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May 2, 2002
Project H9042.Q

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

Subject: **Groundwater Monitoring Report - First Quarter 2002**
Harbert Transportation
19984 Meekland Avenue, Hayward, California

Dear Mr. Harbert:

This report describes groundwater monitoring activities conducted by Weber, Hayes and Associates at the former Harbert Transportation facility, 19984 Meekland Avenue, Hayward, California, during the first quarter 2002. This report has been prepared pursuant to a directive from the Alameda County Health Care Services Agency/Environmental Health Services (Environmental Health) regarding a release of petroleum hydrocarbons from underground storage tanks at the site.

EXECUTIVE SUMMARY

Interim Remedial Excavation of petroleum hydrocarbon (PHC) -contaminated soil, in accordance with our approved Work Plan (Weber, Hayes and Associates, June 18, 2001) took place at the site on January 7 - 10, 2002. Approximately 594 cubic yards and 3,000-gallons of PHC-contaminated soil and groundwater were removed from the site and properly disposed of (Weber, Hayes and Associates, February 8, 2002).

The groundwater monitoring event for the first quarter 2002 took place on March 21, 2002. Groundwater elevations at the site rose an average of approximately 1.38 feet since the previous quarter (December 2001). The calculated groundwater flow direction on March 21, 2002 was to the west, which appears to be generally consistent with historical data. Groundwater analytical results from the first quarter 2002 indicate that low levels of dissolved PHCs remain in groundwater at concentrations that slightly exceed water quality goals in some monitoring wells downgradient of the removed underground storage tanks (USTs) and dispensers at the site. Overall, PHC concentrations at the site declined this quarter in all impacted groundwater monitoring wells. **We believe that the interim remedial action excavation of residual PHCs is the cause of the decline in the PHC concentrations measured this quarter.**

Methyl - tert - Butyl Ether (MTBE) was not detected in the groundwater samples collected this quarter. MTBE has not been detected in groundwater at the site. Groundwater samples in the third quarter 2000 were analyzed for the fuel oxygenates Di-isopropyl Ether, tertiary Butyl Alcohol, Ethyl tertiary Butyl Ether, and tertiary Amyl Methyl Ether. No fuel oxygenates were detected in these groundwater samples.

At this time we recommend:

- Continuing quarterly groundwater monitoring of dissolved PHC concentrations at the site. We recommend that the frequency of sampling in monitoring wells MW-6 and 7 be reduced to semi-annually (second and fourth quarters) and that the frequency of sampling in monitoring wells MW-4, 8, 11 and 12 be reduced to annually (fourth quarter only).

- Calculating additional cleanup levels for those PHCs which have not yet had cleanup levels set (ethylbenzene, xylenes, and TPH-g, see Weber, Hayes and Associates, June 18, 2001), for comparison with residual concentrations of PHCs.

- If groundwater concentrations remain at similar concentrations over the next three quarters, showing significant reduction since the completion of the Large Diameter Excavation, we would recommend site closure after the 4th quarter 2002.

INTRODUCTION

This report documents groundwater monitoring activities at the former Harbert Transportation facility, 19984 Meekland Avenue, Hayward, California (the site), during the first quarter 2002. This report has been prepared pursuant to a directive from the Alameda County Health Care Services Agency/Environmental Health Services (Environmental Health, August 8, 2000) regarding a release of petroleum hydrocarbons (PHCs) from underground storage tanks (USTs) at the site.

Groundwater monitoring activities conducted during this quarter included:

1. Measuring groundwater levels and checking for the presence of free product in all of the monitoring wells associated with the site
2. Measuring the physical parameters of pH, temperature, electrical conductivity, and dissolved oxygen concentration in each well
3. Collecting groundwater samples from each of the monitoring wells
4. Submitting 10 groundwater samples to a state-certified analytical laboratory for analysis of dissolved PHC concentrations following proper chain-of-custody procedures
5. Determining groundwater elevations, flow direction, and gradient in the vicinity of the site
6. Mapping the extent of the dissolved PHC plume in groundwater beneath the site
7. Preparing this report

Site Description And Background

The site is located at the corner of Meekland Avenue and Blossom Way in Alameda County California, at an elevation of approximately 55 feet above sea level (Figure 1). The site is relatively flat and is currently vacant.

The site was operated as a motor vehicle fueling station since the 1940's. Harbert Transportation used the site as a vehicle and fueling yard before selling the site to Durham Transportation in 1986.

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MAY 08 2002

Letter of Transmittal

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

from: Craig Drizin

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

date: January 9, 2001

Number of Copies	*Date of Documents*	*Description*
1	May 2, 2002	Groundwater Monitoring Report - First Quarter 2002

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In August 1989, four underground storage tanks (USTs) were removed from the site and properly disposed of. Soil and groundwater investigations at the site, conducted by Applied Geosystems, CTTS, and AGI Technologies, indicated that PHCs were present in soil and groundwater at the site. A list of reports documenting the soil and groundwater investigations is included in the Reference section. Ten groundwater monitoring wells currently exist at the site (Figure 2). Groundwater samples were not collected from these wells between September 1996 and September 2000. Documentation indicates that excavated soil from the UST removals was returned to the (reportedly plastic-lined) excavations (CTTS, November 1, 1992).

Documentation also indicates that two USTs were removed from the site in the early 1950's (CTTS, November 27, 1990). These USTs were located near the dispensers for the USTs removed in 1989.

On February 14, 2001, we collected soil samples from the site to determine the extent of PHCs remaining in the unsaturated zone in accordance with our September 7, 2000 Work Plan. Analysis of the data collected confirmed that significant concentrations of PHCs remained in soils beneath the former dispensers and in the 1989 UST excavation which was backfilled with the excavated material. We recommended excavation of these residual PHCs as an Interim Remedial Action (Weber, Hayes and Associates, June 18, 2001). Environmental Health concurred with this recommendation in a letter dated June 26, 2001.

On January 7 - 10, 2002 we conducted an interim remedial action excavation using six foot diameter augers to remove contaminated soils from the subsurface. Approximately 594 yds^3 of PHC-impacted soil was removed from the subsurface and transported to an appropriate landfill facility for disposal. A pump was installed in one of the large diameter boreholes and 3,000-gallons of PHC impacted water was removed from the subsurface. Oxygen Release Compound® (ORC) was added to the saturated zone in each borehole to promote microbial growth and enhance the ability of aerobic microbes to degrade contaminants. Each borehole was backfilled with control density fill and clean fill soil to ground surface. This work was described in our February 8, 2002 report, *Large Diameter Excavation and 4th Quarter 2001 Quarterly Groundwater Monitoring.*

SUMMARY OF QUARTERLY ACTIVITIES

Groundwater Monitoring

The groundwater monitoring event for the first quarter 2002 took place on March 21, 2001. Field methods followed Weber, Hayes and Associates' standard field methodology for groundwater monitoring, which is described in Appendix A. Groundwater samples were collected from all monitoring wells at the site in accordance with directives from Environmental Health, and analyzed for Total Petroleum Hydrocarbons as gasoline (TPH-g) by EPA Method 8015M, and benzene, toluene, ethylbenzene, and xylenes (BTEX), and Methyl tert Butyl Ether (MTBE) by EPA Method 8020. Samples with elevated detection limits or detections of MTBE were analyzed by EPA Method 8260 to confirm the presence of MTBE and provide the proper detection limit. Field data forms are also presented in Appendix A.

Free Product

Free product was not observed in any of the monitoring wells at the site.

Groundwater Elevation and Flow Direction

Groundwater elevations were calculated by subtracting the measured depth-to-groundwater from the top-of-casing elevations, which were surveyed by a state-licensed Land Surveyor. Field measurements and the calculated groundwater elevations for the site are summarized in Table 1. Groundwater elevations at the site rose an average of approximately 1.38 feet since the previous quarter (December 2001). Calculated groundwater elevations from the gauging data collected on March 21, 2002 are shown on Figure 2. Data from this quarter indicate that groundwater flow is to the west (see Figure 2). The calculated groundwater gradient on March 21, 2002 was to the west at approximately 0.002 feet per foot. Previous reports indicate that the groundwater flow direction in the vicinity of the site has generally been in a westerly direction. Groundwater elevations in monitoring wells MW-5 and MW-6 were inconsistent with groundwater elevations in the other site monitoring wells this quarter, and are considered anomalous. Monitoring wells MW-5 and MW-6 were not used for groundwater flow direction calculation or groundwater contour construction for this reason. A table and figures summarizing previous depth to groundwater data is presented as Appendix B.

Groundwater Analytical Results

Groundwater samples were collected from all of the monitoring wells associated with the site this quarter, in accordance with directives from Environmental Health. The groundwater analytical results for this quarter are summarized below.

Summary of Groundwater Sample Analytical Results, March 21, 2002 (µg/L, ppb)

Well ID	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-3	240	0.94	2.5	12	11.7	ND
MW-4	ND	ND	ND	ND	ND	ND
MW-5	360	11	9.4	28	62	ND
MW-6	750	0.77	1.2	39	3.2	ND*
MW-7	ND	ND	ND	ND	ND	ND*
MW-8	ND	ND	ND	ND	ND	ND
MW-9	510	26	4.6	50	52	ND

MW-10	1,500	ND	11	3.1	ND	ND*
MW-11	ND	ND	ND	ND	ND	ND
MW-12	ND	ND	ND	ND	ND	ND
AL/MCL	1,000	1	150	700	1,750	5

* = Confirmed by GC/MS method 8260

The concentration of benzene in well MW-5 exceeds the groundwater quality goal/Maximum Contaminant Level (MCL) of 1 microgram per liter (µg/L, parts per billion, ppb).

The concentration of benzene in well MW-9 exceeds the groundwater quality goal/MCL of 1 ppb.

The concentration of TPH-g in well MW-10 exceeds the groundwater quality goal/AL.

No other PHCs exceed water quality goals/ALs/MCLs.

MTBE was not detected in any of the wells associated with the site.

Please see the Site Conceptual Model section for a discussion of the groundwater analytical results.

Analytical results for the groundwater samples collected by Weber, Hayes and Associates are summarized in Table 1. PHC concentrations detected in groundwater during the current monitoring event are shown on Figure 3. The extent of dissolved PHCs greater than 1,000 ppb TPH-g and 10 ppb benzene in groundwater are shown on Figure 4.

The Certified Analytical Report for the groundwater samples is presented as Appendix C. All laboratory quality control and quality assurance data were within acceptable limits. A table and figures summarizing analytical results of groundwater samples collected by previous consultants is presented as Appendix D.

Dissolved Oxygen Measurements

Current and historic dissolved oxygen measurements collected at the site indicate generally lower levels of dissolved oxygen in PHC impacted wells compared to levels in non-impacted, upgradient wells. We believe this, combined with the observed decrease in dissolved PHC concentrations over time, indicates that natural attenuation of PHCs via bioremediation is occurring in groundwater, with microbes using dissolved PHCs as a food source during aerobic respiration (see Bushek and O'Reilly, 1995, Table 1, Figure 3, and Appendix D).

SUMMARY

Summary of Quarterly Monitoring Results

- Concentrations of dissolved PHCs declined markedly compared to last quarter. This is likely the result of the interim remedial action conducted in January 2002, which included excavation and proper disposal of approximately 594 cubic yards of PHC-impacted soil and pumping and proper disposal of approximately 3,000-gallons of PHC-impacted groundwater
- Free product was not observed in any of the monitoring wells at the site.
- Groundwater elevations at the site rose an average of approximately 1.38 feet since the previous quarter (December 2001).
- The groundwater flow direction on March 21, 2002 was to the west at a gradient of approximately 0.002 feet per foot. This direction is in general agreement with data collected by us in the past three quarters and previous data collected by others at the site.
- **MTBE was not detected in any of the groundwater samples collected this quarter.**
- TPH-g was detected at a concentration above the AL in off-site well MW-10 which is located downgradient of the removed USTs.
- Benzene was detected at a concentration above the MCL in wells MW-5 and MW-9.
- Current and historic measurements of dissolved oxygen collected at the site indicate aerobic bioremediation is occurring in the PHC-impacted wells.

SITE CONCEPTUAL MODEL

The Site Conceptual Model (SCM) provides a compilation of our understanding of the existing site conditions:

- Soils encountered at the site generally consisted of fat Clays and sandy Clays. The predominance of these fine grained materials indicate that cleanup of PHCs at the site would ***NOT*** be amenable to soil vapor extraction or related technologies.
- A review and comparison of historical groundwater analytical data with the current and recent data suggests there has been a reduction in PHC concentrations at the site of at least an order of magnitude since September 1996 (see Table 1, Figure 3, and Appendix D). However, dissolved PHC concentrations remain above ALs/MCLs twelve years after the removal of the USTs.

- PHCs are present in three on-site wells downgradient of the removed USTs at concentrations above groundwater quality goals.

- The interim Remedial Action (IRA) which we completed early in the first quarter 2002 appears to have led to a decrease (up to an order of magnitude) in PHC concentrations in the on-site PHC-impacted wells.

- Low levels of PHCs remain in groundwater. Concentrations of PHCs slightly exceed the Action Level for TPH-g or the MCL for benzene in wells MW-5 and 9. Benzene is currently less than 1 ppb in all other wells at the site.

- We believe that natural attenuation/bioremediation has and will continue to remove PHCs from groundwater at the site.

- **MTBE has not been detected in any of the soil or groundwater samples collected at the site.**

MTBE is ***NOT*** present at the site. There are low levels of residual non-mobile PHCs in soil and groundwater that will likely degrade via natural processes over time. Excavation of source zone soil near the removed USTs and dispensers and removal of contaminated groundwater appears to have removed the driving force behind migration of PHCs in groundwater and should allow natural attenuation of PHCs to complete the cleanup at the site.

RECOMMENDATIONS

At this time we recommend:

- Continuing quarterly groundwater monitoring of dissolved PHC concentrations at the site. We recommend that the frequency of sampling in monitoring wells MW-6 and 7 be reduced to semi-annually (second and fourth quarters) and that the frequency of sampling in monitoring wells MW-4, 8, 11 and 12 be reduced to annually (fourth quarter only). Wells MW-3, 5, 9, and 10 would remain on a quarterly schedule.

- Calculating additional cleanup levels for those PHCs which have not yet had cleanup levels set (ethylbenzene, xylenes, and TPH-g, see Weber, Hayes and Associates, June 18, 2001), for comparison with concentrations after the interim remedial excavation.

- If groundwater concentrations remain at similar concentrations over the next three quarters, showing significant reduction since the completion of the Large Diameter Excavation, we would recommend site closure after the 4th quarter 2002.

SCHEDULE OF ACTIVITIES FOR THE FOLLOWING QUARTER

The following activities are scheduled for the next quarter:

- Quarterly groundwater monitoring according to the schedule recommended above, pending agreement by Environmental Health. Groundwater monitoring will include measuring the depth-to-groundwater, dissolved oxygen concentration, and physical parameters, and collecting samples from the appropriate monitoring wells and analyzing them for TPH-g, BTEX and MTBE by EPA Methods 8015M and 8020. All detections of MTBE will be confirmed by EPA Method 8260.

- Calculating cleanup levels for PHCs in soil and groundwater at the site for comparison with concentrations after the interim remedial excavation.

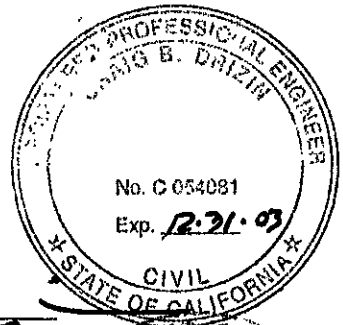
LIMITATIONS

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.

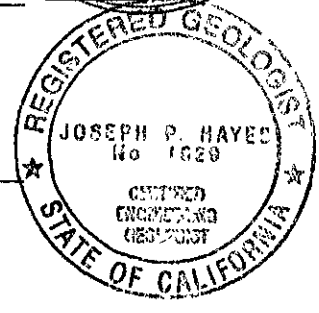
Thank you for the opportunity to aid in the assessment and cleanup of this site. If you have any questions or comments regarding this project please call us at (831) 722 - 3580.

Sincerely yours,

Weber, Hayes And Associates



By: _____
Craig Drizin, P.E.
Senior Engineer



And: _____
Joseph Hayes
Certified Hydrogeologist #373

Attachments:

Table 1:	Summary of Groundwater Elevation and PHC Analytical Data
Figure 1:	Location Map
Figure 2:	Site Plan with Groundwater Elevations
Figure 3:	Site Plan with PHC Concentrations in Groundwater
Figure 4:	Site Plan with Extent of TPH-g and Benzene in Groundwater
Appendix A	Field Methodology for Groundwater Monitoring and Field Data Forms
Appendix B	Summary of Historical Depth to Groundwater Measurements, Groundwater Elevations, and Groundwater Flow Direction - AGI Technologies, Inc.
Appendix C	Certified Analytical Report - Groundwater Samples
Appendix D	Summary of Historical Groundwater Analytical Results - AGI Technologies, Inc.

c: Mr. Amir Gholami, Alameda County Environmental Health
Mr. Jeff Lawson
Ms. Laurie Berger
Mr. Gregg Petersen, Durham Transportation
Mr. Chuck Headlee, San Francisco Bay Regional Water Quality Control Board

REFERENCES

AGI Technologies, August 29, 1994. *Quarterly Groundwater Monitoring 19984 Meekland Avenue, Hayward, California*

AGI Technologies, September 19, 1994. *Quarterly Groundwater Monitoring 19984 Meekland Avenue, Hayward, California*

AGI Technologies, February 1, 1995. *Quarterly Groundwater Monitoring 19984 Meekland Avenue, Hayward, California*

AGI Technologies, August 16, 1995. *Development of Risk-Based Cleanup Standards Harbert Transportation Site 19984 Meekland Avenue, Hayward, California*

AGI Technologies, November 9, 1995. *Work Plan Off-Site Contamination Assessment Harbert Transportation Inc. 19984 Meekland Avenue, Hayward, California*

AGI Technologies, November 29, 1995. September 1996 *Quarterly Groundwater Monitoring 19984 Meekland Avenue, Hayward, California*

AGI Technologies, April 30, 1996. *Quarterly Groundwater Monitoring 19984 Meekland Avenue, Hayward, California*

AGI Technologies, January 6, 1997. *September 1996 Quarterly Groundwater Monitoring 19984 Meekland Avenue, Hayward, California*

AGI Technologies, February 4, 1998. *Final Report Development of Risk-Based Cleanup Standards Harbert Transportation Site 19984 Meekland Avenue, Hayward, California*

Alameda County Health Care Services Agency, Environmental Health Services, June 17, 1999. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Requests for Additions/Modifications to the Risk Assessment*

Alameda County Health Care Services Agency, Environmental Health Services, July 11, 2000. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Groundwater Monitoring and Work Plan Request*

Alameda County Health Care Services Agency, Environmental Health Services, August 8, 2000. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Groundwater Monitoring and Work Plan Request - Clarification*

Alameda County Health Care Services Agency, Environmental Health Services, November 1, 2000. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Approval of Work Plan for Soil and Groundwater Sampling*

REFERENCES (continued)

Alameda County Health Care Services Agency, Environmental Health Services, November 15, 2000. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Review of Third Quarter 2000 Groundwater Monitoring Report*

Alameda County Health Care Services Agency, Environmental Health Services, December 4, 2000. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Approval of Work Plan for Soil and Groundwater Sampling*

Alameda County Health Care Services Agency, Environmental Health Services, February 21, 2001. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Concur with work proposed in Fourth Quarter 2000 Groundwater Monitoring Report*

Alameda County Health Care Services Agency, Environmental Health Services, June 26, 2001. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Concur with work proposed in First Quarter 2001 Groundwater Monitoring Report*

Alameda County Health Care Services Agency, Environmental Health Services, November 29, 2001. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Receipt of "Status Report-UST Assessment and Cleanup" dated November 6, 2001, Concur with work proposed in Second Quarter 2001 Groundwater Monitoring Report*

Alameda County Health Care Services Agency, Environmental Health Services, December 13, 2001. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - Concur with work proposed in Addendum to Interim Remedial Action and Modified Feasibility Study*

Alameda County Health Care Services Agency, Environmental Health Services, January 14, 2002. *Property at 19984 Meekland Avenue, Hayward, Ca 94541 - 10% Increase in Interim Remedial Action Costs Acceptable*

Applied Geosystems, 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, and Safety Group

CTTS, Inc., Toxic Technology Services, September 13, 1989. *Report on Underground Tank Removal at 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, November 27, 1990. *Phase II Report for Durham Transportation, 19984 Meekland Road, Hayward, California*

REFERENCES (continued)

CTTS, Inc., Toxic Technology Services. *Amendment #1, Proposed Remediation for on Site Soil Contamination*

CTTS, Inc., Toxic Technology Services, January 31, 1990. *Report on Well Abandonment and Groundwater Monitoring Well Installations, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, July 2, 1990. *Progress Report #1, Period Covering 3/23/90-6/30/90, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, August 2, 1990 *Progress Report #2, Period Covering 7/l/90-7/31/90, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, September 21, 1990. *Progress Report #3, Period Covering 8/l/90-8/31/90, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, November 12, 1990. *Progress Report #4, Period Covering 9/l/90-10/31/90, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, December 28, 1990. *Progress Report #5, Period Covering 11/l/90-11/30/90, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, January 25, 1991. *Progress Report #7, Period Covering 1/l/91-1/31/91, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, February 11, 1991. *Progress Report #6, Period Covering 12/l/90-12/31/90, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, February 19, 1991. *Cost analysis, Remediation Alternatives 19984 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, April 4, 1991. *Progress Report #8, Period Covering 2/l/91-3/31/91, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, June 30, 1991. *Progress Report #11, Period Covering 6/l/91-6/30/9, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, September 30, 1991. *Progress Report #12, Period Covering 7/l/91-9/30/91, Durham Transportation 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, April 2, 1991. *Report of Additional Well Installlations19984 Meekland Road, Hayward, California*

REFERENCES (continued)

CTTS, Inc., Toxic Technology Services, November 1, 1992. *Health and Safety Plan to Accompany Workplan for the Delineation, Containment and Remediation of Soil and Groundwater Contamination, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, November 1, 1992. *Workplan for the Delineation, Containment and Remediation of Soil and Groundwater Contamination, 19984 Meekland Road, Hayward, California*

CTTS, Inc., Toxic Technology Services, January 21, 1993. *Progress Report #17, Period Covering 10/l/92-12/31/92, Durham Transportation 19984 Meekland Avenue, Hayward, California*

CTTS, Inc., Toxic Technology Services, March 10, 1993. *Progress Report #18, Period Covering 12/l/92-1/31/93, Durham Transportation 19984 Meekland Avenue, Hayward, California*

CTTS, Inc., Toxic Technology Services, March 29, 1993. *Progress Report #19, Period Covering 2/l/93-2/31/93, Durham Transportation 19984 Meekland Avenue, Hayward, California*

CTTS, Inc., Toxic Technology Services, April 1, 1993. *Progress Report #20, Period Covering 3/l/93-3/31/93, Durham Transportation 19984 Meekland Avenue, Hayward, California*

CTTS, Inc., Toxic Technology Services. March 10, 1993. *Remediation Progress Report 1, Period Covering 12/l/92-1/31/93, 19984 Meekland Avenue, Hayward, California*

CTTS, Inc., Toxic Technology Services. July 16, 1993. *Progress Report #21, Period Covering 4/l/93-6/30/93 19984 Meekland Avenue, Hayward, California*

CTTS, Inc., Toxic Technology Services. October 11, 1993. *Progress Report #22, Period Covering 6/l/93-9/30/93, 19984 Meekland Avenue, Hayward, California*

CTTS, Inc., Toxic Technology Services, February 24, 1993. *Progress Report #23, Period Covering 10/l/93-12/31/93, Durham Transportation 19984 Meekland Avenue, Hayward, California*

Howard, Philip, H. 1990. *Handbook of Fate and Exposure Data for Organic Chemicals*, Lewis Publishers. Inc., Chelsea, Michigan

Weber, Hayes and Associates, October 29, 1999. *Clarification of Development of Risk Based Cleanup Standards - Harbert Transportation Site, 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, September 7, 2000. *Work Plan for Soil and Groundwater Sampling - Harbert Transportation Site, 19984 Meekland Avenue, Hayward, CA*

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REFERENCES (continued)

Weber, Hayes and Associates, November 10, 2000. *Groundwater Monitoring Report - Third Quarter 2000, 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, January 30, 2001. *Groundwater Monitoring Report - Fourth Quarter 2000, 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, June 18, 2001. *Additional Site Assessment and Groundwater Monitoring Report - First Quarter 2001, 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, July 24, 2001. *Groundwater Monitoring Report - Second Quarter 2001, 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, November 6, 2001. *Groundwater Monitoring Report - Third Quarter 2001, 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, December 7, 2001. *Addendum to Interim Remedial Action - 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, December 11, 2001. *Feasibility Study and Modified Interim Remedial Action - 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, January 14, 2002. *Facsimile with information regarding 10% Cost Overrun - Interim Remedial Action 19984 Meekland Avenue, Hayward, CA*

Weber, Hayes and Associates, February 8, 2002. *Interim Remedial Action, Large-Diameter Auger Excavation Operations, and Fourth Quarter 2001 Quarterly Groundwater Monitoring, 19984 Meekland Avenue, Hayward, CA*

Table 1: Summary of Groundwater Elevation and PHC Analytical Data
Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, Ca.
Weber, Hayes and Associates Project H9042

Well I.D.	Date	Screened Interval (feet below ground surface)	Surveyed T.O.C. Elevation (feet)	Depth to Groundwater (feet below ground surface)	Calculated Groundwater Elevation (feet)	Laboratory Analytical Results							
						TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	F.O.'s (ug/L)	D.O. (mg/L)
MW-3		20 - 40?	55.44										
	21-Mar-2002			21.96	33.48	240	0.94	2.5	12	11.7	ND	--	0.1
	18-Dec-2001			23.59	31.85	270	1.6	1.7	13	5.4	ND	--	--
	20-Sep-2001			24.16	31.28	380	1.7	2.6	32	8.9	ND	--	0.4
	20-Jun-2001			23.55	31.89	760	4.4	2.4	62	23	ND*	--	--
	29-Mar-2001			22.02	33.42	170	1.1	ND	10	1.6	ND	--	0.6
	12-Jan-2001			23.41	32.03	310	2.4	2.2	4.4	10	ND	--	0.7
	27-Sep-2000			23.09	32.35	430	ND	ND	44	ND	ND	ND	1.0
MW-4		20 - 40?	55.71										
	21-Mar-2002			22.15	33.56	ND	ND	ND	ND	ND	ND	--	0.2
	18-Dec-2001			23.80	31.91	ND	ND	0.9	ND	ND	ND	--	--
	20-Sep-2001			24.32	31.39	ND	ND	ND	ND	ND	ND	--	0.4
	20-Jun-2001			23.74	31.97	ND	ND	ND	ND	ND	ND	--	--
	29-Mar-2001			22.22	33.49	ND	ND	4.2	ND	ND	ND	--	0.5
	12-Jan-2001			23.60	32.11	ND	ND	ND	ND	ND	ND	--	0.7
	27-Sep-2000			23.25	32.46	ND	ND	ND	ND	ND	ND	ND	2.5
MW-5		25 - 45	56.03										
	21-Mar-2002			24.69	31.34	360	11	9.4	28	62	ND	--	0.1
	18-Dec-2001			23.15	32.88	780	21	12	86	94	ND*	--	--
	20-Sep-2001			24.75	31.28	2,300	46	41	280	330	ND*	--	0.3
	20-Jun-2001			24.15	31.88	6,500	120	130	740	940	ND*	--	--
	29-Mar-2001			22.69	33.34	13,000	220	510	1,000	2,700	ND*	--	0.4
	12-Jan-2001			23.97	32.06	1,100	62	40	150	290	ND*	--	0.3
	27-Sep-2000			23.69	32.34	18,000	840	2.9	1,200	3,500	< 30	ND	0.4
MW-6		25 - 45	56.01										
	21-Mar-2002			23.11	32.90	750	0.77	1.2	39	3.2	ND*	--	0.1
	18-Dec-2001			24.16	31.85	3,700	33	8.7	320	110	< 1.5*	--	--
	20-Sep-2001			24.72	31.29	2,500	11	8.6	240	94	ND*	--	0.3
	20-Jun-2001			24.13	31.88	1,800	14	4.6	160	79	ND*	--	--
	29-Mar-2001			22.56	33.45	610	2.2	ND	37	4.6	ND*	--	0.5
	12-Jan-2001			23.97	32.04	2,300	16	3.5	290	83	ND*	--	0.5
	27-Sep-2000			23.56	32.45	1,300	ND	4.3	200	17	ND	ND	0.5

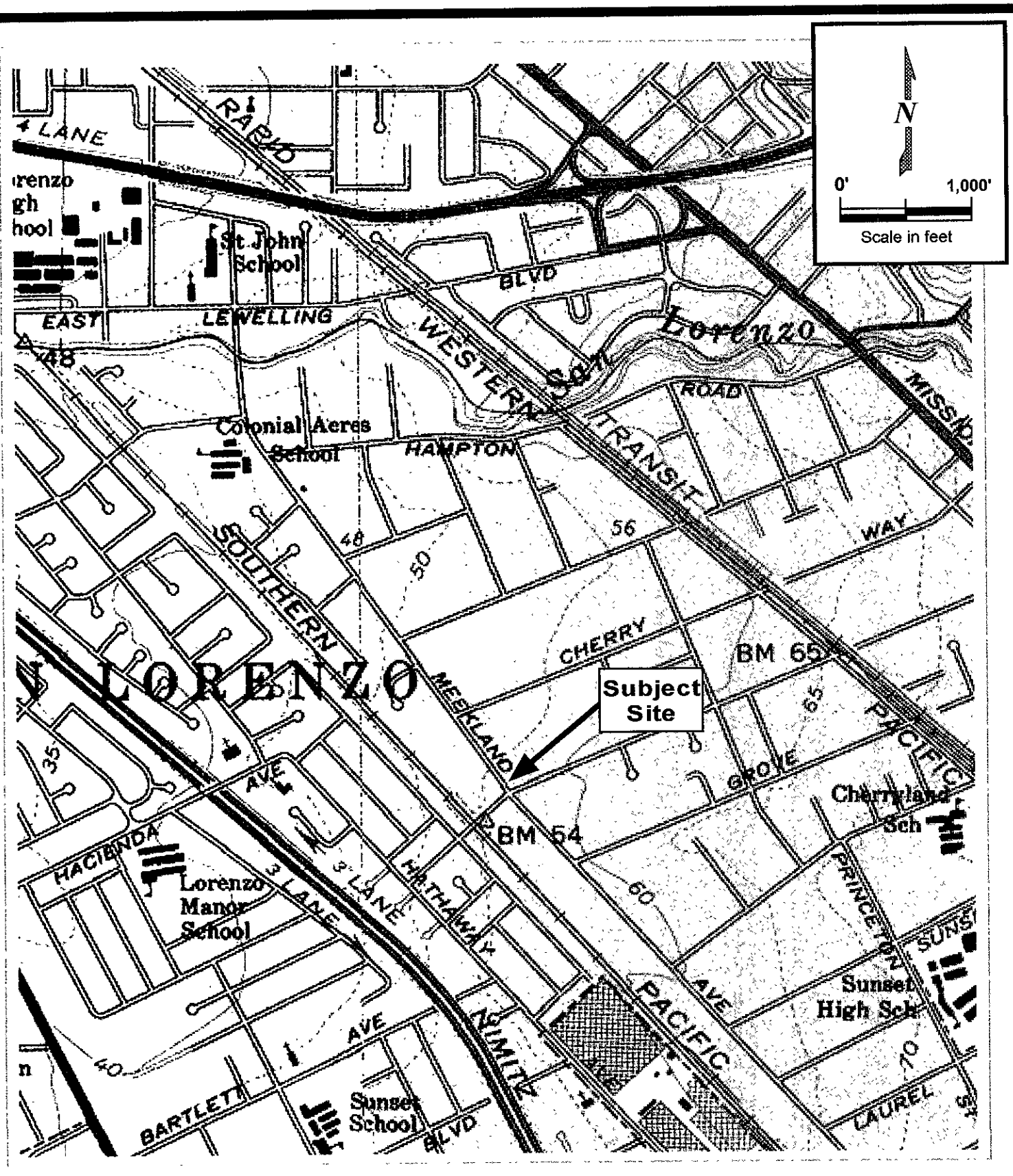
Table 1: Summary of Groundwater Elevation and PHC Analytical Data
Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, Ca.
Weber, Hayes and Associates Project H9042

Well I.D.	Date	Screened Interval (feet below ground surface)	Surveyed T.O.C. Elevation (feet)	Depth to Groundwater (feet below ground surface)	Calculated Groundwater Elevation (feet)	Laboratory Analytical Results							
						TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	F.O.'s (ug/L)	D.O. (mg/L)
MW-7		25 - 45	56.66										
	21-Mar-2002			23.05	33.61	ND	ND	ND	ND	ND	ND	--	0 0
	18-Dec-2001			24.70	31.96	290	ND	ND	119	4 6	ND	--	--
	20-Sep-2001			25 27	31.39	290	0.98	ND	12	4.5	ND*	--	0.4
	20-Jun-2001			24.68	31.98	430	2.4	0.96	30	9.7	ND*	--	--
	29-Mar-2001			23.10	33.56	ND	ND	ND	ND	ND	ND	--	0.5
	12-Jan-2001			24.49	32.17	1,600	13	0.86	150	35	ND*	--	0.5
	27-Sep-2000			24 18	32.48	270	13	6.6	11	ND	ND	ND	0 5
MW-8		20 - 40	56.16										
	21-Mar-2002			22.51	33.65	ND	ND	ND	ND	ND	ND	--	2.4
	18-Dec-2001			24.16	32.00	ND	ND	ND	ND	ND	ND	--	--
	20-Sep-2001			24.68	31 48	ND	ND	ND	ND	ND	ND	--	1.6
	20-Jun-2001			24.09	32 07	ND	ND	ND	ND	ND	ND	--	--
	29-Mar-2001			22.56	33.60	ND	ND	0.8	ND	ND	ND	--	1.9
	12-Jan-2001			23.93	32 23	ND	ND	ND	ND	ND	ND	--	2.1
	27-Sep-2000			23.59	32 57	ND	ND	ND	ND	ND	ND	ND	1 9
MW-9		20 - 40	55.21										
	21-Mar-2002			21.76	33.45	510	26	4 6	50	52	ND	--	0.1
	18-Dec-2001			23.38	31.83	6,400	640	120	630	1,300	< 1.5*	--	--
	20-Sep-2001			23.94	31.27	3,400	270	38.0	390	430	ND*	--	0 3
	20-Jun-2001			23 36	31.85	8,300	330	88.0	850	1,700	< 0.6*	--	--
	29-Mar-2001			21 61	33.60	1,600	110	14.0	240	150	ND*	--	0.4
	12-Jan-2001			23.17	32.04	10,000	550	110.0	1,200	2,200	ND*	--	0.5
	27-Sep-2000			22.90	32.31	1,000	40	6.7	110	55	ND	ND	0.5
MW-10		25 - 40	54.74										
	21-Mar-2002			21.53	33 21	1,500	ND	11	3.1	ND	ND*	--	0.1
	18-Dec-2001			21.11	33.63	1,500	7.9	2.9	ND	ND	< 0.6*	--	--
	20-Sep-2001			23.70	31 04	1,200	6	9.9	1.2	3.9	ND*	--	0.4
	20-Jun-2001			23.17	31.57	810****	3	1.6	5.1	13	ND*	--	--
	29-Mar-2001			21.63	33 11	600****	2	0.65	ND	0.72	ND	--	0.5
	12-Jan-2001			22.99	31 75	530	3.7	1.9	2.1	4.5	ND	--	0.6
	27-Sep-2000			22 72	32.02	880	ND	ND	ND	ND	ND	ND	0.4

Table 1: Summary of Groundwater Elevation and PHC Analytical Data
Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, Ca.
Weber, Hayes and Associates Project H9042

Well I.D.	Date	Screened Interval (feet below ground surface)	Surveyed T.O.C. Elevation (feet)	Depth to Groundwater (feet below ground surface)	Calculated Groundwater Elevation (feet)	Laboratory Analytical Results							
						TPH-g (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	MTBE (ug/L)	F.O.'s (ug/L)	D.O. (mg/L)
MW-11		25 - 40	55 20										
	21-Mar-2002			21.76	32 98	ND	ND	ND	ND	ND	ND	--	0.1
	18-Dec-2001			23.39	31 35	ND	ND	0.56	ND	ND	ND	--	--
	20-Sep-2001			23.87	30.87	ND	ND	ND	ND	ND	ND	--	0 4
	20-Jun-2001			23.39	31 35	ND	ND	ND	ND	ND	ND	--	--
	29-Mar-2001			21.84	32.90	ND	ND	4.5	ND	ND	ND	--	0.6
	12-Jan-2001			23 21	31.53	ND	ND	2 1	ND	ND	ND	--	0.6
	27-Sep-2000			22.43	32.31	63	ND	ND	ND	ND	ND	ND	0.6
MW-12		25 - 40	56.49										
	21-Mar-2002			22.86	33.63	ND	ND	ND	ND	ND	ND	--	0.7
	18-Dec-2001			24 49	32.00	ND	ND	0.86	ND	ND	ND	--	--
	20-Sep-2001			24.95	31.54	ND	ND	ND	ND	ND	ND	--	0.7
	20-Jun-2001			24.47	32.02	ND	ND	ND	ND	ND	ND	--	--
	29-Mar-2001			22.91	33.58	ND	ND	5.0	ND	ND	ND	--	1 0
	12-Jan-2001			24 28	32.21	ND	ND	1.1	ND	ND	ND	--	1.0
	27-Sep-2000			23.98	32.51	ND	ND	ND	ND	ND	ND	ND	1 2
Laboratory's Practical Quantitation Limit (PQL):						**50**	**0.5**	**0.5**	**0.5**	**1**	**5**	**5**	**Field Instrument**
State Maximum Contaminant Level (MCL):						**1,000****	**1**	**150**	**700**	**1,750**	**5*****	**0,5**	

Notes:
T O C. = Top of Casing Elevation Calculated groundwater elevation = TOC - Depth to Groundwater Referenced to NGVD
TPH-g = Total Petroleum Hydrocarbons as gasoline MTBE = Methy - tert - Butyl Ether
F O 's = Fuel Oxygenates = Di-isopropyl ether (DIPE), tertiary Butyl Alcohol (TBA), Ethyl tertiary Butyl Ether (ETBE), tertiary amyl Methyl Ether (TAME)
VOC's = Volatile Organic Compounds D.O. = Dissolved Oxygen
ug/L = micrograms per liter, parts per billion, mg/L = milligrams per liter, parts per million
ND = Not Detected at the Practical Quantitation Limit (PQL), <X = Not Detected at the elevated PQL, X. PQL elevated because of sample dilutio
-- = Data not collected or measured, or analysis not conducted
MCL = Maximum Contaminant Level for drinking water in California (Department of Health Services)
+ Confirmed by GC/MS method 8260
** = Action Level *** = Secondary MCL / water quality goal
**** = Laboratory Report indicates results within quantitation range; chromatographic pattern not typical of fuel



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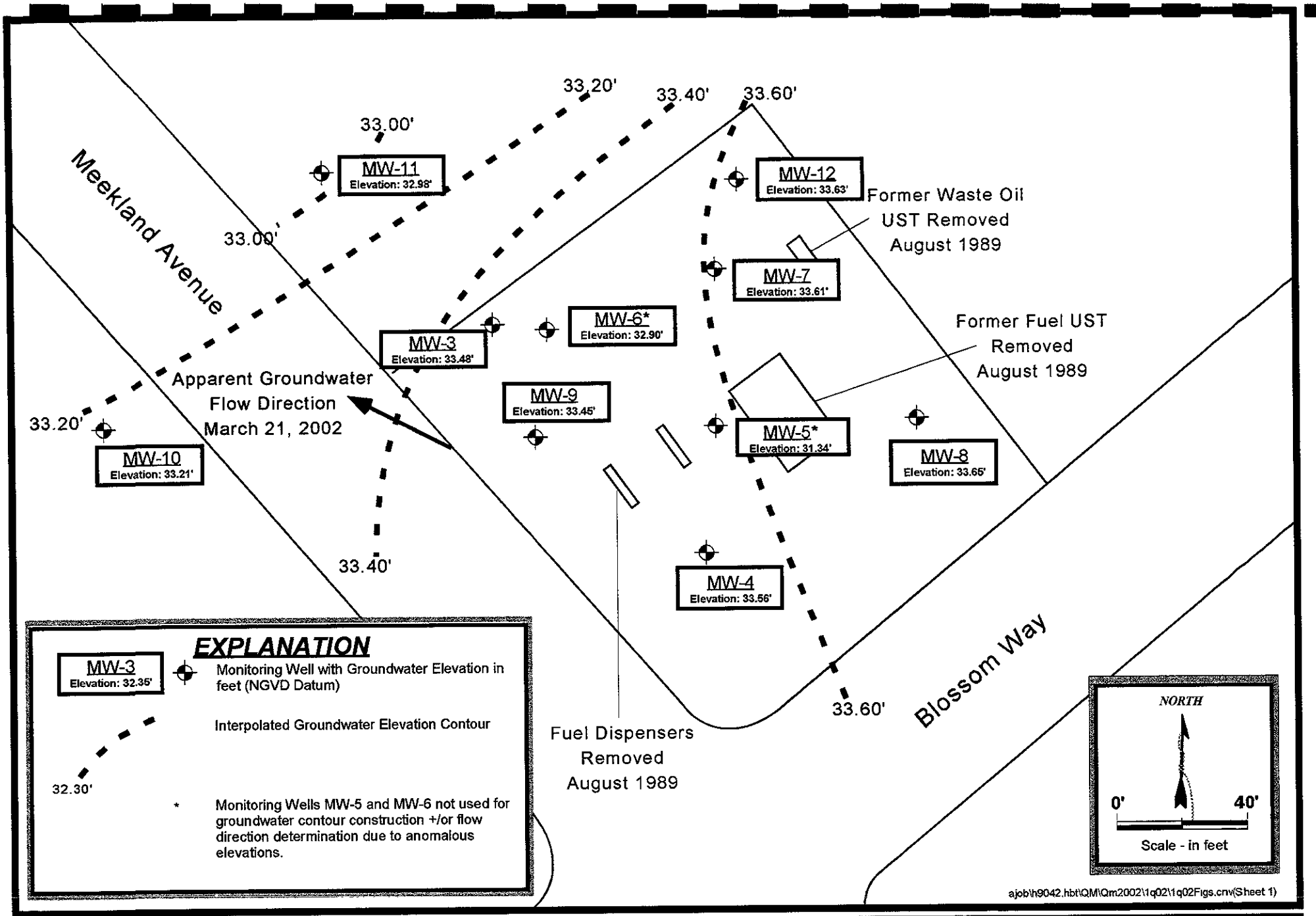
Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, Ca. 95076
(831) 722 - 3580 (831) 662 - 3100

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

Figure 1
Job # H9042



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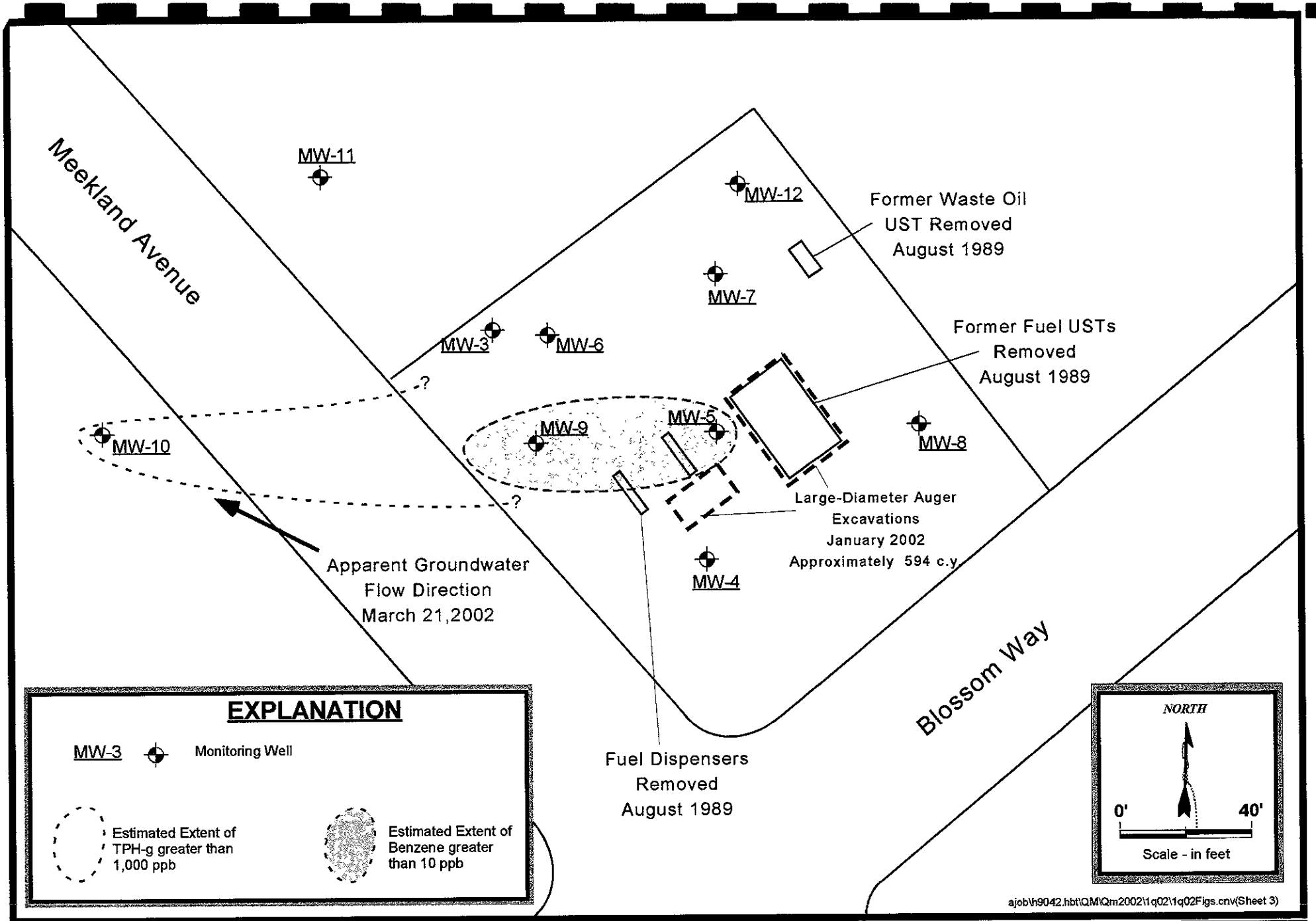
Site Plan with Groundwater Elevations
March 21, 2002
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 2
Project H9042



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Site Plan with Extent of TPH-g and Benzene in Groundwater, March 21, 2002
Former Harbert Transportation Facility
19984 Meekland Avenue, Hayward, California

Figure 4 Project H9042

Appendix A

Field Methodologies for Groundwater Monitoring and Field Data Forms

Appendix A

Field Methodologies for Groundwater Monitoring

Weber, Hayes and Associates' groundwater monitoring field methodology is based on procedures specified in the *LUFT Field Manual*. The first step in groundwater well sampling is for Weber, Hayes and Associates field personnel to measure the depth-to-groundwater to the nearest hundredth (0.01) of a foot with an electric sounder. If the well appears to be pressurized, or the groundwater level is fluctuating, measurements are made until the groundwater levels stabilizes, and a final depth-to groundwater measurement is taken and recorded. After the depth-to-groundwater is measured, the well is then checked for the presence of free product with a clear, disposable polyethylene bailer. If free product is present, the thickness of the layer is recorded, and the product is bailed to a sheen. All field data (depth-to-groundwater, well purge volume, physical parameters, and sampling method) is recorded on field data sheets (see attached). Because removing free product may skew the data, wells that contain free product are not used in groundwater elevation and gradient calculations.

After measuring the depth-to-groundwater, each well, starting with the cleanest well (based on analytical results from the last sampling event), is purged of approximately three to five well volumes of water. Purging is accomplished either by hand bailing or with a low flow submersible electric pump. During purging the physical parameters of temperature, conductivity, pH, and Oxidation-Reduction Potential (ORP) of the purge water are monitored with field instruments to insure that these parameters have stabilized (are within 15 percent of the previous measurement). The dissolved oxygen content of the groundwater from each well is measured with a YSI Model 57 field meter (equipped with a membrane covered Clark-type polarographic sensor probe, with built-in thermistors for temperature compensation). Dissolved oxygen and ORP measurements are used as an indicator of intrinsic bioremediation within the contaminant plume. All field instruments are calibrated before use.

All purge water is stored on site in DOT-approved, 55-gallon drums for disposal by a state-licensed contractor pending laboratory analysis for fuel hydrocarbons.

After purging, the water level in the well is allowed to recover to 80 percent of its original depth before a sample is collected. After water level recovery, a groundwater sample is collected from each well with a new, disposable bailer, and decanted into the appropriate laboratory-supplied sample container(s). The sample containers at this site were 40-ml. vials. Each vial was filled until a convex meniscus formed above the vial rim, then sealed with a Teflon®-septum cap, and inverted to insure that there were no air bubbles or head space in the vial. All samples are labeled in the field and transported in insulated containers cooled with blue ice to state-certified laboratories under proper chain of custody procedures.

All field and sampling equipment is decontaminated before, between, and after measurements or sampling by washing in an Liqui-Nox and tap water solution, rinsing with tap water, and rinsing with distilled water.

Weber, Hayes & Associates

Hydrogeology and Environmental Engineering

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Fax: (831) 722-1159

INDICATE ATTACHMENTS THAT APPLY

X	Data Sheets
X	COC's
___	Site Map
___	Photo Sheet
X	Chargeable Materials

Job Name: **Harbert Transportation**	*Date:* **3/21/02**
Field Location: **19984 Meekland Avenue, Hayward**	*Study #:* **H9042.Q**
Field Tasks: ☐ *Drilling* ☑ *Sampling* ☑ *Other* ***1st Quarter 2002 Well Sampling***	*Weather Conditions:* Partial Clouds
Personnel/Company onsite: (Weber, Hayes and Associates) **Chad Taylor**	

FIELD WORK PLANNING: Performed on: **3/20/02**

Meet with project manager: **X** yes, or no.

Number of wells to be sampled: **Ten Wells, with D.O in all wells**
Sample wells: **MW-3, 4, 5, 6, 7, 8, 9, 10, 11, 12 for TPH-g, BTEX, and MTBE.**

Proposed sampling date: **3/21/02**

TIME: 0610
Arrive onsite to perform 1st Quarter Monitoring Well Sampling.

COMMENTS:
Send all analytical to Entech Analytical Laboratory.

INITIALS:

CT
-All sampling is conducted according to Standard Operating Procedure (SOP) 10I/
-Water Quality Sampling Information for each well sampled is recorded on following pages.
-Upon sampling, all samples are placed immediately in coolers containing blue ice.
-After sampling each well all equipment is decontaminated according to SOP 10B/.
-All purge water is properly disposed in 55-gallon drums to be purged at a later date.
-All samples are recorded on field Chain-of-Custody Sheets for transport to Laboratory.

BEGIN CALIBRATION:

pH, EC, Temp Meter # 5 : Temp = 11.0C pH = 7.01 & 10.00, EC = 1413 µS

Dissolved Oxygen Meter: Red-line ✓, Zero ✓, Temp= 10°C
Therefore, 12.29 mg/L = Solubility of Oxygen in fresh water.

BEGIN SAMPLING ALL WELLS:

MW-8 MW-9 MW-12 MW-11 MW-7 MW-3 MW-10 MW-5 MW-6 MW-1 ___ ___
-See information below for general monitoring well information this sampling round.

COMMENTS:
All well will be purged of four casing volumes in the column requiring sampling (see Water Quality Sampling Field Forms for details). Wells will be purged from bottom-up and will follow standard operating procedures by WHA. Wells will be sampled using a bladder pump, or disposable bailer.

3/21/02
Signature of Field Personnel & Date

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

Location	GW Depth (TOC)	Total Depth of Well	D.O. (mg/L)	Floating Product (comments).
MW-3	21.96'	40'	0.1	No FP, No Odor
MW-4	22.18'	40'	0.2	No FP, No Odor
MW-5	24.69' *	45'	0.1	No FP, Very Slight Odor
MW-6	23.11' *	45'	0.1	No FP, No Odor
MW-7	23.05'	40'	0	No FP, No Odor
MW-8	22.51'	40'	2.4	No FP, No Odor
MW-9	21.76'	40'	0.1	No FP, Very Slight Odor
MW-10	21.53'	40'	0.1	No FP, Slight Odor
MW-11	21.71'	40'	0.1	No FP, No Odor
MW-12	22.86'	40'	0.7	No FP, No Odor

* Depth to water may not be representative. Bailer was below Groundwater surface when well was opened. Removal of the bailer would cause water level to fluctuate.

CT 3/21/02

HOW MANY PURGE DRUMS WERE LEFT ONSITE 7 . APPROXIMATE GAL. 350 .
CALL ~~BAYSIDE~~ Clearwater OIL ON 4/1/02 TO HAVE DRUMS PURGED.
DRUMS WILL BE PURGED ON 4/2-5/02 .

COMMENTS:

3/21/02

G:\AJOB\H9042.hbt\QM\QM2002\1q02\1QFL.wpd

Signature of Field Personnel & Date

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbert Transportation / H9042.0 **Date:** 3/21/01

Sample No.: MW-3 **Sample Location:** MW-3

Samplers Name: Chad Taylor **Recorded by:** CT

Purge Equipment:

_____ Bailer: Disposable or Acrylic
X Whaler # 2
_____ Bladder Pump
_____ Submersible Pump

Sample Equipment:

X Disposable Bailer
_____ Whaler # _____
_____ Bladder Pump
_____ Submersible Pump

Analyses Requested (cricle all that apply):

(TPH-gas) (BTEX) (MTBE) ~~1, 2-DCA, EDB, 8260 Fuel Oxygenates~~
~~TPH-diesel, Stoddard Solvent~~
~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used:

5 x 40 mL VOA's

Well Number: MW-3
Depth to Water: 21.96' TOC
Well Depth: 40' BGS or TOC
Height W-Column: 18.04' feet (well depth - depth to water)
Volume in Well: 2.8869 gallons (casing volume X height)
Gallons to purge: 11.55 gallons (volume X 4)

Well Diameter: 2" with Casing Volume of:
(2" = (0.16 Gallon/Feet))
4" = (0.65 Gallon/Feet)
5" = (1.02 Gallon/Feet)
6" = (1.47 Gallon/Feet)
8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity, Color, Fines	D.O. (ppm)
1007	0	608	18.3	5.73	Moderate: Brown, Minor Fines	0.5
1009	2	641	18.9	5.78	Low: Clear-Brown, Trace Fines	0.2
1011	4	641	18.9	5.80	Low: Clear, Trace Fines	0.1
1013	6	641	18.9	5.81	↓	0.1
1014	8	641	18.9	5.82	↓	0.1
1016	10	643	19.0	5.73	↓	0.1
1018	12	643	19.0	5.75	↓	0.1
STOP - Purge Complete.						
CT calculation						

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume.

Original Height of Water Column = 18.04' x 0.8 = 14.432 - (Well Depth) 40 = Depth to water 25.57'

Time: 1020 1st measured depth to water, 22.02' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____
Time. ____ 1st measured depth to water, ____ feet below TOC Is well within 80% of original well casing volume: Yes ____ No ____
Time: ____ CT 1st measured depth to water, ____ CT feet below TOC Is well within 80% of original well casing volume: Yes ____ No CT

Sample Well

Time: 1020 Sample ID: MW-3 Depth: 22.02' feet below TOC

Comments: No Floating Product. No Odor.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbert Transportation / H9042.Q **Date:** 3/24/06

Sample No.: MW-4 **Sample Location:** MW-4

Samplers Name: Chad Taylor **Recorded by:** CT

Purge Equipment:

- ____ Bailer: Disposable or Acrylic
- X Whaler # 1
- ____ Bladder Pump
- ____ Submersible Pump

Sample Equipment:

- X Disposable Bailer
- ____ Whaler # ____
- ____ Bladder Pump
- ____ Submersible Pump

Analyses Requested (cricle all that apply):

TPH-gas, (BTEX) (MTBE), ~~1,2-DCA, EDB, 8260 Fuel Oxygenates~~

~~TPH-diesel, Stoddard Solvent~~

~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used: 5x40mL VOA's

Well Number: MW-4

Depth to Water: 22.15' TOC

Well Depth: 40' BGS or TOC

Height W-Column: 17.85' feet (well depth - depth to water)

Volume in Well: 2.856 gallons (casing volume X height)

Gallons to purge: 11.42 gallons (volume X 4)

Well Diameter: 2" with Casing Volume of:

- 2" = (0.16 Gallon/Feet)
- 4" = (0.65 Gallon/Feet)
- 5" = (1.02 Gallon/Feet)
- 6" = (1.47 Gallon/Feet)
- 8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
0728	0	576	15.4	5.94	High: Brown, Many Fines	0.9
0730	2	586	18.7	6.11	↓ ↓ ↓	0.4
0731	4	600	18.9	6.13	Moderate: Brown, Mod Fines	0.2
0733	6	606	19.0	6.13	↓ ↓ ↓	0.2
0735	8	611	19.0	6.14	Low: Clear, Trace Fines	0.2
0736	10	613	19.1	6.14	↓ ↓ ↓	0.2
0738	12	615	19.1	6.16	↓ ↓ ↓	0.2
STOP - Purge Complete.						
CT 3/24/06						

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 17.85 x 0.8 = 14.28' - (Well Depth) 40' = Depth to water 25.72'

Time: 0729 1st measured depth to water, 22.29' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____

Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____

Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____

Sample Well

Time: 0739 Sample ID: MW-4 Depth: 22.29' feet below TOC

Comments: No Floating Product. No Odor.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Hubert Transportation / H9042.0 **Date:** 3/21/02

Sample No.: MW-5 **Sample Location:** MW-5

Samplers Name: Chad Tyler **Recorded by:** CT

Purge Equipment:

_____ Bailer: Disposable or Acrylic
__X__ Whaler # 3
_____ Bladder Pump
_____ Submersible Pump

Sample Equipment:

__X__ Disposable Bailer
_____ Whaler # _____
_____ Bladder Pump
_____ Submersible Pump

Analyses Requested (cricle all that apply):

(TPH-gas) (BTEX) (MTBE) ~~1, 2 DCA, EDB, 8260 Fuel Oxygenates~~
~~TPH diesel, Stoddard Solvent~~
~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used:

5 x 40mL VOAs

Well Number: MW-5
Depth to Water: 24.69' * TOC
Well Depth: 45' BGS or TOC
Height W-Column: 20.31' feet (well depth - depth to water)
Volume in Well: 13.2015 gallons (casing volume X height)
Gallons to purge: 52.80 gallons (volume X 4)

Well Diameter: 4" with Casing Volume of:
2" = (0.16 Gallon/Feet)
(4" = (0.65 Gallon/Feet))
5" = (1.02 Gallon/Feet)
6" = (1.47 Gallon/Feet)
8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
1213 / 1217	0 / 5	734 / 697	18.3 / 18.7	6.06 / 5.99	Hy. Lt. Dk. Brown, Very Many / High Dark Brown Very Many	1.3 / 0.1
1222 / 1226	10 / 15	707 / 725	18.8 / 18.1	5.96 / 5.97	Moderate Brown, Med Fines / Low: Clear-Brown, Minor Fines	0.1 / 0.1
1231 / 1236	20 / 25	734 / 733	18.9 / 18.9	5.99 / 6.01	Low: Clear-Brown, Minor / Low: Clear-Brown, Min. Fines	0.3 / 0.4
1241	30	731	18.9	6.02	Low: Clear, Trace Fines	0.4
1246	35	741	18.8	6.04	↓	0.3
1251	40	746	18.8	6.03	↓	0.3
1256	45	749	18.7	6.05	↓	0.1
1301	50	750	18.7	6.05	↓	0.1
1306	55	749	18.7	6.06	↓	0.1

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 20.31' x 0.8 = 16.248' - (Well Depth) 45' = Depth to water 28.75'

Time: 1306 1st measured depth to water, 30.84' feet below TOC — Is well within 80% of original well casing volume: Yes ____ No ✓
Time: ____ 1st measured depth to water, ____ feet below TOC. — Is well within 80% of original well casing volume: Yes ____ No ____
Time: ____ CT 1st measured depth to water, ____ CT feet below TOC. — Is well within 80% of original well casing volume: Yes ____ No CT

Sample Well

Time: 1306 Sample ID: MW-5 Depth: 30.84 feet below TOC

Comments: No Floating Product. Very Slight Odor.
* Depth to water may not be representative: Bailer w/in well was below it.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbert Transportation / H9042.Q **Date:** 3/21/01

Sample No.: MW-6 **Sample Location:** MW-6

Samplers Name: Chad Taylor **Recorded by:** CT

Purge Equipment:

_____ Bailer: Disposable or Acrylic
X Whaler # 3
_____ Bladder Pump
_____ Submersible Pump

Sample Equipment:

X Disposable Bailer
_____ Whaler # _____
_____ Bladder Pump
_____ Submersible Pump

Analyses Requested (cricle all that apply):

~~TPH-gas~~, ~~BTEX~~, ~~MTBE~~, ~~1, 2-DCA, EDB, 8260 Fuel Oxygenates~~
~~TPH-diesel, Stoddard Solvent~~
~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used:

5 x 40mL VOA's

Well Number: MW-6
Depth to Water: 23.11' TOC
Well Depth: 45' BGS or TOC
Height W-Column: 21.89' feet (well depth - depth to water)
Volume in Well: 14.2285 gallons (casing volume X height)
Gallons to purge: 56.91 gallons (volume X 4)

Well Diameter: 4" with Casing Volume of:
2" = (0.16 Gallon/Feet)
4" = (0.65 Gallon/Feet)
5" = (1.02 Gallon/Feet)
6" = (1.47 Gallon/Feet)
8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
1329 / 1334	0 / 5	443 / 484	18.5 / 19.0	7.05 / 6.70	High: Gray-Brown, Many / High: Brown, Many Fine	1.0 / 0.7
1339 / 1343	10 / 15	477 / 486	19.3 / 19.4	6.99 / 6.99	Low: Clear-Brown, Minor / Low: Clear-Brown, Minor	0.7 / 0.9
1341 / 1353	20 / 25	522 / 561	19.4 / 19.5	6.88 / 6.95	Low: Clear-Brown, Minor / Low: Clear-Brown, Minor	0.8 / 0.5
1358 / 1402	30 / 35	579 / 590	19.5 / 19.5	7.06 / 7.14	Low: Clear-Brown, Minor / Low: Clear-Brown, Trace	0.3 / 0.2
1407	40	599	19.5	7.08	Low: Clear, Trace Fines	0.2
1411	45	605	19.5	7.17	↓	0.2
1416	50	609	19.5	6.92	↓	0.2
1421	55	614	19.5	7.24	↓	0.1
1426	60	615	19.5	7.13	↓	0.1

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 21.89' x 0.8 = 17.512' - (Well Depth) 45' = Depth to water 27.49'

Time: 1427 1st measured depth to water, 22.61' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____
Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____
Time: CT 1st measured depth to water, CT feet below TOC Is well within 80% of original well casing volume: Yes ____ No CT

Sample Well

Time: 1427 Sample ID: MW-6 Depth: 22.61' feet below TOC

Comments: No Floating Product. No Odor.
* Bailer w/in well Below ∇ Changes depth to G.W. → Should not be considered representative.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Herbert Transportation /119042.0 **Date:** 5/4/01

Sample No.: MW-7 **Sample Location:** MW-7

Samplers Name: Chad Taylor **Recorded by:** CT

Purge Equipment:

_____ Bailer: Disposable or Acrylic
X Whaler # 2
_____ Bladder Pump
_____ Submersible Pump

Sample Equipment:

X Disposable Bailer
_____ Whaler # _____
_____ Bladder Pump
_____ Submersible Pump

Analyses Requested (cricle all that apply):

(TPH-gas) (BTEX) (MTBE) ~~1, 2-DCA, EDB, 8260 Fuel Oxygenates~~
~~TPH-diesel, Stoddard Solvent~~
~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used:

5 40mL VOA's

Well Number: MW-7
Depth to Water: 23.05' TOC
Well Depth: 40' BGS or TOC
Height W-Column: 16.95' feet (well depth - depth to water)
Volume in Well: 11.0175 gallons (casing volume X height)
Gallons to purge: 44.07 gallons (volume X 4)

Well Diameter: 4" with Casing Volume of:
2" = (0.16 Gallon/Feet)
(4" = (0.65 Gallon/Feet))
5" = (1.02 Gallon/Feet)
6" = (1.47 Gallon/Feet)
8" = (2.61 Gallon/Feet)

Lab:

Transportation:

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
0908 / 0911	0 / 5	582 / 584	18.0 / 18.5	5.53 / 5.56	Low: Clear, Brown, Med. / Low: Clear, Trace Fines	0.6 / 0.5
0915	10	586	18.5	5.63	Low: Clear, Trace Fines	0.2
0919	15	586	18.5	5.56	↓	0.1
0924	20	586	18.6	5.64	↓	0.1
0928	25	586	18.6	5.69	↓	0.1
0932	30	586	18.6	5.72	↓	0.1
0937	35	586	18.6	5.73	↓	0.0
0941	40	586	18.6	5.73	↓	0.1
0946	45	586	18.6	5.75	↓	0.0

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 16.95' x 0.8 = 13.56' - (Well Depth) 40' = Depth to water 26.44'

Time: 0948' 1st measured depth to water, 23.61' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____
Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____
Time: ____ CT 1st measured depth to water, ____ CT feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____ CT

Sample Well

Time: 0948 Sample ID: MW-7 Depth: 23.61' feet below TOC

Comments: No Floating Product. No Odor.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Herbert Transportation / 19042.Q **Date:** 3/21/02

Sample No.: MW-8 **Sample Location:** MW-8

Samplers Name: Chad Taylor **Recorded by:** CT

Purge Equipment:

- ____ Bailer: Disposable or Acrylic
- X Whaler # 1
- ____ Bladder Pump
- ____ Submersible Pump

Sample Equipment:

- X Disposable Bailer
- ____ Whaler # ____
- ____ Bladder Pump
- ____ Submersible Pump

Analyses Requested (cricle all that apply):

TPH-gas, BTEX, MTBE ~~4, 2-DCA, EDB, 8260 Fuel Oxygenates~~

~~TPH-diesel, Stoddard Solvent~~

~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used: 5 40mL VOA's

Well Number: MW-8

Depth to Water: 22.51' TOC

Well Depth: 40' BGS or TOC

Height W-Column: 17.49' feet (well depth - depth to water)

Volume in Well: 11.3685 gallons (casing volume X height)

Gallons to purge: 43.47 gallons (volume X 4)

Well Diameter: 4" with Casing Volume of:

- 2" = (0.16 Gallon/Feet)
- 4" = (0.65 Gallon/Feet)
- 5" = (1.02 Gallon/Feet)
- 6" = (1.47 Gallon/Feet)
- 8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
0639 / 0642	0 / 5	485 / 466	17.6 / 18.2	6.01 / 6.10	Light Brown, Many Fines / Low: Clear, Trace Fines	1.0 / 0.8
0646	10	497	18.3	6.11	Low: Clear, Trace Fines	1.7
0649	15	513	18.3	6.12	↓	2.0
0653	20	518	18.3	6.11	↓	2.1
0657	25	521	18.4	6.12	↓	2.2
0701	30	522	18.3	6.12	↓	2.3
0704	35	523	18.4	6.14	↓	2.3
0708	40	525	18.4	6.14	↓	2.3
0712	45	526	18.4	6.15	↓	2.4

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 17.49' x 0.8 = 13.992' - (Well Depth) 40' = Depth to water 26.01'

Time: 0714 1st measured depth to water, 23.92' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____

Time. ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____

Time: ____ CT 1st measured depth to water, ____ CT feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____ CT

Sample Well

Time: 0714 Sample ID: MW-8 Depth: 23.92 feet below TOC

Comments: No Floating Product. No Odor.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Hurbert Transportation / 119042.0 **Date:** 3/21/01

Sample No.: MW-9 **Sample Location:** MW-9

Samplers Name: Chad Taylor **Recorded by:** CT

Purge Equipment:

- ____ Bailer: Disposable or Acrylic
- X Whaler # 3
- ____ Bladder Pump
- ____ Submersible Pump

Sample Equipment:

- X Disposable Bailer
- ____ Whaler # ____
- ____ Bladder Pump
- ____ Submersible Pump

Analyses Requested (cricle all that apply):

TPH-gas, BTEX, MTBE, ~~1, 2 DCA, EDB, 8260 Fuel Oxygenates~~
~~TPH-diesel, Stoddard Solvent~~
~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used:

3 x 40mL VOA's

Well Number: MW-9
Depth to Water: 21.76' TOC
Well Depth: 40' BGS or TOC
Height W-Column: 18.24' feet (well depth - depth to water)
Volume in Well: 11.856 gallons (casing volume X height)
Gallons to purge: 47.42 gallons (volume X 4)

Well Diameter: 4" with Casing Volume of:

- 2" = (0.16 Gallon/Feet)
- 4" = (0.65 Gallon/Feet)
- 5" = (1.02 Gallon/Feet)
- 6" = (1.47 Gallon/Feet)
- 8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
1445 / 1449	0 / 5	633 / 609	19.1 / 19.6	6.51 / 6.64	Moderate: Clear-Brown, Many Low: Clear, Trace Fines	0.9 / 0.4
1454 / 1459	10 / 15	590 / 601	19.7 / 19.7	6.73 / 6.17	Low: Clear, Trace Fines / Low: Clear, Trace Fi...	0.2 / 0.2
1504	20	599	19.7	6.70	Low: Clear, Trace Fines	0.1
1508	25	593	19.7	6.73		0.1
1513	30	599	19.6	6.70		0.1
1518	35	598	19.6	6.65		0.1
1523	40	598	19.5	6.61		0.1
1528	45	600	19.5	6.58		0.1
1533	50	601	19.5	6.57		0.1

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 18.24' x 0.8 = 14.592' - (Well Depth) 40' = Depth to water 25.41'

Time: 1534 1st measured depth to water, 21.88' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____

Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____

Time: ____ CT 1st measured depth to water, ____ CT feet below TOC. Is well within 80% of original well casing volume: Yes ____ No CT

Sample Well

Time: 1534 Sample ID: MW-9 Depth: 21.88' feet below TOC

Comments: No Floating Product. Very Slight Odor.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbert Transportation / H9092.Q **Date:** 3/21/08

Sample No.: MW-10 **Sample Location:** MW-10

Samplers Name: Chad Tyler **Recorded by:** CT

Purge Equipment:

_____ Bailer: Disposable or Acrylic
X Whaler # 3
_____ Bladder Pump
_____ Submersible Pump

Sample Equipment:

X Disposable Bailer
_____ Whaler # _____
_____ Bladder Pump
_____ Submersible Pump

Analyses Requested (cricle all that apply):

~~TPH-gas~~, BTEX, MTBE, ~~1,2-DCA, EDB, 8260 Fuel Oxygenates~~
~~TPH-diesel, Stoddard Solvent~~
~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used:

5x40mL VOA's

Well Number: MW-10
Depth to Water: 21.83' TOC
Well Depth: 40' BGS or TOC
Height W-Column: 18.47' feet (well depth - depth to water)
Volume in Well: 12.00 gallons (casing volume X height)
Gallons to purge: 48 gallons (volume X 4)

Well Diameter: 4" with Casing Volume of:
2" = (0.16 Gallon/Feet)
4" = (0.65 Gallon/Feet)
5" = (1.02 Gallon/Feet)
6" = (1.47 Gallon/Feet)
8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O (ppm)
1053 / 1057	0 / 5	852 / 819	18.1 / 18.9	5.81 / 5.81	Moderate: Brown, Mod Fines / Low: Clear-Brown, Minor Fines	2.1 / 0.5
1101 / 1105	10 / 15	817 / 815	19.0 / 19.1	5.85 / 5.96	Low: Clear, Trace Fines / Low: Clear, Trace Fines	0.3 / 0.3
1110	20	816	19.1	5.96	Low: Clear, Trace Fines	0.1
1114	25	816	19.1	5.98	↓	0.1
1118	30	819	19.2	6.12	↓	0.1
1122	35	818	19.2	6.21	↓	0.0
1126	40	818	19.2	6.15	↓	0.1
1131	45	818	19.2	6.10	↓	0.1
1135	80	818	19.2	6.13	↓	0.1

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 18.47' x 0.8 = 14.776' - (Well Depth) 40' = Depth to water 25.224

Time: 1137 1st measured depth to water, 21.64' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____
Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____
Time: ____ CT 1st measured depth to water, ____ CT feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____ CT

Sample Well

Time: 1135 Sample ID: MW-10 Depth: 21.64 feet below TOC

Comments: No Floating Product. Slight Odor.

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Hurbert Transportation **Date:** 3/21/06

Sample No.: MW-11 **Sample Location:** MW-11

Samplers Name: Chad T./L. **Recorded by:** CT

Purge Equipment:

_____ Bailer: Disposable or Acrylic
__X__ Whaler # 1
_____ Bladder Pump
_____ Submersible Pump

Sample Equipment:

__X__ Disposable Bailer
_____ Whaler # _____
_____ Bladder Pump
_____ Submersible Pump

Analyses Requested (cricle all that apply):

~~TPH-gas~~, BTEX, ~~MTBE~~, ~~1, 2 DCA, EDB, 8260 Fuel Oxygenates~~
~~TPH-diesel, Stoddard Solvent~~
~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used: 5 x 40mL VOA's

Well Number: MW-11
Depth to Water: 21.76' TOC
Well Depth: 40' BGS or TOC
Height W-Column: ~~17.24'~~ 18.24' feet (well depth - depth to water)
Volume in Well: ~~2,918~~ 2.9684 gallons (casing volume X height)
Gallons to purge: ~~11.67~~ gallons (volume X 4) (RE) CT 3/21/06

Well Diameter: 2" with Casing Volume of:
2" = (0.16 Gallon/Feet)
4" = (0.65 Gallon/Feet)
5" = (1.02 Gallon/Feet)
6" = (1.47 Gallon/Feet)
8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
0838	0	832	17.1	5.52	High: Brown, Many Fines	2.0
0840	2	835	17.6	5.54	Moderate: Brown, Minor Fines	0.6
0841	4	833	17.7	5.55	Low: Clear-Brown, Minor Fines	0.4
0843	6	833	17.8	5.55	↓ ↓ ↓	0.2
0844	8	833	17.8	5.57	Low: Clear, Trace Fines	0.2
0845	10	832	17.8	5.58	↓ ↓ ↓	0.1
0847	12	832	17.8	5.60	↓ ↓ ↓	0.1
STOP - Purge Complete.						
CT 3/21/06						

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = ~~17.24'~~ 18.24' x 0.8 = ~~13.792'~~ 14.592' - (Well Depth) 40' = Depth to water ~~22.208'~~ 25.41'

(RE) CT 3/21/06

0849 CT 3/21/06

Time: ~~21.84~~ 1st measured depth to water, 21.84' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____

Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____

Time: ____ CT 1st measured depth to water, ____ CT feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____ CT

Sample Well

Time: 0849 Sample ID: MW-11 Depth: 21.84 feet below TOC

Comments: No Floating Product. No Odor

WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Hurbert Transportation / H9042.0 **Date:** 2/21/02

Sample No.: MW-12 **Sample Location:** MW-12

Samplers Name: Chad Taylor **Recorded by:** CT

Purge Equipment:

- ____ Bailer: Disposable or Acrylic
- X Whaler # 1
- ____ Bladder Pump
- ____ Submersible Pump

Sample Equipment:

- X Disposable Bailer
- ____ Whaler # ____
- ____ Bladder Pump
- ____ Submersible Pump

Analyses Requested (cricle all that apply):

~~TPH-gas~~, ~~BTEX~~, ~~MTBE~~, ~~1,2-DCA, EDB, 8260 Fuel Oxygenates~~

~~TPH-diesel, Stoddard Solvent~~

~~Intrinsic Bio. Parameters~~

Number and Types of Bottle Used: 5 x 40-mL VOA's

Well Number: MW-12
Depth to Water: 22.81' TOC
Well Depth: 40' BGS or TOC
Height W-Column: 17.14' feet (well depth - depth to water)
Volume in Well: 2.7424 gallons (casing volume X height)
Gallons to purge: 10.97 gallons (volume X 4)

Well Diameter: 2" with Casing Volume of:

- 2" = (0.16 Gallon/Feet)
- 4" = (0.65 Gallon/Feet)
- 5" = (1.02 Gallon/Feet)
- 6" = (1.47 Gallon/Feet)
- 8" = (2.61 Gallon/Feet)

Lab: Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°C)	pH	Turbidity: Color, Fines	D.O. (ppm)
0755	0	469	16.7	6.00	Moderate: Brown, Mod Fines	1.0
0757	2	557	17.9	5.89	Low: Clear-Brown, Minor Fines	0.6
0758	4	561	18.0	5.92	↓ ↓ ↓	0.6
0800	6	565	18.1	5.97		0.6
0802	8	567	18.2	6.00		0.6
0804	10	568	18.2	6.02	Low: Clear, Trace Fines	0.6
0806	12	569	18.2	6.03	↓ ↓ ↓	0.7
STOP - Purge Complete						
CT 2/21/02						

Wait for 80% well volume recovery prior to sampling.

Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of orginal well volume:

Original Height of Water Column = 17.14' x 0.8 = 15.712' - (Well Depth) 40' = Depth to water 26.29

Time: 0807 1st measured depth to water, 22.90' feet below TOC. Is well within 80% of original well casing volume: Yes ✓ No ____

Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No ____

Time: ____ 1st measured depth to water, ____ feet below TOC. Is well within 80% of original well casing volume: Yes ____ No CT

Sample Well

Time: 0807 Sample ID: MW-12 Depth: 22.90' feet below TOC

Comments: No Floating Product. No Odor.

Appendix B

Summary of Historical Depth to Groundwater Measurements, Groundwater Elevations, and Groundwater Flow Direction - AGI Technologies, Inc.

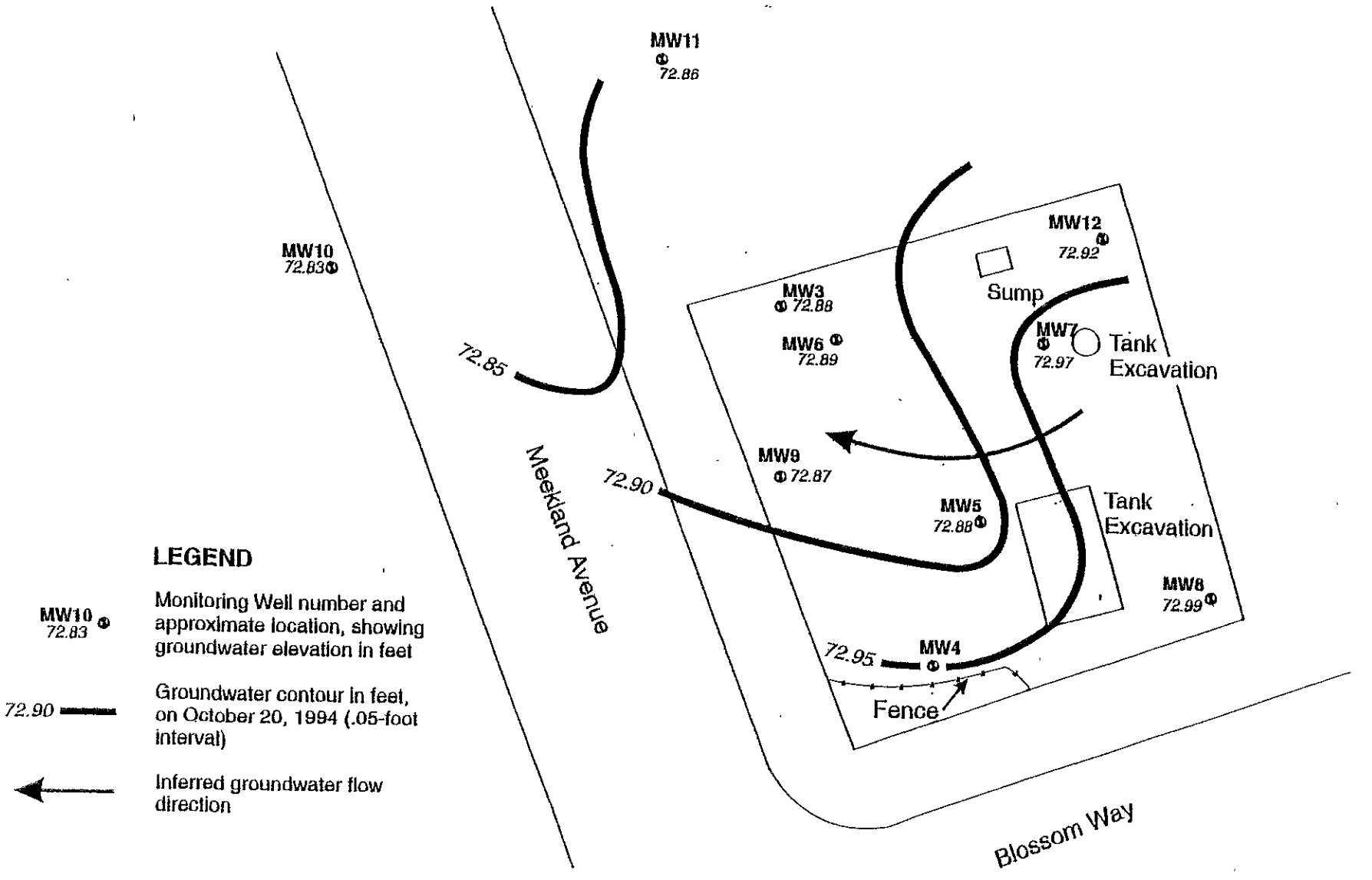
AGI TECHNOLOGIES

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

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

Note:

ft bgs - Feet below ground surface.



AGI TECHNOLOGIES

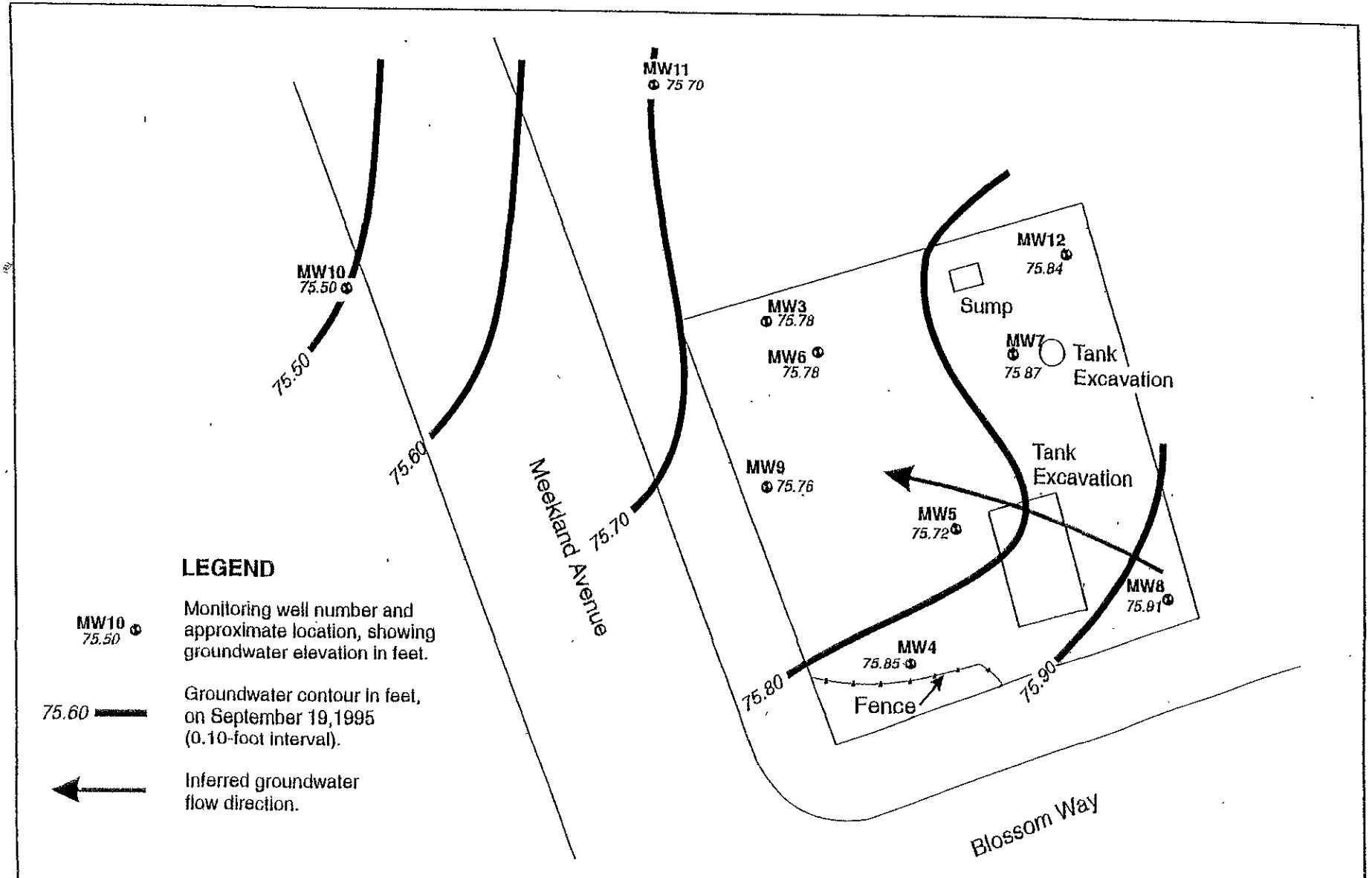
Groundwater Elevation and Contour Map 10/20/94

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 3

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

grdwat.cdr



AGI TECHNOLOGIES

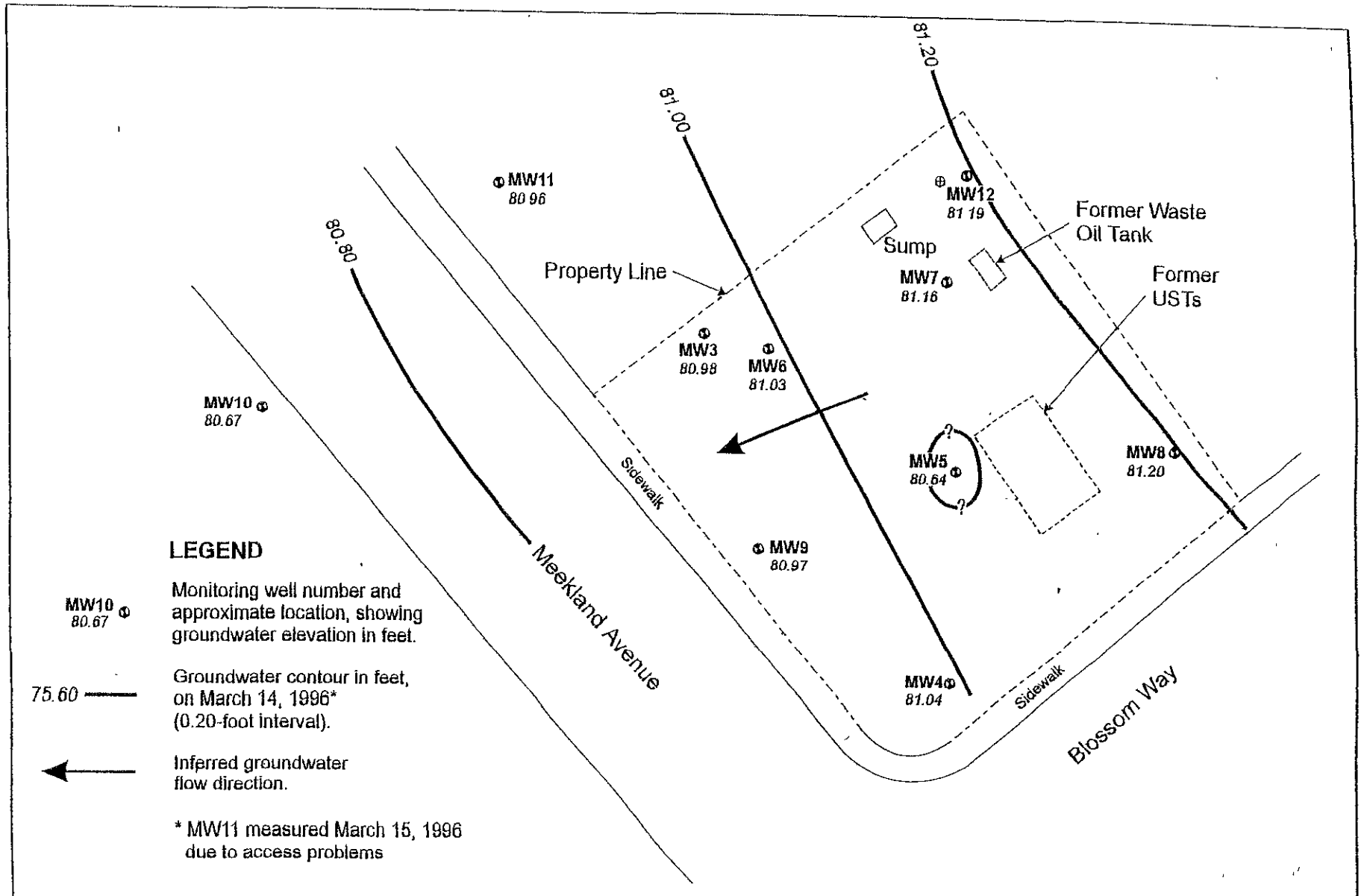
Groundwater Elevation and Contour Map

9.19.95

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 3

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
ardwat.cdr	15 833 002	DEF	29 August 94		



AGI TECHNOLOGIES

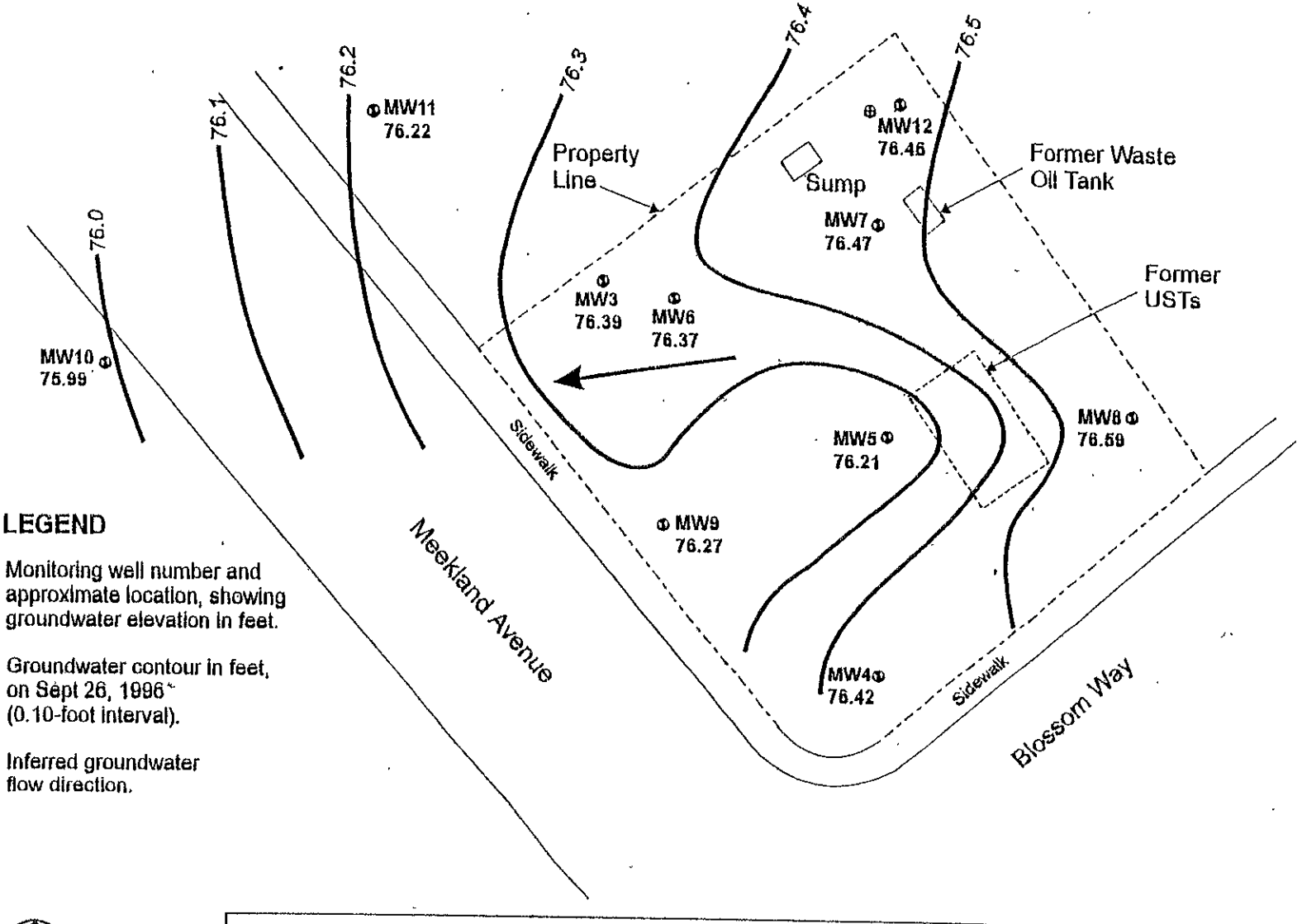
Groundwater Elevation and Contour Map

Harbert Transportation/Meekland Avenue
Hayward, California

3.14.96

FIGURE 3

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



AGI TECHNOLOGIES

Groundwater Elevation and Contour Map

Harbert Transportation/Meekland Avenue
Hayward, California

9.26.96

FIGURE 3

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

Appendix C

Certified Analytical Report - Groundwater Samples

Entech Analytical Labs, Inc.

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

April 08, 2002

Chad Taylor
Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076

Order:	29434	**Date Collected:**	3/21/2002
Project Name:	Harbert Transportation	**Date Received:**	3/25/2002
Project Number:	H9042.Q	**P.O. Number:**	H9042.Q
Project Notes:			

On March 25, 2002, samples were received under documentented chain of custody. Results for the following analyses are attached:

Matrix	Test	Method
Liquid	Gas/BTEX/MTBE	EPA 8015 MOD. (Purgeable)
		EPA 8020
	MTBE by EPA 8260B	EPA 8260B

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-588-0200.

Sincerely,

Patti Sandrock
QA/QC Manager

Entech Analytical Labs, Inc.

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

Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-001 **Client Sample ID:** MW-3

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	0.94		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Toluene	2.5		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Ethyl Benzene	12		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, o	4.8		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, m+p	6.9		1	1	1	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	122.8	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	122.8	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	240		1	50	50	µg/L	N/A	3/29/2002	WGC62380	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	154.1	65 - 135

Comment: Surrogate recovery out of control limits due to matrix interference.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

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

Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-002 **Client Sample ID:** MW-4

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, o	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, m+p	ND		1	1	1	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	115.7	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	115.7	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	3/29/2002	WGC62380	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	110.6	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

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Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-003 **Client Sample ID:** MW-5

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	11		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Toluene	9.4		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Ethyl Benzene	28		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, o	29		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, m+p	33		1	1	1	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	123.0	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	123.0	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	360		1	50	50	µg/L	N/A	3/29/2002	WGC62380	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	127.3	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

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Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-010 **Client Sample ID:** MW-6

Sample Time: **Sample Date:** 3/25/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	0.77		1	0.5	0.5	µg/L	N/A	3/30/2002	WGC62380B	EPA 8020
Toluene	1.2		1	0.5	0.5	µg/L	N/A	3/30/2002	WGC62380B	EPA 8020
Ethyl Benzene	39		1	0.5	0.5	µg/L	N/A	3/30/2002	WGC62380B	EPA 8020
Xylene, o	*0.60*		1	0.5	0.5	µg/L	N/A	3/30/2002	WGC62380B	EPA 8020
Xylene, m+p	2.6		1	1	1	µg/L	N/A	3/30/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	102.8	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	8.0		1	5	5	µg/L	N/A	3/30/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	102.8	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	750		1	50	50	µg/L	N/A	3/30/2002	WGC62380B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	334.7	65 - 135
aaa-Trifluorotoluene	93.8	65 - 135

Comment: High surrogate recovery due to sample matrix.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

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Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-004 **Client Sample ID:** MW7

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, o	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, m+p	ND		1	1	1	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	124.0	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	124.0	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	3/29/2002	WGC62380	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	115.6	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

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Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-005 **Client Sample ID:** MW-8

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, o	ND		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020
Xylene, m+p	ND		1	1	1	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	117.0	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	3/29/2002	WGC62380	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	117.0	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	3/29/2002	WGC62380	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	111 7	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

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Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-006 **Client Sample ID:** MW-9

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	26		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Toluene	4.6		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Ethyl Benzene	50		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Xylene, o	11		1	0.5	0.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Xylene, m+p	41		1	1	1	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	132.7	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	132.7	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	510		1	50	50	µg/L	N/A	3/29/2002	WGC62380B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	173.6	65 - 135
aaa-Trifluorotoluene	70.9	65 - 135

Comment: High surrogate recovery due to sample matrix.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

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Weber, Hayes and Associates
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Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-007 **Client Sample ID:** MW-10

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		5	0.5	2.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Toluene	11		5	0.5	2.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Ethyl Benzene	3.1		5	0.5	2.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Xylene, o	ND		5	0.5	2.5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020
Xylene, m+p	ND		5	1	5	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	154.6	65 - 135
aaa-Trifluorotoluene	81.3	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		5	5	25	µg/L	N/A	3/29/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	154.6	65 - 135
aaa-Trifluorotoluene	81.3	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	1500		5	50	250	µg/L	N/A	3/29/2002	WGC62380B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	153.7	65 - 135
aaa-Trifluorotoluene	69.6	65 - 135

Comment: High surrogate recovery due to sample matrix.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

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Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-008 **Client Sample ID:** MW-11

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	4/1/2002	WGC62383	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	4/1/2002	WGC62383	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	4/1/2002	WGC62383	EPA 8020
Xylene, o	ND		1	0.5	0.5	µg/L	N/A	4/1/2002	WGC62383	EPA 8020
Xylene, m+p	ND		1	1	1	µg/L	N/A	4/1/2002	WGC62383	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	110.2	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	4/1/2002	WGC62383	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	110.2	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	4/1/2002	WGC62383	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	108.3	65 - 135

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

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

Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-009 **Client Sample ID:** MW-12

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	ND		1	0.5	0.5	µg/L	N/A	4/2/2002	WGC62380B	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	4/2/2002	WGC62380B	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	4/2/2002	WGC62380B	EPA 8020
Xylene, o	ND		1	0.5	0.5	µg/L	N/A	4/2/2002	WGC62380B	EPA 8020
Xylene, m+p	ND		1	1	1	µg/L	N/A	4/2/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	137.7	65 - 135
aaa-Trifluorotoluene	84.8	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	4/2/2002	WGC62380B	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	137.7	65 - 135
aaa-Trifluorotoluene	84.8	65 - 135

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	ND		1	50	50	µg/L	N/A	4/2/2002	WGC62380B	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	128.0	65 - 135
aaa-Trifluorotoluene	80.0	65 - 135

Comment: High surrogate recovery due to sample matrix.

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

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Weber, Hayes and Associates
120 Westgate Drive
Watsonville, CA 95076
Attn: Chad Taylor

Date: 04/08/02
Date Received: 3/25/2002
Project Name: Harbert Transportation
Project Number: H9042.Q
P.O. Number: H9042.Q
Sampled By: Chad Taylor

Certified Analytical Report

Order ID: 29434 **Lab Sample ID:** 29434-007 **Client Sample ID:** MW-10

Sample Time: **Sample Date:** 3/21/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	4/1/2002	WMS11497	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.0	65 - 135
Dibromofluoromethane	96.0	57 - 156
Toluene-d8	102.0	77 - 150

Order ID: 29434 **Lab Sample ID:** 29434-010 **Client Sample ID:** MW-6

Sample Time: **Sample Date:** 3/25/2002 **Matrix:** Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	4/1/2002	WMS11497	EPA 8260B

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	90.0	65 - 135
Dibromofluoromethane	94.0	57 - 156
Toluene-d8	105.0	77 - 150

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

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Quality Control Results Summary

QC Batch #: WGC62380 **Units:** µg/L
Matrix: Liquid **Date Analyzed:** 3/28/2002

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015	ND		121		127.54	LCS	105.4			65.0 - 135.0
Surrogate			**Surrogate Recovery**			**Control Limits (%)**					
4-Bromofluorobenzene			84.1			65 - 135					
Test: BTEX											
Benzene	EPA 8020	ND		8		8.38	LCS	104.8			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		8		8.68	LCS	108.5			65.0 - 135.0
Toluene	EPA 8020	ND		8		8.18	LCS	102.3			65.0 - 135.0
Xylenes, total	EPA 8020	ND		24		25.96	LCS	108.2			65.0 - 135.0
Surrogate			**Surrogate Recovery**			**Control Limits (%)**					
4-Bromofluorobenzene			91.0			65 - 135					
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		8		9.16	LCS	114 5			65.0 - 135.0
Surrogate			**Surrogate Recovery**			**Control Limits (%)**					
4-Bromofluorobenzene			91.0			65 - 135					
Test: TPH as Gasoline											
TPH as Gasoline	EPA 8015	ND		121		125.61	LCSD	103.8	1.52	25.00	65.0 - 135.0
Surrogate			**Surrogate Recovery**			**Control Limits (%)**					
4-Bromofluorobenzene			84.1			65 - 135					
Test: BTEX											
Benzene	EPA 8020	ND		8		8.32	LCSD	104.0	0.72	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		8		8.63	LCSD	107.9	0.58	25.00	65.0 - 135.0
Toluene	EPA 8020	ND		8		8.01	LCSD	100.1	2.10	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND		24		25.66	LCSD	106.9	1.16	25.00	65.0 - 135.0
Surrogate			**Surrogate Recovery**			**Control Limits (%)**					
4-Bromofluorobenzene			91.0			65 - 135					
Test: MTBE by EPA 8020											
Methyl-t-butyl Ether	EPA 8020	ND		8		9.18	LCSD	114.8	0.22	25.00	65.0 - 135.0
Surrogate			**Surrogate Recovery**			**Control Limits (%)**					
4-Bromofluorobenzene			91.0			65 - 135					

Entech Analytical Labs, Inc.

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

Quality Control Results Summary

QC Batch #: WMS11497 **Units:** µg/L
Matrix: Liquid **Date Analyzed:** 4/1/2002

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: EPA 8260B											
1,1-Dichloroethene	EPA 8260B	ND		20		20.2	LCS	101.0			57.3 - 132.4
Benzene	EPA 8260B	ND		20		21.8	LCS	109.0			65.0 - 135.0
Chlorobenzene	EPA 8260B	ND		20		22.1	LCS	110.5			65.0 - 135.0
Methyl-t-butyl Ether	EPA 8260B	ND		20		20.7	LCS	103.5			56.0 - 135.0
Toluene	EPA 8260B	ND		20		21.3	LCS	106.5			65.0 - 135.0
Trichloroethene	EPA 8260B	ND		20		21.7	LCS	108.5			69.7 - 143.5

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.0	65 - 135
Dibromofluoromethane	102.0	57 - 156
Toluene-d8	107.0	77 - 150

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Test: EPA 8260B											
1,1-Dichloroethene	EPA 8260B	ND		20		18.7	LCSD	93.5	7.71	25.00	57.3 - 132.4
Benzene	EPA 8260B	ND		20		20.6	LCSD	103.0	5.66	25.00	65.0 - 135.0
Chlorobenzene	EPA 8260B	ND		20		21.2	LCSD	106.0	4.16	25.00	65.0 - 135.0
Methyl-t-butyl Ether	EPA 8260B	ND		20		19.9	LCSD	99.5	3.94	25.00	56.0 - 135.0
Toluene	EPA 8260B	ND		20		20 3	LCSD	101.5	4.81	25.00	65.0 - 135.0
Trichloroethene	EPA 8260B	ND		20		20.6	LCSD	103.0	5.20	25.00	69.7 - 143.5

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.0	65 - 135
Dibromofluoromethane	100.0	57 - 156
Toluene-d8	108.0	77 - 150

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 Transportation / H9042.Q

LABORATORY. Entech

SEND CERTIFIED RESULTS TO: Chad Taylor

TURNAROUND TIME: (Normal) 24hr Rush 48hr Rush 72hr Rush

ELECTRONIC DELIVERABLE FORMAT. [X] YES [ ] NO

GLOBAL I D.: T0600100475

Field Point Name (GeoTracker)	Sample Identification	Sample Depth	Date Sampled	SAMPLE CONTAINERS: 40 mL VOAs (preserved)	1 Liter Amber Jars	___mL Poly Bottle	Liner Acetate or Brass	REQUESTED ANALYSIS: Total Petroleum Hydrocarbons: Extractables as Diesel	Purgeable Fuel-Scan	Gasoline & BTEX-MTBE by EPA Method# 8015M-&-8020	Volatile Organics: 1,2-DCA by EPA Method# 8010	Solvents by EPA Method# 8010	Additional Analysis: Fuel Oxygenates by EPA Method 8260	Title 22, General, Physical and Inorganic Minerals	
MW-3	MW-3	28.82'	3/21/02	5						X				24434-001	
MW-4	MW-4	22.29'		5						X				002	
MW-5	MW-5	30.84'		5						X				003	
MW-6	MW-6	22.61'		5						X					✓-NG
MW-7	MW-7	23.61'		5						X				004	
MW-8	MW-8	23.42'		5						X				005	
MW-9	MW-9	21.88'		5						X				006	
MW-10	MW-10	21.64'		5						X				007	
MW-11	MW-11	21.84'		5						X				008	
MW-12	MW-12	22.90'	↓	5						X				009	

	RECEIVED BY:	Date & Time	RELEASED BY:	Date & Time	SAMPLE CONDITION (circle 1)		
1)	Sampler	3/21/02 1700		3/25/02 @ 9:00am	Ambient	(Refrigerated)	Frozen
2)		3/25/02 @ 9:00am		3/25/02 @ 9:10am	Ambient	(Refrigerated)	Frozen
3)		3/25/02 9:10		3/25 11:00	Ambient	Refrigerated	Frozen
4)		3/25/02 1200		-	Ambient	Refrigerated	Frozen
5)		-		-	Ambient	Refrigerated	Frozen

NOTES:

- [X] *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*
- [X] *For MTBE-analyzed samples with non-detectable results (ND) but having elevated detection limits, please confirm by EPA Method #82*
- [X] *Please use MDL (Minimum Detection Limit) for any diluted samples*

ADDITIONAL COMMENTS

- Please produce and e-mail an EDF of these results to tina@weber-hayes.com.

Appendix D

Summary of Historical Groundwater Analytical Results - AGI Technologies, Inc.

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

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			Other
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
		µg/L			µg/L				µg/L			µg/L
MW1	07/88	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	840 [a]	NA	2,800	370	490	760	ND	ND	43	
	07/91	6,600	890 [a]	NA	2,000	250	230	380	ND	ND	29	
	10/91	6,300	1,700 [a]	NA	2,000	410	330	550	ND	ND	27	
	01/92	4,000	790 [a]	NA	1,200	250	60	200	ND	ND	22	
	04/92	7,400	1,800 [a]	NA	730	370	180	640	ND	ND	19	
	07/92	3,000	2,400 [a]	NA	190	ND	2.8	410	ND	ND	30	
	10/92	5,000	970 [a]	NA	1,300	320	45	340	ND	ND	26	
	01/93	2,300	680 [a]	NA (2)	630	180	31	330	ND	ND	13	
	06/93	5,000	1,100 [a]	ND	730	240	43	380	ND	ND	13	

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

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods											
		8015 Modified			8020				8010				
		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
Summary of Historical Groundwater Analytical Data
Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			Other
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
		µg/L			µg/L				µg/L			µg/L
MW6	10/90	27,000	4,700	ND	2,700	450	2,900	3,300	ND	ND	40	Lead 9
	01/91	7,200	1,600	ND	1,400	ND	200	830	ND	ND	23	
	04/91	17,000	800 [a]	NA	2,800	610	1,200	1,800	ND	ND	53	
	07/91	11,000	1,400 [a]	NA	1,200	ND	380	750	ND	ND	29	
	10/91	4,800	1,600 [a]	NA	380	69	340	730	ND	ND	22	
	01/92	6,100	1,200 [a]	NA	460	180	200	590	ND	ND	26	
	04/92	7,200	1,800 [a]	NA	340	350	460	920	ND	ND	30	
	07/92	8,600	1,700 [a]	NA	1,300	380	280	1,100	ND	ND	35	
	10/92	1,600	110 [a]	NA	230	70	20	88	ND	ND	24	
	01/93	13,000	2,100 [a]	NA	2,500	370	540	2,400	ND	ND	36	
	06/93	7,400	1,900 [a]	ND	1,500	480	120	1,400	ND	ND	29	
MW7	10/90	14,000	2,700	ND	390	ND	18	1,200	ND	1.3	14	Lead 11
	01/91	4,500	1,400	ND	320	42	48	350	ND	ND	10	
	04/91	2,400	NA	NA	320	77	62	130	ND	0.6	11	
	07/91	2,000	910 [a]	NA	470	ND	24	88	ND	ND	9.7	
	10/91	ND	370 [a]	NA	ND	ND	ND	ND	ND	0.68	4.5	
	01/92	1,100	290 [a]	NA	230	45	7	88	ND	3.5	6.4	
	04/92	1,700	520 [a]	NA	310	78	28	170	ND	0.5	3.2	
	07/92	1,900	590 [a]	NA	410	78	21	170	ND	2.1	8.7	
	07/92 (dup)	1,200	700 [a]	NA	21	1	2.6	90	ND	2	8.2	
	10/92	1,800	320 [a]	NA	410	31	11	75	ND	1	7.4	
	01/93	2,100	660 [a]	NA	390	100	21	270	ND	0.6	3.7	
	06/93	4,400	1,100 [a]	ND	830	330	49	620	ND	ND	8.6	

Table 2

Summary of Historical Groundwater Analytical Data

Harbert Transportation/Meekland Avenue

Hayward, California

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			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
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	18	170	200	ND	ND	13	
	04/91	4,200	410 [a]	NA	520	130	410	580	ND	ND	26	
	07/91	1,900	180 [a]	NA	190	12	52	77	ND	6.5	12	
	10/91	880	300 [a]	NA	160	31	44	83	ND	ND	10	
	01/92	380	120 [a]	NA	14	7.6	2.2	14	ND	ND	9.6	
	04/92	2,900	700 [a]	NA	510	80	260	260	ND	ND	11	
	07/92	4,400	1,300 [a]	NA	860	210	340	640	ND	ND	22	
	10/92	200	290 [a]	NA	6.8	1.4	2.1	7.8	ND	ND	12	
	01/93	8,500	740 [a]	NA	2,400	390	620	1,500	ND	ND	29	
	06/93	8,200	1,300 [a]	ND	2,400	360	480	1,500	ND	ND	29	
MW10	01/92	13,000	3,700 [a]	NA	130	580	110	3,000	ND	ND	33	
	05/92	15,000	5,000 [a]	NA	180	ND	18	2,700	ND	ND	20	
	05/92 (dup)	13,000	7,500 [a]	NA	240	490	65	2,500	ND	ND	22	
	07/92	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	8,000	2,100 [a]	ND	69	7.9	ND	490	ND	ND	16	

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

AGI TECHNOLOGIES

Well	Date Sampled	EPA Test Methods										
		8015 Modified			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	1,582	235	517	871	0.21	0.41	24.8	
Laboratory Detection Limit		50	50	500	0.5	0.5	0.5	0.5	0.4	0.4	0.4	

Notes.

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

AGI TECHNOLOGIES

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

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

AGI TECHNOLOGIES

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

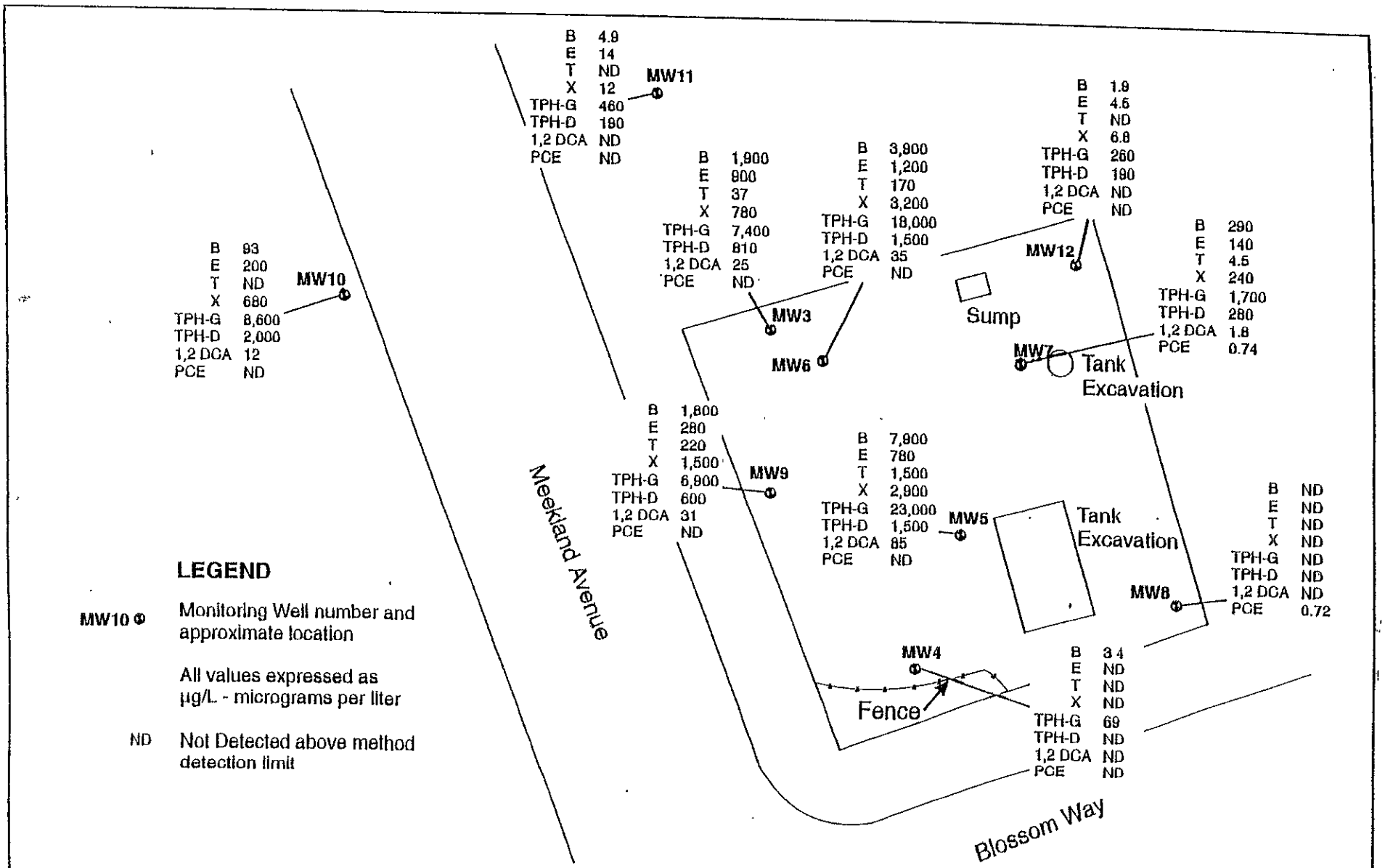
Well	Date Sampled	EPA Test Methods								
		8015 M		BETX 5030/8020				8010		
		TPH Gasoline	TPH Diesel	Benzene	Ethylbenzene	Toluene	Xylenes	1,2-DCA	PCE	TCE
		µg/L	µg/L	µg/L				µg/L	µg/L	µg/L
MW8	07/28/94	ND	78 [a]	ND	ND	ND	ND	ND	ND	ND
	10/21/94	ND	ND	ND	ND	ND	ND	ND	0.72	ND
	09/15/95	ND	ND	ND	ND	ND	ND	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

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

Well	Date Sampled	EPA Test Methods								
		8015 M		BETX 5030/8020				8010		
		TPH Gasoline µg/L	TPH Diesel µg/L	Benzene	Ethylbenzene	Toluene	Xylenes	1,2-DCA	PCE	TCE
				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.



10·20·94

AGI TECHNOLOGIES

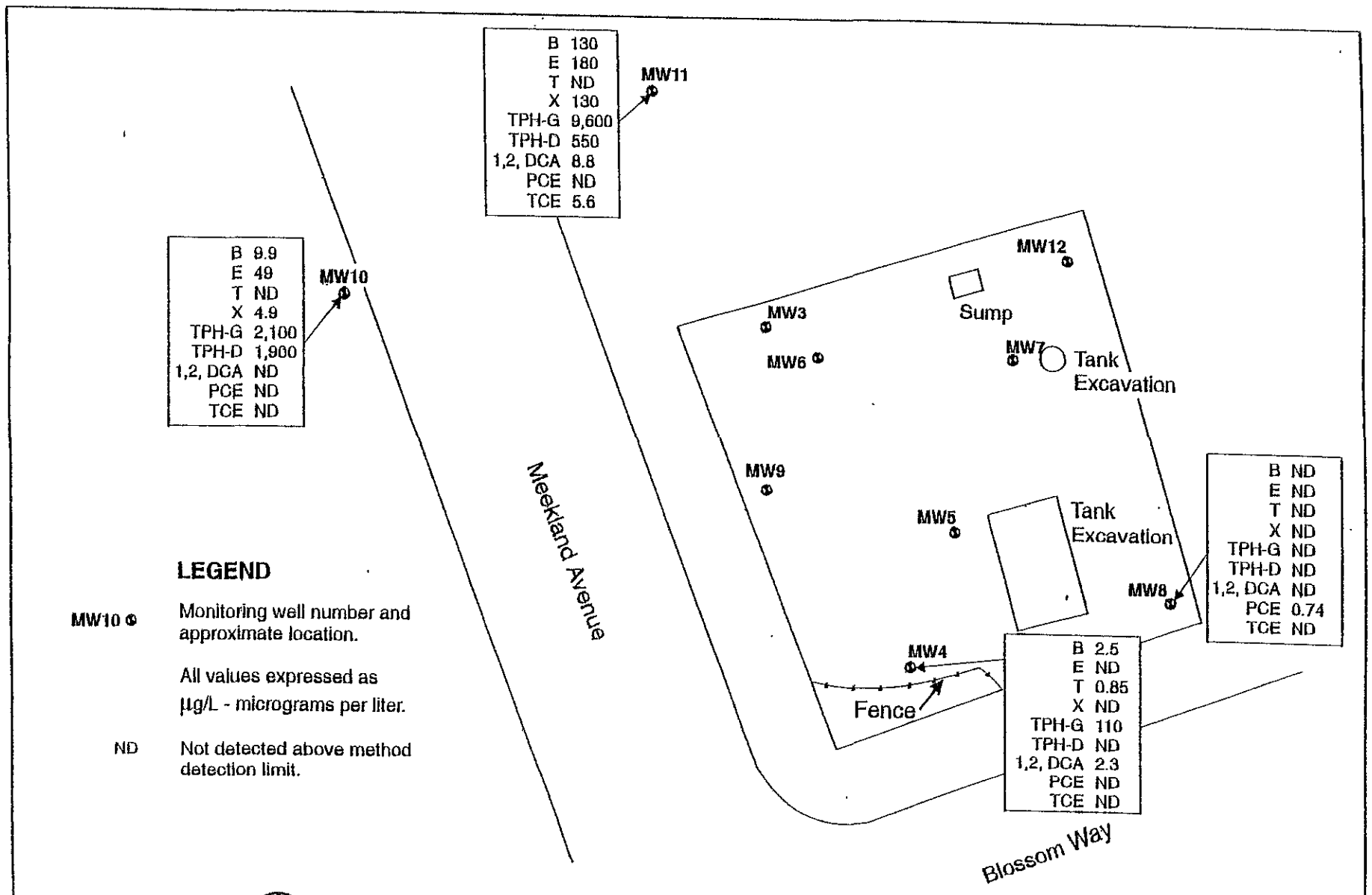
Site Plan

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 4

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

siteplan.cdr



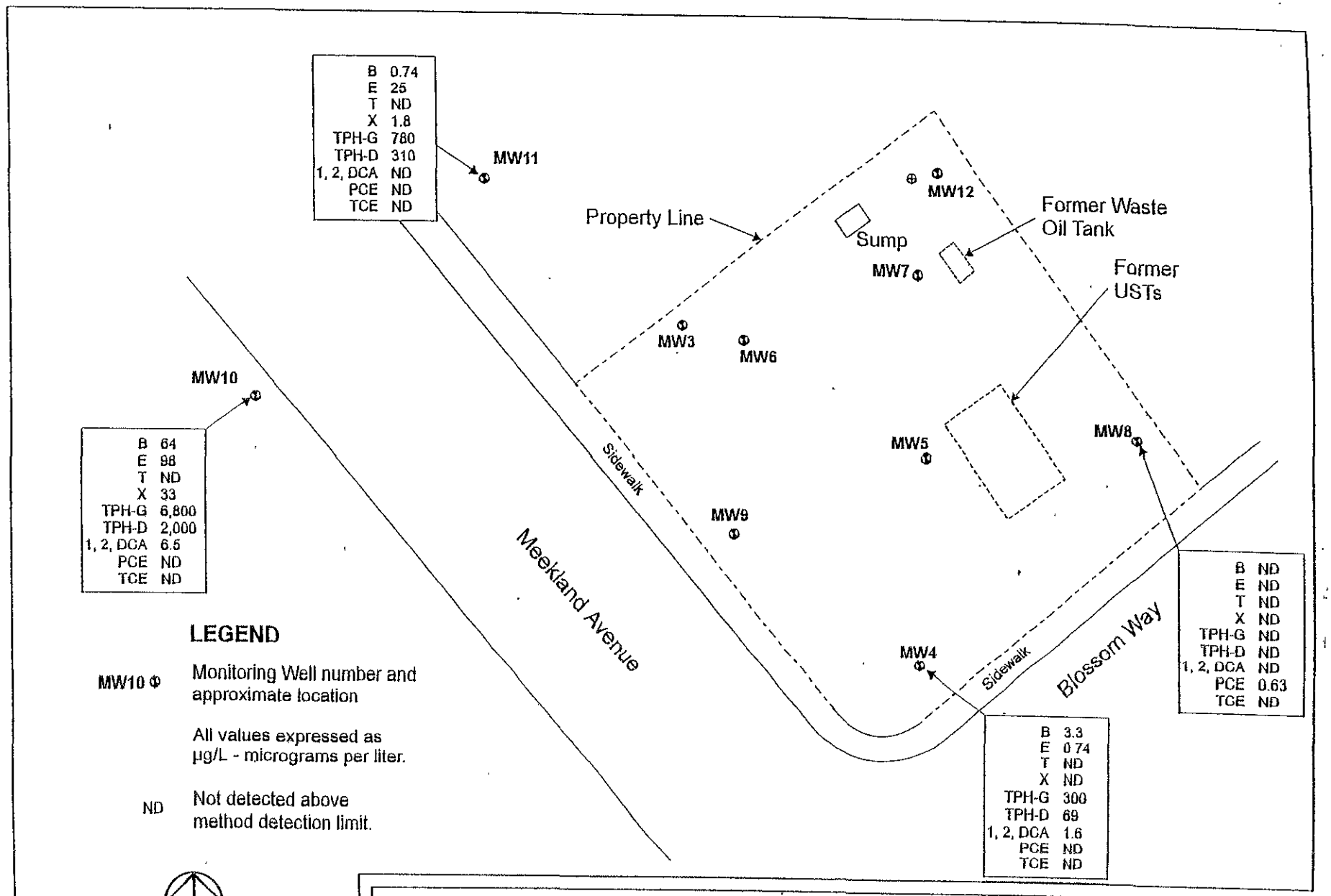
AGI TECHNOLOGIES

Groundwater Chemical Analysis Results - 9/15/95

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 4

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
83300201.cdr	15.833.002	DFF	1 Feb 95		



Groundwater Chemical Analysis Results - March 1996

Harbert Transportation/Meekland Avenue
Hayward, California

FIGURE 4

AGI TECHNOLOGIES

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
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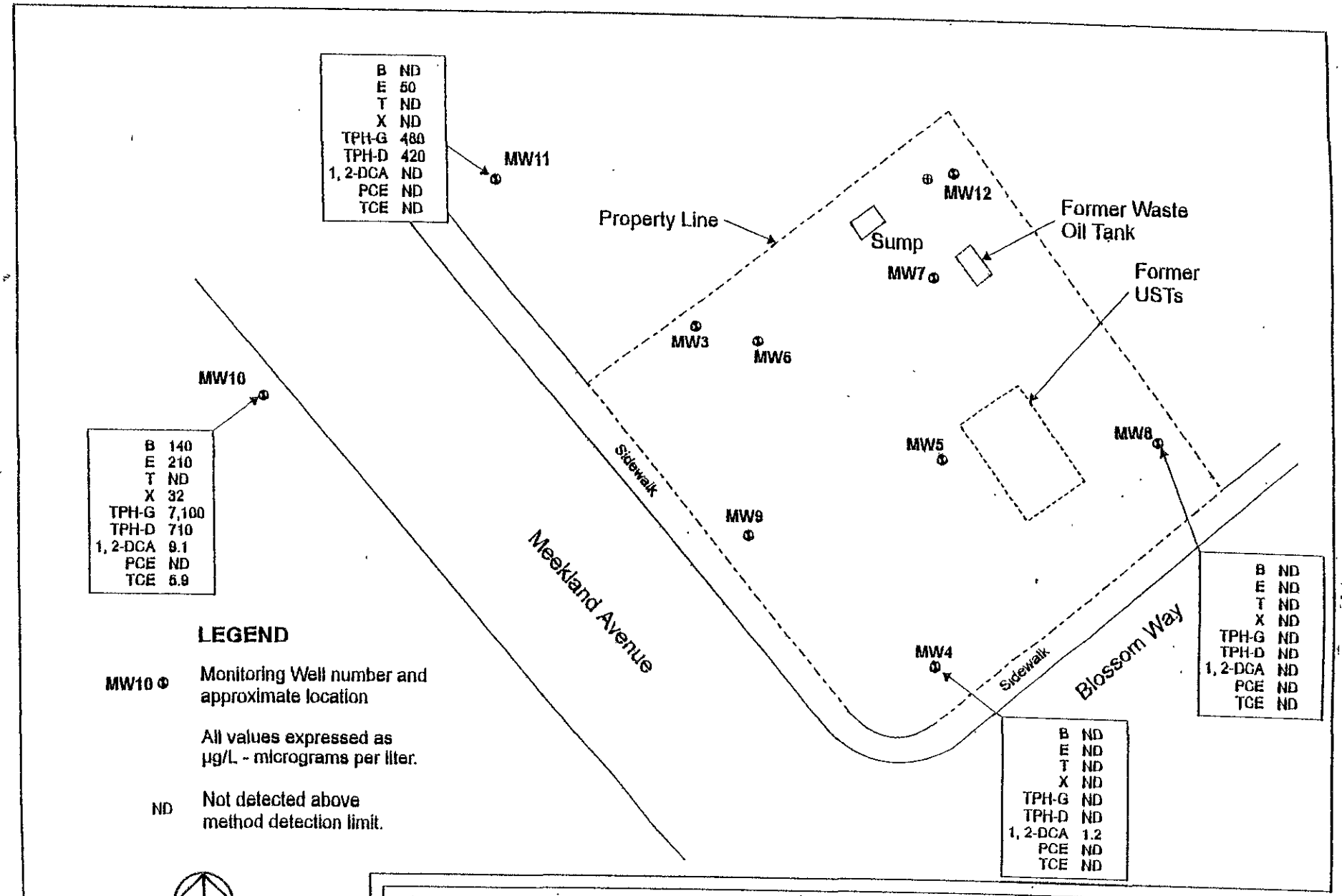

Groundwater Chemical Analysis Results - September 1996

FIGURE 4

Harbert Transportation/Meekland Avenue
Hayward, California

AGI TECHNOLOGIES

PROJECT NO	DRAWN	DATE	APPROVED	REVISED	DATE
15,833.002	DFF	29 August 94			

gw-anal.cdr