contacted 48-hours prior to field work to identify any and all underground utilities that may be encountered during drilling..

4.20 Vertical Delineation: Identification and Confirmation Sampling of Deeper Groundwater Bearing Zone (Task 2): This task was conducted to confirm that the previously sealed, on-site water well did not act as a vertical conduit for downward migration of dissolved fuel contaminants, prior to it's closure. The well was reported to be constructed to 67.9 feet below ground surface (bgs) with static water at 29.9 feet bgs and was destroyed under permit by filling the well with grout to ground surface via tremie pipe (Dec-1989). Prior to the permitted destruction, groundwater was sampled and laboratory tested. The results indicated that the groundwater from this well contained some elevated concentrations of TPH-g, BTEX, and lead. Since there are no available construction details it is unclear where the well screens were positioned. To confirm that this previous, on-site water well is not acting as a vertical conduit for downward migration of dissolved fuel contaminants, we continuously logged soils to identify multiple saturated zones (i.e. Shallow Aquifer, and the Newark Aquifer), and completed discrete sampling of the deeper groundwater-bearing zone.

To obtain high quality data on the soil lithology and soil saturation we used Cone Penetration Testing (CPT). This method is explained in detail in the *Field Methodology and Results of CPT and Hydro Punch Sampling* section in Appendix A. Once the Newark Aquifer was identified by CPT borehole, we used a Hydropunch water sampler to obtain a discreet water sample from depth, and a piston sampler to obtain a physical sample of the aquifer to confirm the lithology. Use of this technology was approved by ACEH in electronic communication dated March 30, 2005 by Robert Shultz. Our subcontractor, Gregg Drilling and Testing of Martinez, C, who mobilized to the site on April 28, 2005, provided the CPT drilling rig, data reduction, Hydropunch sampler, and Piston Sampler.

4.21 Field Work to Complete Vertical Delineation: This sequence of field work was completed in a single day on April 28, 2005:

- Located abandoned former well (found concrete plug at surface) at location shown on Figure 2.
- Drilled Confirmation Deep Boring CDB-1 approximately 2 feet from abandoned well location, using Gregg Drilling CPT rig. Initial depth to water is 21.1 feet. Clay and Silt aquitard separating Shallow Zone from upper Newark Aquifer encountered at 62.5 feet. Clay and Silt from 62.5-64.5, and 68.5-82', for roughly 20 foot thick aquiclude, with 13 feet of continuous silts/clays (see detailed stratigraphic log Appendix A). Encounter sandy zone (top of Newark Aquifer) at 83'. Sand and gravel to 90 feet. Stop at 90 feet.
- Grout and seal Cone Penetration Test boring with tremmie pipe and neat cement grout.
- Drill second Direct Push boring immediately adjacent to CPT boring for hydropunch sample and core sample. Expose Hydropunch water sampler to groundwater in target zone at 86-88 feet deep, in Newark Aquifer. Allow water level to stabilize, then purge and sample water with stainless steel bailer. Remove hydropunch, and obtain core sample from 86-88 feet deep to confirm stratigraphy. Core sample collects fine sand aquifer material, with subrounded to rounded gravels.
- Grout and seal second hole with tremmie pipe and neat cement grout.

Detailed field methodology, and sampling protocol is presented in Appendix A. The deep groundwater sample was analyzed for:

- Total Petroleum Hydrocarbons as gasoline (TPH-g),
- Methyl-Tert-Butyl Ether (MTBE), and 1,2 DCA
- Benzene, Toluene, Ethylbenzene, Xylene (BTEX)
- Total Lead. (250 ml poly bottle, sample filtered and preserved prior to analysis)

Lab results showed no detectable TPH-gas, BTEX. MTBE, or 1,2 DCA in the water sample. Dissolved lead was detected at 19 ug/L. This dissolved lead concentration is within the range of naturally occurring lead concentrations, is far below the reported lead total of 2,100 ug/l from the 1989 well abandonment, and does not indicate any human impact. Certified analytical results are presented in Appendix B.

The deep drilling and water sampling encountered a 20 ' thick silt /clay aquitard above the Newark Aquifer, positively identified and sampled the sand and gravel top of the Newark Aquifer, and did not detect any impact from the former site fuel release in the deeper groundwater sample. This completes the vertical delineation of the site, and shows that impact to groundwater was limited to the Shallow Zone, where extensive groundwater monitoring demonstrates no significant hydrocarbon remain.

4.30 Confirmation Shallow Groundwater Monitoring (Task 3): Confirmation shallow groundwater sampling of all 10 shallow groundwater monitoring wells took place on March 23, 2005. Results were previously reported in our Semi-Annual Groundwater Monitoring report dated April 11, 2005.

Groundwater samples were collected from all site monitoring wells in accordance with directives from Environmental Health dated May 13, 2004, and analyzed for Total Petroleum Hydrocarbons as gasoline (TPH-g) by EPA Method GC/MS, and benzene, toluene, ethylbenzene, and xylenes (BTEX), Methyl tert Butyl Ether (MTBE), Fuel Oxygenates (Di-isopropyl Ether, tertiary Butyl Alcohol, Ethyl tertiary Butyl Ether, tertiary Amyl Methyl Ether, and Ethanol) by EPA Method 8260. Per our *Workplan Addendum* dated January 27, 2005, groundwater samples collected from wells MW-3, 5, 8, 9, and 10 were additionally analyzed for Bio-parameters including ORP, methane, nitrate, sulfate, and dissolved ferrous iron. The groundwater analytical results for this sampling event are summarized below.

Summary of Petroleum Hydrocarbon Groundwater Sample Analytical Results
(March 23, 2005)
(all groundwater results in µg/L, parts per billion, ppb)

Well ID	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-3	540	ND	ND	2.0	ND	ND
MW-4	ND	ND	ND	ND	ND	ND
MW-5	120	3.5	0.67	4.5	9.3	ND
MW-6	160	ND	ND	1.6	ND	ND
MW-7	ND	ND	ND	ND	ND	ND

Well ID	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-8	ND	ND	ND	ND	ND	ND
MW-9	1,100	< 1	< 1	48	31	< 6
MW-10	ND	ND	ND	ND	ND	ND
MW-11	ND	ND	ND	ND	ND	ND
MW-12	ND	ND	ND	ND	ND	ND
PQLs	25	0.5	0.5	0.5	1	1
MCL	1,000	1	150	700	1,750	5
RWQCB - SFBR **Final ESLs**	100 (T&O)	1 (DWT)	40 (T&O)	30 (T&O)	13 (AHG)	5 (T&O)
ACEH Proposed Cleanup Goals (10 times the ESLs)	1000	10	400	300	130	50

ACEH proposed cleanup goals for contaminants are for levels that may migrate off-site and are to be no greater than 10 times that of the contaminants most conservative screening level. All offsite wells exhibited no contaminant concentrations this quarter. Only on-site well MW-9 marginally exceeded the respective "proposed cleanup goals" of 1000 ppb TPH (g), with 1,100 ppb TPH (g) detected. Therefore, this data indicates groundwater onsite (except close to MW-9, and in no other monitoring well) and migrating off-site meets all proposed cleanup goals. Therefore all groundwater cleanup goals have been achieved.

4.40 Groundwater Monitoring & Sampling for Bioparameters (Task 4): Monitoring wells MW-3, 5, 8, 9, and 10 were analyzed for bio-parameters during the recent groundwater monitoring event to provide further evidence of biodegradation. The laboratory's Certified Analytical Reports for the groundwater samples is presented as Appendix B. All laboratory quality control and quality assurance data were within acceptable limits.

On-site core impacted well MW-3, 5, and 9 exhibit comparable, and relatively lower concentrations of D.O., ORP, and sulfate relative to upgradient well MW-8. The relatively lower D.O. concentrations, and detections of methane suggest that anaerobic biodegradation is occurring in the shallow aquifer surrounding these monitoring wells, as the environment for aerobic degradation appears to be limited in the necessary resources (i.e. D.O.). The detections of ferrous iron in wells MW-3, and 5 further suggests the activity of anaerobic bio-degradation, as ferric iron (Fe^{3+}) is used as an electron acceptor during anaerobic biodegradation of petroleum hydrocarbons (Buscheck & O'Reilly, 1995).

Down-gradient well MW-10 exhibits some of the lowest concentrations of D.O., ORP, nitrate, and sulfate in comparison to the other transect wells. These lower concentrations suggest that downgradient aquifer is experiencing anaerobic biodegradation. However, methane and ferrous iron were not detected in well MW-10, suggesting the contradiction that anaerobic processes are not active in this well. The lower concentrations of anaerobic biodegradation indicators may be a result of this wells position in the anoxic shadow of the on-site impacted wells.

The relative concentrations of biological parameters measured on March 23, 2005 indicate that natural attenuation of dissolved petroleum hydrocarbons via biological remediation is occurring at this site through both aerobic, and anaerobic processes.

Based on the foregoing, WHA recommends site closure and requests approval to properly destroy all the monitoring wells associated with this site.

5.0 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,

By: _____

Patrick Hoban
Senior Geologist

REGISTERED GEOLOGIST
JOSEPH P. HAYES
No. 1629
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Joseph Hayes
Principal Hydrogeologist

6.0 REFERENCES

AGI Technologies reports for work completed at 19984 Meekland Avenue, Hayward:

- August 29, 1994. *Quarterly Groundwater Monitoring*
- September 19, 1994. *Quarterly Groundwater Monitoring*
- February 1, 1995. *Quarterly Groundwater Monitoring*
- August 16, 1995. *Development of Risk-Based Cleanup Standards*
- November 9, 1995. *Work Plan Off-Site Contamination Assessment*
- November 29, 1995. *Quarterly Groundwater Monitoring*
- April 30, 1996. *Quarterly Groundwater Monitoring*
- January 6, 1997. *September 1996 Quarterly Groundwater Monitoring*
- February 4, 1998. *Final Report Development of Risk-Based Cleanup Standards*

Alameda County Health Care Services Agency, Environmental Health Services letters and directives:

- June 17, 1999: *Requests for Additions/Modifications to the Risk Assessment*
- July 11, 2000: *Groundwater Monitoring and Work Plan Request*
- August 8, 2000:*Groundwater Monitoring and Work Plan Request - Clarification*
- November 1, 2000: *Approval of Work Plan for Soil and Groundwater Sampling*
- November 15, 2000: *Review of Third Quarter 2000 Groundwater Monitoring Report*
- December 4, 2000. *Approval of Work Plan for Soil and Groundwater Sampling*
- February 21, 2001: *Concurrence with work proposed in Fourth Quarter 2000 Groundwater Monitoring Report*
- June 26, 2001: *Concurrence with work proposed in First Quarter 2001 Groundwater Monitoring Report*
- November 29, 2001: *Receipt of "Status Report-UST Assessment and Cleanup" dated November 6, 2001, and Concurrence with work proposed in Second Quarter 2001 Groundwater Monitoring Report*
- December 13, 2001: *Concurrence with work proposed in Addendum to Interim Remedial Action and Modified Feasibility Study*
- January 14, 2002: *10% Increase in Interim Remedial Action Costs Acceptable*
- January 28, 2002: *Time Extension for Submitting Excavation / Interim Remedial Action Report*
- October 23, 2002: *Concurrence with Recommendations to Continue Groundwater Monitoring and Calculate Active Cleanup Goals*
- April 15, 2003 (e-mail): *Concurrence with Recommendations for Well/Conduit Study, and increase search Radius to ½ Mile*
- May 13, 2004: *RE: SWI, SCM and Case Closure Request*

Applied Geosystems reports for work completed at 19984 Meekland Avenue, Hayward:

- July 20, 1986: Subsurface Environmental Investigation, Two Soil Borings, and Monitoring Well Installation

Bushek, Tim, and Kirk O'Reilly

- March 1995:*Protocol for Monitoring Intrinsic Bioremediation in Groundwater*, Chevron Research and Development Company, Health, Environment &Safety Group

California Regional Water Quality Control Board, San Francisco Bay Region,

- December 2001: *Application of Risk-Base Screening Levels and Decision Making to Sites with*

Impacted Soil and Groundwater Interim Final
- July 2003: *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*
- May 2003: *A Comprehensive Groundwater Protection Evaluation for the South San Francisco*
- *Bay Basins*

CTTS, Inc., Toxic Technology Services reports for work completed at 19984 Meekland Avenue, Hayward:
- September 13, 1989. *Report on Underground Tank Removal*
- November 27, 1990. *Phase II Report*
- undated, *Amendment #1, Proposed Remediation for on Site Soil Contamination*
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- July 30, 2004 *Soil and Groundwater Investigation Workplan, Former Durham Transportation Facility, 19984 Meekland Avenue, Hayward, CA*
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- April 11, 2005, Semi-Annual Groundwater Monitoring Report, *Former Durham Transportation Facility, 19984 Meekland Avenue, Hayward, CA*

Table 1

Summary of Groundwater Elevation and PHC Analytical Data

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

Monitoring Point Information						Laboratory Analytical Results											Field Measurements	
						Total Petroleum Hydrocarbons	Volatile Organic Compounds								Lead Scavengers		Dissolved	Redox
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)	TBA (ug/L)	Ethanol (ug/L)	Fuel Oxygenates (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	Oxygen (mg/L)	Potential (ORP) (mV)
MW-3	55 44	20 - 40?																
		▲	03/23/05	20.16	35.28	540	ND	ND	2.0	ND	ND	ND	ND	ND	--	--	0.30	153
			09/23/04	24.26	31 18	160	ND	ND	2.9	ND	ND	ND	ND	ND	ND	ND	0.39	112
			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?																
		▲	03/23/05	20.45	35.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	0.14	341
			09/23/04	24.47	31.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.94	297
			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																
		▲	03/23/05	20.14	35.89	120	3.5	0.67	4.5	9.3	ND	ND	ND	ND	--	--	0.36	196
			09/23/04	24 79	31.24	7,000	470	86	1,000	2,200	< 6	< 200	< 2,000	< 100	< 10	< 10	0.20	64
			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																
		▲	03/23/05	20.71	35.30	160	ND	ND	1.6	ND	ND	ND	ND	ND	--	--	0.19	166
			09/23/04	24.81	31.20	4,400	< 2.5	< 2.5	350	79	< 1.5	< 50	< 500	< 25	< 2.5	< 2.5	0.16	34
			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	23.82	32.46	1,800	< 1.25	4.1	87	5.3	< 1.5*	--	--	--	--	--	0.09	229
			03/21/02	23.11	32.90	750	3.77	1.2	39	3.2	ND*	--	--	--	--	--	0.1	--
			12/18/01	24.16	31.85	2,700	39	8.7	320	110	< 1.5*	--	--	--	--	--	--	--
			09/20/01	24.12	31.89	2,500	41	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	810	2.2	ND	37	4.8	ND*	--	--	--	--	--	0.5	--
			01/12/01	23.21	32.74	2,300	16	12	280	60	ND*	--	--	--	--	--	0.5	--
			09/27/00	23.36	32.57	1,300	ND	4.2	200	15	ND	--	--	ND	--	--	0.5	--
Practical Quantitation Limit						▲ 25 / 50	0.5	0.5	0.5	1	1	10	100	5	0.5	0.5	--	--
Maximum Contaminant Levels (MCLs) / Action Levels (AIs)						1,000	1	150	700	1,750	***5	**12	--	-	0.5	0.5	--	--
RWQCB-SFBR Final ESLs (basis)						100 (T&O)	1 (DWT)	40 (T&O)	30 (T&O)	13 (AHG)	5 (T&O)	--	--	--	--	--	--	--
Proposed Cleanup Levels (10 times the ESLs)						1,000	10	400	300	130	50	--	--	--	--	--	--	--

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

Monitoring Point Information						Laboratory Analytical Results											Field Measurements	
						Total Petroleum Hydrocarbons	Volatile Organic Compounds								Lead Scavengers			
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)	TBA (ug/L)	Ethanol (ug/L)	Fuel Oxygenates (ug/L)	1,2-DCA (ug/L)	EDB (ug/L)	Dissolved Oxygen (mg/L)	Redox Potential (ORP) (mV)
MW-7	56.66	25 - 45																
			03/23/05	21.23	35.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	0.16	279
		▲	09/23/04	25.38	31.28	ND	ND	ND	0.73	ND	ND	ND	ND	ND	ND	ND	0.90	301
			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																
			03/23/05	20.70	35.46	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	1.76	339
		▲	09/23/04	24.81	31.35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.92	301
			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																
			03/23/05	19.98	35.23	1,100	< 1	< 1	48	31	< 6	< 20	< 200	< 10	--	--	0.21	237
		▲	09/23/04	24.00	31.21	1,900	< 2.5	< 2.5	230	180	< 1.5	< 50	< 500	< 25	< 2.5	< 2.5	0.26	190
			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																
			03/23/05	19.67	35.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	0.23	167
		▲	09/23/04	23.81	30.93	600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.63	160
			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	7.3	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	510****	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	860	ND	ND	ND	ND	ND	--	--	ND	--	--	0.4	--
Practical Quantitation Limit						*▲ 25 / 50*	*0.5*	*0.5*	*0.5*	*1*	*1*	*10*	*100*	*5*	*0.5*	*0.5*	--	--
Maximum Contaminant Levels (MCLs) / Action Levels (Als)						*1,000*	*1*	*150*	*700*	*1.750*	****5*	***12*	--	--	*0.5*	*0.5*	--	--
RWQCB-SFBR Final ESLs (basis)						*100 (T&O)*	*1 (DWT)*	*40 (T&O)*	*30 (T&O)*	*13 (AHG)*	*5 (T&O)*	--	--	--	--	--	--	--
Proposed Cleanup Levels (10 times the ESLs)						*1,000*	*10*	*400*	*300*	*130*	*50*	--	--	--	--	--	--	--

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Monitoring Point Information						*Laboratory Analytical Results*											*Field Measurements*	
						Total Petroleum Hydrocarbons	*Volatile Organic Compounds*								*Lead Scavengers*			
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)*	*TBA (ug/L)*	*Ethanol (ug/L)*	*Fuel Oxygenates (ug/L)*	*1,2-DCA (ug/L)*	*EDB (ug/L)*	*Dissolved Oxygen (mg/L)*	*Redox Potential (ORP) (mV)*
MW-11	55.20	25 - 40																
			03/23/05	19.93	35.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	0.28	347
		▲	09/23/04	24.04	31.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50	301
			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																
			03/23/05	21.02	35.47	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	1.28	323
		▲	09/23/04	25.16	31.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.92	298
			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	[illegible]	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	--
DP-9 ▲▲	hydropunch sample		02/23/01	24		25,000	680	160	3000	5,600	<1000	--	--	--	--	--	--	--
Practical Quantitation Limit:						***25 / 50**	**0.5**	**0.5**	**0.5**	**[illegible]**	**1**	**10**	**100**	**5**	**0.5**	**0.5**	**--**	**--**
Maximum Contaminant Levels (MCLs) / Action Levels (Als)						**1,000**	**1**	**150**	**700**	**1,750**	*****5**	****12**	**--**	**--**	**0.5**	**0.5**	**--**	**--**
RWQCB-SFBR Final ESLs (basis):						**100 (T&O)**	**1 (DWT)**	**40 (T&O)**	**30 (T&O)**	**13 (AHG)**	**5 (T&O)**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
Proposed Cleanup Levels (10 times the ESLs):						**1,000**	**10**	**400**	**300**	**130**	**50**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

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)
1,2-DCA = 1,2-Dichloroethane
EDB= 1,2-Dibromoethane
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).
RWQCB-SFBR = California Regional Water Quality Control Board, San Francisco Bay Region
Final ESLs = "Final" Environmental Screening Levels based on the lowest (most conservative) screening level (T&O, DWT, or AHG) established by RWQCB-SFBR for the protection of groundwater quality
T&O = Taste & Odor DWT = Drinking Water Toxicity AHG = Aquatic Habitat Goal
Proposed Cleanup Levels = based on shallow groundwater being a potential groundwater resource
** 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*
▲ = Groundwater samples collected on September 23, 2004 have all been analyzed by EPA Method GC - MS 8260B. This [illegible] method is more accurate and as a result the laboratory's Practical Quantitation Limit for TPH-g is 25 ppb. All groundwater samples collected from this date forward will be analyzed by these EPA Methods
All groundwater samples collected from this date forward will be analyzed by these EPA Methods
▲▲ = DP-9 was a grab sample obtained during driven probe soil characterization. AHA report June 2001

Table 2 - A
Summary of Historical Groundwater Analytical Data (- 1986 through 1996)
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
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 – 4

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	
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 - 4

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
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	180	200	590	ND	ND	26	
	04/92	7,200	1,800 [a]	NA	340	350	460	820	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 - A
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	860	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	460	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	8,100	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	6,000	2,100 [a]	ND	69	7.9	ND	490	ND	ND	16	

Table 2 - A

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
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 - B
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
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 - B
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	07/28/94	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	07/28/94	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	07/28/94	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	07/28/94	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 - B
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
MW12	07/28/94	240	160	1.9	12	ND	5.8	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_6-C_{12}), possibly gasoline.
c) Hydrocarbons quantified as diesel are due to the presence of a lighter petroleum product (C_6-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.

TABLE 2C (page 1 of 3)

GROUNDWATER ELEVATIONS (feet above MSL)
DURHAM TRANSPORTATION--MEEKLAND PROJECT

DATE	MW1	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11
Jan-91	25.18	25.16	25.22	25.54	25.16	25.21	.	.	.	.
Feb-91	25.44	25.38	25.45	25.39	25.40	25.46	25.48	25.40	.	.
Mar-91	27.48	27.45	29.56	26.62	27.46	27.50	27.40	27.40	.	.
Apr-91	28.15	28.09	27.99	28.04	28.00	28.02	28.06	27.99	.	.
May-91	27.18	27.12	27.16	27.17	27.11	27.19	27.19	27.13	.	.
Jun-91	26.54	26.45	26.56	26.77	26.46	26.53	26.57	26.58	.	.
Jul-91	26.12	26.04	26.05	26.13	26.04	26.10	26.13	26.04	.	.
Aug-91	25.59	25.49	25.62	25.37	25.50	25.59	25.60	25.52	.	.
Sep-91	25.15	25.18	25.18	25.49	25.06	25.16	25.18	25.15	.	.
Oct-91	24.88	24.86	24.92	25.00	24.82	24.97	24.94	24.84	.	.
Nov-91	24.96	24.90	24.97	24.94	24.87	24.94	24.96	24.89	.	.
Dec-91	24.76	24.69	24.78	24.89	24.67	24.76	24.79	24.70	.	.
Jan-92	25.39	25.31	25.28	25.48	25.31	25.37	25.37	25.32	25.16	25.90
Feb-92	28.24	28.23	28.22	28.24	28.15	28.24	28.26	28.19	28.37	28.18
Mar-92	28.46	28.54	28.46	28.49	28.40	28.46	28.59	28.42	28.32	28.41
Apr-92	28.49	28.43	28.48	28.39	28.43	28.49	28.51	28.44	28.32	28.44
May-92	27.77	27.76	27.75	27.79	27.56	27.75	27.79	27.70	27.67	27.68
Jun-92	26.91	26.92	26.87	26.88	26.81	26.87	26.92	26.81	26.64	26.76
Jul-92	26.50	26.40	26.47	26.49	26.41	28.16	26.53	26.41	26.23	26.37
Aug-92	25.86	25.88	25.85	25.81	25.76	25.83	25.88	25.79	25.26	26.07
Sep-92	25.65	25.68	25.64	25.60	25.56	25.61	25.67	25.56	25.39	25.54

AGI TECHNOLOGIES

Table 2C (Page 2 of 3)
Groundwater Elevation Monitoring Data
19984 Meekland Avenue
Hayward, California

Monitoring Well ID	Date Monitored	Groundwater Elevation Monitoring Data			
		Field Measurement Data			Groundwater Elevation (feet)
		Depth to Water (feet)	Reference	Reference Elevation (feet above benchmark*)	
MW3	07/28/94	26.37	TOC	100.00	73.63
MW4	07/28/94	26.54	TOC	100.27	73.73
MW5	07/28/94	27.00	TOC	100.59	73.59
MW6	07/28/94	26.94	TOC	100.57	73.63
MW7	07/28/94	27.54	TOC	101.22	73.68
MW8	07/28/94	26.97	TOC	100.72	73.75
MW9	07/28/94	26.12	TOC	99.77	73.65
MW10	07/28/94	25.81	TOC	99.29	73.48
MW11	07/28/94	26.19	TOC	99.75	73.56
MW12	07/28/94	27.34	TOC	101.03	73.69

Notes:

* - On-site benchmark (survey mark at top of casing of MW3) with assumed elevation of 100 feet above Mean Sea Level.
TOC - Top of monitoring well casing (at survey mark).

AGI TECHNOLOGIES

Table 1C (PAGE 3 of 3)

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.

Table 3-A

Summary of Historical Soil Analytical Data

Harbert Transportation/Meekland Avenue

Hayward, California

AGI TECHNOLOGIES

Sample Number	Date Sampled	Depth (ft)	EPA Test Method									
			8015 Modified			8020				8010		
			TPH-G	TPH-D	TPH-MO	Benzene	thylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA
			mg/kg			mg/kg				mg/kg		
B-1	06/30/86	20.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-2	06/30/86	20.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW1	06/30/86	20.0	240 [d]	NA	NA	NA	NA	NA	NA	NA	NA	NA
T1-E	08/11/89	13.0	2.208	NA	NA	ND	33	59	180	NA	NA	NA
T1-W	08/11/89	11.0	5.203	NA	NA	12	67	83	420	NA	NA	NA
T2-E	08/11/89	13.0	6.178	NA	NA	ND	56	68	360	NA	NA	NA
T2-W	08/11/89	13.0	0.0124	NA	NA	ND	ND	ND	ND	NA	NA	NA
T3-E	08/11/89	13.0	2.857	NA	NA	1.9	36 [c]	17	220 [c]	NA	NA	NA
T3-W	08/11/89	13.0	ND	NA	NA	ND	0.013	0.026	0.11	NA	NA	NA
T4	08/11/89	7.5	ND	ND	NA	ND	0.012	0.03	0.14	NA	NA	NA
B-3	11/28/89	20.5	ND	NA	NA	0.13	ND	0.022	ND	0.2	ND	ND
B-3	11/28/89	25.5	52	NA	NA	0.44	0.2	0.48	0.93	ND	ND	ND
B-3	11/28/89	30.5	23	NA	NA	0.54	0.21	0.188	0.4	ND	ND	ND
B-4	11/28/89	15.5	ND	NA	NA	0.02	0.013	0.019	ND	NA	NA	NA
B-4	11/28/89	20.5	ND	NA	NA	0.075	0.026	0.02	0.015	NA	NA	NA
B-4	11/28/89	35.5	ND	NA	NA	ND	ND	0.013	ND	NA	NA	NA
MW3	11/28/89	20.5	NA	NA	NA	0.13	ND	0.022	ND	0.2	ND	ND
MW3	11/28/89	25.5	52	NA	NA	0.44	0.2	0.48	0.93	NA	NA	NA
MW3	11/28/89	30.5	23	NA	NA	0.54	0.21	0.188	0.4	NA	NA	NA
MW4	11/28/89	15.5	NA	NA	NA	0.02	0.013	0.019	NA	NA	NA	NA
MW4	11/28/89	20.5	NA	NA	NA	0.075	0.026	0.02	0.015	NA	NA	NA
ABW-12-12	12/12/89	12.0	1.8	NA	NA	0.2	0.024	0.018	0.034	NA	NA	NA
Test Pit #10	06/20/90	7.5	NA	NA	NA	ND	ND	0.005	NA	NA	NA	NA
Test Pit #11	06/20/90	7.5	NA	NA	NA	ND	ND	0.034	NA	NA	NA	NA
Test Pit #7	06/20/90	9.0	NA	NA	16	ND	ND	NA	NA	NA	NA	NA
Test Pit #8	06/20/90	2.5	NA	NA	20	ND	ND	0.069	NA	NA	NA	NA
Test Pit #8	06/20/90	8.0						0.017	NA	NA	NA	NA
Test Pit #9	06/20/90	7.0	NA	NA	NA	ND	ND	0.024	NA	NA	NA	NA

Table 3A
Summary of Historical Soil Analytical Data
Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

Sample Number	Date Sampled	Depth (ft)	EPA Test Method									
			8015 Modified			8020				8010		
			TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA
			mg/kg			mg/kg				mg/kg		
MW6	08/30/90	20.5	ND	ND	ND	0.046	ND	ND	ND	ND	ND	ND
MW6	08/30/90	30.5	23	5.3	ND	0.07	0.06	0.096	0.059	ND	ND	0.0057
MW6	08/30/90	45.5	1.2	ND	ND	0.02	0.015	0.035	0.056	ND	ND	ND
MW5	08/31/90	5.5	ND	ND	ND	ND	ND	0.0039	ND	ND	ND	ND
MW5	08/31/90	10.5	ND	ND	ND	0.037	0.0035	0.016	0.019	ND	ND	0.0024
MW5	08/31/90	20.5	560	6.4	ND	9.6	7.4	22	45	ND	ND	0.061
MW5	08/31/90	45.5	ND	ND	ND	0.014	0.0073	0.021	0.034	ND	ND	ND
TP1	09/04/90	8.5	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
TP2	09/04/90	9.0	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA
TP3	09/04/90	9.0	NA	ND	16	NA	NA	NA	NA	NA	NA	NA
TP4	09/04/90	2.5	ND	ND	20	ND	ND	0.069	ND	ND	ND	ND
TP4	09/04/90	8.0	ND	ND	ND	ND	ND	0.017	ND	ND	ND	ND
TP5	09/04/90	7.0	ND	ND	ND	ND	ND	0.024	ND	NA	NA	NA
TP6	09/04/90	7.5	ND	ND	ND	ND	ND	0.005	ND	ND	ND	ND
TP8	09/04/90	7.5	ND	ND	ND	ND	ND	0.034	NA	ND	ND	ND
B1	10/01/90	5.5	ND	ND	13 [b]	ND	ND	0.036	ND	ND	ND	ND
B1	10/01/90	15.5	ND	ND	ND	0.04	0.0058	0.034	0.025	ND	ND	0.014
B1	10/01/90	25.5	150	3.7	ND	1.2	2.1	2.4	8.4	ND	ND	0.041
MW7	10/01/90	15.5	ND	ND	ND	ND	ND	0.015	ND	ND	ND	ND
MW7	10/01/90	25.5	ND	ND	ND	0.043	0.0034	0.0044	0.01	ND	ND	ND
MW7	10/01/90	35.5	ND	ND	ND	ND	ND	0.027	0.0057	ND	ND	ND
MW7	10/01/90	45.5	1.1	ND	ND	0.0071	0.012	0.036	0.056	ND	ND	ND
MW7	10/01/90	Auger	120	23	ND	0.31	1.7	1.4	6.9	ND	ND	0.0059
MW8	02/13/91	25.0	NA	NA	NA	ND	ND	0 0033	ND	NA	NA	NA
MW8	02/13/91	35.0	NA	NA	NA	ND	ND	0.028	ND	NA	NA	NA
MW9	02/13/91	20.0	2.2	NA	NA	0.15	0.029	0.066	0.067	ND	ND	0.0079
MW9	02/13/91	30.0	39	6	NA	0.18	0.23	0.34	1	NA	ND	0.011
MW9	02/13/91	40.0				ND	ND	0.011	ND	NA	NA	NA

Table 3A

Summary of Historical Soil Analytical Data

Harbert Transportation/Meekland Avenue

Hayward, California

AGI TECHNOLOGIES

Sample Number	Date Sampled	Depth (ft)	EPA Test Method									
			8015-Modified			8020				8010		
			TPH-G	TPH-D	TPH-MO	Benzene	ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA
			mg/kg			mg/kg				mg/kg		
MW10	01/21/92	21.0	ND	ND	NA	0.0044	0.0036	0.014	0.018	ND	ND	ND
MW10	01/21/92	26.0	52	11 [b]	NA	ND	0.33	ND	1.5	ND	ND	ND
MW10	01/21/92	31.0	ND	ND	NA	ND	ND	0.0025	0.0034	ND	ND	ND
MW11	01/24/92	21.0	ND	ND	NA	0.0043	ND	0.008	ND	ND	ND	ND
MW11	01/24/92	30.0	ND	ND	NA	ND	0.0039	0.0041	ND	ND	ND	ND
MW11	01/24/92	35.0	ND	ND	NA	ND	ND	0.0045	ND	ND	ND	ND
MW-12-20-4	12/14/92	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
F-1	02/05/93	8.0	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
F-3 [e]	02/05/93	8.0	2,000	1,300 [a]	ND	ND	2.5	1.6	120	ND	ND	ND
F-6	02/05/93	12.0	3,800	1,300 [a]	ND	ND	ND	ND	20	NA	NA	NA
F-8	02/05/93	12.0	1.1	110 [a]	67	ND	ND	ND	ND	NA	NA	NA
MW-12-30-6		30.0	29	11 [a]	ND	0.078	0.1	ND	0.16	ND	ND	ND
MW-12-40-8		40.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average [f]			138.5	73.4	8.8	0.46	3.35	4.15	25.2	0.013	0.001	0.005
Detection Limit			1.0	1.0	10	0.0025	0.0025	0.0025	0.0025	0.002	0.002	0.002

Notes:

a) The positive result for petroleum hydrocarbons quantified as Diesel appears to be due to the presence of lighter hydrocarbons rather than diesel.

b) The positive result for the motor oil analysis on this sample appears to be a lighter hydrocarbon than diesel.

c) Xylenes and ethylbenzene are over range.

d) Reported as total hydrocarbons by EPA Method 8020.

e) Lead = 52 mg/kg.

f) Average of concentrations, ND equal to 1/2 detection limit.

NA - Not analyzed.

ND - Not detected at indicated detection limit.

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.

1,1-DCA - 1,1-Dichloroethane.

Table 3 B

Summary of Soil Sample Analytical Results

Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, CA

All soil analysis results in parts per million (mg/kg)

Investigation & Date	*Sample ID*	*Sample Depth (feet bgs)*	*TPH-g*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Xylenes*	*MTBE*
Proposed Cleanup Levels*	—	—	100	0.045	2.6	2.5	1.0	N/A
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.

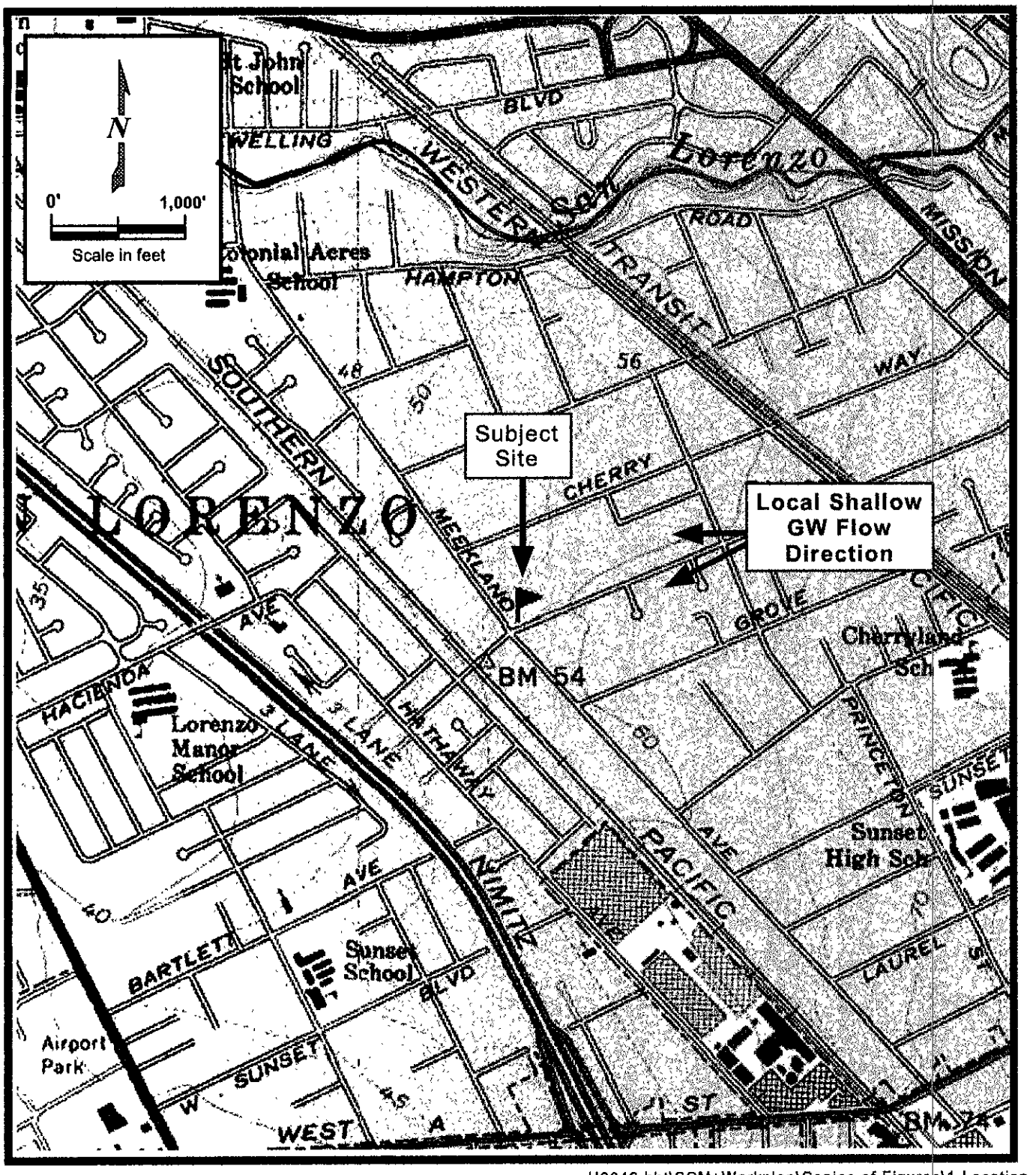
Table 3C

Summary of Soil Sample Analytical Results

Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, CA

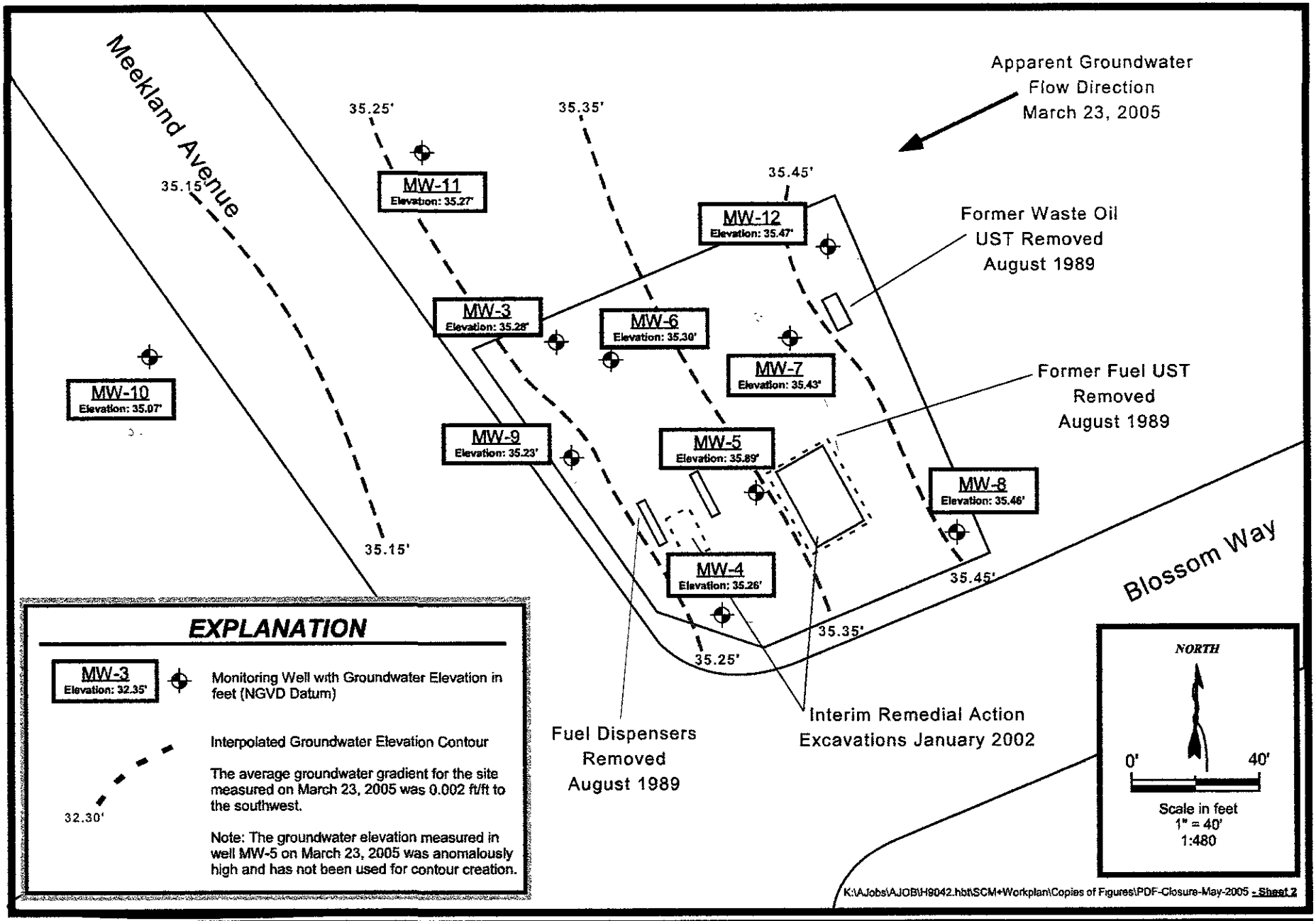
All soil analysis results in parts per million (mg/kg)

Investigation & Date	Sample ID	Sample Depth (feet,bgs)	TPH-g	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE
Proposed Cleanup Levels	--	--	100	0.044	2.6	2.3	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



H9042.hbt\SCM+Workplan\Copies of Figures\1-Location

Weber, Hayes & Associates Hydrogeology and Environmental Engineering 120 Westgate Drive, Watsonville, Ca. 95076 (831) 722 - 3580 (831) 662 - 3100	**Location Map** Former Harbert Transportation Facility 19984 Meekland Avenue Hayward, California	**Figure 1** **Job # H9042**



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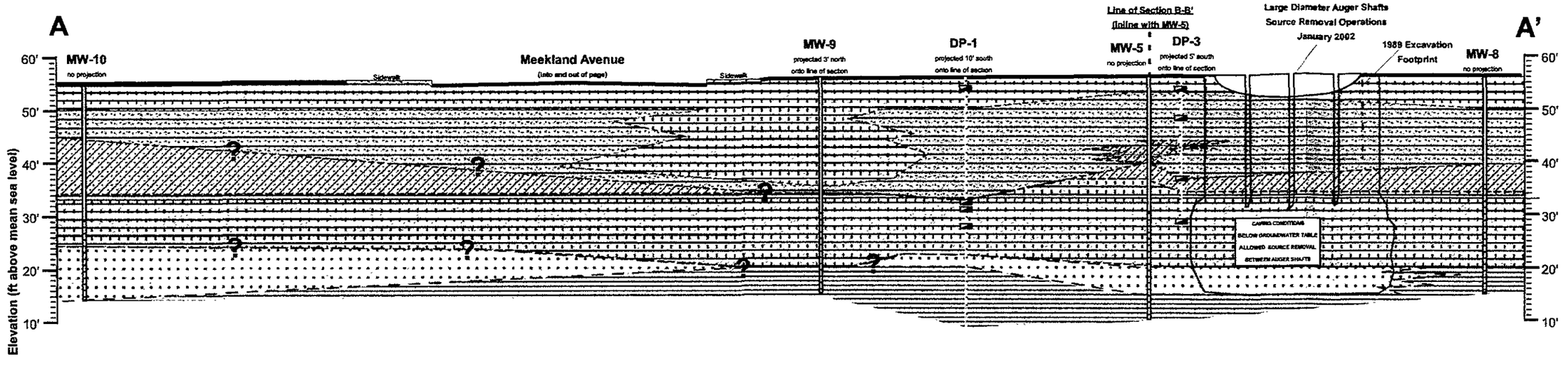
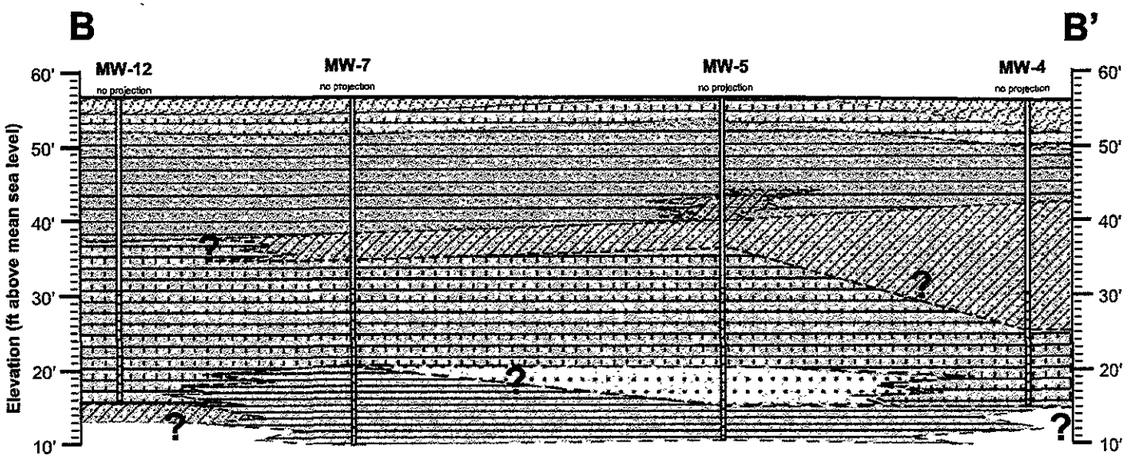
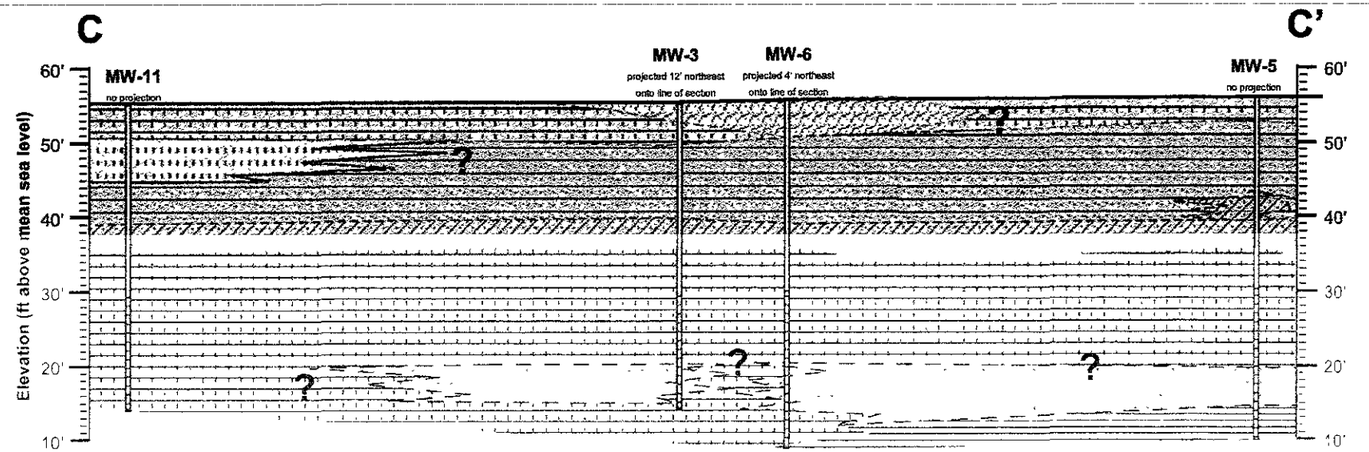
Groundwater Elevations
March 23, 2005
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 4
Project H9042







EXPLANATION:

- **Asphalt.**
- **Lithologic Unit #1 - Sand/Gravel Fill**
- **Lithologic Unit #2 - Fat & Lean CLAY to Clayey Silt:** 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.

SCALE

No Vertical Exaggeration

FIGURE 3
Job # 23022

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

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Residence

Abandoned Water Well (Closed:12/89)

Residence

Apartment Complex

Meekland Avenue

Former Waste Oil Tank (Over-Excavation 1989)

Former Sump (CTTS, Nov. 20, 1990)

Cross Section C-C'

Cross Section B-B'

Cross Section A-A'

Range of Shallow Groundwater Flow Direction (1994-present)

Residence

Sidewalk

Apartment Complex

Former Fuel Dispensers & Product Piping Removed:1989

Former Fuel Tank Excavation (removed:1954)

Former Fuel Tank Excavation (removed:1989)

Residence

Apartment Complex

Hank's Liquor Store

Supermarket Carniceria

Residence

Commercial

Blossom Way

Hoang's Auto Repair

NORTH

0' 40'

Scale in feet

EXPLANATION

- MW-11 — Monitoring Well Location and Designation (CTTS, 1989) (MW's surveyed July 14, 2004)
- Continuous Core Driven Probe Boring (WHA, June 2001)
- Driven Probe Boring (WHA, June 2001)
- LAB-DP-1 — Landfill Acceptance Boring - Driven Probe (WHA, October 2001)
- Confirmation Driven Probe Boring (WHA April 05)
- A——A' Geologic Cross Sections - Refer to Figure 3 For Cross Section Details

FIGURE 2 Job # H9042

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

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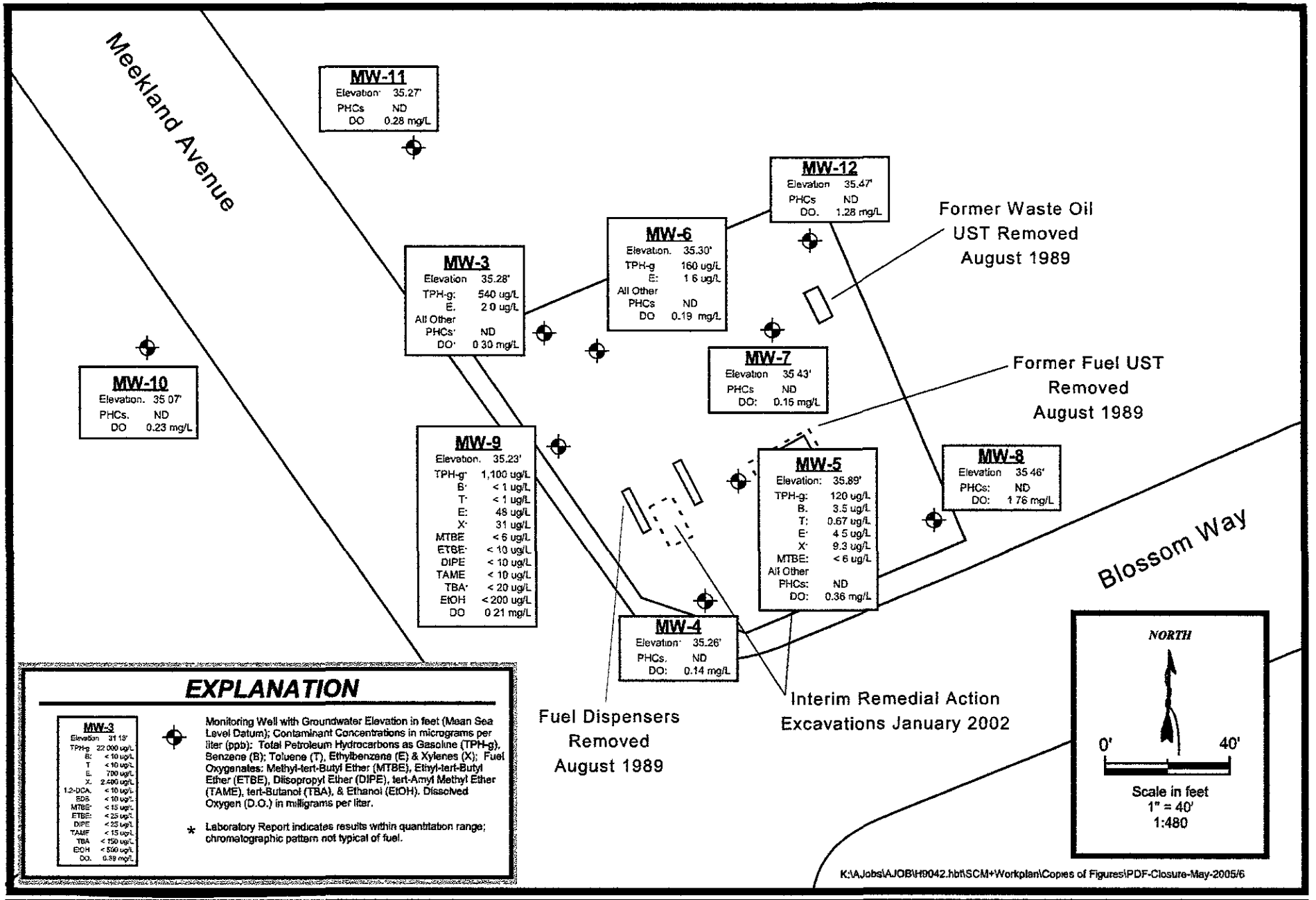

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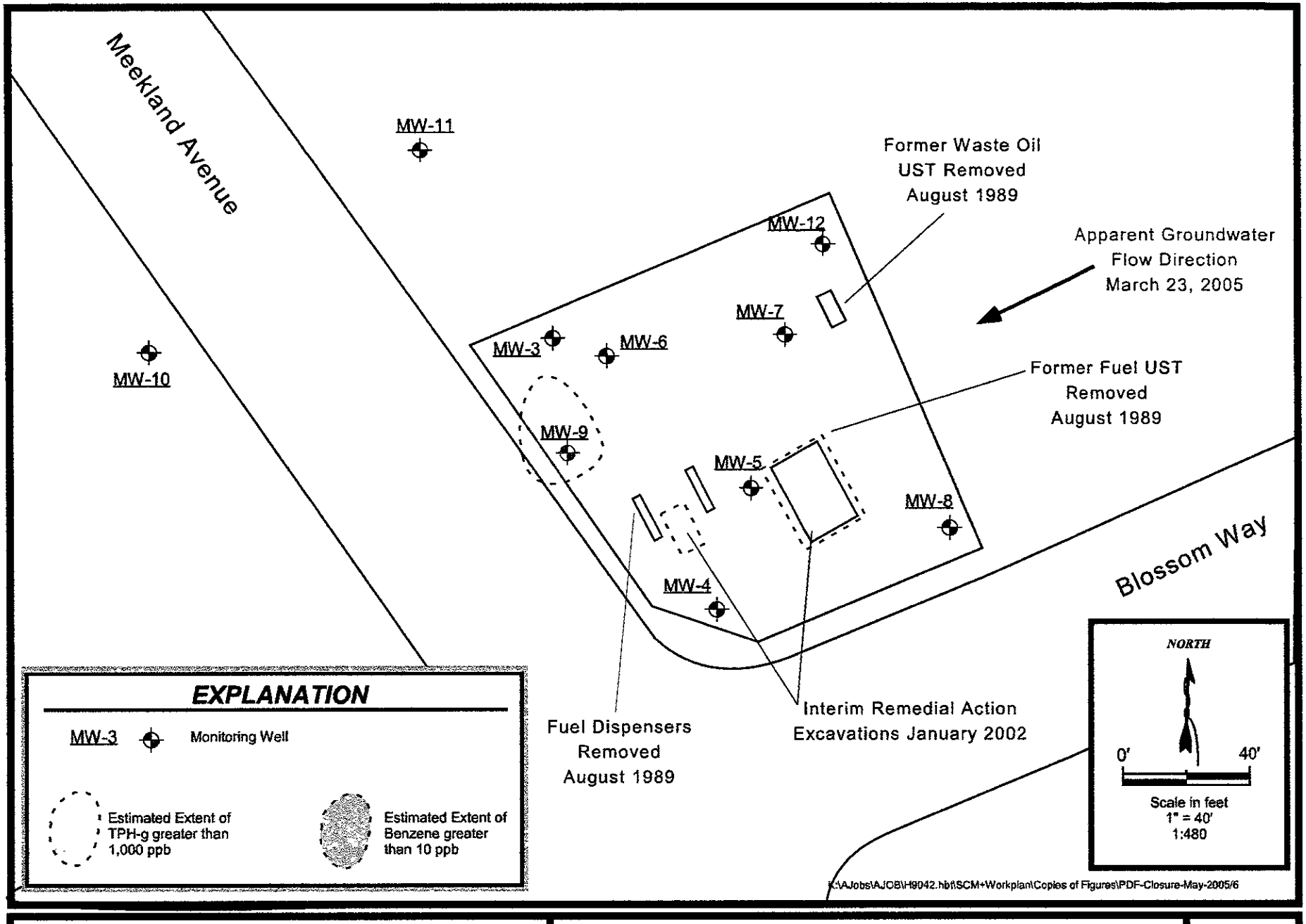
Petroleum Hydrocarbon Concentrations in Groundwater
March 23, 2005
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 5
Project H9042



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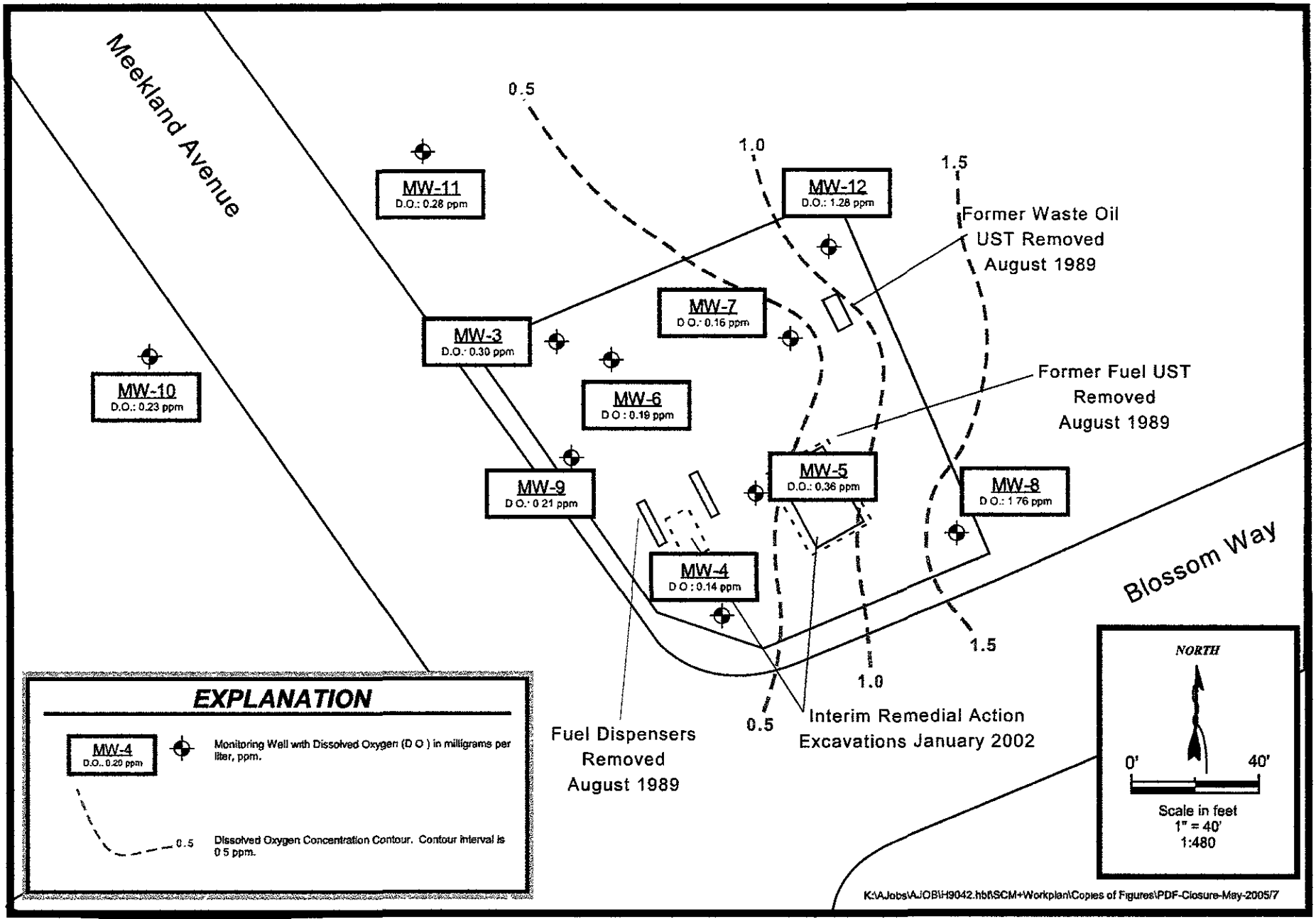
Extent of TPH-g and Benzene in Groundwater
March 23, 2005
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 6
Project H9042



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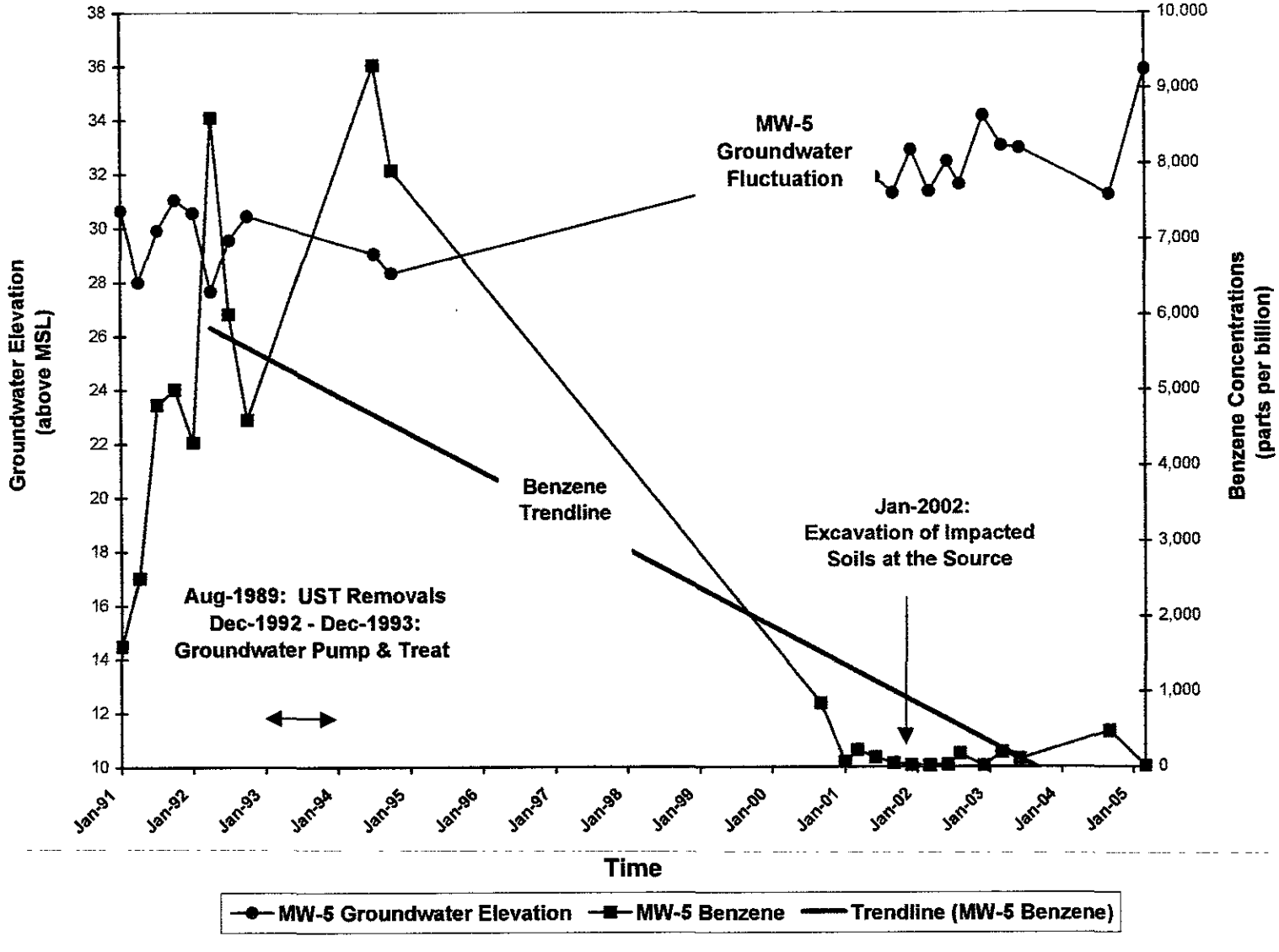
Dissolved Oxygen Contours
March 23, 2005
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 7
Project H9042

Figure 8

MW-5: BENZENE Concentrations from 1990-2005

(MW-5, On-site, immediately adjacent to source -- former UST excavation)



Weber, Hayes and Associates

Figure 9

MW-5: TPH-Gasoline Concentrations from 1990-2005

(MW-5, On-site, immediately adjacent to source -- former UST excavation)

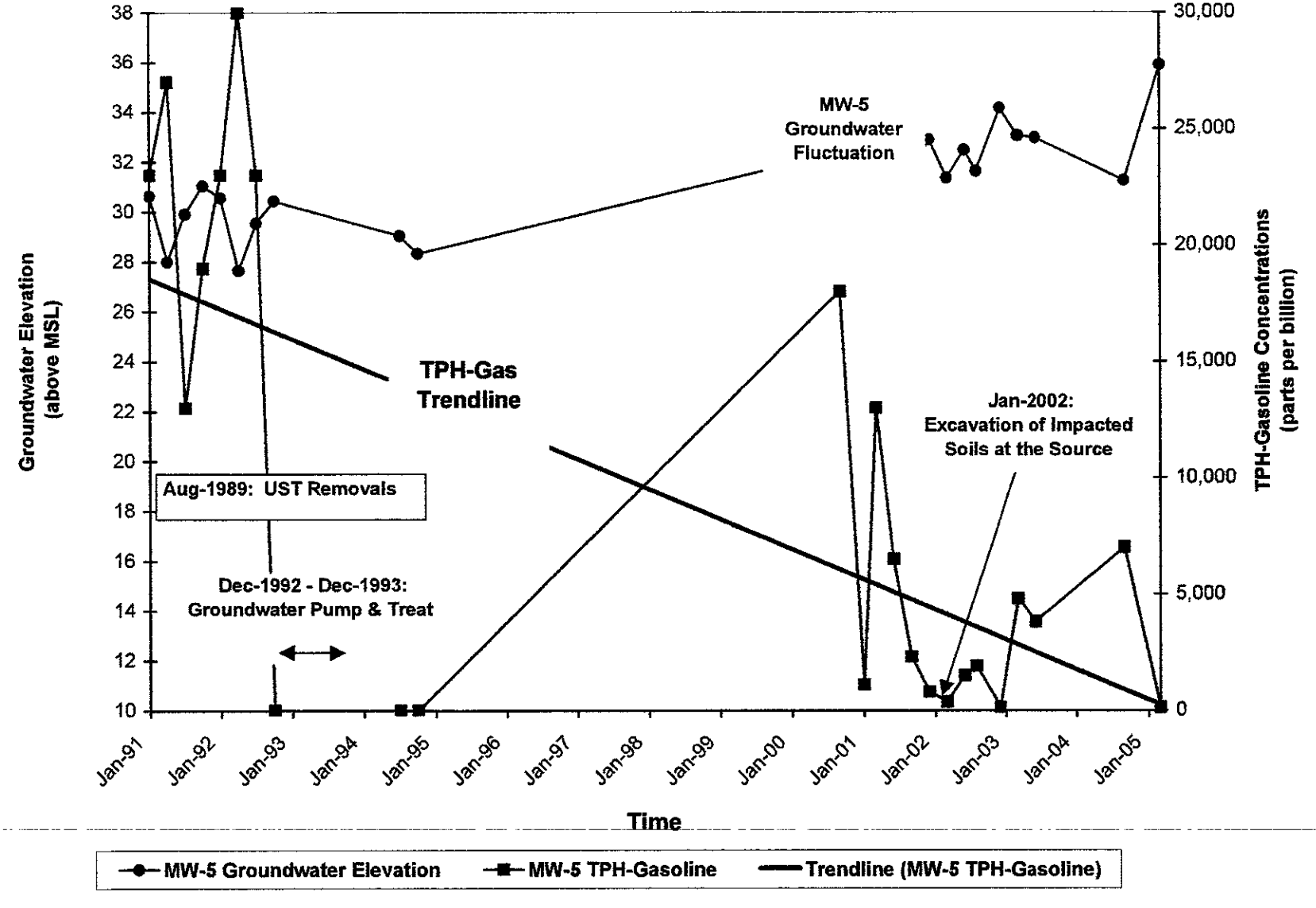


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Figure 10

MW-9: BENZENE Concentrations from 1991-2005

(MW-9, On-site near downgradient property line)

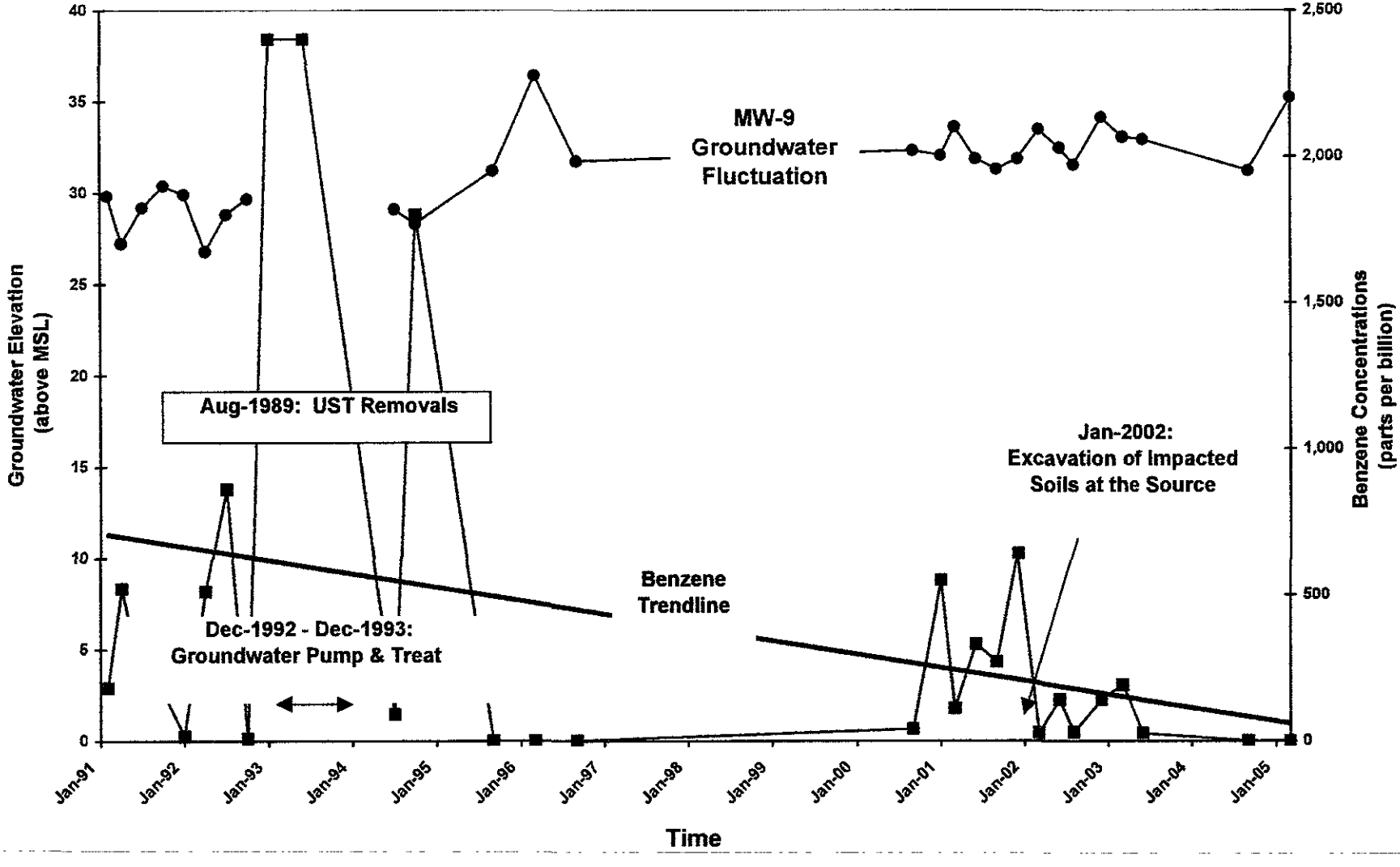

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Figure 11

MW-9: TPH-Gasoline Concentrations from 1991-2005

(MW-9, On-site near downgradient property line)

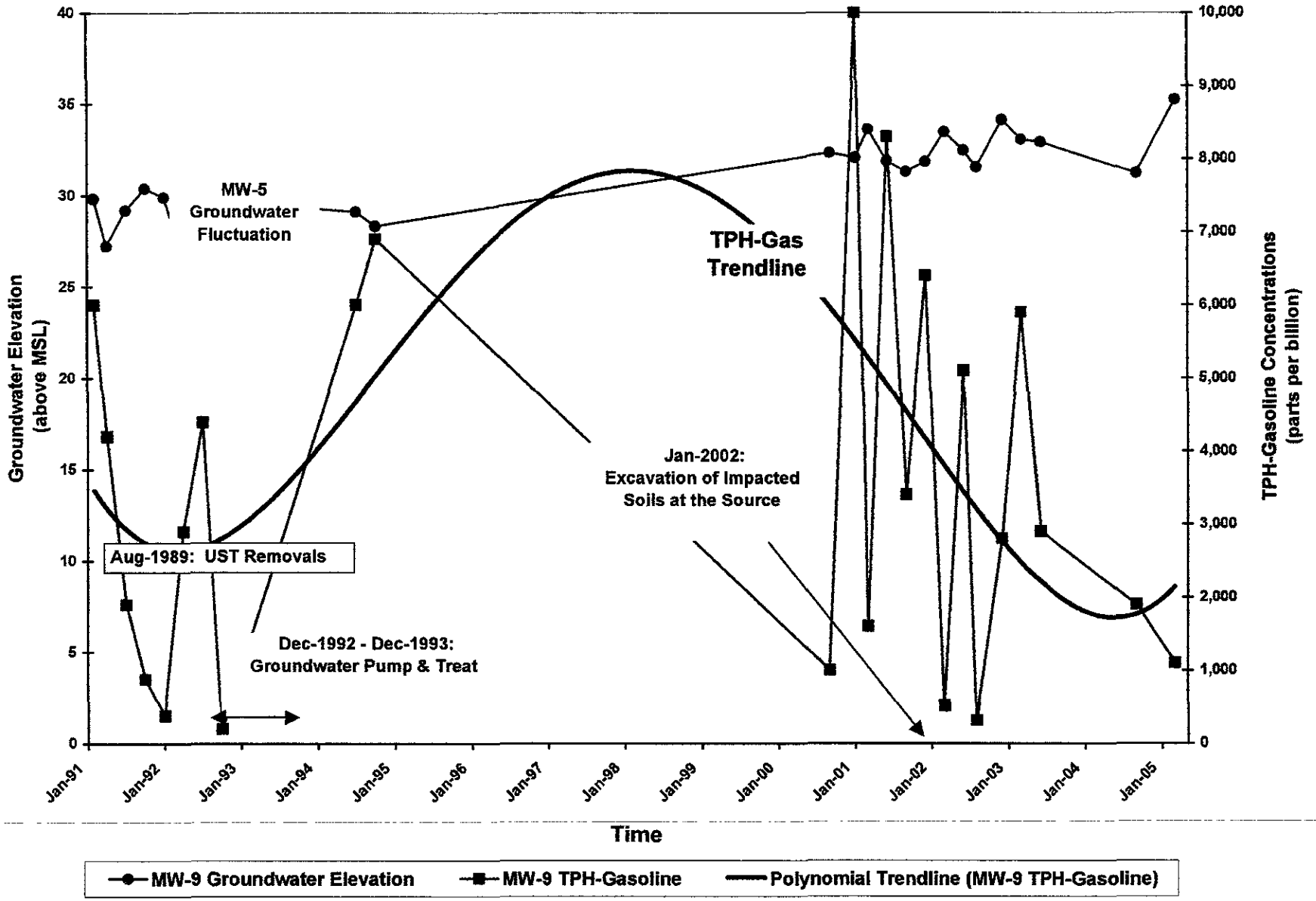

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Figure 12

MW-10: BENZENE Concentrations from 1992-2005

(MW-10, Off-site, downgradient monitoring well)

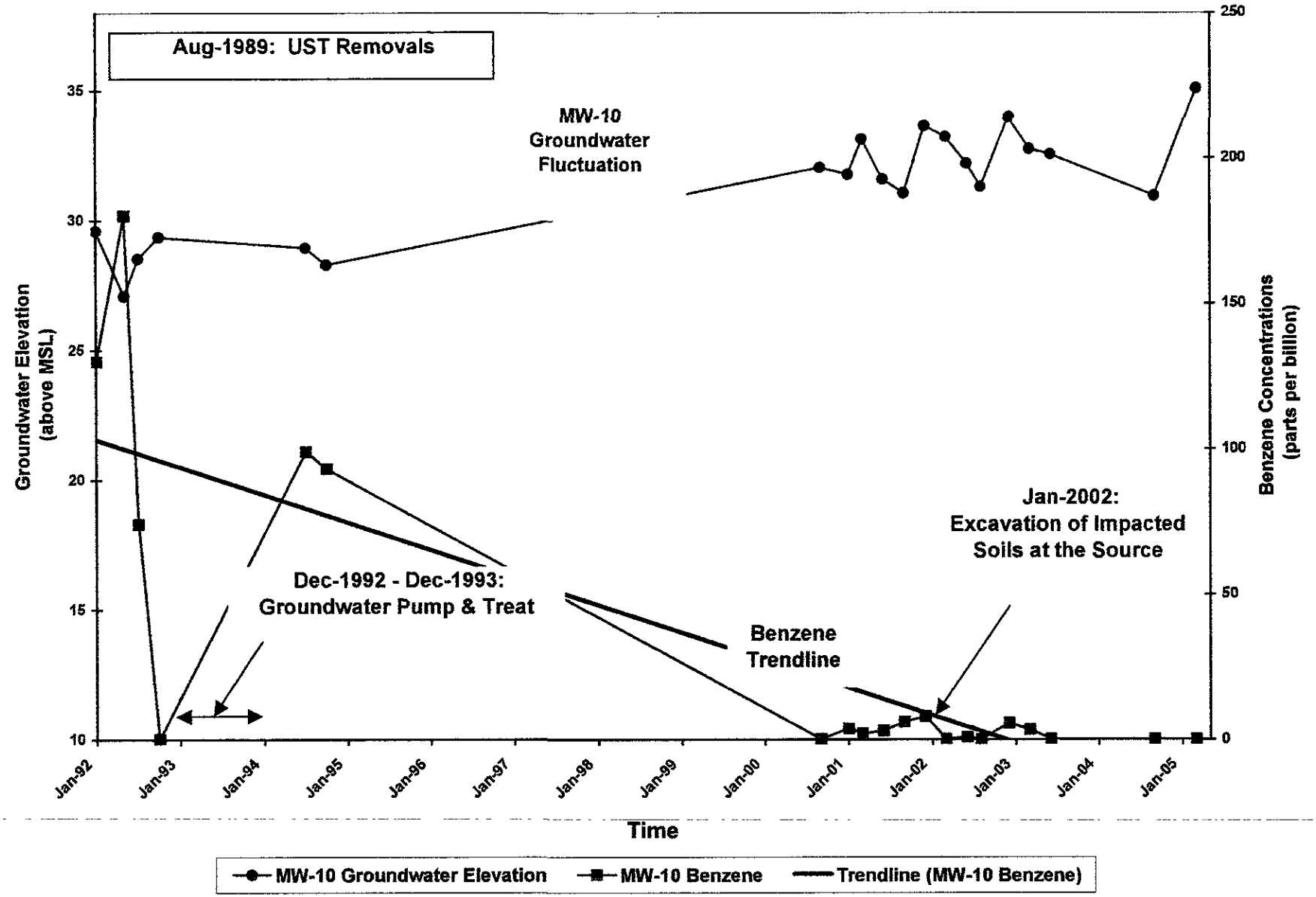

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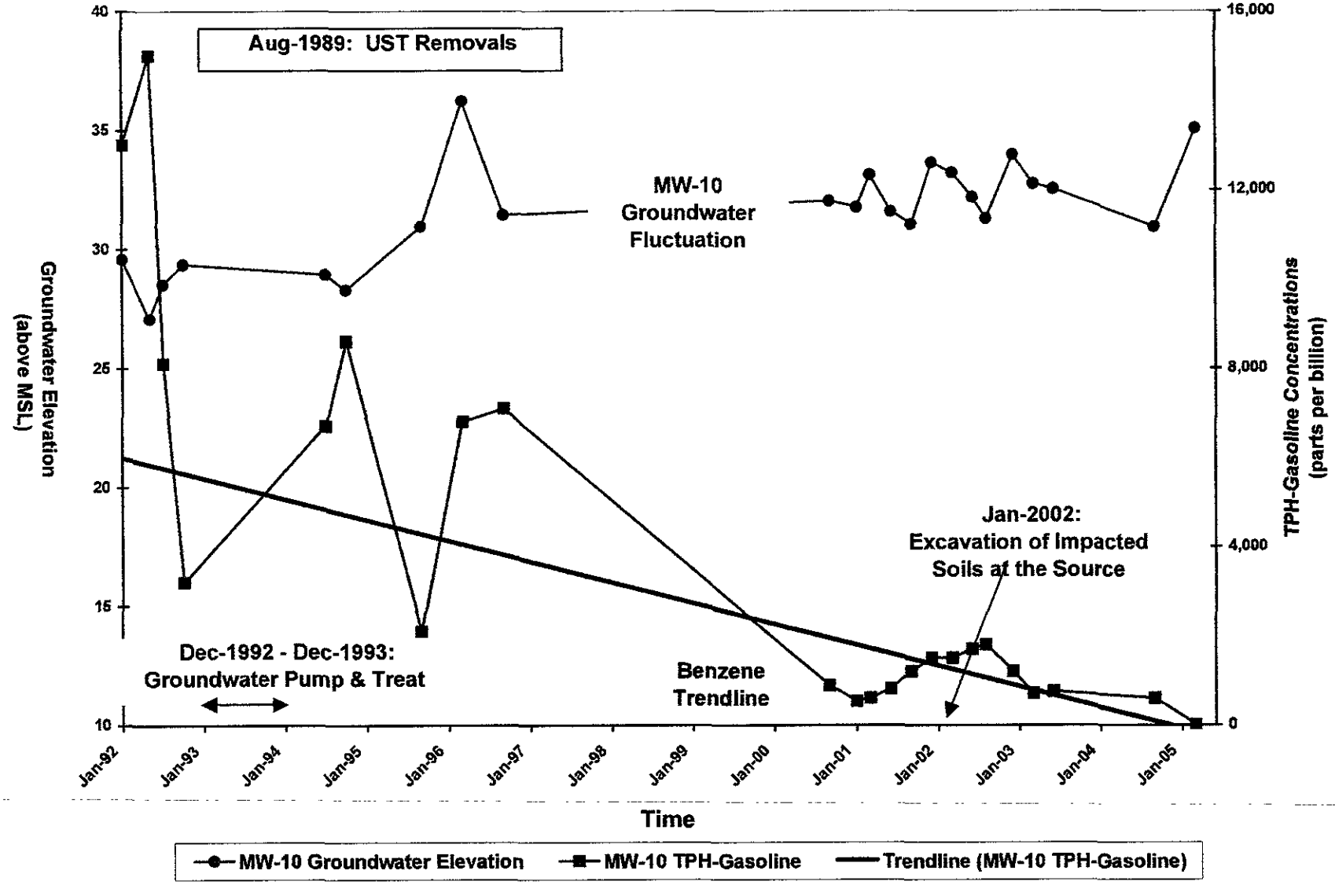
Figure 13

MW-10: TPH-Gasoline Concentrations from 1992-2005

(MW-10, Off-site, downgradient monitoring well)



Weber, Hayes and Associates

APPENDIX A

Gregg Drilling and Testing,
Field Methodology for CPT and Hydropunch Sampling,
w/ Detailed Stratigraphic Log from deep boring

GREGG DRILLING AND TESTING, INC.
GREGG IN SITU, INC.
ENVIRONMENTAL AND GEOTECHNICAL INVESTIGATION SERVICES

May 12, 2005

Weber, Hayes & Associates
Attn: Mr. Aaron Bierman
120 Westgate Dr.
Watsonville, California 95076

Subject: CPT Site Investigation
Harbert Transportation - 19984 Meekland Ave
Hayward, California
GREGG Project Number: 05-161MA

Dear Mr. Bierman:

The following report presents the results of GREGG IN SITU's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	Resistivity Cone Penetration Tests	(RCPTU)	☐
5	UVIF Cone Penetration Tests	(UVIFCPTU)	☐
6	Groundwater Sampling	(GWS)	☒
7	Soil Sampling	(SS)	☒
8	Vapor Sampling	(VS)	☐
9	Vane Shear Testing	(VST)	☐
10	SPT Energy Calibration	(SPTE)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (562) 427-6899.

Sincerely,
GREGG IN SITU, Inc.

Mary Walden
Operations Manager

APPENDIX CPT

Cone Penetration Testing Procedure (CPT)

Gregg In Situ, Inc. carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT.* The soundings were conducted using a 20 ton capacity cone with a tip area of 15 cm^2 and a friction sleeve area of 225 cm^2. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cone takes measurements of cone bearing (q_c), sleeve friction (f_s) and dynamic pore water pressure (u_2) at 5-cm intervals during penetration to provide a nearly continuous hydrogeologic log. CPT data reduction and interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored on disk for further analysis and reference. All CPT soundings are performed in accordance with revised (2002) ASTM standards (D 5778-95).

The cone also contains a porous filter element located directly behind the cone tip (u_2), *Figure CPT.* It consists of porous plastic and is 5.0mm thick. The filter element is used to obtain dynamic pore pressure as the cone is advanced as well as Pore Pressure Dissipation Tests (PPDT's) during appropriate pauses in penetration. It should be noted that prior to penetration, the element is fully saturated with silicon oil under vacuum pressure to ensure accurate and fast dissipation.

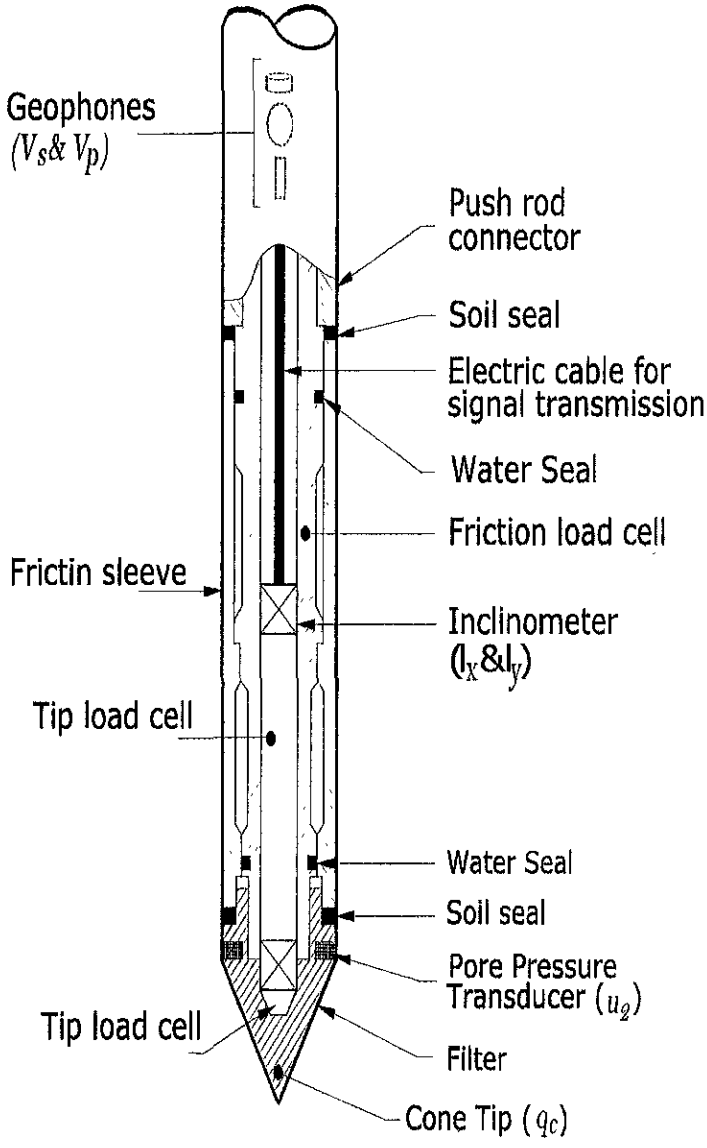


Figure CPT

When the soundings are complete, the test holes are grouted using a Gregg In Situ support rig. The grouting procedure consists of pushing a hollow CPT rod with a "knock out" plug to the termination depth of the test hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

Cone Penetration Test Data & Interpretation

Soil behavior type and stratigraphic interpretation is based on relationships between cone bearing (q_c), sleeve friction (f_s), and pore water pressure (u_2). The friction ratio (R_f) is a calculated parameter defined by $100 f_s/q_c$ and is used to infer soil behavior type. Generally:
Cohesive soils (clays)

- High friction ratio (R_f) due to small cone bearing (q_c)
- Generate large excess pore water pressures (u_2)

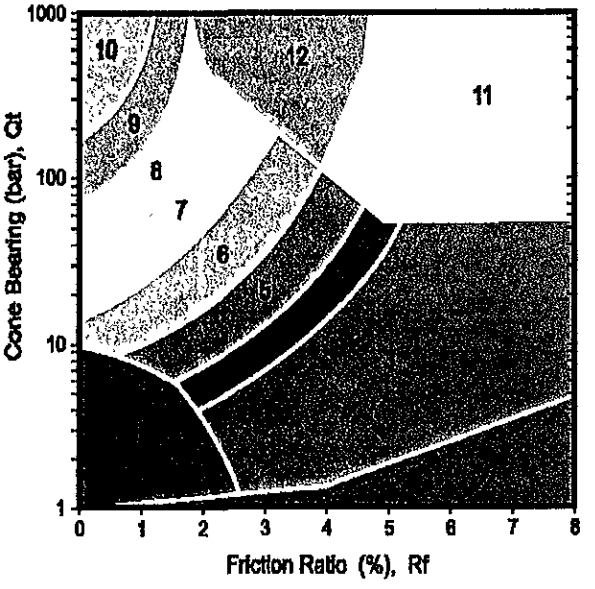
Cohesionless soils (sands)

- Low friction ratio (R_f) due to large cone bearing (q_c)
- Generate very little excess pore water pressures (u_2)

A complete set of baseline readings are taken prior to and at the completion of each sounding to determine temperature shifts and any zero load offsets. Corrections for temperature shifts and zero load offsets can be extremely important, especially when the recorded loads are relatively small. In sandy soils, however, these corrections are generally negligible.

The cone penetration test data collected from your site is presented in graphical form in Appendix CPT. The data includes CPT logs of measured soil parameters, computer calculations of interpreted soil behavior types (SBT), and additional geotechnical parameters. A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Soil interpretation for this project was conducted using recent correlations developed by Robertson et al, 1990, *Figure SBT*. Note that it is not always possible to clearly identify a soil type based solely on q_c, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type.



ZONE	Qt/N	SBT
1	2	Sensitive, fine greained
2	1	Organic materials
3	1	Clay
4	1.5	Silty clay to clay
5	2	Clayey silt to silty clay
6	2.5	Sandy silt to clayey silt
7	3	Silty sand to sandy silt
8	4	Sand to silty sand
9	5	Sand
10	6	Gravely sand to sand
11	1	Very stiff fine grained*
12	2	Sand to clayey sand*

*over consolidated or cemented

Figure SBT

Cone Penetration Test Sounding Summary

-Table 1-

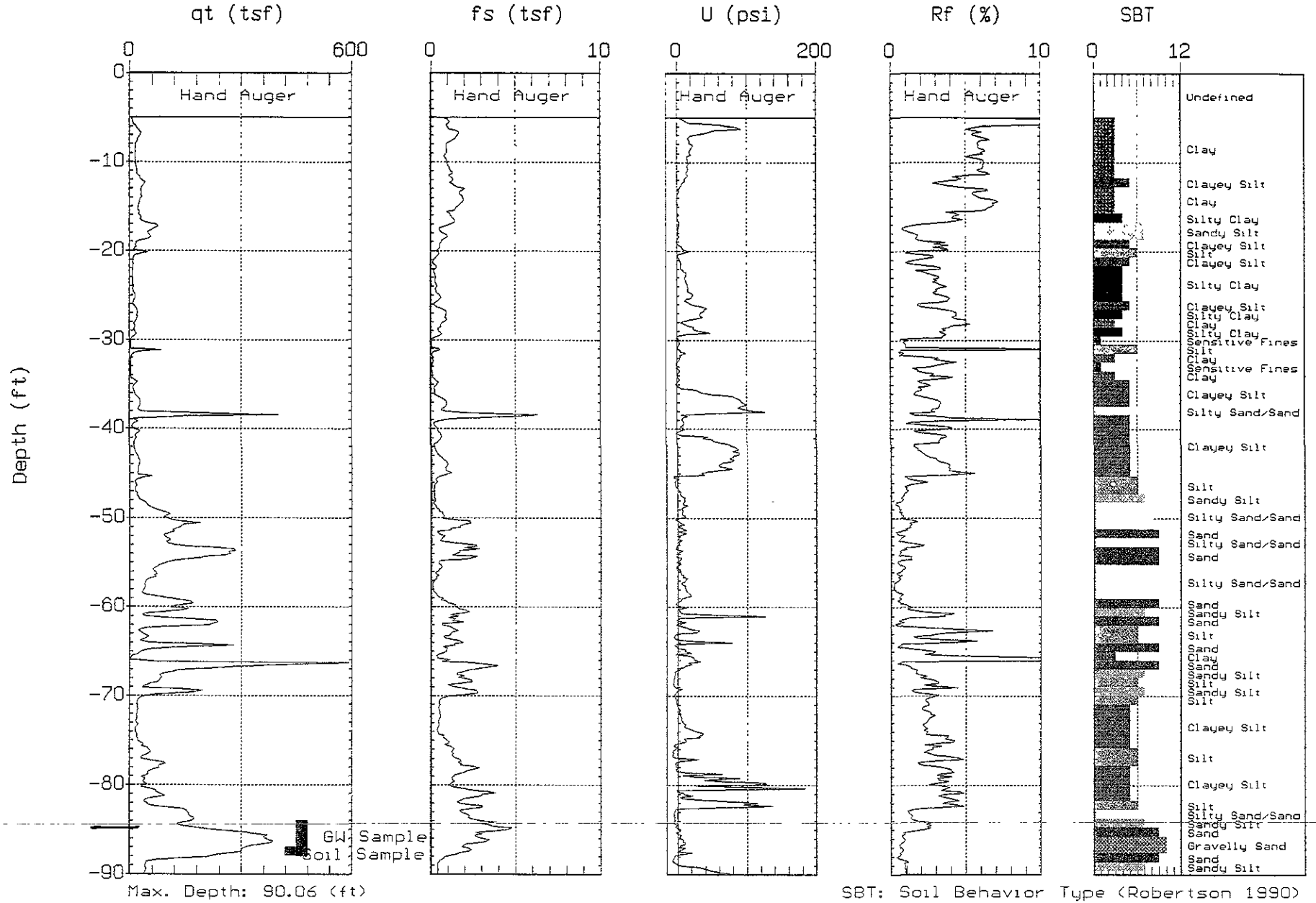
CPT Sounding Identification	Date	Termination Depth (Feet)	Depth of Groundwater Samples (ft)	Depth of Soil Samples (ft)	Depth of Pore Pressure Dissipation Tests (ft)
CPT-01	4/28/05	90	88	87	51.7

GREGG

WEBER HAYES

Site: 19984 MEEKLAND AVE
Location: CPT-1

Engineer: A.BIERMAN
Date: 04:28:05 08:21



Max. Depth: 90.06 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Pore Pressure Dissipation Tests (PPDT)

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals measured hydrostatic water pressures and determined the approximate depth of the ground water table. A PPDT is conducted when the cone is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (u) with time is measured behind the tip of the cone and recorded by a computer system.

Pore pressure dissipation data can be interpreted to provide estimates of:

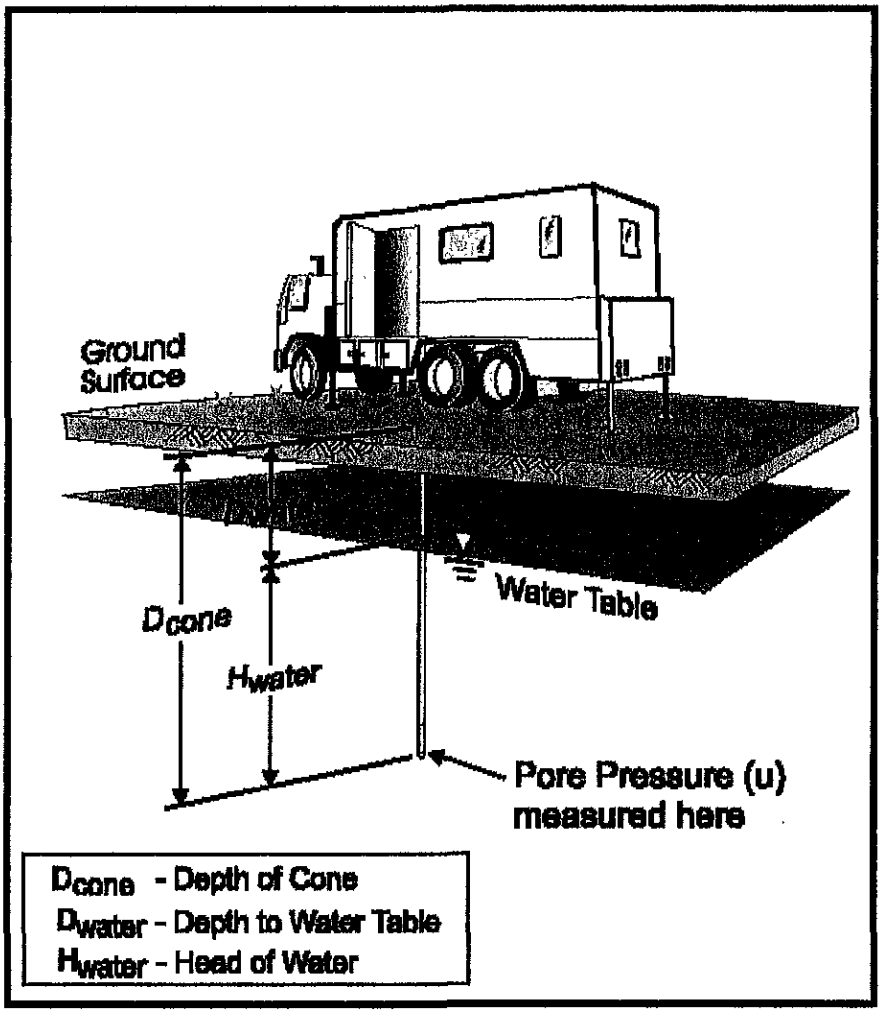
- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permability (k_h)

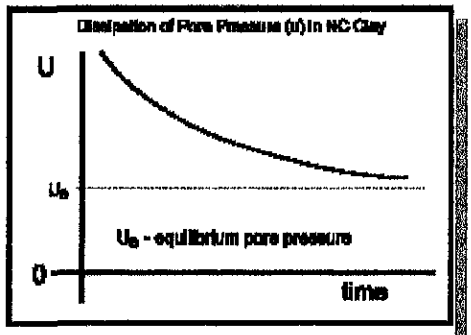
In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until such time as there is no variation in pore pressure with time (refer to Figure PPD). This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

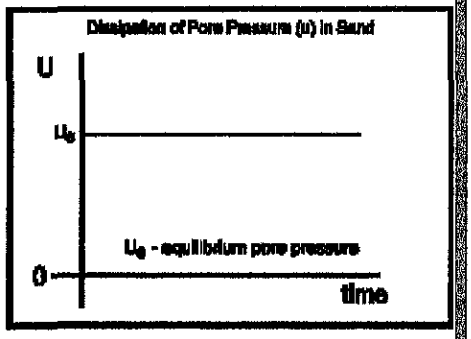
Interpretation of either c_h and k_h from dissipation results can be most easily achieved using either of two analytical approaches: cavity-expansion theory or the strain-path approach. Comparisons of the available solutions and results from field studies suggest that the cavity-expansion method of Torstensson (1977) and the strain-path approaches of Levadous (1980) and Teh (1987) all provide similar predications of consolidation parameters from CPTU dissipation data (Gillespie 1981; Kabir and Lutenegger 1990; Robertson et al. (1991). Robertson et al. (1991) have shown that these methods, although developed for normally consolidated soils, can be equally applied to overconsolidated soils. Furthermore, comparisons of field and laboratory data indicate that the trends in the measured (laboratory) and predicated (CPTU) data are consistent provided the micro fabric and nature of the soils being tested are taken into consideration. (Danziger 1990; Robertson et al. 1991).

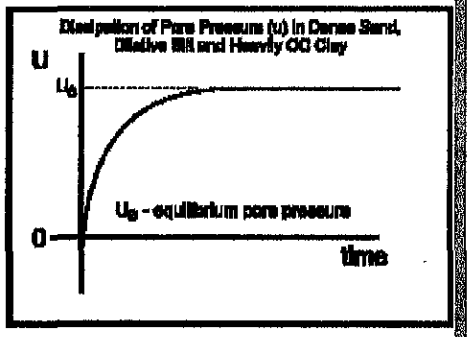
A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1991.

A summary of the pore pressure dissipation tests is summarized in Table 1.
Pore pressure dissipation data is presented in graphical form in Appendix PPDT.









Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

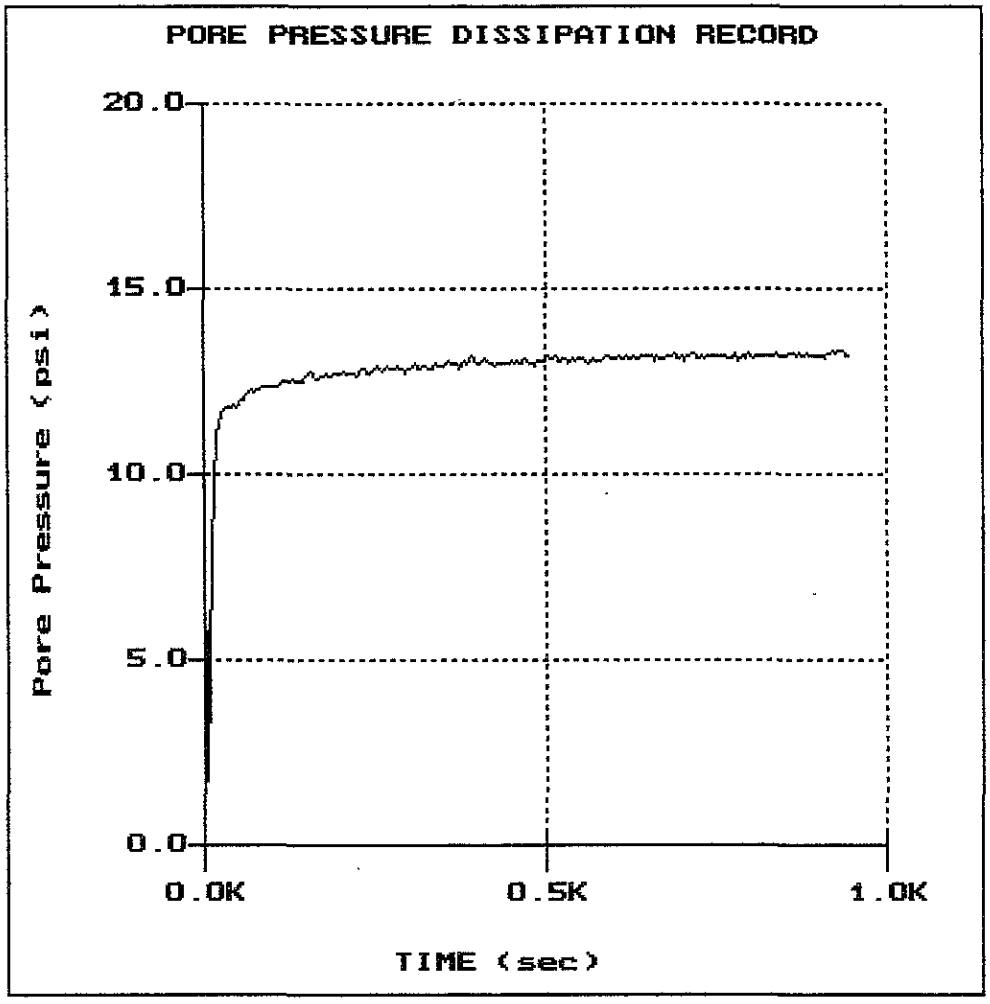
Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

Figure PPD

WEBSER HAYES

Site:19984 MEEKLAND AVE
Location:CPT-1

Engineer:A.BIERMAN
Date:04:28:05 08:21



File: 161C01.PPC
Depth (m): 15.75
(ft): 51.67
Duration : 945.0s
U-min: 1.73 5.0s
U-max: 13.35 935.0s

Groundwater Sampling (GWS)

Gregg In Situ, Inc. conducts groundwater sampling using a Hydropunch® type groundwater sampler, *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the drill rig to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 1 ¾ inch hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

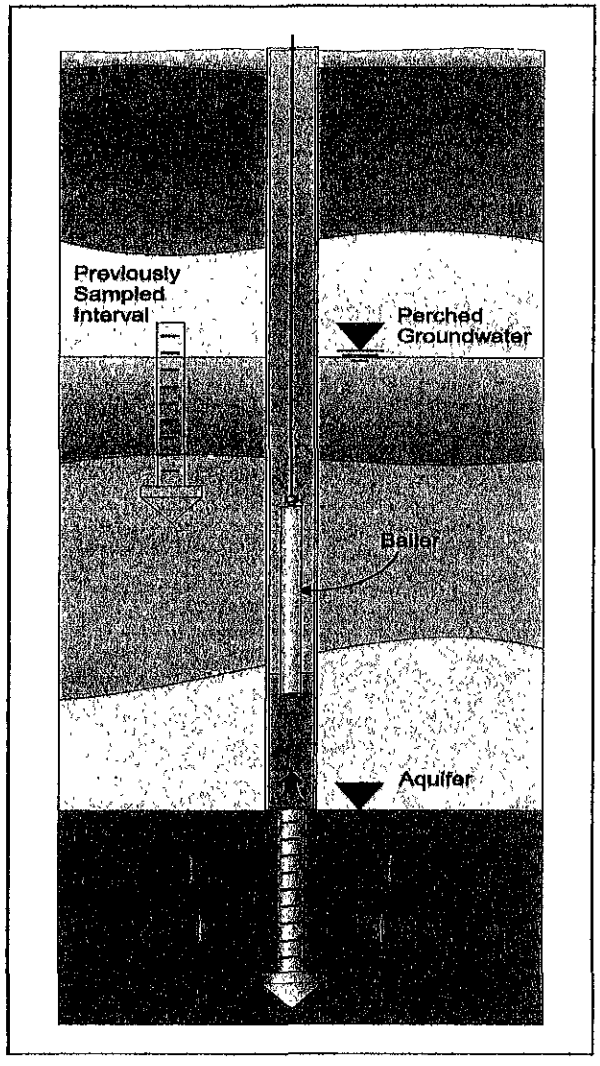


Figure GWS

A summary of the groundwater samples collected, including the sampling date, depth and location identification, is presented in Table 1 and the corresponding CPT plot .

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

Groundwater Sampling (GWS)

Gregg In Situ, Inc. conducts groundwater sampling using a Hydropunch® type groundwater sampler, *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the drill rig to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 1 ¾ inch hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

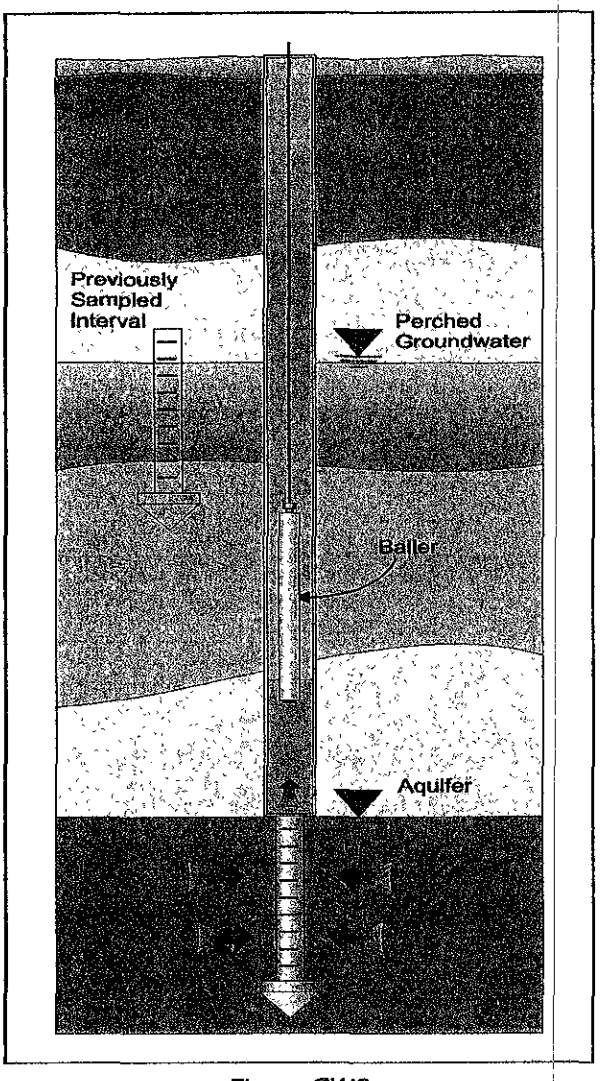


Figure GWS

A summary of the groundwater samples collected, including the sampling date, depth and location identification, is presented in Table 1 and the corresponding CPT plot .

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

Soil Sampling (SS)

Gregg In Situ, Inc. uses a piston-type sampler to obtain relatively undisturbed soil samples without generating any soil cuttings, *Figure SS*. Two different types of samplers (12 and 18 inch) are used depending on the soil type and density. The soil sampler is initially pushed in a "closed" position to the desired sampling interval using our hydraulic rig. Keeping the sampler closed minimizes the potential of cross contamination caused by sloughing. The inner tip of the sampler is then retracted 12 inches (or 18 inches if using the longer sampler) leaving a hollow soil sampler with two inner 1¼ inch diameter by 6 inch or four 3 inch long soil sample tubes. If using the 18 inch sampler, two 1½ inch diameter by 6 inch long tubes will be exposed. The hollow sampler is then pushed in a locked "open" position to collect a soil sample. The filled sampler and push rods are then retrieved to the ground surface. Because the soil enters the sampler at a constant rate, the opportunity for 100% recovery is increased. For environmental analysis, the soil sample tube ends are sealed with Teflon and plastic caps. Often, a longer "split tube" can be used for geotechnical sampling.

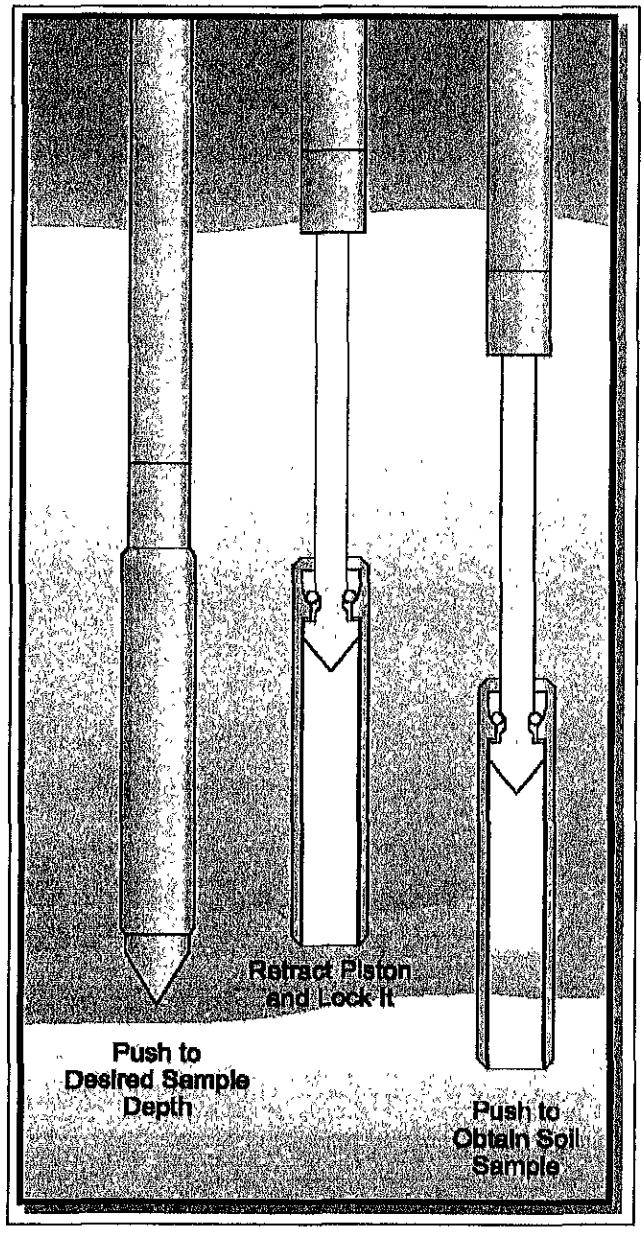


Figure SS

For a detailed reference on direct push soil sampling, refer to Robertson et al, 1998.

A summary of the soil samples collected, including the sampling date, depth and location identification, is presented in Table 1.

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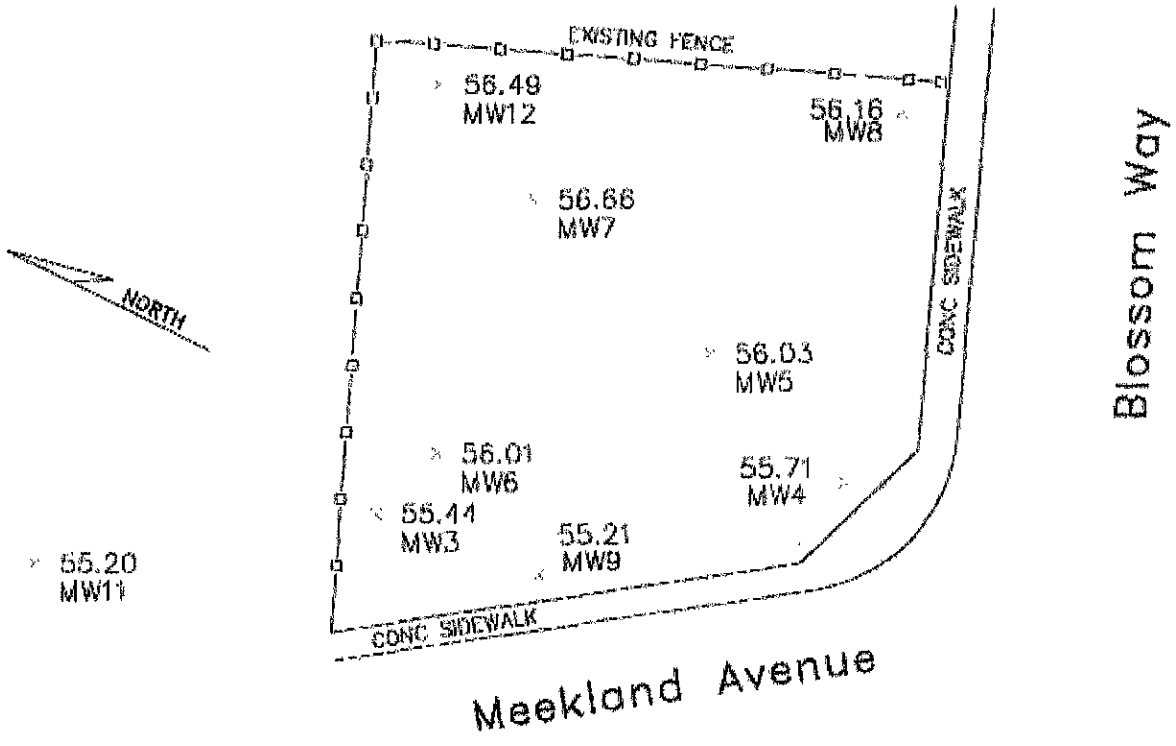
Copies of ASTM Standards are available through www.astm.org

BASIS OF ELEVATIONS

BRASS DISC MONUMENT
AT CENTERLINE INTERSECTION
OF MEEKLAND AVE & BLOSSOM WAY
ELEVATION= 54.824 NGVD



GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

MONITORING WELLS
SURVEYED
IN THE CITY OF HAYWARD, CALIF
HARBERT TRANSPORTAION
ROBERT C. MCGREGOR
LICENSED LAND SURVEYOR
17786 BERTA CANYON ROAD
SALINAS, CALIF 93907 (831) 663-4742
SCALE:1=40' DATE: JULY 14, 2004

22023/figures/location

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

Location Map

FIGURE 1
Job # 23019

APPENDIX B

Certified Analytical Report for Deep Aquifer Sampling

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Aaron Bierman
Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076

Certificate ID: 43369 - 5/6/2005 2:58:24 PM

Order Number: 43369
Project Name: Harbert
Project Number: H9042.E

Date Received: 4/29/2005 4:31:02 PM
P.O. Number: H9042.E

Certificate of Analysis - Final Report

On April 29, 2005, sample was received under chain of custody for analysis. Entech analyzes samples "as received" unless

Matrix	Test	Method	Comments
Liquid	8260Petrolcum	EPA 8260B	
	Gas/BTEX/MTBE	EPA 8015 MOD. (Purgeable)	
		EPA 8020	
	ICP-Metals, Dissolved	EPA 6010B	

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,

Laurie Glantz-Murphy
Laboratory Director

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Aaron Bierman

Project Number: H9042.E
Project Name: Harbert
Date Received: 4/29/2005
P.O. Number: H9042.E
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab # : 43369-001 **Sample ID: CDP-1W-d88** **Matrix:** Liquid **Sample Date:** 4/28/2005 11:40 AM

Method: EPA 8015 MOD. (Purgeable)

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	05/02/2005	WGC4050502

Surrogate	Surrogate Recovery	Control Limits (%)	
4-Bromofluorobenzene	100	65 - 135	

Analyzed by: mruan
Reviewed by: MTu

Method: EPA 8020 - Aromatic Organics Using GC/PID

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.5	µg/L	N/A	N/A	05/02/2005	WGC4050502
Toluene	ND		1	0.5	µg/L	N/A	N/A	05/02/2005	WGC4050502
Ethyl Benzene	ND		1	0.5	µg/L	N/A	N/A	05/02/2005	WGC4050502
Xylenes, Total	ND		1	0.5	µg/L	N/A	N/A	05/02/2005	WGC4050502
Methyl-t-butyl Ether	ND		1	1	µg/L	N/A	N/A	05/02/2005	WGC4050502

Surrogate	Surrogate Recovery	Control Limits (%)	
4-Bromofluorobenzene	97.2	65 - 135	

Analyzed by: mruan
Reviewed by: MTu

Method: EPA 8260B - Gas Chromatography/Mass Spectrometry (GC/MS)
Prep Method: EPA 5030B - Purge-and-Trap for Aqueous Samples

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
1,2-Dichloroethane	ND		1	0.5	µg/L	N/A	N/A	05/03/2005	WMS1050503

Surrogate	Surrogate Recovery	Control Limits (%)	
4-Bromofluorobenzene	97.3	75 - 125	
Dibromofluoromethane	111	75 - 125	
Toluene-d8	107	75 - 125	

Analyzed by: XBian
Reviewed by: MTu

Detection Limit = Detection Limit for Reporting.
DF = Dilution and/or Prep Factor including sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
B = Analyte found in associated Method Blank

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Aaron Bierman

Project Number: H9042.E
Project Name: Harbert
Date Received: 4/29/2005
P.O. Number: H9042.E
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab # : 43369-001 **Sample ID: CDP-1W-d88** **Matrix:** Liquid **Sample Date:** 4/28/2005 11:40 AM

Method: EPA 6010B - ICP-AES
Prep Method: EPA 3005A - Acid Digestion for ICP

Parameter	Result	Flag	DF	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Lead, Dissolved	0.019		1	0.005	mg/L	05/03/2005	WM050503	05/06/2005	WM050503

Analyzed by: EQueja
Reviewed by: DQueja

Detection Limit = Detection Limit for Reporting.
DF = Dilution and/or Prep Factor including sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
B = Analyte found in associated Method Blank.

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Quality Control - Method Blank

Liquid

QC/Prep Batch ID: WM050503

Validated by: DQueja - 05/06/05

QC/Prep Date: 5/3/2005 1:00:00 PM

Method Blank **Method: EPA 6010B**

Parameter	Result	DF	PQLR	Units
Lead, Dissolved	ND	1	0.0050	mg/L

Quality Control - Laboratory Control Spike / Duplicate Results

Liquid

QC/Prep Batch ID: WM050503

Reviewed by: DQueja - 05/06/05

QC/Prep Date: 5/3/2005 1:00:00 PM

Method: EPA 6010B **Conc. Units:** mg/L

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Lead, Dissolved	<0 001	0.50	0 49	LCS	98.2			75 - 125

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Lead, Dissolved	<0.001	0.50	0.51	LCSD	102	3.4	25.0	75 - 125

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Quality Control - Method Blank

Liquid

QC Batch ID: WGC4050502

Validated by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/2/2005

Method Blank **Method: EPA 8015 MOD. (Purgeable)**

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	94.6	65 - 135

Quality Control - Laboratory Control Spike / Duplicate Results

Liquid

QC Batch ID: WGC4050502

Reviewed by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/2/2005

Method: EPA 8015 MOD. (Purgeable) **Conc. Units:** µg/L

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<4	250	220	LCS	89.2			65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	102	65 - 135

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<4	250	230	LCSD	91.0	2.0	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	92.9	65 - 135

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Quality Control - Method Blank

Liquid

QC Batch ID: WGC4050502 Validated by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/2/2005

Method Blank **Method: EPA 8020**

Parameter	Result	DF	PQLR	Units
Benzene	ND	1	0.50	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Toluene	ND	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	**96.8**	65 - 135

Quality Control - Laboratory Control Spike / Duplicate Results

Liquid

QC Batch ID: WGC4050502 Reviewed by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/2/2005

Method: EPA 8020 **Conc. Units:** µg/L

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.06	8.0	8.5	LCS	**106**			65 - 135
Ethyl Benzene	<0.04	8.0	7.7	LCS	**96.2**			65 - 135
Toluene	<0.08	8.0	8.1	LCS	**102**			65 - 135
Xylenes, total	<0.2	24	23	LCS	**97.5**			65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**94.8**	65 - 135

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.06	8.0	8.4	LCSD	**105**	**1.1**	25.0	65 - 135
Ethyl Benzene	<0.04	8.0	7.7	LCSD	**96.4**	**0.13**	25.0	65 - 135
Toluene	<0.08	8.0	8.6	LCSD	**107**	**5.5**	25.0	65 - 135
Xylenes, total	<0.2	24	24	LCSD	**99.2**	**1.7**	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**96.1**	65 - 135

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Quality Control - Method Blank

Liquid

QC Batch ID: WGC4050502

Validated by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/2/2005

Method Blank **Method: EPA 8020**

Parameter	Result	DF	PQLR	Units
Methyl-t-butyl Ether	ND	1	10	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	96.8	65 - 135

Quality Control - Laboratory Control Spike / Duplicate Results

Liquid

QC Batch ID: WGC4050502

Reviewed by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/2/2005

Method: EPA 8020 **Conc. Units:** µg/L

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Methyl-t-butyl Ether	<0.08	8.0	7.7	LCS	96.6			65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	94.8	65 - 135

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Methyl-t-butyl Ether	<0.08	8.0	7.4	LCSD	93.1	3.7	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	96.1	65 - 135

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Quality Control - Method Blank
Liquid

QC Batch ID: WMS1050503

Validated by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/3/2005

Method Blank **Method: EPA 8260B**

Parameter	Result	DF	PQLR	Units
1,2-Dichloroethane	ND	1	0.50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	96.4	75 - 125
Dibromofluoromethane	111	75 - 125
Toluene-d8	106	75 - 125

Quality Control - Laboratory Control Spike / Duplicate Results
Liquid

QC Batch ID: WMS1050503

Reviewed by: MTu - 05/04/05

QC Batch ID Analysis Date: 5/3/2005

Method: EPA 8260B **Conc. Units: µg/L**

LCS

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.2	20	22	LCS	108			80 - 120
Methyl-t-butyl Ether	<0.3	20	23	LCS	116			80 - 120
Toluene	<0.2	20	20	LCS	102			80 - 120

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	90.4	75 - 125
Dibromofluoromethane	101	75 - 125
Toluene-d8	94.3	75 - 125

LCSD

Parameter	Blank (MDL)	Spike Amt	SpikeResult	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.2	20	21	LCSD	104	3.8	25.0	80 - 120
Methyl-t-butyl Ether	<0.3	20	22	LCSD	110	5.7	25.0	80 - 120
Toluene	<0.2	20	20	LCSD	100	2.0	25.0	80 - 120

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	90.8	75 - 125
Dibromofluoromethane	98.8	75 - 125
Toluene-d8	95.6	75 - 125

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Quality Control - Matrix Spike / Duplicate Results
Liquid

Reviewed by: MTu - 05/04/05

QC Batch ID: WMS1050503

Analysis Date: 5/3/2005

Method EPA 8260B

Conc. Units: µg/L

Parameter	Sample Result	Spike Amount	Spike Result	QC Type	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
MS SampleNumber: 43363-003									
Benzene	ND	20	19.3	MS	5/3/2005	**96.5**			65 - 135
Methyl-t-butyl Ether	ND	20	19 9	MS	5/3/2005	**99.5**			65 - 135
Toluene	ND	20	18.7	MS	5/3/2005	**93.5**			65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**90.7**	75 - 125
Dibromofluoromethane	***101***	75 - 125
Toluene-d8	**97.2**	75 - 125

MSD SampleNumber: 43363-003									
Benzene	ND	20	19.6	MSD	5/3/2005	**98.0**	**1.5**	25	65 - 135
Methyl-t-butyl Ether	ND	20	20.0	MSD	5/3/2005	**100**	**0.5**	25	65 - 135
Toluene	ND	20	19.3	MSD	5/3/2005	**96.5**	**3.2**	25	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	**90.6**	75 - 125
Dibromofluoromethane	**99.1**	75 - 125
Toluene-d8	**97.2**	75 - 125

Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr , Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

CHAIN -OF-CUSTODY RECORD

PROJECT NAME AND JOB #: Harbert / H9042.E

SEND CERTIFIED RESULTS TO: Weber, Hayes and Associates - Attention: Aaron Bierman

ELECTRONIC DELIVERABLE FORMAT: [X] YES [ ] NO

LABORATORY: Entech Analytical Laboratory

TURNAROUND TIME: Standard Five-Day | 24hr Rush | 48hr Rush | 72hr Rush

GLOBAL I.D.: T0600100475

Sampler: Aaron Bierman

Date: 4.28.05

Field Point Name (GeoTracker)	Sample Identification	Sample Depth (ft, bgs)	Date Sampled	Time Sampled	Matrix	SAMPLE CONTAINERS				REQUESTED ANALYSIS								
										Total Petroleum Hydrocarbons			Volatile Organics			Additional Analysis		
						40 mL VOAs (preserved)	1 Liter Amber Jars	250 mL Poly Bottle	Liner Acetate or Brass	TEPH: Diesel with Standard Silica Gel Cleanup	Total Recoverable Petroleum Hydrocarbons	TPH-gasoline & MTBE-BTEX by EPA Method# 8015M-&-8020	1,2-DCA by EPA Method# 8260	Solvents by EPA Method# 8010	Fuel Oxygenates EPA Method# 8260	HOLD	Total Lead	Metals: Al, Ar, Cd, Cr, Cu, Pb, Ni, Se, Zn, Hg, Nitrate as N
CDP-1	CDP-1w-d88	88	4.28.05	1130	H2O	XY		X1		#33461-001		X	X				X	

RELEASED BY:

1) Aaron Bierman
2) [illegible]
3.) [illegible]
4)
5.)

Date & Time

4/29/05
4/29/05 14:40
4/29/05 15:45

RECEIVED BY:

Date & Time

4/29/05 @ 14:30
4/29/05 1442

SAMPLE CONDITION: (circle 1)

Ambient	(Refrigerated)	Frozen
Ambient	(Refrigerated)	Frozen
Ambient	Refrigerated	Frozen
Ambient	Refrigerated	Frozen
Ambient	Refrigerated	Frozen

NOTES:

- If MTBE is detected by EPA Method 8020, please confirm detections by EPA Method 8260 with a minimum detection limit of 5 ug/L, and report only confirmed 8260 detections.
- For MTBE-analyzed samples with non-detectable results (ND) but having elevated detection limits, please confirm by EPA Method #8260
- Please use MDL (Minimum Detection Limit) for any diluted samples.

-Please send certified results via *.pdf to laboratory@weber-hayes.com.

-PLEASE FILTER & PRESERVE 250mL POLY PRIOR TO TOTAL LEAD ANALYSIS

APPENDIX C

Regulatory Correspondence

March 2, 2005: **Workplan Approval with Technical Comments, Alameda County Health Care Services Agency**

March 2, 2005: **Email from Weber, Hayes & Associates (P.Hoban) to Alameda County Health Care Services Agency (B.Schultz) regarding Technical Comments (groundwater gradient, well location, charts).**

March 30, 2005: **Email from Alameda County Health Care Services Agency (B.Schultz) Approving Use of CPT and Hydropunch for Vertical Delineation**

April 18, 2003: **Email from Roger Brewer, regarding acceptability of RSBLs proposed in the WHA report: *Proposed Site Cleanup Goals,* dated March 27, 2003.**

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

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

March 2, 2005

Jerry Harbert
46765 Mountain Cove Dr.
Indian Wells, CA 92210

Gregg Petersen
Durham Transportation, Inc.
9001 Mountain Ridge Dr., Ste. 200
Austin, Texas 78759

Subject: Fuel Leak Case No. RO0000047, Durham Transportation, 19984 Meekland Avenue, Hayward, California – Workplan Approval

Dear Mssrs. Harbert and Petersen:

Alameda County Environmental Health (ACEH) has reviewed your January 27, 2005 *Workplan Addendum* prepared by Weber, Hayes and Associates and the case file for the above-referenced site. We concur with your workplan provided the following conditions are met:

1. If deemed necessary by your geologist or engineer to fully define the vertical and lateral extent of contamination, additional soil or groundwater samples will be collected as part of the current investigation efforts. ACEH will be informed via telephone or email of any additions to the sampling and analysis plan. Any additional work will follow the workplan-specified procedures. Dynamic investigations are consistent with USEPA protocol for expedited site assessments, which are scientifically valid and offer a cost-effective approach to fully define a plume and to help progress a case toward closure.
2. No 1,2-DCA was detected during the September 23, 2004 monitoring well sampling event; however, because 1,2-DCA was previously detected in multiple wells with a maximum historical detected concentration of 125 ug/l, and because 1,2-DCA was detected in the former onsite deeper well, groundwater samples from CDP-1 need to be analyzed for 1,2-DCA.
3. 72-hr advance written notification (email preferred) will be provided to ACEH prior to field sampling activities.

Please implement the proposed investigation and submit technical reports following the schedule below. In addition, we request that you address the following technical comments in your report.

TECHNICAL COMMENTS

1) Vertical Definition

Depending on the sampling results for deeper groundwater in proposed boring CDP-1, additional investigation of deeper groundwater may be necessary. Accordingly, we suggest that you consider expedited analysis of the groundwater sample from CDP-1, so that you might

complete any additional delineation as part of the current field mobilization. A dynamic approach is recommended by ACEH and is approved under Condition No. 1, above.

2) Lateral Definition

In your July 30, 2004, workplan, Weber, Hayes proposed additional downgradient sampling. ACEH had no comment to Weber, Hayes' proposal. In your January 27, 2005, *Workplan Addendum*, however, Weber, Hayes' retracts their previous proposal and argues that well MW-9 provides sufficient downgradient delineation of the groundwater plume. We agree that previously proposed borings CDP-2 and CDP-3 do not appear necessary; however, additional evaluation of the issues outlined below is required to progress your site towards closure.

A. Relative Locations of Wells and former UST System

Figure 2 of your *Workplan Addendum* is significantly different from previous depictions of the site layout. Weber, Hayes states that the groundwater flow direction ranges from west-southwest to southwest. In previous maps, well MW-9 was downgradient of the former UST system; however, the site layout presented in Figure 2 of the *Workplan Addendum* suggests that no sampling has been performed downgradient of well MW-5 and the source area.

B. Reliability of Existing Monitoring Points

Weber, Hayes' contention that well MW-9 is "a reasonable monitoring sentinel" requires that this well be 1) appropriately located downgradient of the source area, and 2) appropriately screened. Well MW-9 is screened from approximately 20 to 40 ft bgs. Though the boring log for this well indicates that the screen is entirely within clays, Weber, Hayes' cross-section suggests that well MW-9 may be screened across both a clayey silty sand (WHA lithologic unit #4) and a poorly graded sand (WHA lithologic unit #6). Both of these two lithologic units appear to be water-bearing. Please evaluate the screening of well MW-9 and other key wells in your monitoring network. In the report requested below, please further support your argument that no additional downgradient sampling should be required, or, if necessary, propose additional sampling prior to implementing your workplan.

C. Historical Data

Weber, Hayes' evaluation fails to include all historical investigation data. Significantly, no consideration of the results for borings DP-1, DP-5 and DP-9 was provided. Weber, Hayes' *Additional Site Assessment and Groundwater Monitoring Report* dated June 18, 2001, reported 25,000 TPHg, 680 ug/l benzene, 160 ug/l toluene, 3,000 ug/l ethylbenzene, and 5,600 xylenes in boring DP-9 on February 14, 2001. While these results appear consistent with the results from MW-9 for that time period, we reiterate our December 2, 2004 request that you include all historical data in your site conceptual model and in your evaluation of the site.

3) Cross-Section A-A' and Site Map

Until a final evaluation of site lithology is presented to ACEH, we can not review the completeness of lateral definition. Weber, Hayes' cross-section A-A' (Figure 6 of the *Workplan Addendum*) does not include location or lithologic results for well MW-9 or boring DP-9. It appears that Figure 2 in your *Workplan Addendum* (which presents the cross-section trace) is significantly changed from the site map (and location of cross-section A-A') presented in your July 30, 2004 SCM; however, the cross-section itself is left unchanged. Please note that

23 CCR 2725(a) requires that you define the likely extent of contamination prior to case closure. We reiterate our May 13, 2004, request that you revise your maps of the site and correct the discrepancies between your figures.

4) Concentration Trends Over Time

Weber, Hayes *Workplan Addendum* Figures 10 and 11 show that TPHg and benzene concentrations were decreased between approximately December 2000 and July 2003. Since mid-2003, both benzene and TPHg concentrations in well MW-5 have increased. It also appears that groundwater elevation at the site was generally higher between December 2000 and July 2003. From July 2003 to September 2004, water levels dropped approximately 2 ft in wells MW-5 and MW-9. Since benzene and TPHg concentrations in source area well MW-5 are currently at their highest levels in 2 years, additional evaluation is required. As discussed below, pre- and post-remediation data should not be mixed; time series plots of groundwater concentrations should include post-remedial concentrations only. We request that you evaluate the potential for groundwater concentrations to continue to rise as water levels drop. Please submit your analysis in the report requested below.

5) Case Closure Criteria

In order for ACEH to close your case, we require that you demonstrate 1) the site does not pose a significant risk to human health and the environment and 2) water quality objectives will be achieved within a reasonable time frame. Your evaluation of onsite risk to human health needs to consider a) any soil results for areas not excavated from the site or otherwise remediated, and b) all post-remediation groundwater. To facilitate review, we reiterate our DDDecember 2, 2004 request that you submit summary soil and groundwater tables. Also, pre-remediation and post-remediation data should be separated. We suggest that your analysis of time required to achieve water quality objectives be supported by sufficient data to estimate residual petroleum hydrocarbon mass with reasonable certainty, and that you adequately support any contention of what a reasonable time frame would be for your site. Please submit your revised tables in the report requested below.

REPORT REQUEST

Please submit your *Soil and Water Investigation Report,* which addresses the comments above by **June 1, 2005**. ACEH makes this request pursuant to California Health & Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2778 outline the responsibilities of a responsible party for an unauthorized release from an UST system, and require your compliance with this request.

Professional Certification and Conclusions/Recommendations

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

Perjury Statement

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

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports or enforcement actions by ACEH may result in you becoming ineligible to receive cleanup cost reimbursement from the state's Underground Storage Tank Cleanup Fund (senate Bill 2004).

AGENCY OVERSIGHT

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

Please call me at (510) 567-6719 with any questions regarding this case.

Sincerely,

Robert W. Schultz, P.G.
Hazardous Materials Specialist

cc: Jeff Lawson, Silicon Valley Law Group, 25 Metro Dr., Ste. 600, San Jose, CA 95110
Pat Hoban, Weber, Hayes and Associates, 120 Westgate Dr., Watsonville, CA 95076
Donna Drogos, ACEH
Robert Schultz, ACEH

Pat Hoban

From: "Schultz, Robert, Env. Health" <robert.schultz@acgov.org>
To: "Pat Hoban" <pat@weber-hayes.com>
Cc: "Lawson, Jeff" <jsl@svlg.com>
Sent: Wednesday, March 30, 2005 3:39 PM
Subject: RE: ro-47 workplan approval

ACEH concurs with this workplan addendum.
****
Robert W. Schultz, P.G.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
510-567-6719 (direct)
510-337-9335 (facsimile)

-----Original Message-----
From: Pat Hoban [mailto:pat@weber-hayes.com]
Sent: Wednesday, March 30, 2005 3:36 PM
To: Schultz, Robert, Env. Health
Subject: Re: ro-47 workplan approval

Hello Bob,

Gregg Drilling said they could get the discrete sample (piston-type, enclosed sampler) from depth. The chronology of field tasks would be: 1. CPT logging to the second water-bearing zone (Newark Aquifer, estimated to be first encountered at 70-85 feet bgs). seal and pull out. 2. move over 5 feet and get hydropunch at selected depth 3. go back in with the piston sampler and collect sample, seal and pull out.

I'll email startup as the day approaches (April 18th). All the best,

Pat Hoban
Senior Geologist

Weber, Hayes & Associates
120 Westgate Drive, Watsonville, CA 95076
Phone: (831) 722-3580
www.weber-hayes.com

----- Original Message -----
From: "Schultz, Robert, Env. Health" <robert.schultz@acgov.org>
To: "Jeffrey S. Lawson (E-mail)" <jsl@svlg.com>; "Pat Hoban (E-mail)" <pat@weber-hayes.com>
Sent: Wednesday, March 02, 2005 9:30 AM
Subject: ro-47 workplan approval

Pat Hoban

From: "Pat Hoban" <pat@weber-hayes.com>
To: "Schultz, Robert, Env. Health" <robert.schultz@acgov.org>
Sent: Tuesday, March 08, 2005 3:12 PM
Attach: email gw-flow-and-survey figure.pdf
Subject: Re: 19984 Meekland Avenue, Hayward (Workplan ADDENDUM with SCM)

Robert W. Schultz, R.G.
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Hello Bob,

Thanks for the responses and approval of our workplan. We plan on incorporating your comments within our summary report and will keep you informed of field dates. As a brief update to address a couple of your comments, I've ATTACHED a couple of sketched figures to this email for our brief discussion this afternoon. This is DRAFT, and will be finalized in our summary report.

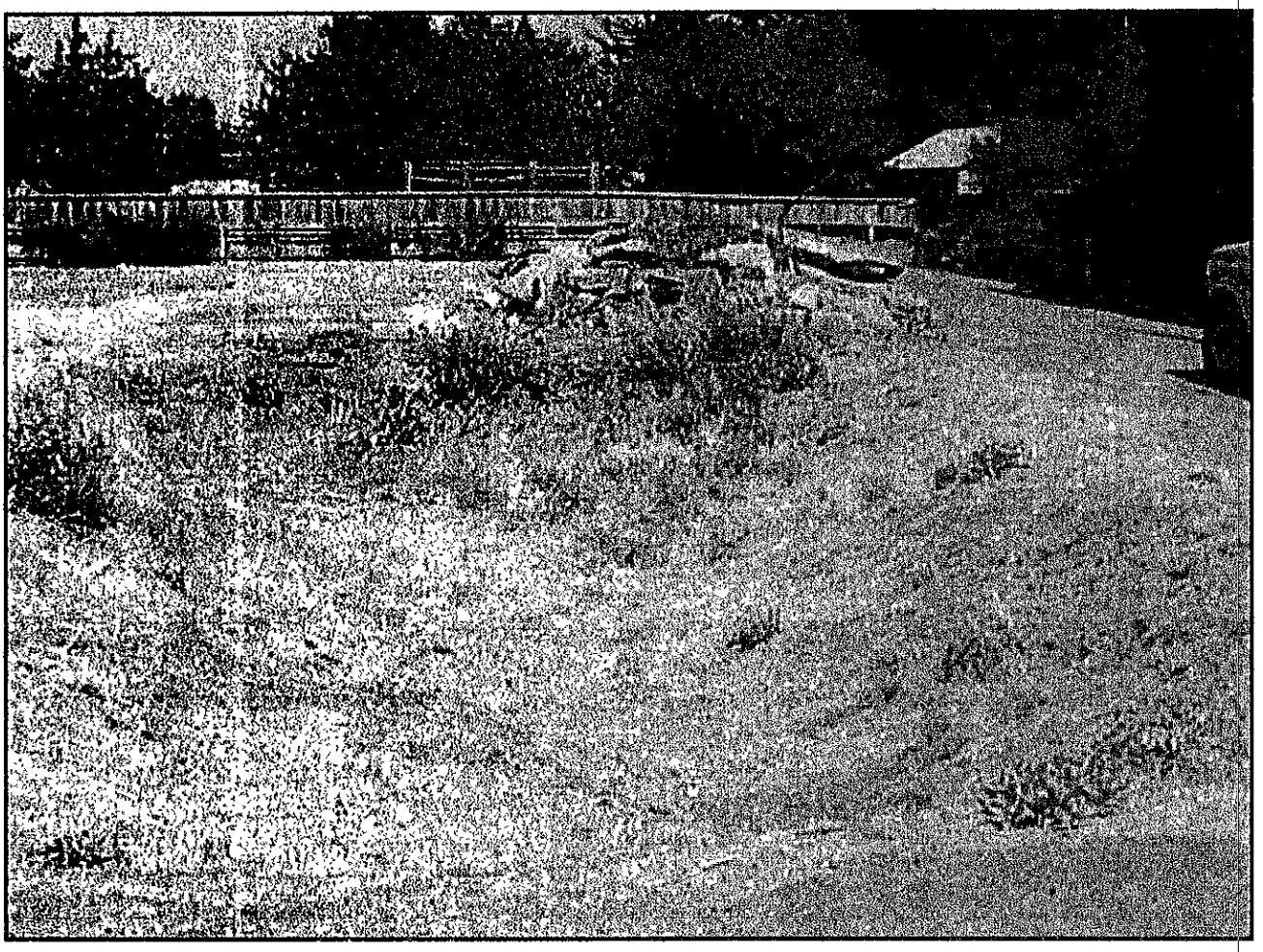
- The first figure is the revised site map - I've placed the old well locations on this map as well to show relative distance changes with the new survey. Changes are primarily the result of changes to the property lines, street orientation, and minor shift in wells MW-4 and 8. The adjustments do not effect the historical groundwater gradient maps (see below). We will refine the cross sections to represent this change but I don't think and significant changes to the SCM will result.
- The remaining figures are copies of 14 groundwater gradient maps (4 per page) that I grabbed and copied from our files. These maps show:
  - the wells locations appear to be in the correct locations relative to the survey (note straight-line orientation of wells MW-8, MW-5, MW-9 and MW-10).
  - The site is covered with asphalt except for the former UST pit which is dirt. The gradient maps suggest the pit acts as an recharge area (see photo below).
  - The record of groundwater flow maps direction has been dominantly towards the west and MW 9 appears to be perfectly located as a downgradient, property line sentinel.
- MW-9, while having a 20-foot screened interval, appears to cross only one fairly permeable saturated zone encountered at a depth of around 40 feet (confined water level rise to around 25 feet bgs). It appears reasonable that evacuation of 3 well volumes will pull representative groundwater directly from this zone.
- As you previously mentioned, the remedial action (source excavation) does not appear to have significantly changed the concentrations at the monitoring wells. It seems to me that while the source removal was a good because it removed the hot core of fuel contamination, the graphs indicate contaminant decrease occurred before the January 2002 remedial action. As such, it makes more sense to me to place the remedial action on the timeline of each graph but to leave the full data set on the graph.

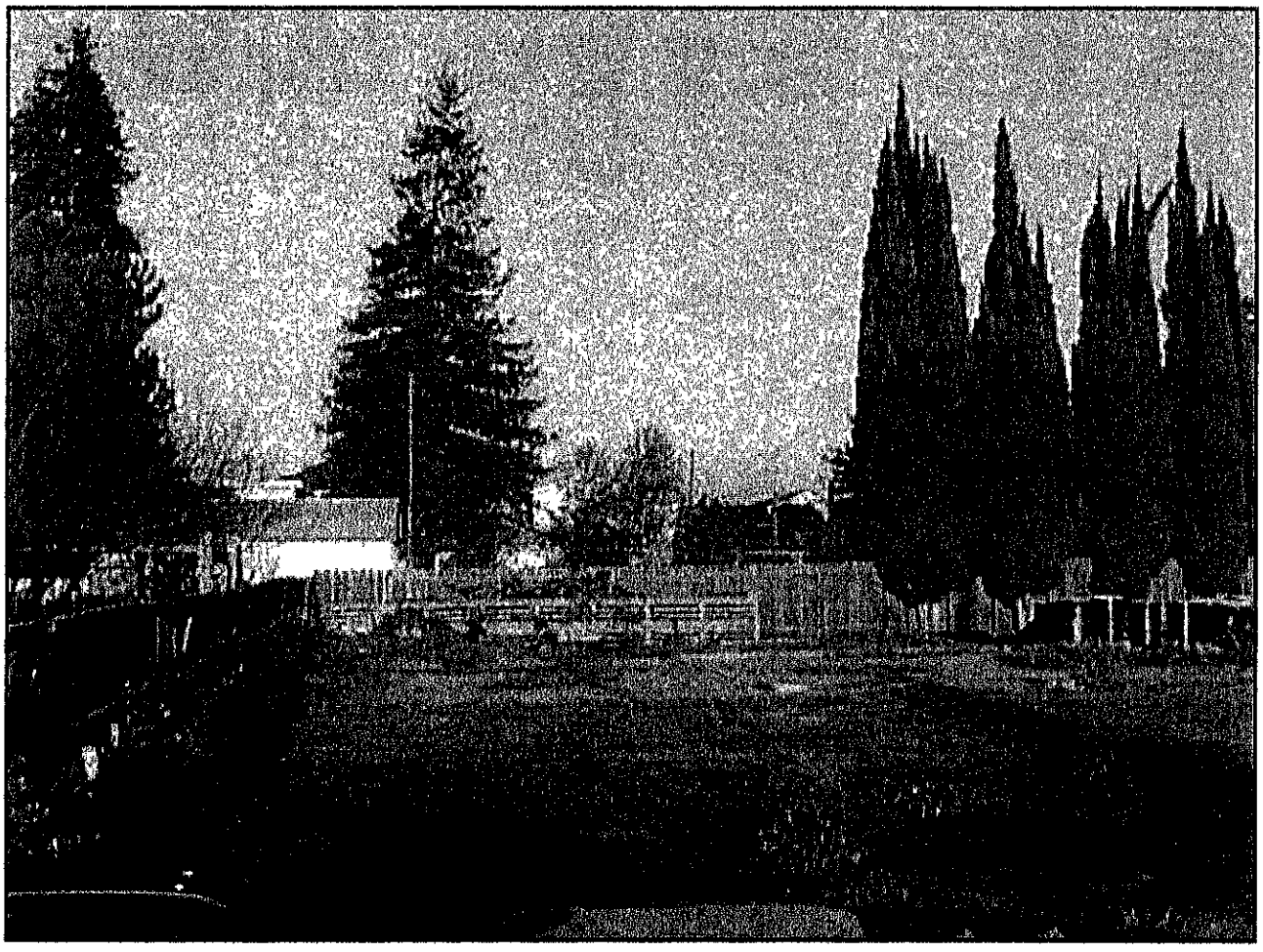
I'll talk to you soon,

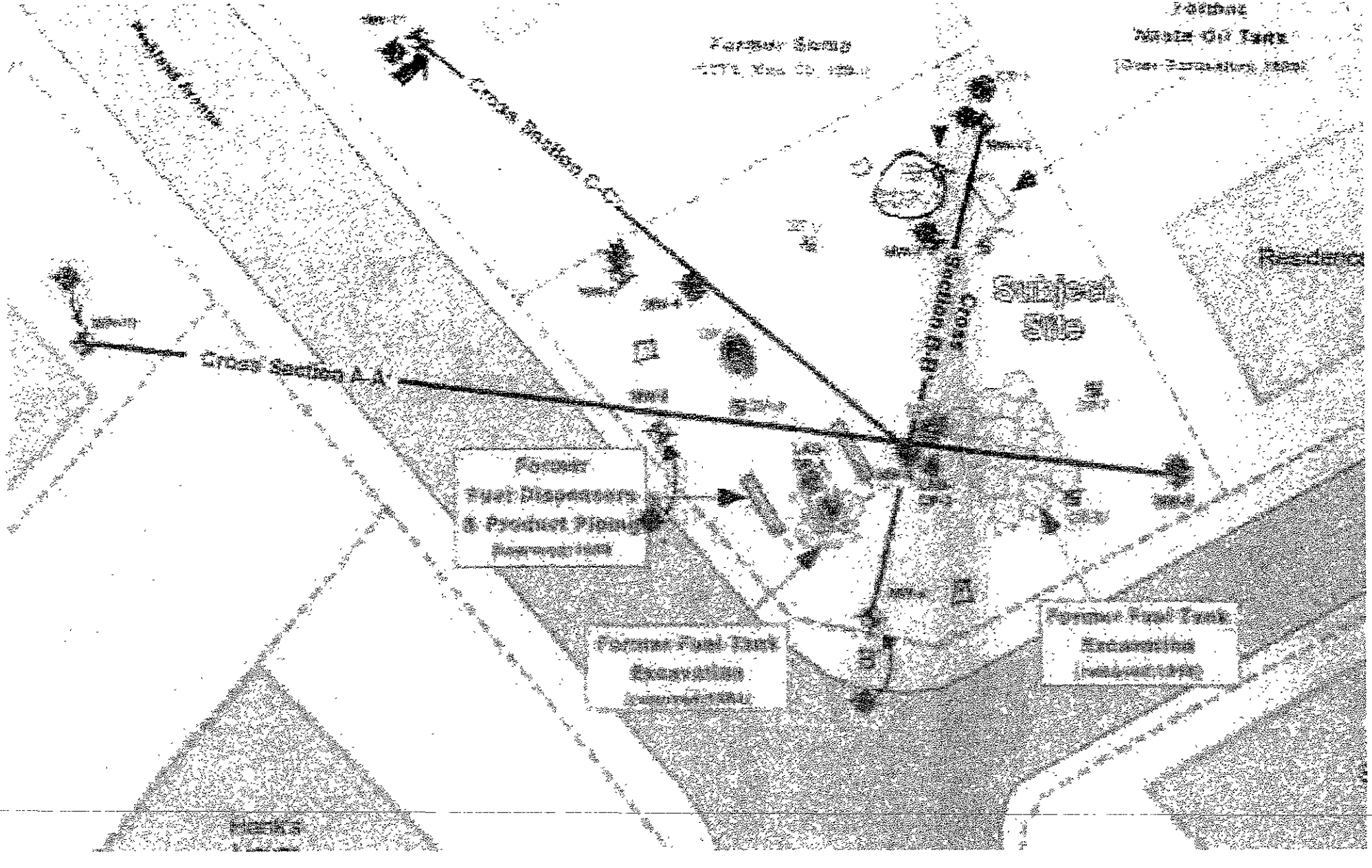
Pat Hoban
Senior Geologist

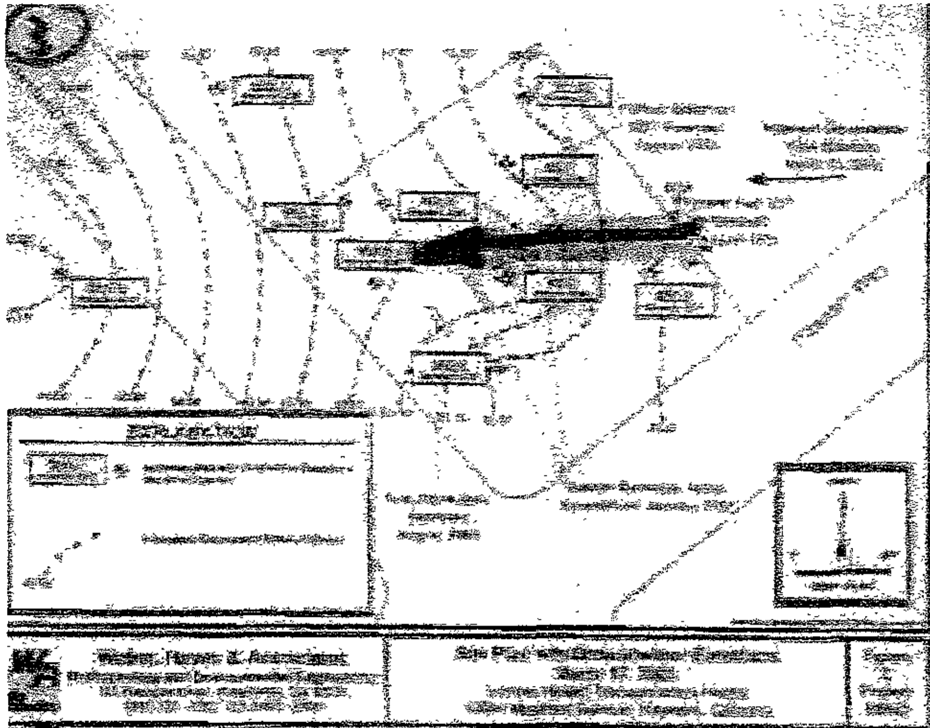
Weber, Hayes & Associates

120 Westgate Drive, Watsonville, CA 95076
Phone: (831) 722-3580
www.weber-hayes.com






Subject Site
Cross Section A-A'
Former Fuel Dispensers & Product Piping Excavation
Former Fuel Tank Excavation
Former Fuel Tank Excavation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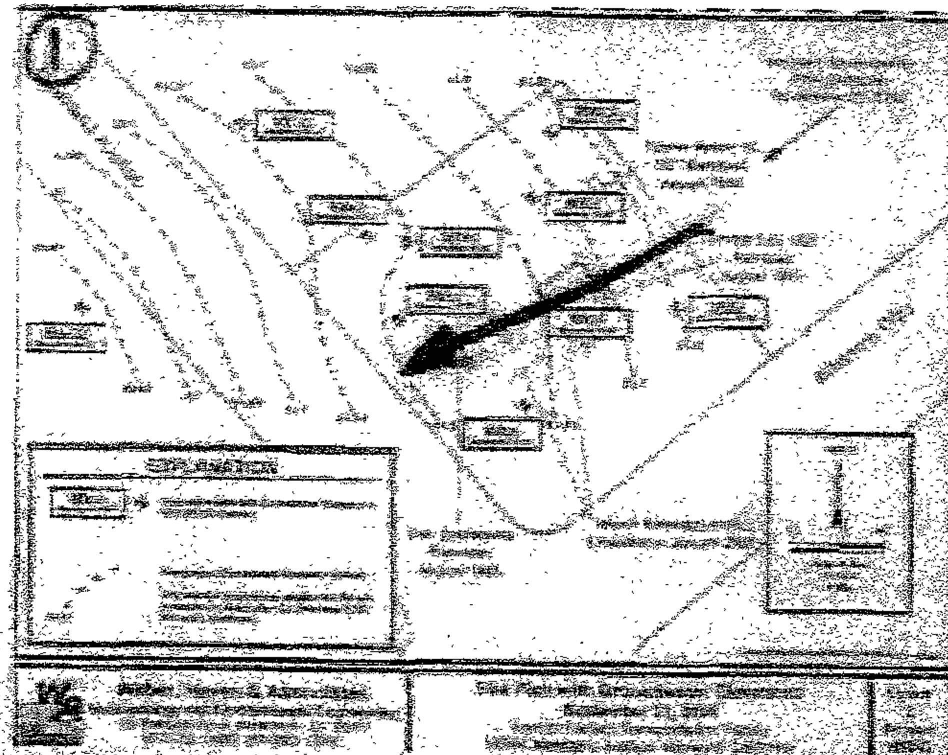
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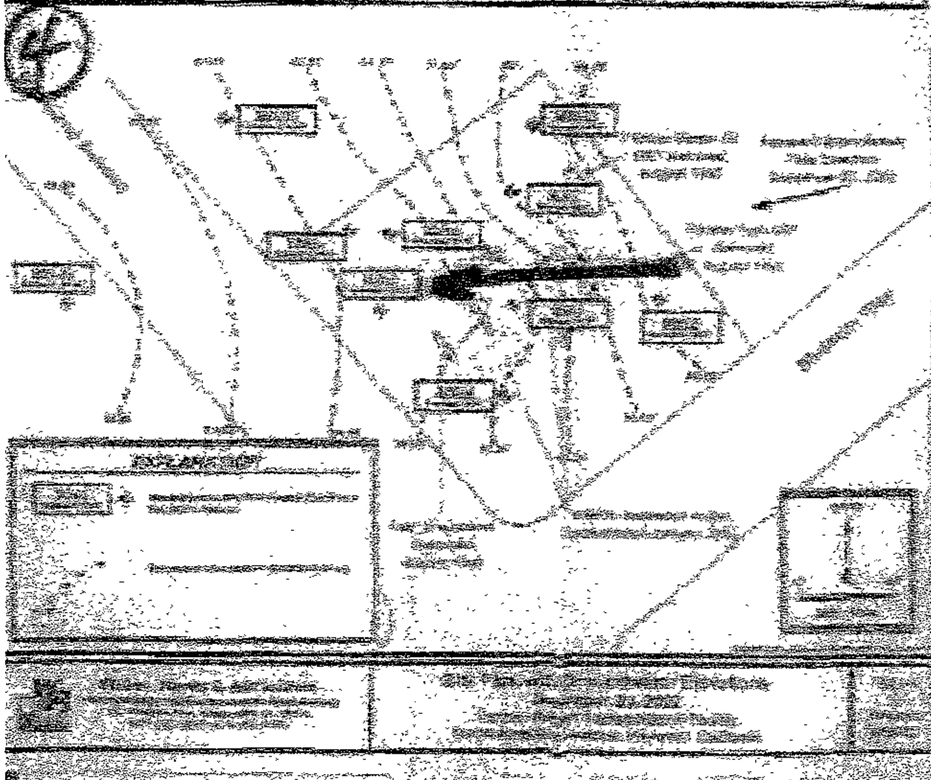
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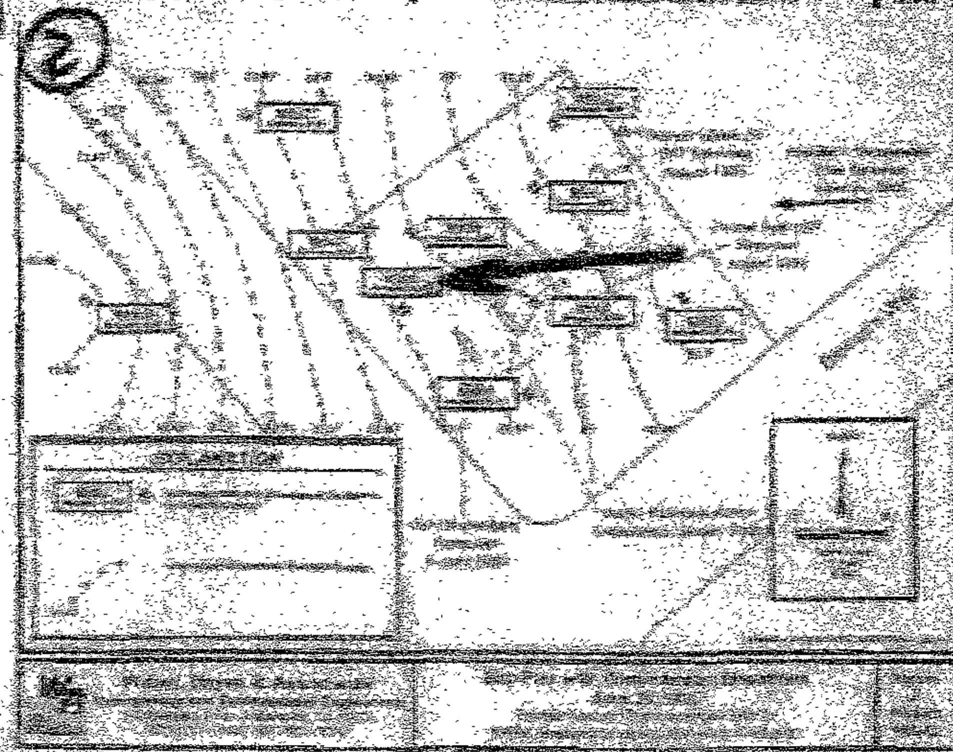
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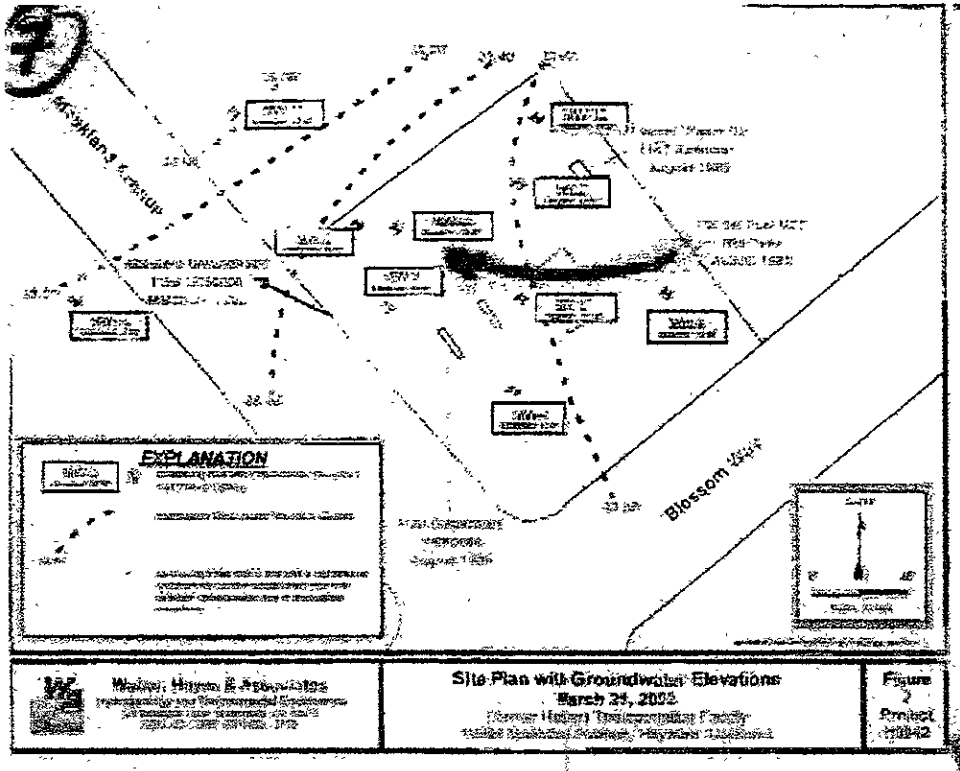
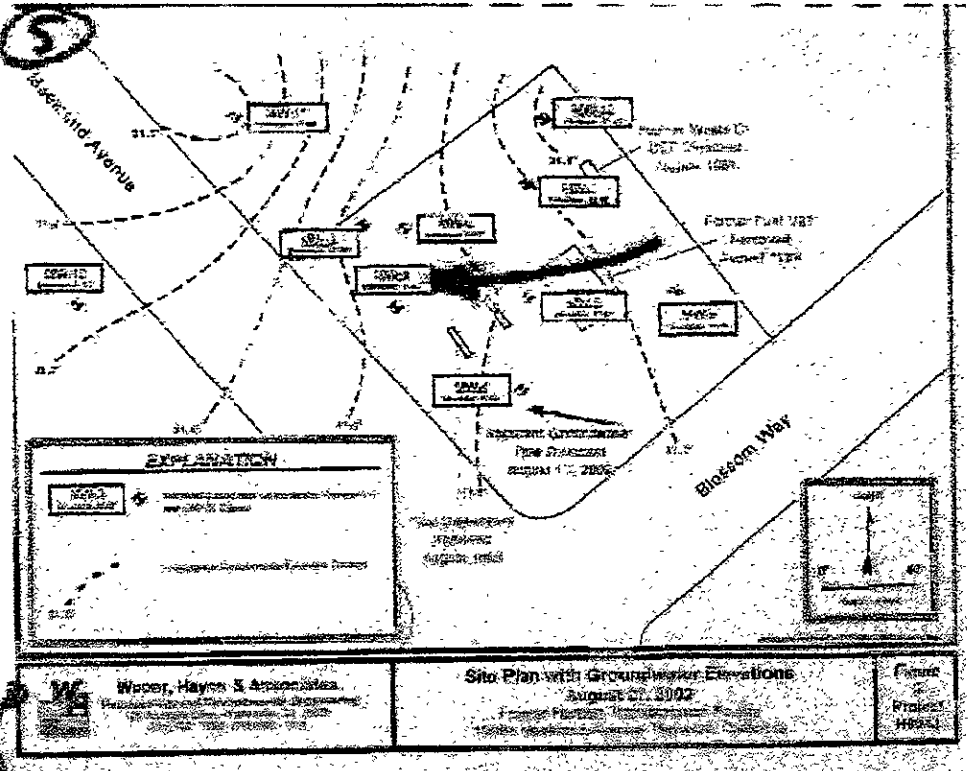
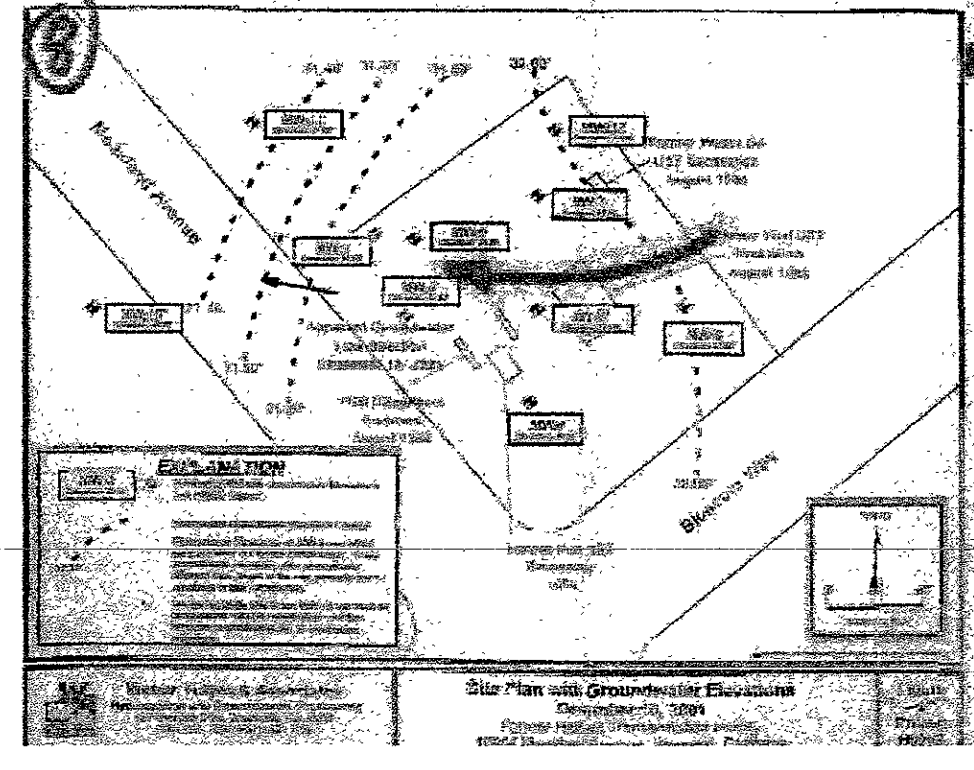


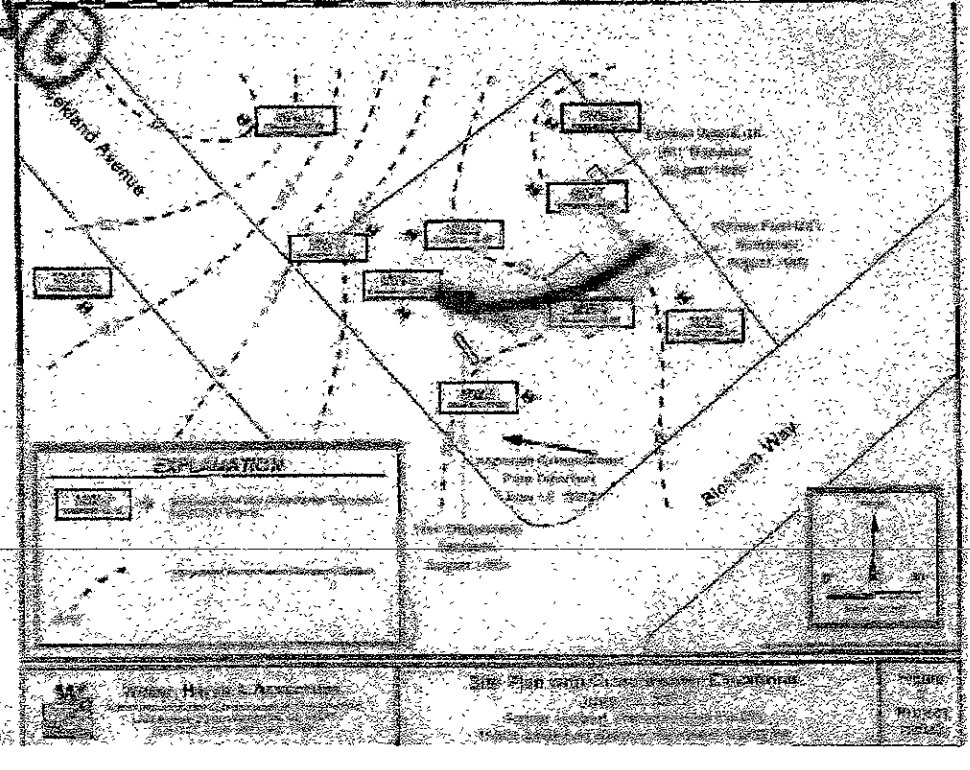
Site Plan with Groundwater Elevations
March 24, 2003

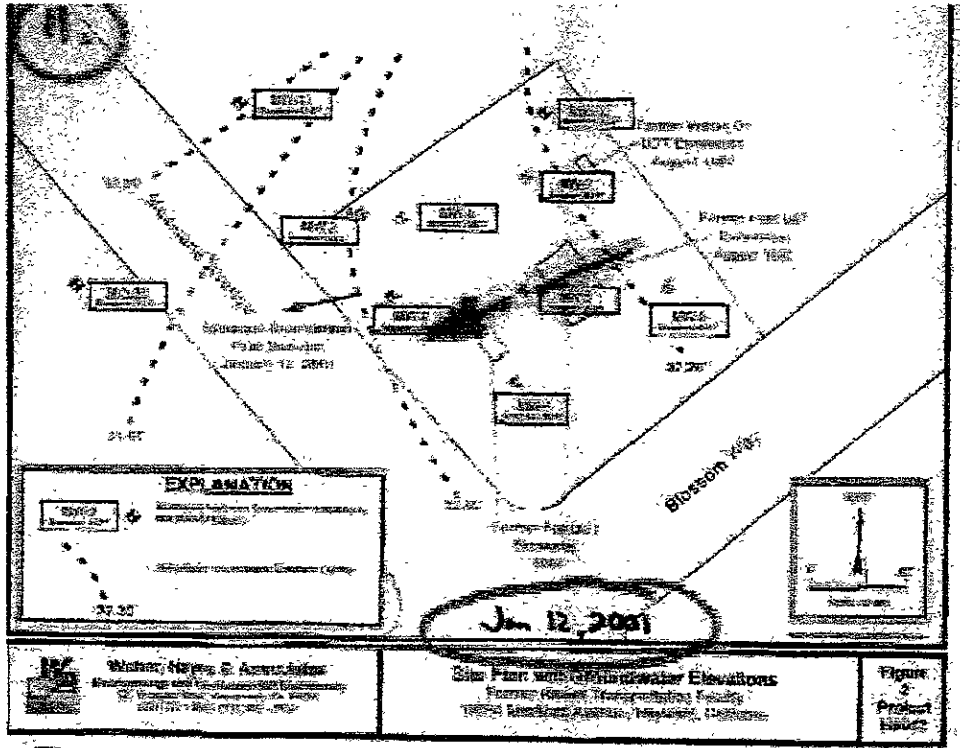


Site Plan with Groundwater Elevations



Site Plan with Groundwater Elevations

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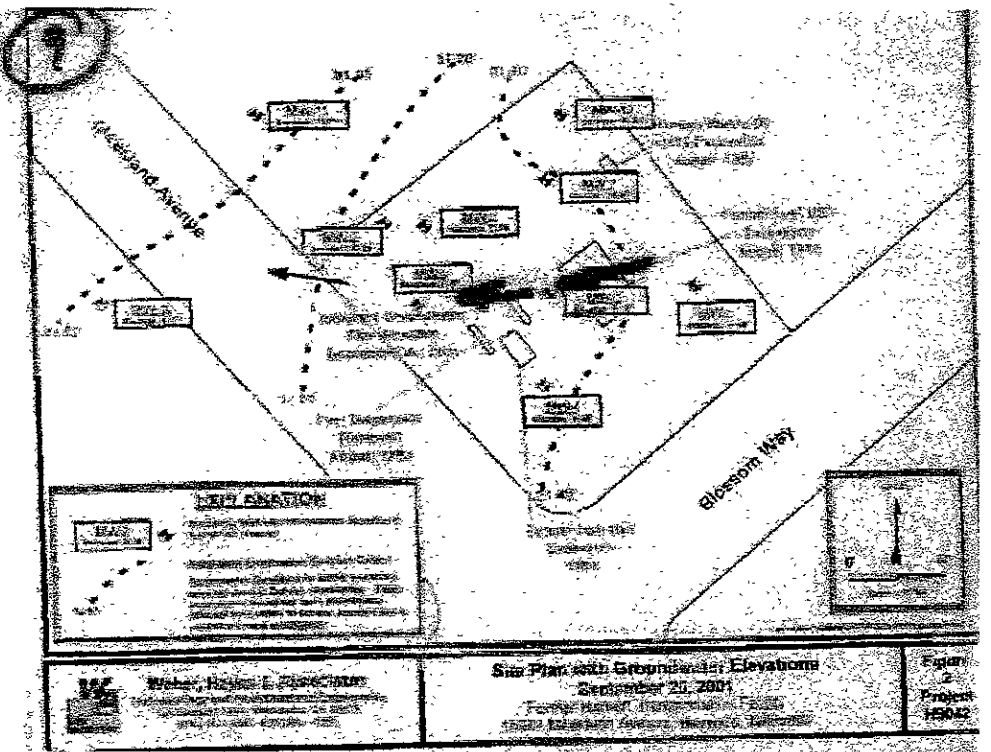
Blossom Way
EXPLANATION
Jan. 12, 2001
Site Plan with Groundwater Elevations
Figure 2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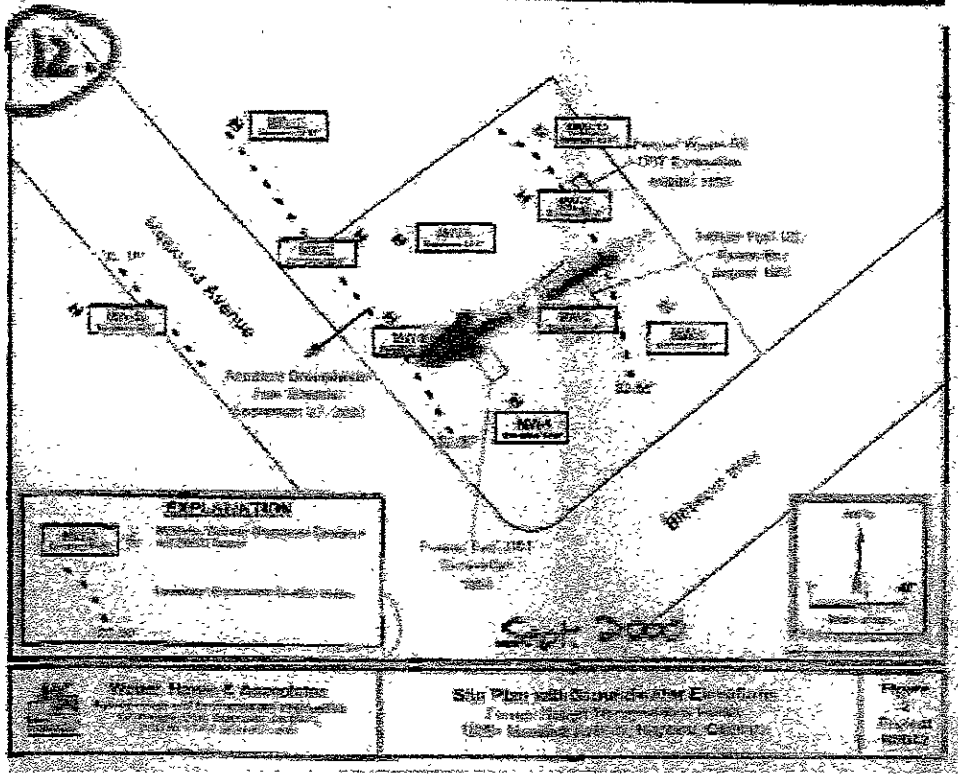
EXPLANATION
Site Plan with Groundwater Elevations
September 20, 2001
Figure 2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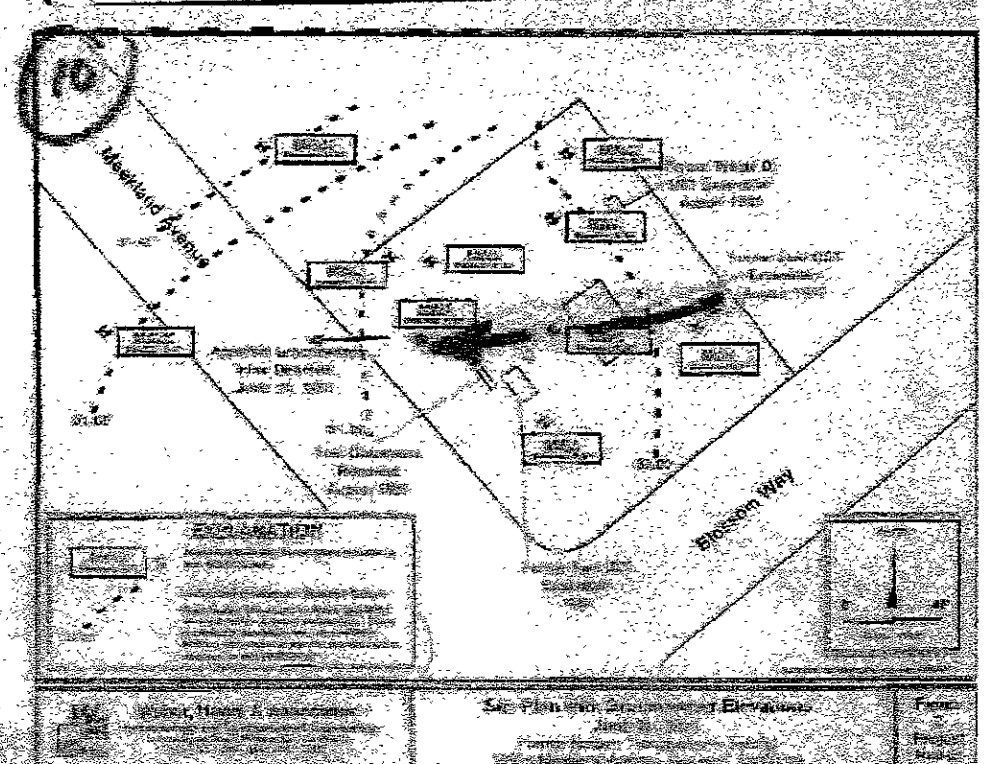
Blossom Way
EXPLANATION
Sept. 2002
Site Plan with Groundwater Elevations
Figure 2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Blossom Way

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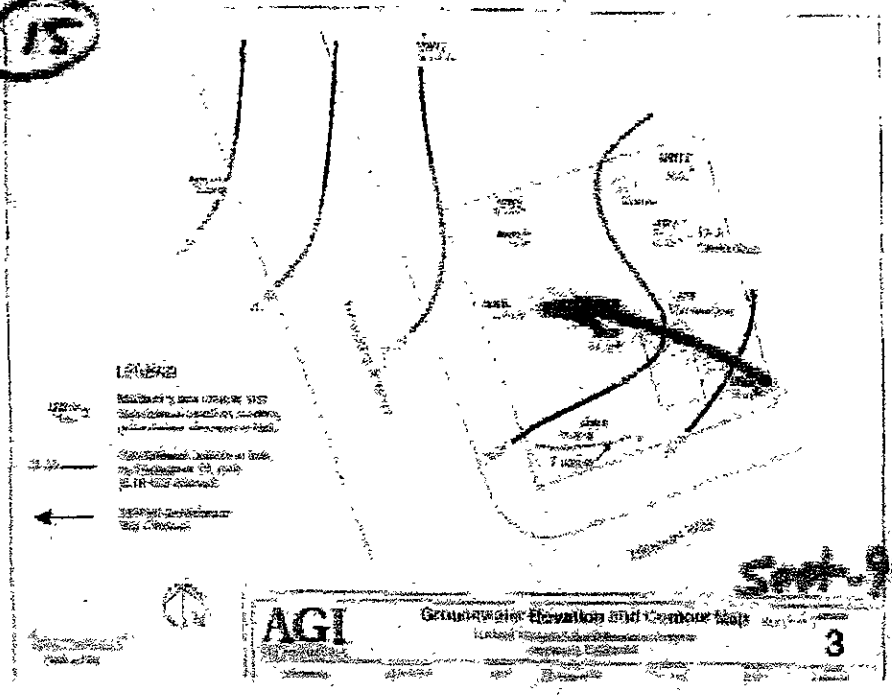

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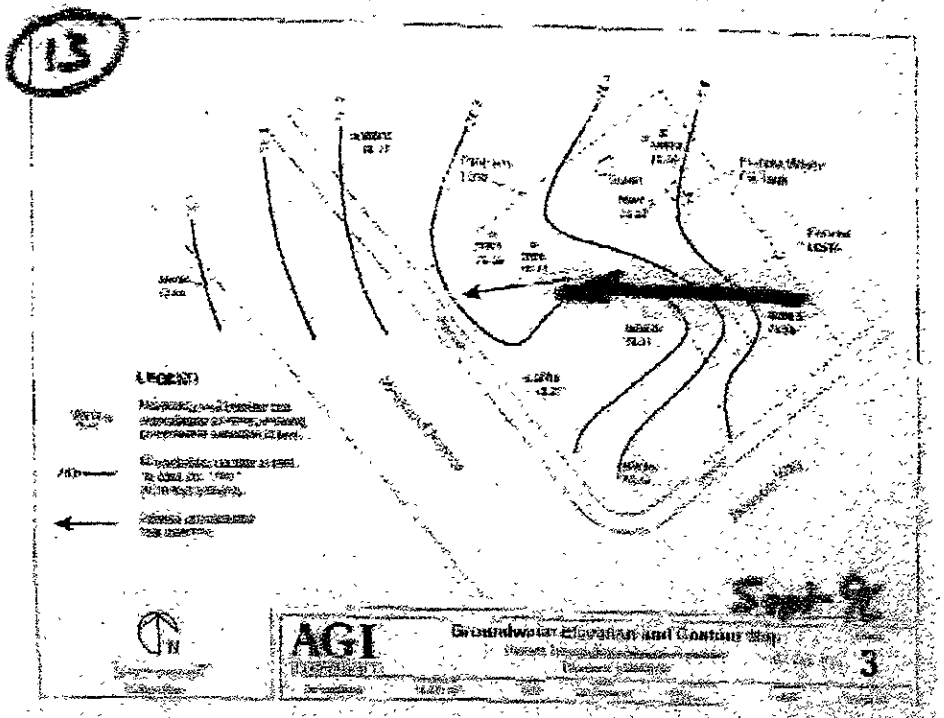

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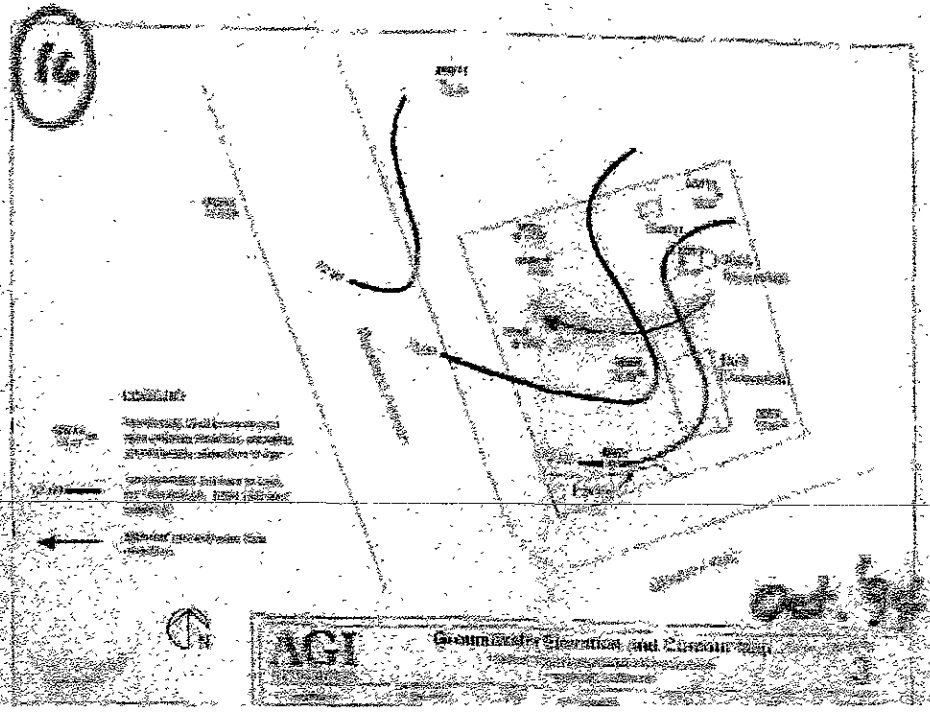

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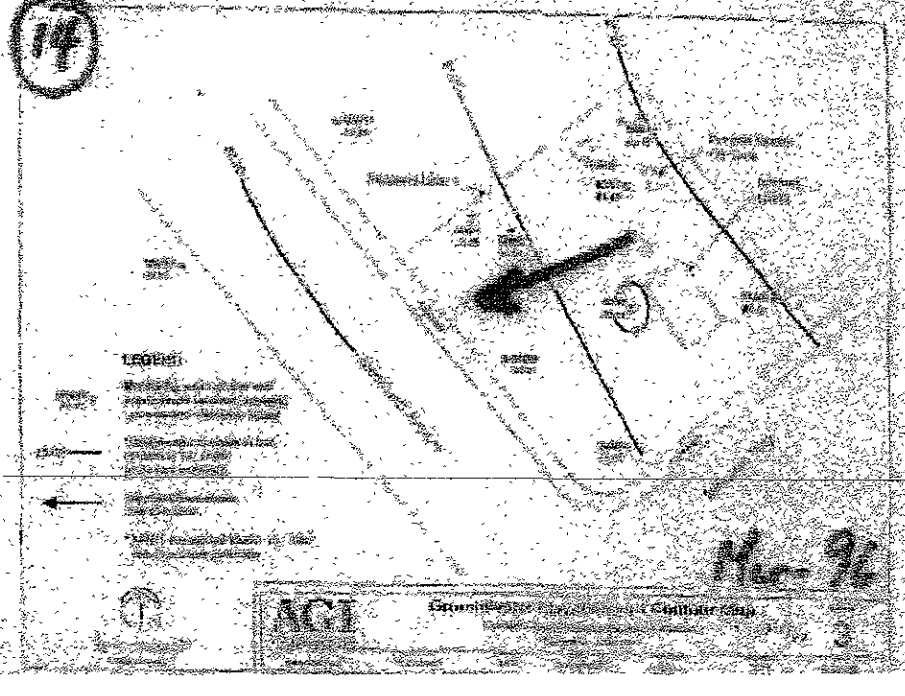

Nov. 96

Craig Drizin

From: "Roger Brewer" <Rdb@rb2.swrcb.ca.gov>
To: <craig@weber-hayes.com>
Sent: Friday, April 18, 2003 10:50 AM
Attach: 19984 Meekland (from Roger).eml
Subject: Fwd: 19984 Meekland (from Roger)

See attached note to Scott.

Roger

Craig Drizin

From: "Roger Brewer" <Rdb@rb2.swrcb.ca.gov>
Sent: Friday, April 18, 2003 8:17 AM
Subject: 19984 Meekland (from Roger)

Scott,
I received a copy of a March 27, 2003, "Proposed Site Cleanup Goals" report for the 19984 Meekland site in Hayward and got a followup call from the consultant. You're on the cc list so I assume you are the project manager.

They propose using the less stringent RBSLs for clayey soils at the site. It the absence of soil grains size data, they should instead use the more conservative RBSLs for coarse-grained soils. Based on the soil and groundwater they submitted, it shouldn't make a difference as they would pass wither way.

One note - We should be flexible on the 84 ug/L groundwater screening level for benzene (for potential emissions to indoor air). I know it's overly conservative and am working on ways to adjust it upwards in the next update of our RBSL document. Their highest concentration of 170 ug/L benzene from MW-5 last year is not that significant.

Roger