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November 6, 2001  
Project H9042.Q

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

**Subject: Groundwater Monitoring Report - Third Quarter 2001**  
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 third quarter 2001. 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.

**The results of the additional site assessment we conducted in the first quarter 2001 (Weber, Hayes and Associates, June 18, 2001) indicate there is a limited area of petroleum hydrocarbon contaminated soil that is a likely source of continuing groundwater degradation. In our June 18, 2001 Report we recommended that this soil be excavated as an Interim Remedial Action. Environmental Health concurred with our recommendation in a letter dated June 26, 2001. Cost pre-approval for the Interim Remedial Action was obtained from the Underground Storage Tank Cleanup Fund this quarter. To initiate the regulatory-approved Interim Remedial Action, we collected soil samples from the proposed excavation area and delivered them to a state-certified analytical laboratory. The analytical results will be used to obtain landfill acceptance prior to excavation, so that soil may be loaded directly onto trucks for transportation to the landfill. After landfill acceptance is obtained we will schedule and coordinate the excavation.**

#### **EXECUTIVE SUMMARY**

The groundwater monitoring event for the third quarter 2001 took place on September 20, 2001. Groundwater elevations at the site fell an average of approximately 0.56 feet since the previous quarter (March 2001). The calculated groundwater flow direction on September 20, 2001 was to the west, which appears to be consistent with historical data. Groundwater analytical results from the third quarter 2001 indicate that dissolved petroleum hydrocarbons ("PHCs") are present at concentrations that exceed water quality goals in on-site monitoring wells downgradient of the removed underground storage tanks ("USTs") and dispensers at the site.

**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.

PHC concentrations at the site generally declined slightly this quarter in all impacted groundwater monitoring wells except wells MW-6 and MW-10. Overall we believe that this does not change the Site Conceptual Model: PHCs remain in the soils beneath the former dispensers and are likely present in the 1989 UST excavation, which was backfilled with the excavated material. These residual PHCs are likely a source of continuing groundwater degradation. **We believe that excavation of these residual PHCs as an Interim Remedial Action is appropriate.**

In June 2001, we recommended Interim Remedial Actions consisting of excavating residual PHC-impacted soil at the site and calculating cleanup levels for residual PHCs (Weber, Hayes and Associates, June 18, 2001). **Environmental Health concurred with our recommendation in a letter dated June 26, 2001. Cost pre-approval for the Interim Remedial Action was obtained from the Underground Storage Tank Cleanup Fund this quarter.**

This quarter we began implementing our regulatory-approved recommendations. We collected soil samples from the proposed excavation area and delivered them to a state-certified analytical laboratory. The analytical results will be used to obtain landfill acceptance prior to excavation, so that soil may be loaded directly onto trucks for transportation to the landfill. After landfill acceptance is obtained we will schedule and coordinate the excavation. Documentation of the excavation will be presented in a future quarterly monitoring report. At this time we recommend:

- Continuing quarterly groundwater monitoring of dissolved PHC concentrations at the site.
- 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.
- Continuing to coordinate the excavation of source zone PHC-contaminated soils as an Interim Remedial Action.

## INTRODUCTION

This report documents groundwater monitoring activities at the former Harbert Transportation facility, 19984 Meekland Avenue, Hayward, California (the site), during the third quarter 2001. 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

To prepare for the regulatory-approved we collected soil samples from the proposed excavation area and delivered them to a state-certified analytical laboratory. The analytical results will be used to obtain landfill acceptance prior to excavation, so that soil may be loaded directly onto trucks for transportation to the landfill.

### **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.

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 remain in soils beneath the former dispensers and are believed present in the 1989 UST excavation which was backfilled with

the excavated material. We believe that excavation of these residual PHCs as an Interim Remedial Action is appropriate (Weber, Hayes and Associates, June 18, 2001). Environmental Health concurred with this recommendation in a letter dated June 26, 2001.

## **SUMMARY OF QUARTERLY ACTIVITIES**

### **Groundwater Monitoring**

The groundwater monitoring event for the third quarter 2001 took place on September 20, 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 fell an average of approximately 0.56 feet since the previous quarter (June 2001). Calculated groundwater elevations from the gauging data collected on September 20, 2001 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 September 20, 2001 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. 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.

Groundwater Monitoring Report - Third Quarter 2001  
19984 Meekland Avenue, Hayward, California  
November 6, 2001

Summary of Groundwater Sample Analytical Results, September 20, 2001 ( $\mu\text{g/L}$ , ppb)

Well ID	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE
MW-3	380	1.7	2.6	32	89	ND
MW-4	ND	ND	ND	ND	ND	ND
MW-5	2,300	46	41	280	330	ND*
MW-6	2,500	11	8.6	240	94	ND*
MW-7	290	0.98	ND	12	4.5	ND*
MW-8	ND	ND	ND	ND	ND	ND
MW-9	3,400	270	38	390	430	ND*
MW-10	1,200	6	9.9	1.2	3.9	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-3 exceeds the groundwater quality goal/ Maximum Contaminant Level (MCL).

The concentrations of TPH-g and benzene in well MW-5 exceed the respective groundwater quality goals/Action Level (AL)/MCLs.

The concentrations of TPH-g and benzene in well MW-6 exceed the respective groundwater quality goals/AL/MCLs.

The concentrations of TPH-g and benzene in well MW-9 exceed the respective groundwater quality goals/AL/MCLs.

The concentrations of TPH-g and benzene in well MW-10 exceed the respective groundwater quality goals/AL/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 5 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**

Dissolved oxygen measurements collected at the site this quarter 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).

### **Interim Remedial Actions**

In June 2001, we recommended Interim Remedial Actions consisting of excavating residual PHC-impacted soil at the site and calculating cleanup levels for residual PHCs (Weber, Hayes and Associates, June 18, 2001). **Environmental Health concurred with our recommendation in a letter dated June 26, 2001. Cost pre-approval for the Interim Remedial Action was obtained from the Underground Storage Tank Cleanup Fund this quarter.**

This quarter we began implementing our regulatory-approved recommendations. We collected soil samples from the proposed excavation area and delivered them to a state-certified analytical laboratory. The analytical results will be used to obtain landfill acceptance prior to excavation, so that soil may be loaded directly onto trucks for transportation to the landfill. After landfill acceptance is obtained we will schedule and coordinate the excavation. Documentation of the excavation will be presented in a future quarterly monitoring report.

### **SUMMARY**

- Free product was not observed in any of the monitoring wells at the site.
- Groundwater elevations at the site fell an average of approximately 0.56 feet since the previous quarter (June 2001).

- The groundwater flow direction on September 20, 2001 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 two 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 and benzene were detected above their respective AL/MCLs in on-site wells MW-5, MW-9, and MW-10 which are located downgradient of the removed USTs.
- Benzene was detected at a concentration above the MCL in wells MW-3, 5, 6, and 10.
- Measurements of dissolved oxygen collected at the site this quarter indicated 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 four on-site wells downgradient of the removed USTs at concentrations above groundwater quality goals.
- The highest concentrations of PHCs in groundwater are in well MW-9, which is located downgradient of removed USTs and dispensers.
- We believe that natural attenuation/bioremediation has and will continue to remove PHCs from groundwater at the site. However, the USTs were removed almost twelve years ago and groundwater at the site still exceeds ALs/MCLs/groundwater quality goals.
- **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 residual PHCs in soil and groundwater that will likely degrade over time. Excavation of source zone soil near the removed USTs and dispensers should remove the driving force behind migration of PHCs in groundwater and allow natural attenuation of PHCs to complete the cleanup of the site.

## RECOMMENDATIONS

At this time we recommend:

- Continuing quarterly groundwater monitoring of dissolved PHC concentrations at the site.
- 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.
- Continuing to coordinate the excavation of source zone PHC-contaminated soils as an Interim Remedial Action as described in Weber, Hayes and Associates June 18, 2001 report *Additional Site Assessment and Groundwater Monitoring Report - First Quarter 2001*. The estimated volume of soil to be removed is 980 cubic yards.
- Placing Oxygen Releasing Compound in the bottom of the excavation to stimulate natural attenuation/biodegradation of residual PHCs in groundwater.

## SCHEDULE OF ACTIVITIES FOR THE FOLLOWING QUARTER

The following activities are scheduled for the next quarter:

- Quarterly groundwater monitoring of all monitoring wells as directed by Environmental Health, including measuring the depth-to-groundwater, dissolved oxygen concentration, and physical parameters, and collecting samples from all 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, after cost pre-approval by the UST Cleanup Fund.
- Continuing to coordinate the Interim Remedial Action excavation.



**LIMITATIONS**

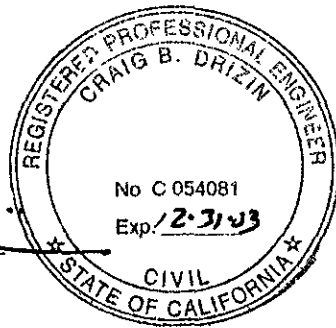
Our service consists of professional opinions and recommendations made in accordance with generally accepted geologic and engineering principles and practices. This warranty is in lieu of all others, either expressed or implied. The analysis and proposals in this report are based on sampling and testing 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.

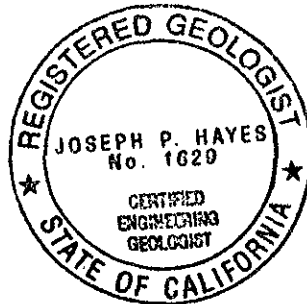
Sincerely yours,

Weber, Hayes And Associates

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



And: Joe Hayes  
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

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**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										
	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*	--	NA
	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	ND
MW-4		20 - 40?	55.71										
	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	--	NA
	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	ND
MW-5		25 - 45	56.03										
	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*	--	NA
	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	ND
MW-6		25 - 45	56.01										
	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*	--	NA
	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	ND
MW-7		25 - 45	56.66										
	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*	--	NA
	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	ND

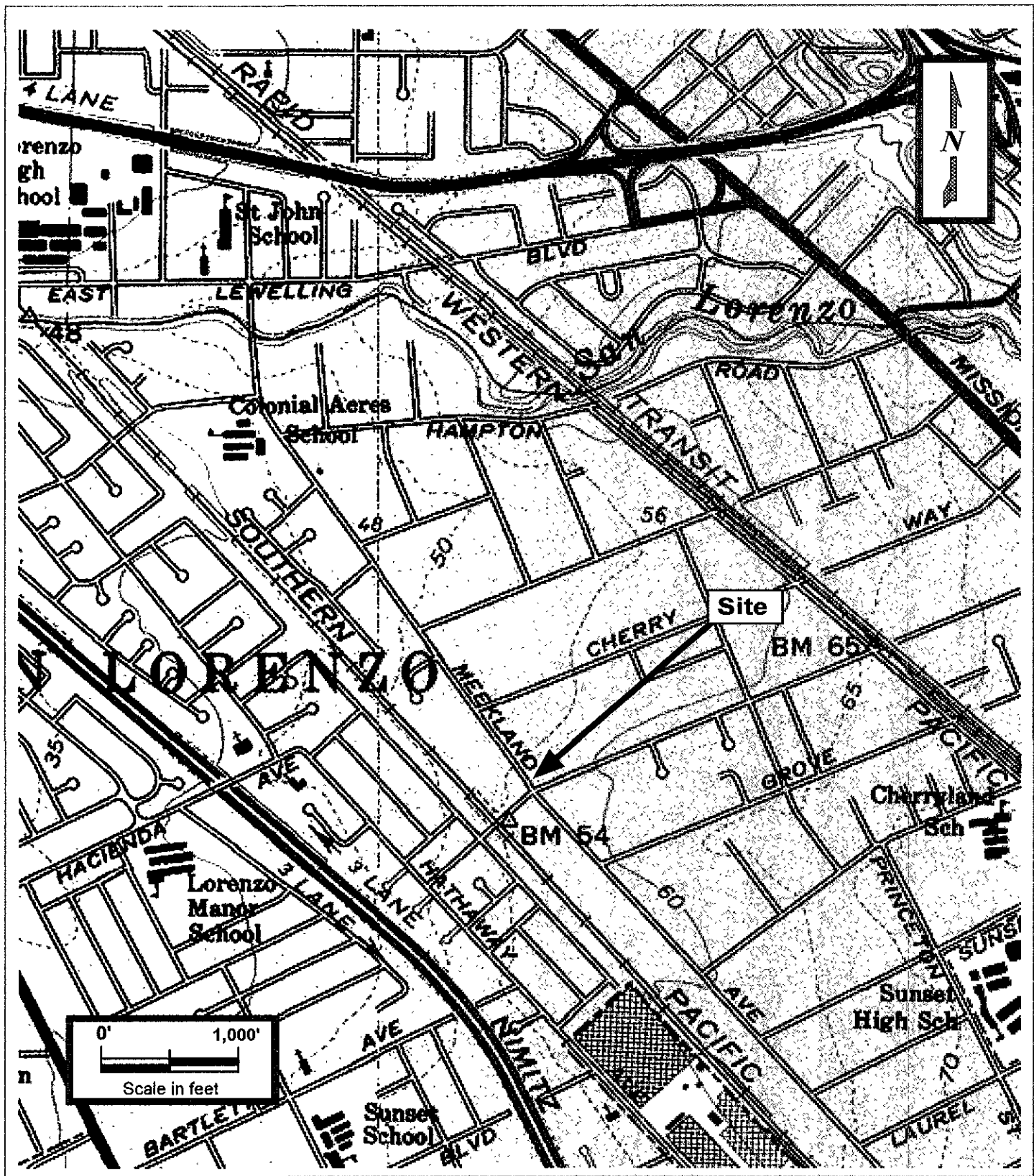
**Table 1: Summary of Groundwater Elevation and PHC Analytical Data  
Former Harbert Transportation Facility, 19984 Meekland Avenue, Hayward, Ca.  
Weber, Hayes and Associates Project H9042**

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-8		20 - 40	56.16											
	20-Sep-2001			24.68	31.48	ND	ND	ND	ND	ND	ND	ND	--	1.6
	20-Jun-2001			24.09	32.07	ND	ND	ND	ND	ND	ND	ND	--	NA
	29-Mar-2001			22.56	33.60	ND	ND	0.8	ND	ND	ND	ND	--	1.9
	12-Jan-2001			23.93	32.23	ND	ND	ND	ND	ND	ND	ND	--	2.1
27-Sep-2000	23.59	32.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9		
MW-9		20 - 40	55.21											
	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*	--	NA	
	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	ND	0.5			
MW-10		25 - 40	54.74											
	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*	--	NA	
	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	ND	0.4			
MW-11		25 - 40	55.20											
	20-Sep-2001			23.87	30.87	ND	ND	ND	ND	ND	ND	ND	--	0.4
	20-Jun-2001			23.39	31.35	ND	ND	ND	ND	ND	ND	ND	--	NA
	29-Mar-2001			21.84	32.90	ND	ND	4.5	ND	ND	ND	ND	--	0.6
	12-Jan-2001			23.21	31.53	ND	ND	2.1	ND	ND	ND	ND	--	0.6
27-Sep-2000	22.43	32.31	63	ND	ND	ND	ND	ND	ND	ND	0.6			
MW-12		25 - 40	56.49											
	20-Sep-2001			24.95	31.54	ND	ND	ND	ND	ND	ND	ND	--	0.7
	20-Jun-2001			24.47	32.02	ND	ND	ND	ND	ND	ND	ND	--	NA
	29-Mar-2001			22.91	33.58	ND	ND	5.0	ND	ND	ND	ND	--	1.0
	12-Jan-2001			24.28	32.21	ND	ND	1.1	ND	ND	ND	ND	--	1.0
27-Sep-2000	23.98	32.51	ND	ND	ND	ND	ND	ND	ND	ND	1.2			
<b>Laboratory's Practical Quantitation Limit (PQL):</b>						<b>50</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>5</b>	<b>5</b>	Field	
<b>State Maximum Contaminant Level (MCL):</b>						<b>1,000**</b>	<b>1</b>	<b>150</b>	<b>700</b>	<b>1,750</b>	<b>5***</b>	<b>0.5</b>	Instrument	

**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 = Methyl - tert - Butyl Ether  
 F O.'s = Fuel Oxygenates = Di-isopropyl ether (DIPE), tertiary Butyl Alcohol (TBA), Ethyl tertiary Butyl Ether (ETBE), tertiary amyl Methyl Ether (TAME)  
 VOC's = Volatile Organic Compounds D O = Dissolved Oxygen  
 ug/L = micrograms per liter, parts per billion; mg/L = milligrams per liter, parts per million  
 ND = Not Detected at the Practical Quantitation Limit (PQL), <X = Not Detected at the elevated PQL, X PQL elevated because of sample dilution  
 -- = Data not collected or measured, or analysis not conducted  
 MCL = Maximum Contaminant Level for drinking water in California (Department of Health Services).  
 \* Confirmed by GC/MS method 8260  
 \*\* = Action Level \*\*\* = Secondary MCL / water quality goal  
 \*\*\*\* = Laboratory Report indicates results within quantitation range; chromatographic pattern not typical of fuel.





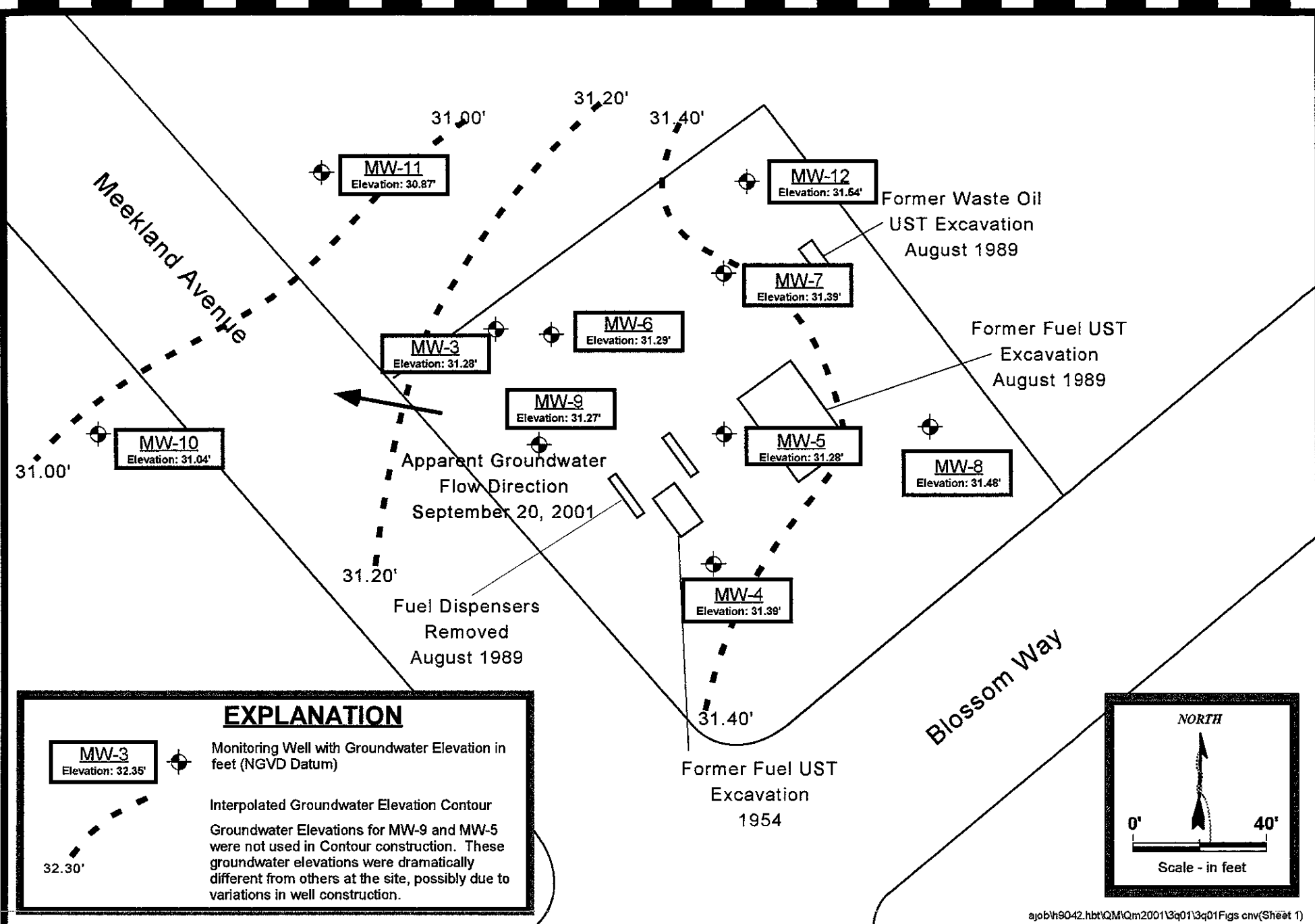
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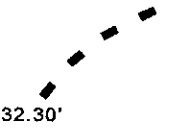
**LOCATION MAP**  
 Former Harbert Transportation Facility  
 19984 Meekland Avenue  
 Hayward, California

Figure  
 1  
 Project  
 H9042.Q




**EXPLANATION**

 Monitoring Well with Groundwater Elevation in feet (NGVD Datum)

 Interpolated Groundwater Elevation Contour

Groundwater Elevations for MW-9 and MW-5 were not used in Contour construction. These groundwater elevations were dramatically different from others at the site, possibly due to variations in well construction.

**NORTH**



0' 40'

Scale - in feet

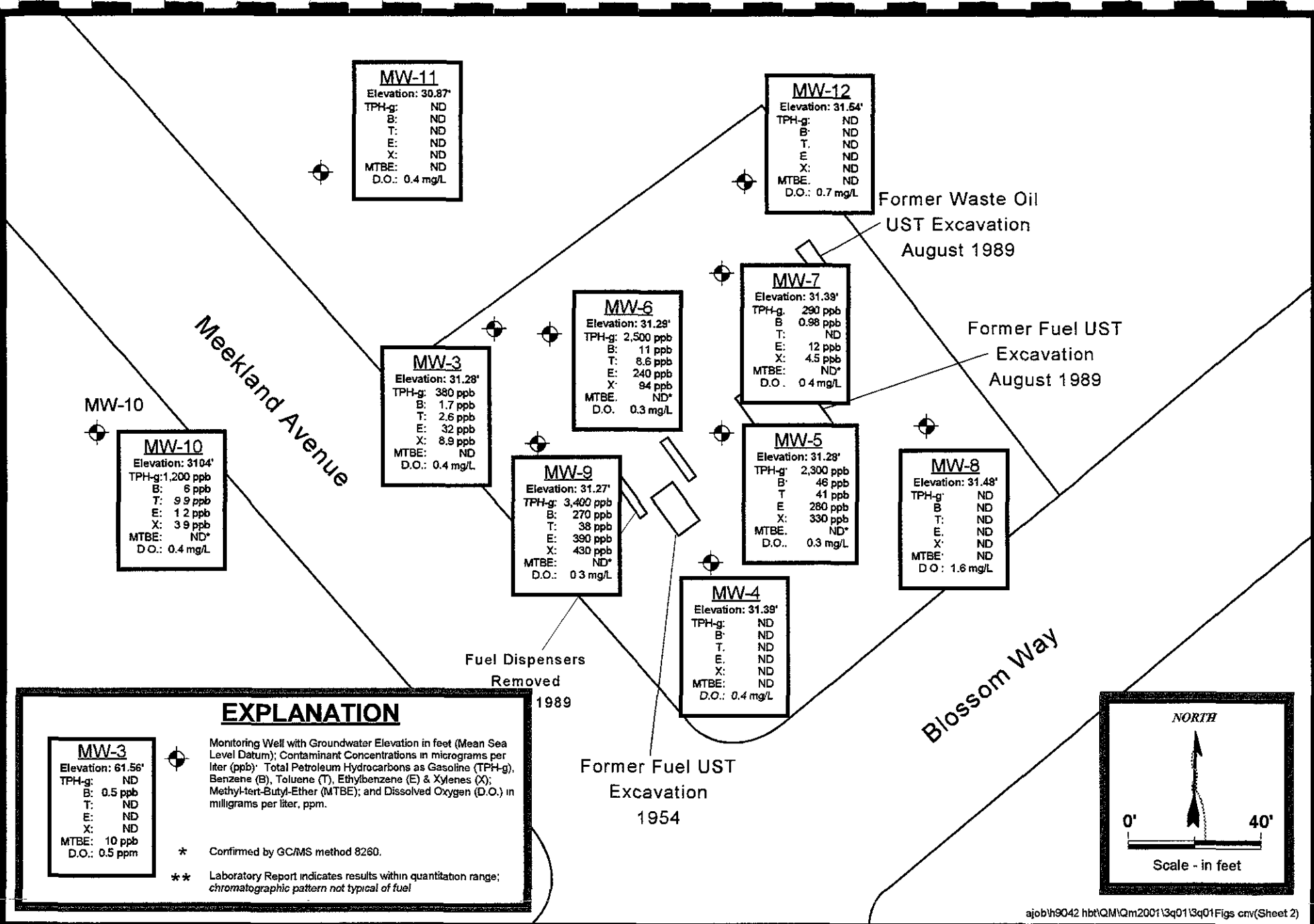
ajob\h9042.hbt\QM\Qm2001\3q01\3q01\Figs.cnv(Sheet 1)



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**Site Plan with Groundwater Elevations**  
**September 20, 2001**  
 Former Harbert Transportation Facility  
 19984 Meekland Avenue, Hayward, California

**Figure**  
**2**  
**Project**  
**H9042**



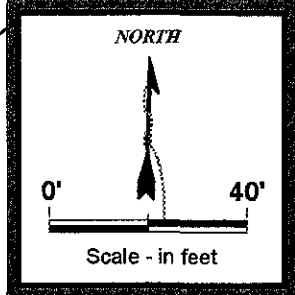
**EXPLANATION**

<b>MW-3</b>
Elevation: 61.56'
TPH-g: ND
B: 0.5 ppb
T: ND
E: ND
X: ND
MTBE: 10 ppb
D.O.: 0.5 ppm

Monitoring Well with Groundwater Elevation in feet (Mean Sea Level Datum); Contaminant Concentrations in micrograms per liter (ppb): Total Petroleum Hydrocarbons as Gasoline (TPH-g), Benzene (B), Toluene (T), Ethylbenzene (E) & Xylenes (X); Methyl-tert-Butyl-Ether (MTBE); and Dissolved Oxygen (D.O.) in milligrams per liter, ppm.

\* Confirmed by GC/MS method 8260.

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



ajob\h9042\hbt\QM\m2001\3q01\3q01\Figs\cnv(Sheet 2)



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**Site Plan with PHC Concentrations in Groundwater**  
 September 20, 2001  
 Former Harbert Transportation Facility  
 19984 Meekland Avenue, Hayward, California

**Figure 3**  
**Project H9042**

Groundwater Monitoring Report - Third Quarter 2001  
19984 Meekland Avenue, Hayward, California  
November 6, 2001

## **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<sup>®</sup>-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

120 Westgate Dr., Watsonville, CA 95076

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Fax: (831) 722-1159

INDICATE ATTACHMENTS THAT APPLY

- Data Sheets
- COC's
- Site Map
- Photo Sheet
- Chargeable Materials

<b>Job Name:</b> Harbert Transportation	<b>Date:</b> 9/20/01
<b>Field Location:</b> 19984 Meekland Avenue, Hayward	<b>Study #:</b> H9042.Q
<b>Field Tasks:</b> <input type="checkbox"/> Drilling <input checked="" type="checkbox"/> Sampling <input checked="" type="checkbox"/> Other <b>3<sup>rd</sup> Quarter 2001 Well Sampling</b>	<b>Weather Conditions:</b> Foggy → Clearing to Sunny
<b>Personnel/Company onsite:</b> (Weber, Hayes and Associates) Chad Taylor	

**FIELD WORK PLANNING:** Performed on: 9/19/01

- α 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: 9/20/01

**TIME:** 0700  
Arrive onsite to perform 3<sup>rd</sup> Quarter Monitoring Well Sampling.

- α **COMMENTS:**  
Send all analytical to Entech Analytical Laboratory.

**INITIALS:**

- α -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:**

α pH, EC, Temp Meter # 1 : Temp = 58.3°F, pH = 7.0 & 7.0, EC = 140 μS/cm

↓ Dissolved Oxygen Meter: Red-line ✓, Zero ✓, Temp = 16°C  
Therefore, 9.87 mg/L = Solubility of Oxygen in fresh water.

**BEGIN SAMPLING ALL WELLS:**

MW-3 MW-4 MW-12 MW-11 MW-7 MW-10 MW-3 MW-6 MW-5 MW-9 \_\_\_\_\_  
-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.

J.L.H. 9/20/01  
Signature of Field Personnel & Date



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Location	GW Depth (TOC)	Total Depth of Well	D.O. (mg/L)	Floating Product (comments).
MW. 3	24.16'	40'	0.4	No FP, Slight Odor
MW. 4	24.32'	40'	0.4	No FP, No Odor
MW. 5	24.75'	45'	0.3	No FP, High Odor
MW. 6	24.72'	45'	0.3	No FP, Moderate Odor
MW. 7	25.27'	40'	0.4	No FP, No Odor
MW. 8	24.68'	40'	1.6	No FP, No Odor
MW. 9	23.94'	40'	0.3	No FP, High Odor.
MW. 10	23.70'	40'	0.4	No FP, Very Slight Odor
MW. 11	23.87'	40'	0.4	No FP, No Odor
MW. 12	24.95'	40'	0.7	No FP, No Odor
<del>9/20/01</del>				

HOW MANY PURGE DRUMS WERE LEFT ONSITE 7. APPROXIMATE GAL. 350.  
CALL BAYSIDE OIL ON \_\_\_\_\_ TO HAVE DRUMS PURGED.  
DRUMS WILL BE PURGED ON \_\_\_\_\_.

COMMENTS:

J.L.H. 9/20/01  
Signature of Field Personnel & Date

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Herbert Transportation / 119042.0 Date: 9/20/01

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 (circle all that apply):**  
TPH-gas, BTEX, MTBE, 4, 2-DGA, EDB, 8260 Fuel Oxygenates  
~~TPH-diesel, Stoddard Solvent~~

**Number and Types of Bottle Used:**  
5x40L UVA's

~~Intrinsic Bio-Parameters~~

**Well Number:** MW-8 **Well Diameter:** 4" with Casing Volume of:  
**Depth to Water:** 24.68' TOC 2" = (0.16 Gallon/Feet)  
**Well Depth:** 40' BGS or TOC 4" = (0.65 Gallon/Feet)  
**Height W-Column:** 15.32' feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
**Volume in Well:** 9.958 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
**Gallons to purge:** 39.83 gallons (volume X 4) 8" = (2.61 Gallon/Feet)

Lab: Entech Transportation: Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
0758	0	651	62.4	6.80	Low: Clear-Brown, Minor Fines	1.6
0802	5	640	64.3	7.31	Low: Clear, Trace Fines	0.6
0806	10	670	64.4	7.35	↓ ↓ ↓	1.1
0810	15	678	64.7	7.35		1.7
0814	20	693	64.9	7.38		1.5
0818	25	703	65.0	7.36		1.6
0822	30	693	65.0	7.38		1.5
0827	35	694	65.1	7.35		1.7
0830	40	691	65.5	7.30		1.6

**Wait for 80% well volume recovery prior to sampling.**  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:  
 Original Height of Water Column = 15.32 x 0.8 = 12.256' - (Well Depth) 40' = Depth to water 27.74'

Time: 0832 1st measured depth to water, 26.01' 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, α feet below TOC. Is well within 80% of original well casing volume: Yes \_\_\_\_\_ No CT

## Sample Well

Time: 0832 Sample ID: MW-8 Depth: 26.01' feet below TOC

Comments: No Floating Product. No Odor.



# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Herbert Transportation / H9042 G Date: 9/20/01

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

Samplers Name: Chad Tyl- Recorded by: CT

**Purge Equipment:**  
 Bailer: Disposable or Acrylic  
 Whaler # 1  
 Bladder Pump  
 Submersible Pump

**Sample Equipment:**  
 Disposable Bailer  
 Whaler # \_\_\_\_\_  
 Bladder Pump  
 Submersible Pump

**Analyses Requested (circle all that apply):**  
 (TPH-gas, BTEX, MTBE, 1, 2-DCA, EDB, 8200 Fuel Oxygenates) 5 x 40 mL VOA's  
~~TPH diesel, Stoddard Solvent~~

~~Intrinsic Bio. Parameters~~

Well Number: MW-4 Well Diameter: 2" with Casing Volume of:  
 Depth to Water: 24.32' TOC 2" = (0.16 Gallon/Feet)  
 Well Depth: 40' BGS or TOC 4" = (0.65 Gallon/Feet)  
 Height W-Column: 15.68' feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
 Volume in Well: 2.5088 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
 Gallons to purge: 10.04 gallons (volume X 4) 8" = (2.61 Gallon/Feet)

Lab: Entech Transportation: Cursor

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
0903	0	682	63.1	6.52	High: Brown, Many Fines	1.4
0905	2	743	65.2	6.88	Moderate: Brown, Moderate Fines	0.8
0907	4	791	66.3	7.00	↓ ↓ ↓	0.6
0908	6	809	66.5	7.14	Low: Clear-Brown, Minor Fines	0.5
0910	8	818	66.8	7.15	↓ ↓ ↓	0.5
0911	10	811	66.8	7.11	Low: Clear, Trace Fines	0.4
0912	12	815	66.8	7.19	↓ ↓ ↓	0.4
STOP - Purge Complete. CT 9/20/01						

**Wait for 80% well volume recovery prior to sampling.**

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

Calculate 80% of original well volume:

Original Height of Water Column =  $15.68' \times 0.8 = 12.549'$  - (Well Depth) 40 = Depth to water 27.46

Time: 0915 1st measured depth to water, 24.41' 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   
 Time: CT 1st measured depth to water, CT feet below TOC. Is well within 80% of original well casing volume: Yes  No

## Sample Well

Time: 0915 Sample ID: MW-4 Depth: 24.41' feet below TOC

Comments: No Floating Product. No Odor.

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbut Transportation / H9042-Q Date: 9/20/01

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

Samplers Name: Chad Tyl. 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 (circle all that apply):**  
TPH-gas, BTEX, MTBE, 1,2-DGA, EDB, 8260 Fuel Oxygenates  
IPH-diesel, Stoddard Solvent  
Intrinsic Bio. Parameters

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

Well Number: MW-12 Well Diameter: 2" with Casing Volume of:  
 Depth to Water: 24.95' TOC 2" = (0.16 Gallon/Feet)  
 Well Depth: 40' BGS or TOC 4" = (0.65 Gallon/Feet)  
 Height W-Column: 15.05' feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
 Volume in Well: 2.408 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
 Gallons to purge: 9.63 gallons (volume X 4) 8" = (2.61 Gallon/Feet)

Lab: Entech Transportation: Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
0941	0	676	64.0	6.89	Moderate Brown, Moderate Fines	1.7
0943	2	710	65.4	7.21	Low: Clear-Brown, Minor Fines	1.2
0944	4	732	66.3	7.38	Low: Clear, Trace Fines	0.6
0946	6	738	66.5	7.45	↓ ↓ ↓	0.8
0947	8	743	66.5	7.44	↓ ↓ ↓	0.8
0948	10	747	66.5	7.45	↓ ↓ ↓	0.8
0950	12	747	66.8	7.50	↓ ↓ ↓	0.7
STOP - Purge Complete:						
CT 9/20/01						

**Wait for 80% well volume recovery prior to sampling.**  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:  
 Original Height of Water Column =  $15.05' \times 0.8 = 12.04'$  - (Well Depth)  $40'$  = Depth to water  $27.96'$

Time: 0952 1st measured depth to water, 25.03' 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   
 Time: CT 1st measured depth to water, CT feet below TOC. Is well within 80% of original well casing volume: Yes  No

### Sample Well

Time: 0952 Sample ID: MW-12 Depth: 25.03' feet below TOC

Comments: No Floating Product, No Odor.

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Hubert Transportation / H7042-Q Date: 9/20/01

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

Samplers Name: Chad Tyla 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 (circle all that apply):**

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

**Number and Types of Bottle Used:**

5 x 40-ml VOA's

TPH diesel, Stoddard Solvent

Intrinsic Bio. Parameters

Well Number: MW-11 Well Diameter: 2" with Casing Volume of:  
 Depth to Water: 23.87' TOC 2" = (0.16 Gallon/Feet)  
 Well Depth: 40' BGS or TOC 4" = (0.65 Gallon/Feet)  
 Height W-Column: 16.13' feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
 Volume in Well: 2.5808 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
 Gallons to purge: 10.32' gallons (volume X 4) 8" = (2.61 Gallon/Feet)

Lab: Eutech Transportation: Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
1020	0	843	66.0	7.76	High: Brown, Many Fines	4.5
1022	2	1051	67.9	7.94	↓ ↓ ↓	1.6
1025	4	1005	68.9	8.00	Moderate: Brown, Moderate Fines	0.9
1028	6	1011	69.5	7.42	↓ ↓ ↓	0.5
1031	8	1011	69.5	7.05	Low: Clear-Brown, Minor Fines	0.5
1033	10	1009	69.8	6.94	Low: Clear, Trace Fines	0.4
1036	12	1015	69.8	6.85	↓ ↓ ↓	0.4
SDP: Purge Complete.						
CT 9/20/01						

**Wait for 80% well volume recovery prior to sampling.**  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:  
 Original Height of Water Column = 16.13' x 0.8 = 12.904' - (Well Depth) 40' = Depth to water 27.10'

Time: 1038 1st measured depth to water, 24.01' 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 9

### Sample Well

Time: 1038 Sample ID: MW-11 Depth: 24.01' feet below TOC

Comments: No Floating Product. No Odor

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Herbert Transportation / H9042.0 Date: 9/20/01

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

Samplers Name: Chad Tyle 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 (circle all that apply):**  
TPH-gas, BTEX, MTBE, 1,2-DGA, EDB, 8260 Fuel Oxygenates

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

TPH diesel, Stoddard Solvent

Intrinsic Bio. Parameters

**Well Number:** MW-7 **Well Diameter:** 4" with Casing Volume of:  
**Depth to Water:** 25.27' TOC 2" = (0.16 Gallon/Feet)  
**Well Depth:** 45' BGS or TOC 4" = (0.65 Gallon/Feet)  
**Height W-Column:** 19.73' feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
**Volume in Well:** 12.82 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
**Gallons to purge:** 51.30 gallons (volume X 4) 8" = (2.61 Gallon/Feet)

**Lab:** Entech **Transportation:** Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
<del>1115</del> <del>1118</del>	<del>0</del> <del>5</del>	<del>749</del> <del>767</del>	<del>67.1</del> <del>69.5</del>	<del>6.92</del> <del>7.21</del>	<del>High: Brown, Many Fines</del> <del>Moderate: Brown, Many Fines</del>	<del>6.8</del> <del>1.0</del>
<del>1122</del> <del>1126</del>	<del>10</del> <del>15</del>	<del>804</del> <del>813</del>	<del>71.0</del> <del>71.2</del>	<del>6.85</del> <del>6.96</del>	<del>Low: Clear-Dawn, Trace Fines</del> <del>Low: Clear, Trace Fines</del>	<del>0.5</del> <del>0.6</del>
<del>1130</del> <del>1135</del>	<del>20</del> <del>25</del>	<del>829</del> <del>809</del>	<del>70.5</del> <del>69.2</del>	<del>7.13</del> <del>7.26</del>	<del>Low: Clear, Trace Fines</del> <del>Low: Clear, Trace Fines</del>	<del>0.5</del> <del>0.5</del>
1137	30	814	68.7	7.37	Low: Clear, Trace Fines	0.4
1142	35	801	68.3	7.41	↓	0.4
1146	40	790	68.3	7.39	↓	0.3
1151	45	793	68.1	7.43	↓	0.3
1157	50	799	69.2	7.48	↓	0.4
1202	55	810	69.4	7.56	↓	0.4

**Wait for 80% well volume recovery prior to sampling.**  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:  
 Original Height of Water Column =  $19.73' \times 0.8 = 15.784'$  - (Well Depth)  $45'$  = Depth to water  $29.22'$

Time: 1205 1st measured depth to water, 25.14' feet below TOC. Is well within 80% of original well casing volume: Yes  No   
 Time: 1209 1st measured depth to water, 25.14' feet below TOC. Is well within 80% of original well casing volume: Yes  No   
 Time: 1209 1st measured depth to water, 25.14' feet below TOC. Is well within 80% of original well casing volume: Yes  No

### Sample Well

Time: 1205 Sample ID: MW-7 Depth: 25.64 feet below TOC

Comments: No Floating Product. No Odor

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Herbert Transportation / #9042.0 Date: 9/20/01

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

Samplers Name: Chad Tyle 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 (circle all that apply):**  
TPH-gas, BTEX, MTBE, 1,2-DCA, EDB, 260 Fuel Oxygenates  
TPH-diesel, Stoddard Solvent

**Number and Types of Bottle Used:**  
5x40 L VOLS

**Intrinsic Bio. Parameters**

Well Number: MW-10 Well Diameter: 4" with Casing Volume of:  
 Depth to Water: 23.90' TOC 2" = (0.16 Gallon/Feet)  
 Well Depth: 40' BGS or TOC 4" = (0.65 Gallon/Feet)  
 Height W-Column: 16.30' feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
 Volume in Well: 10.595 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
 Gallons to purge: 42.38 gallons (volume X 4) 8" = (2.61 Gallon/Feet)

Lab: Entech Transportation: Carrier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
<del>1308</del> 1312	<del>0</del> 5	<del>1090</del> 1065	<del>68.4</del> 69.2	<del>7.03</del> 7.06	<del>High: Gray, Many Fines</del> <del>Low: Clear, Gray, Minor Fines</del>	<del>1.3</del> 0.9
1315	10	1051	69.5	7.08	Low: Clear, Trace Fines	0.7
1319	15	1061	70.1	7.10	↓ ↓ ↓ ↓ ↓ ↓ ↓	0.6
1322	20	1070	70.7	7.06		0.5
1326	25	1079	70.8	7.13		0.4
1329	30	1060	70.5	7.19		0.4
1333	35	1061	70.6	7.23		0.4
1337	40	1053	71.3	7.14		0.4
1341	45	1051	71.9	7.25		0.4

**Wait for 80% well volume recovery prior to sampling.**  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:  
 Original Height of Water Column = 16.30' x 0.8 = 13.04' - (Well Depth) 40' = Depth to water 26.96'

Time: 1344 1st measured depth to water, 23.80' 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   
 Time: CT 1st measured depth to water, CT feet below TOC. Is well within 80% of original well casing volume: Yes  No

### Sample Well

Time: 1344 Sample ID: MW-10 Depth: 23.80' feet below TOC

Comments: No Floating Product. Very Slight Ode.

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbest Transportation / H9042-Q Date: 9/20/01

Sample No.: \_\_\_\_\_ Sample Location: MW-3

Samplers Name: \_\_\_\_\_ Recorded by: CT

<b>Purge Equipment:</b> _____ Bailer: Disposable or Acrylic <u>X</u> Whaler # <u>2</u> _____ Bladder Pump _____ Submersible Pump	<b>Sample Equipment:</b> <u>X</u> Disposable Bailer _____ Whaler # _____ _____ Bladder Pump _____ Submersible Pump
--	--

Analyses Requested (circle all that apply):  
TPH-gas, BTEX, MTBE, 1,2-DCA, EDB, 8260-Fuel Oxygenates  
~~TPH-diesel, Stoddard Solvent~~

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

~~Intrinsic Bio-Parameters~~

Well Number: <u>MW-3</u> Depth to Water: <u>24.16'</u> TOC Well Depth: <u>40'</u> BGS or TOC Height W-Column: <u>15.84'</u> feet (well depth - depth to water) Volume in Well: <u>2.5344</u> gallons (casing volume X height) Gallons to purge: <u>10.14</u> gallons (volume X 4)	Well Diameter: <u>2"</u> with Casing Volume of: <u>2" = (0.16 Gallon/Feet)</u> 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 (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
1422	0	898	71.6	7.03	Moderate: Gray-Brown, Minor Fines	2.2
1424	2	893	70.8	7.31	Low: Clear-Brown, Trace Fines	1.0
1425	4	863	70.5	7.38	Low: Clear, Trace Fines	0.6
1426	6	844	70.3	7.39	↓	0.4
1428	8	868	69.8	7.40	↓	0.4
1429	10	849	69.9	7.42	↓	0.4
1430	12	878	69.7	7.43	↓	0.4
STOP - Purge Complete.						
by 9/20/01						

**Wait for 80% well volume recovery prior to sampling.**

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

Calculate 80% of original well volume:

Original Height of Water Column = 15.84' x 0.8 = 12.672' - (Well Depth) 40' = Depth to water 27.33'

Time: <u>1433</u>	1st measured depth to water, <u>24.18'</u> feet below TOC.	Is well within 80% of original well casing volume: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Time: <u>14</u>	1st measured depth to water, <u>15</u> feet below TOC.	Is well within 80% of original well casing volume: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Time: <u>14</u>	1st measured depth to water, <u>15</u> feet below TOC.	Is well within 80% of original well casing volume: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

## Sample Well

Time: 1433 Sample ID: MW-3 Depth: 24.18' feet below TOC

Comments: No Floating Product. Slight Odor.

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbert Transportation / H4042-Q Date: 9/20/01

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

Samplers Name: Ch. T. 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 (circle 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:**  
5x 40-LVDA's

Well Number: MW-6 Well Diameter: 4" with Casing Volume of:  
 Depth to Water: 24.72 TOC 2" = (0.16 Gallon/Feet)  
 Well Depth: 45' BGS or TOC 4" = (0.65 Gallon/Feet)  
 Height W-Column: 20.28' feet (well depth - depth to water) 5" = (1.02 Gallon/Feet)  
 Volume in Well: 13.182 gallons (casing volume X height) 6" = (1.47 Gallon/Feet)  
 Gallons to purge: 52.73 gallons (volume X 4) 8" = (2.61 Gallon/Feet)

Lab: Entech Transportation: Carrier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
<del>1457</del> <del>1500</del>	<del>0</del> <del>5</del>	<del>740</del> <del>845</del>	<del>69.2</del> <del>69.5</del>	<del>6.95</del> <del>7.19</del>	<del>High: Gray, Many Fines</del> <del>Moderate: Gray, Moderate Fines</del>	<del>0.1</del> <del>0.4</del>
<del>1504</del> <del>1507</del>	<del>10</del> <del>15</del>	<del>833</del> <del>814</del>	<del>69.4</del> <del>69.1</del>	<del>7.27</del> <del>7.31</del>	<del>Low: Clear-Gray, Many Fines</del> <del>Low: Clear, Trace Fines</del>	<del>0.4</del> <del>0.4</del>
<del>1511</del> <del>1515</del>	<del>20</del> <del>25</del>	<del>827</del> <del>815</del>	<del>69.1</del> <del>68.8</del>	<del>7.35</del> <del>7.32</del>	<del>Low: Clear, Trace Fines</del> <del>Low: Clear, Trace Fines</del>	<del>0.4</del> <del>0.4</del>
1519	30	825	68.8	7.37	Low: Clear, Trace Fines	0.3
1523	35	814	68.9	7.37	↓	0.3
1527	40	809	68.9	7.37	↓	0.3
1531	45	837	69.0	7.43	↓	0.3
1535	50	843	69.0	7.42	↓	0.3
1538	55	839	69.0	7.40	↓	0.3

**Wait for 80% well volume recovery prior to sampling.**  
 Calculate depth to water (from TOC), for 80% well volume recovery:

Calculate 80% of original well volume:  
 Original Height of Water Column =  $20.28' \times 0.8 = 16.224'$  - (Well Depth)  $45'$  = Depth to water  $28.78'$

Time: 1541 1st measured depth to water, 25.41' 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   
 Time: CT 1st measured depth to water, CT feet below TOC. Is well within 80% of original well casing volume: Yes  No

## Sample Well

Time: 1541 Sample ID: MW-6 Depth: 25.41' feet below TOC

Comments: No Floating Product. Moderate Odor.

# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Harbert Transportation #8042.0 Date: 9/20/01

Sample No.: MW-5

Sample Location: MW-5

Samplers Name: Chad Taylor

Recorded by: CT

**Purge Equipment:**

\_\_\_\_\_ Bailer: Disposable or Acrylic  
 Whaler # 3  
 \_\_\_\_\_ Bladder Pump  
 \_\_\_\_\_ Submersible Pump

**Sample Equipment:**

Disposable Bailer  
 \_\_\_\_\_ Whaler # \_\_\_\_\_  
 \_\_\_\_\_ Bladder Pump  
 \_\_\_\_\_ Submersible Pump

**Analyses Requested (circle all that apply):**

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

**Number and Types of Bottle Used:**

5 x 40 mL VOA's

~~TPH-diesel, Stoddard Solvent~~

~~Intrinsic Bio. Parameters~~

**Well Number:**

MW-5

Well Diameter: 4" with Casing Volume of:

**Depth to Water:**

24.75'

TOC

2" = (0.16 Gallon/Feet)

**Well Depth:**

45'

BGS or TOC

4" = (0.65 Gallon/Feet)

**Height W-Column:**

20.25'

feet (well depth - depth to water)

5" = (1.02 Gallon/Feet)

**Volume in Well:**

13.125

gallons (casing volume X height)

6" = (1.47 Gallon/Feet)

**Gallons to purge:**

52.65

gallons (volume X 4)

8" = (2.61 Gallon/Feet)

Lab: Entech

Transportation: Courier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
<del>1604</del> 1607	<del>0</del> 5	<del>775</del> 791	<del>68.1</del> 68.3	<del>6.84</del> 7.02	<del>High: Black, Moderate Fines</del> <del>Low: Clear, Black, Minor Fines</del>	<del>3.5</del> 1.4
<del>1611</del> 1614	<del>10</del> 15	<del>774</del> 810	<del>68.0</del> 68.0	<del>7.09</del> 7.23	<del>Low: Clear, Trace Fines</del> <del>Low: Clear, Trace Fines</del>	<del>1.0</del> 0.8
<del>1618</del> 1622	<del>20</del> 25	<del>791</del> 817	<del>67.8</del> 68.2	<del>7.31</del> 7.41	<del>Low: Clear, Trace Fines</del> <del>Low: Clear, Trace Fines</del>	<del>0.5</del> 0.4
1626	30	823	68.2	7.40	Low: Clear, Trace Fines	0.3
1631	35	821	68.1	7.39	↓	0.4
1635	40	830	68.5	7.32	↓	0.3
1640	45	827	68.1	7.43	↓	0.3
1645	50	825	68.1	7.43	↓	0.3
1650	55	860	68.0	7.44	↓	0.3

**Wait for 80% well volume recovery prior to sampling.**

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

Calculate 80% of original well volume:

Original Height of Water Column = 24.25' x 0.8 = 16.20' - (Well Depth) 45' = Depth to water 28.80'

Time: 1653 1st measured depth to water, 35.76' feet below TOC.

Is well within 80% of original well casing volume: Yes \_\_\_\_\_ No

Time: 1657 1st measured depth to water, 33.19' feet below TOC.

Is well within 80% of original well casing volume: Yes \_\_\_\_\_ No

Time: 1708 1st measured depth to water, 28.79' feet below TOC.

Is well within 80% of original well casing volume: Yes  No \_\_\_\_\_

**Sample Well**

Time: 1708

Sample ID: MW-5

Depth: 28.71' feet below TOC

Comments: No Floating Product. High Odor.



# WATER QUALITY SAMPLING INFORMATION

Project Name/No.: Herbert Transportation / A9042.0 Date: 9/20/01

Sample No.: MW-9

Sample Location: MW-9

Samplers Name: Chad Taylor

Recorded by: CT

**Purge Equipment:**

\_\_\_\_\_ Bailer: Disposable or Acrylic  
 Whaler # 3  
 \_\_\_\_\_ Bladder Pump  
 \_\_\_\_\_ Submersible Pump

**Sample Equipment:**

Disposable Bailer  
 \_\_\_\_\_ Whaler # \_\_\_\_\_  
 \_\_\_\_\_ Bladder Pump  
 \_\_\_\_\_ Submersible Pump

**Analyses Requested (circle all that apply):**

TPH-gas  BTEX  MTBE, 1, 2-DCA, EDB, 8260 Fuel Oxygenates  
 TPH diesel, Stoddard Solvent

**Number and Types of Bottle Used:**

5 x 40-L VOA's

**Intrinsic Bio-Parameters**

Well Number: MW-9  
 Depth to Water: 23.94' TOC  
 Well Depth: 40' BGS or TOC  
 Height W-Column: 16.06' feet (well depth - depth to water)  
 Volume in Well: 10.439 gallons (casing volume X height)  
 Gallons to purge: 41.75 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: Carrier

Time (24 hr.)	Volume Purged (Gallons)	Conductivity (µs/cm)	Temperature (°F)	pH	Turbidity: Color, Fines	D.O. (ppm)
<del>1729</del> <del>1733</del>	<del>0</del> <del>5</del>	<del>743</del> <del>754</del>	<del>67.2</del> <del>68.9</del>	<del>6.90</del> <del>7.34</del>	<del>High: Gray, Many Fines</del> <del>Low: Clear-Gray, Minor Fines</del>	<del>0.1</del> <del>0.8</del>
1736	10	739	68.8	7.41	Low: Clear-Gray, Minor Fines	0.6
1740	15	749	68.7	7.40	Low: Clear, Trace Fines	0.5
1744	20	754	68.7	7.42	↓ ↓ ↓ ↓ ↓	0.4
1748	25	762	68.3	7.36		0.3
1752	30	750	68.3	7.35		0.3
1757	35	768	68.2	7.39		0.3
1801	40	760	68.2	7.44		0.3
1806	45	750	67.8	7.46	↓	0.3

**Wait for 80% well volume recovery prior to sampling.**

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

Calculate 80% of original well volume:

Original Height of Water Column = 16.06' x 0.8 = 12.848' - (Well Depth) 40' = Depth to water 27.15'

Time: 1808 1st measured depth to water, 24.10' 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

### Sample Well

Time: 1808

Sample ID: MW-9

Depth: 24.10' feet below TOC

Comments: No Floating Product, High Odor.



**Weber, Hayes & Associates**  
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*SHD  
1879  
Reviewed Nov 9, 2001*

**Letter of Transmittal**

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

**from:** Craig Drizin

**re:** Status Report - UST Assessment and Cleanup  
 Former Harbert Transportation Facility

**date:** November 12, 2001

<b>Number of Copies</b>	<b>Date of Documents</b>	<b>Description</b>
1	November 6, 2001	Status Report - UST Assessment and Cleanup Former Harbert Transportation Facility 19984 Meekland Avenue, Hayward, California

**cc:** Mr. Jeff Lawson  
 Silicon Valley Law Group  
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Mr. Chuck Headlee  
 San Francisco Bay Regional Water Quality Control  
 Board  
 1515 Clay Street, Suite 1400  
 San Francisco, California 94612

Ms. Laurie Berger  
 905 Emerald Hill Road  
 Redwood City, California 94061

Groundwater Monitoring Report - Third Quarter 2001  
19984 Meekland Avenue, Hayward, California  
November 6, 2001

## **Appendix B**

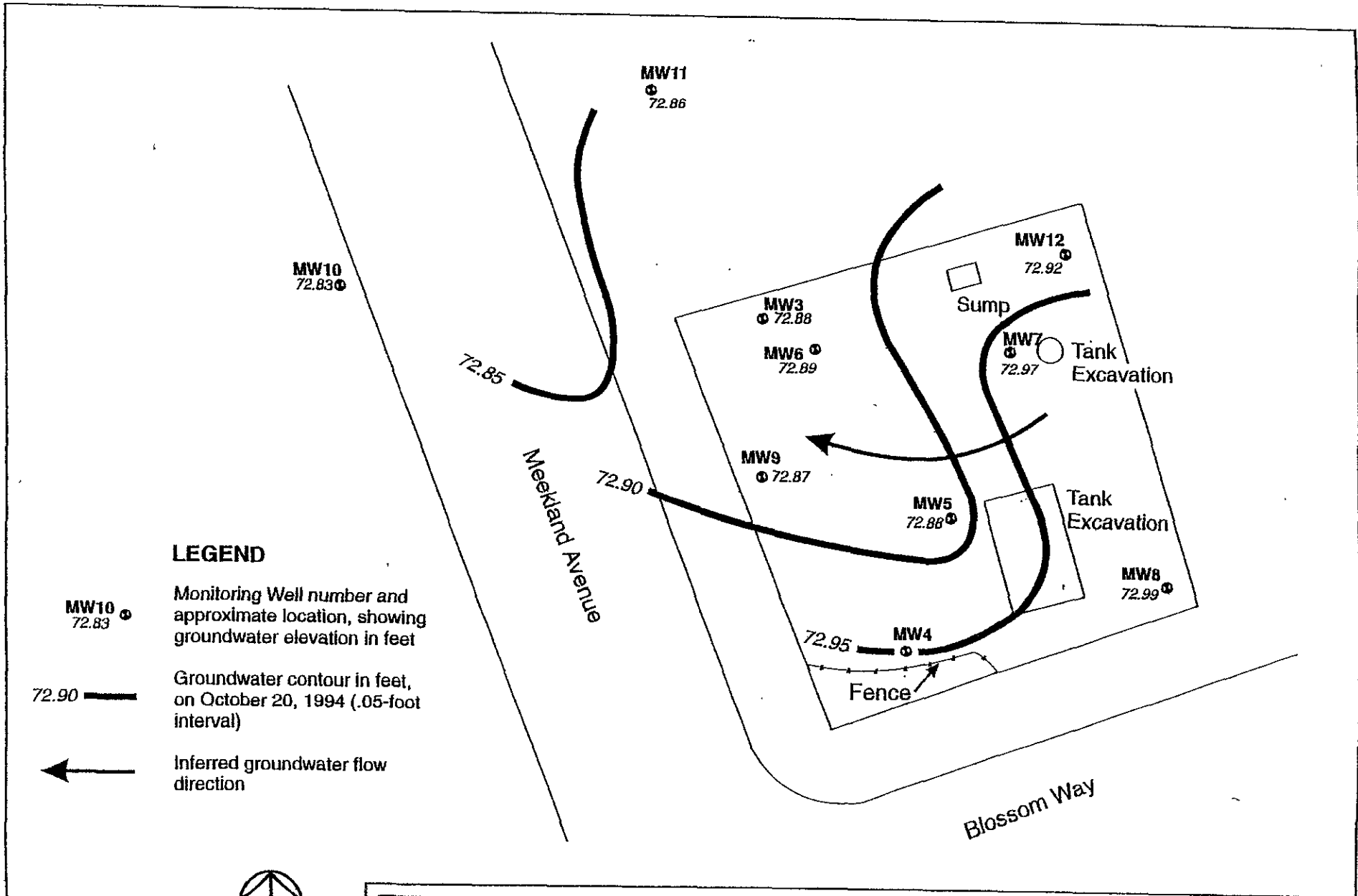
### **Summary of Historical Depth to Groundwater Measurements, Groundwater Elevations, and Groundwater Flow Direction - AGI Technologies, Inc.**

**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.



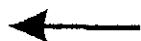
**LEGEND**

MW10  
72.83

Monitoring Well number and approximate location, showing groundwater elevation in feet

72.90

Groundwater contour in feet, on October 20, 1994 (.05-foot interval)



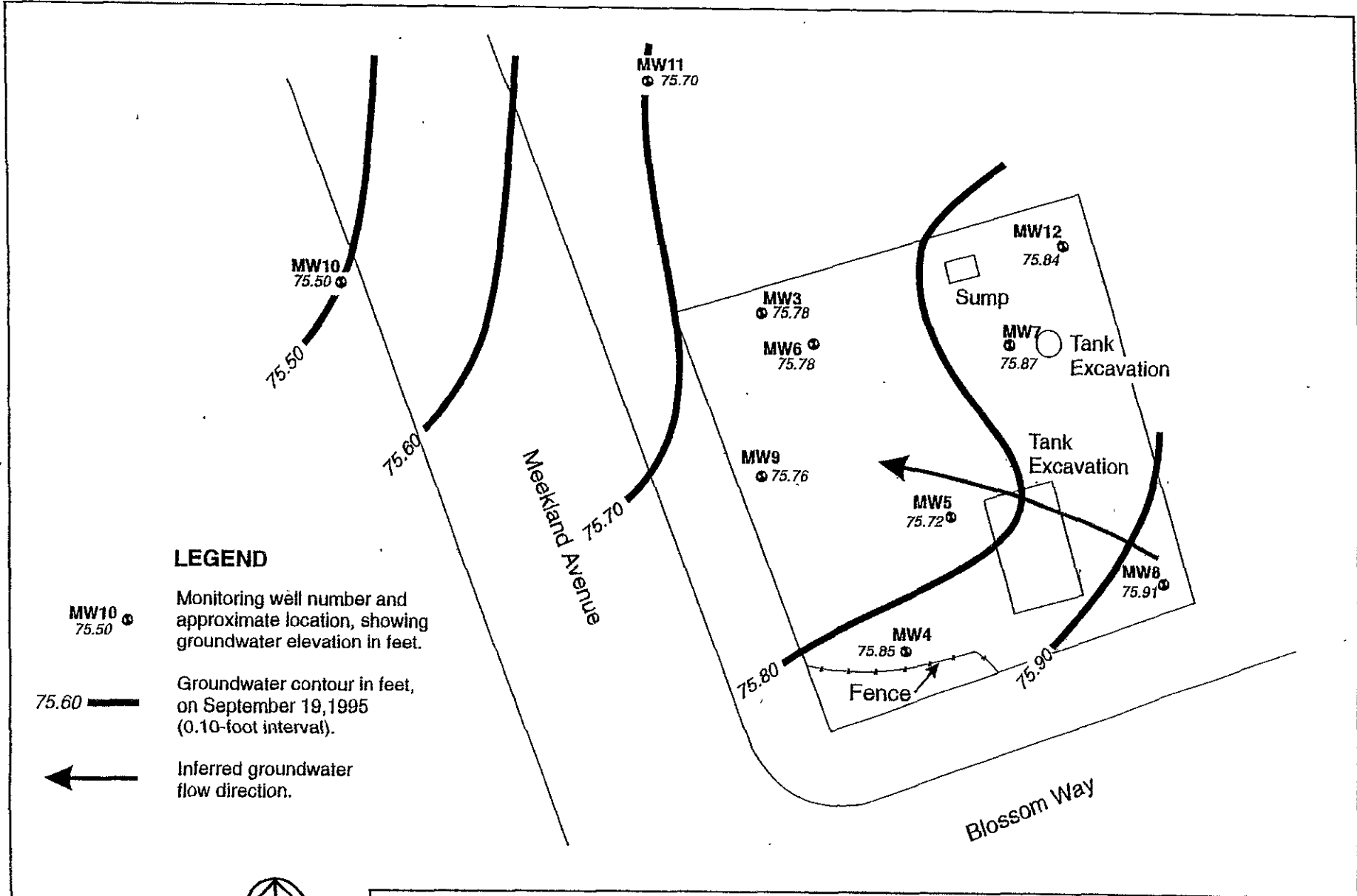
Inferred groundwater flow direction



**AGI**  
TECHNOLOGIES

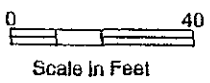
**Groundwater Elevation and Contour Map** 10/20/94 **FIGURE 3**  
Harbert Transportation/Meekland Avenue  
Hayward, California

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

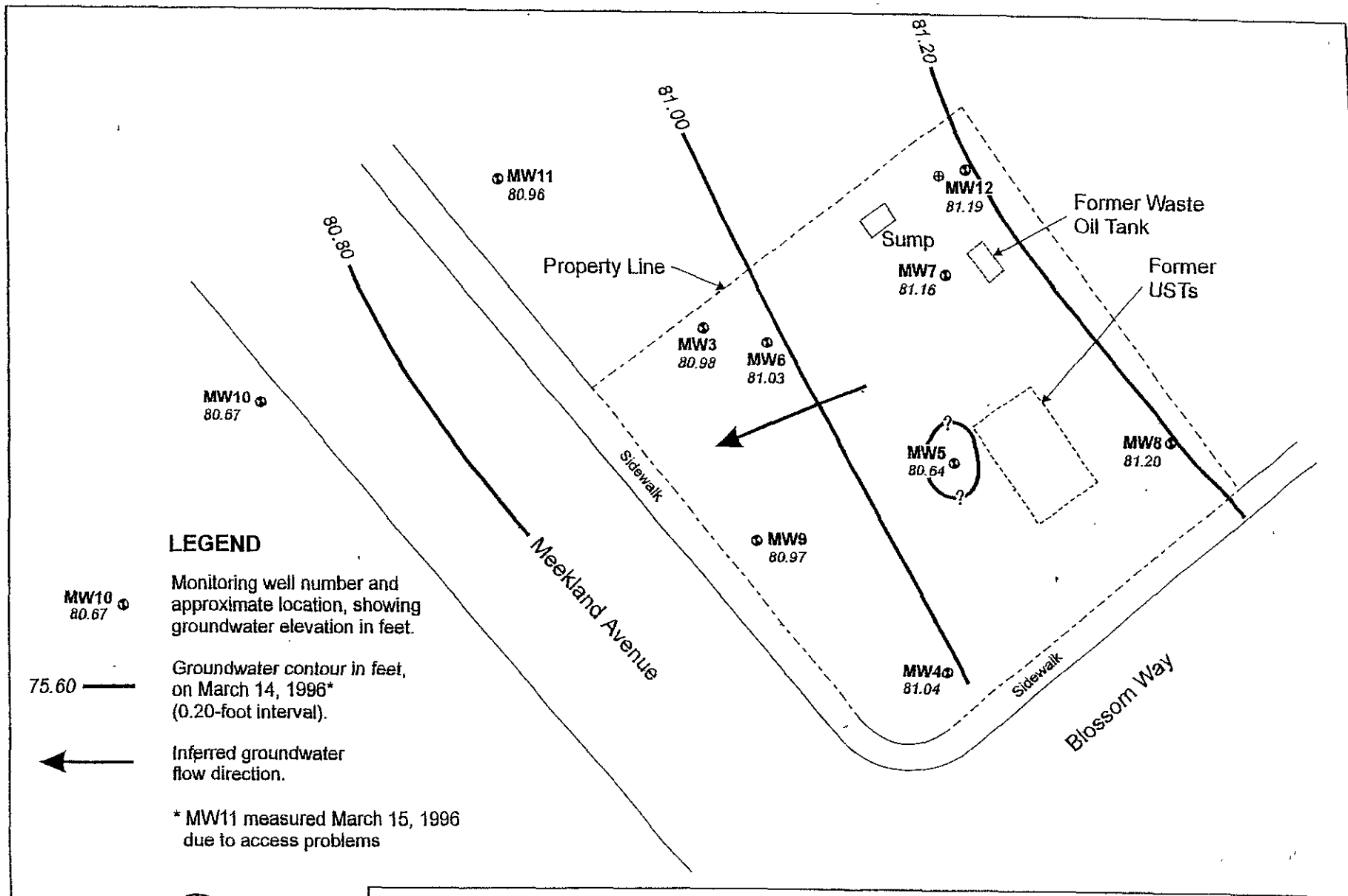


**LEGEND**

- MW10 75.50
  - 75.60
  -
- Monitoring well number and approximate location, showing groundwater elevation in feet.
- Groundwater contour in feet, on September 19, 1995 (0.10-foot interval).
- Inferred groundwater flow direction.



<b>AGI</b> TECHNOLOGIES	<b>Groundwater Elevation and Contour Map</b> 9.19.95 <small>FIGURE</small>				<b>3</b>
	Harbert Transportation/Meekland Avenue Hayward, California				
PROJECT NO 15,833.002	DRAWN DFF	DATE 29 August 94	APPROVED 	REVISED PJA	DATE 8 Nov 95



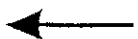
**LEGEND**

MW10  
80.67

Monitoring well number and approximate location, showing groundwater elevation in feet.

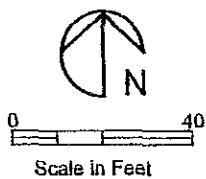
75.60

Groundwater contour in feet, on March 14, 1996\* (0.20-foot interval).



Inferred groundwater flow direction.

\* MW11 measured March 15, 1996 due to access problems



**AGI**  
TECHNOLOGIES

**Groundwater Elevation and Contour Map**

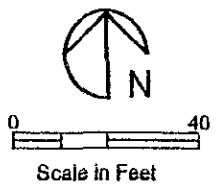
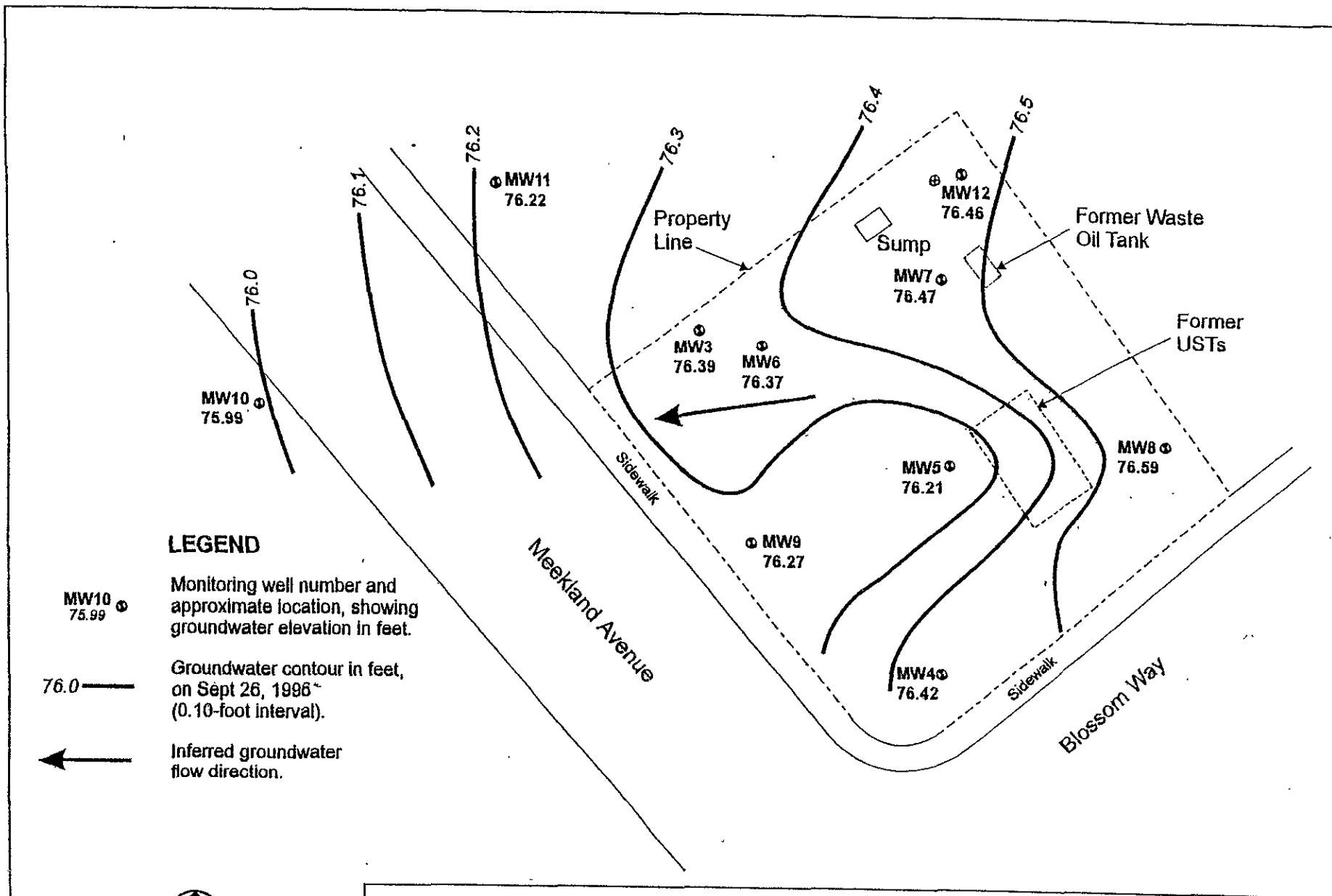
Harbert Transportation/Meekland Avenue  
Hayward, California

3.14.96

FIGURE

**3**

gw-mar96.cdr	PROJECT NO 15,833.002	DRAWN DFF	DATE 29 August 94	APPROVED <i>[Signature]</i>	REVISED ALW	DATE 15 Apr 96
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<b>AGI</b> TECHNOLOGIES gw:sep96.cdr	PROJECT NO.	DRAWN	DATE	APPROVED	REVISED	DATE
	15,833.002	DFF	29 August 94		ALW	15 Apr 96

**Groundwater Elevation and Contour Map**

Harbert Transportation/Meekland Avenue  
Hayward, California

FIGURE 3  
9.26.96



Groundwater Monitoring Report - Third Quarter 2001  
19984 Meekland Avenue, Hayward, California  
November 6, 2001

## **Appendix C**

### **Certified Analytical Report - Groundwater Samples**



# Entech Analytical Labs, Inc.

3334 Víctor 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: 10/01/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-003

Client Sample ID: MW-5

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	9/28/01	WMS31185	EPA 8260B


DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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

  
Michelle L. Anderson, Laboratory Director

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: 10/01/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-004

Client Sample ID: MW-6

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	9/28/01	WMS31185	EPA 8260B

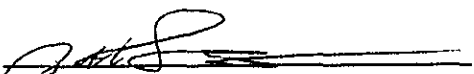
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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

  
Michelle L. Anderson, Laboratory Director

*Environmental Analysis Since 1983*

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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: 10/01/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-007

Client Sample ID: MW-9

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	9/28/01	WMS31185	EPA 8260B

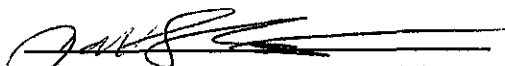
DF = Dilution Factor

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  
120 Westgate Drive  
Watsonville, CA 95076  
Attn: Chad Taylor

Date: 10/01/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-008

Client Sample ID: MW-10

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L		WMS31185	EPA 8260B

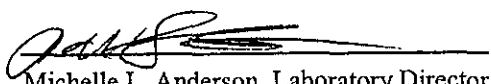
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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



Michelle L. Anderson, Laboratory Director

*Environmental Analysis Since 1983*

# Entech Analytical Labs, Inc.

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

September 28, 2001

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

<b>Order:</b> 27003	<b>Date Collected:</b> 9/20/01
<b>Project Name:</b> Harbert Transportation	<b>Date Received:</b> 9/21/01
<b>Project Number:</b> H9042.Q	<b>P.O. Number:</b> H9042.Q
<b>Project Notes:</b> Confirmation of MTBE by EPA 8260Bto follow.	

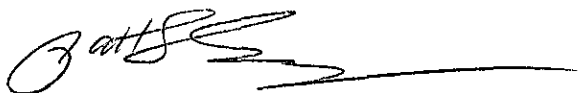
On September 21, 2001, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	Gas/BTEX/MTBE	EPA 8015 MOD. (Purgeable) EPA 8020

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,



Michelle L. Anderson  
Laboratory Director

# 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: 9/28/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-001

Client Sample ID: MW-3

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	1.7		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Toluene	2.6		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	32		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	8.9		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			85			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	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			85			65 - 135	

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	380		1	50	50	µg/L	N/A		WGC42172	EPA 8015 MOD. (Purgeable)
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			71			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)

  
Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983



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

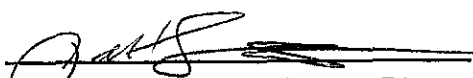
Weber, Hayes and Associates  
 120 Westgate Drive  
 Watsonville, CA 95076  
 Attn: Chad Taylor

Date: 9/28/01  
 Date Received: 9/21/01  
 Project Name: Harbert Transportation  
 Project Number: H9042.Q  
 P.O. Number: H9042.Q  
 Sampled By: Client

## Certified Analytical Report

Order ID: 27003	Lab Sample ID: 27003-002	Client Sample ID: MW-4								
Sample Time:	Sample Date: 9/20/01	Matrix: Liquid								
<b>Parameter</b>	<b>Result</b>	<b>Flag</b>	<b>DF</b>	<b>PQL</b>	<b>DLR</b>	<b>Units</b>	<b>Extraction Date</b>	<b>Analysis Date</b>	<b>QC Batch ID</b>	<b>Method</b>
Benzene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			<b>Surrogate</b>		<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>			
			aaa-Trifluorotoluene		101		65 - 135			
<b>Parameter</b>	<b>Result</b>	<b>Flag</b>	<b>DF</b>	<b>PQL</b>	<b>DLR</b>	<b>Units</b>	<b>Extraction Date</b>	<b>Analysis Date</b>	<b>QC Batch ID</b>	<b>Method</b>
Methyl-t-butyl Ether	ND		1	5	5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			<b>Surrogate</b>		<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>			
			aaa-Trifluorotoluene		101		65 - 135			
<b>Parameter</b>	<b>Result</b>	<b>Flag</b>	<b>DF</b>	<b>PQL</b>	<b>DLR</b>	<b>Units</b>	<b>Extraction Date</b>	<b>Analysis Date</b>	<b>QC Batch ID</b>	<b>Method</b>
TPH as Gasoline	ND		1	50	50	µg/L	N/A	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
			<b>Surrogate</b>		<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>			
			aaa-Trifluorotoluene		107		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)

  
 Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

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

Date: 9/28/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-003

Client Sample ID: MW-5

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	46		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Toluene	41		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	280		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	330		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			74			65 - 135	

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		5	0.3	1.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			74			65 - 135	

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	2300		5	50	250	µg/L	N/A	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			69			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)

  
Michelle L. Anderson, Laboratory Director

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: 9/28/01  
 Date Received: 9/21/01  
 Project Name: Harbert Transportation  
 Project Number: H9042.Q  
 P.O. Number: H9042.Q  
 Sampled By: Client

## Certified Analytical Report


Order ID: 27003      Lab Sample ID: 27003-004      Client Sample ID: MW-6  
 Sample Time:      Sample Date: 9/20/01      Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	11		5	0.5	2.5	µg/L	N/A	9/26/01	WGC42174	EPA 8020
Toluene	8.6		5	0.5	2.5	µg/L	N/A	9/26/01	WGC42174	EPA 8020
Ethyl Benzene	240		5	0.5	2.5	µg/L	N/A	9/26/01	WGC42174	EPA 8020
Xylenes, Total	94		5	0.5	2.5	µg/L	N/A	9/26/01	WGC42174	EPA 8020
			Surrogate		Surrogate Recovery		Control Limits (%)			
			aaa-Trifluorotoluene		82		65 - 135			

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		5	0.3	1.5	µg/L	N/A	9/26/01	WGC42174	EPA 8020
			Surrogate		Surrogate Recovery		Control Limits (%)			
			aaa-Trifluorotoluene		82		65 - 135			

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	2500		5	50	250	µg/L	N/A	9/26/01	WGC42174	EPA 8015 MOD. (Purgeable)
			Surrogate		Surrogate Recovery		Control Limits (%)			
			aaa-Trifluorotoluene		68		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)

  
 Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

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

Date: 9/28/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-005

Client Sample ID: MW-7

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	0.98		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Toluene	ND		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	12		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	4.5		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		92		65 - 135		

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		5	0.3	1.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		92		65 - 135		

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	290		5	50	250	µg/L	N/A	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		91		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)

  
Michelle L. Anderson, Laboratory Director

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: 9/28/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-006

Client Sample ID: MW-8

Sample Time:

Sample Date: 9/20/01

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	9/25/01	WGC42172	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	97	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	9/25/01	WGC42172	EPA 8020

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	97	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	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)

Surrogate	Surrogate Recovery	Control Limits (%)
aaa-Trifluorotoluene	103	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)

  
Michelle L. Anderson, Laboratory Director

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: 9/28/01  
 Date Received: 9/21/01  
 Project Name: Harbert Transportation  
 Project Number: H9042.Q  
 P.O. Number: H9042.Q  
 Sampled By: Client

## Certified Analytical Report

Order ID: 27003      Lab Sample ID: 27003-007      Client Sample ID: MW-9  
 Sample Time:      Sample Date: 9/20/01      Matrix: Liquid

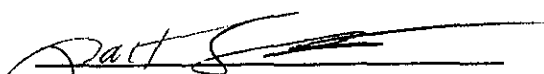
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	270		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Toluene	38		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	390		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	430		5	0.5	2.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			79			65 - 135	

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		5	0.3	1.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			79			65 - 135	

Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	3400		5	50	250	µg/L	N/A	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			70			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)

  
 Michelle L. Anderson, Laboratory Director

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# Entech Analytical Labs, Inc.

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

Date: 9/28/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003	Lab Sample ID: 27003-008	Client Sample ID: MW-10								
Sample Time:	Sample Date: 9/20/01	Matrix: Liquid								
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Benzene	6.0		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Toluene	9.9		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	1.2		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	3.9		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		92		65 - 135		
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	6.5		1	5	5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		92		65 - 135		
Parameter	Result	Flag	DF	PQL	DLR	Units	Extraction Date	Analysis Date	QC Batch ID	Method
TPH as Gasoline	1200		1	50	50	µg/L	N/A	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		85		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)

  
Michelle L. Anderson, Laboratory Director

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: 9/28/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-009

Client Sample ID: MW-11

Sample Time:

Sample Date: 9/20/01

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	9/25/01	WGC42172	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			97			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	9/25/01	WGC42172	EPA 8020
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			97			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	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
			Surrogate			Surrogate Recovery			Control Limits (%)	
			aaa-Trifluorotoluene			104			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)

  
Michelle L. Anderson, Laboratory Director

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: 9/28/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-010

Client Sample ID: MW-12

Sample Time:

Sample Date: 9/20/01

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	9/25/01	WGC42172	EPA 8020
Toluene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Ethyl Benzene	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
Xylenes, Total	ND		1	0.5	0.5	µg/L	N/A	9/25/01	WGC42172	EPA 8020
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		98		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	9/25/01	WGC42172	EPA 8020
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		98		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	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
				Surrogate		Surrogate Recovery		Control Limits (%)		
				aaa-Trifluorotoluene		104		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)

  
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# Entech Analytical Labs, Inc.

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Date: 9/28/01

## Certified Analytical Report

Lab Sample ID: Method Blank

Matrix: Liquid

Test	Parameter	Result	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
TPH as Gasoline	TPH as Gasoline	ND	1	50	50	µg/L	9/25/01	WGC42172	EPA 8015 MOD. (Purgeable)
	<b>Surrogate</b> aaa-Trifluorotoluene	<b>Surrogate Recovery</b> 103		<b>Control Limits (%)</b> 65 - 135					
BTEX	Benzene	ND	1	0.5	0.5	µg/L	9/25/01	WGC42172	EPA 8020
	Ethyl Benzene	ND	1	0.5	0.5	µg/L	9/25/01	WGC42172	EPA 8020
	Toluene	ND	1	0.5	0.5	µg/L	9/25/01	WGC42172	EPA 8020
	Xylenes, Total	ND	1	0.5	0.5	µg/L	9/25/01	WGC42172	EPA 8020
	<b>Surrogate</b> aaa-Trifluorotoluene	<b>Surrogate Recovery</b> 97		<b>Control Limits (%)</b> 65 - 135					
MTBE by EPA 8020	Methyl-t-butyl Ether	ND	1	5	5	µg/L	9/25/01	WGC42172	EPA 8020
	<b>Surrogate</b> aaa-Trifluorotoluene	<b>Surrogate Recovery</b> 97		<b>Control Limits (%)</b> 65 - 135					
TPH as Gasoline	TPH as Gasoline	ND	1	50	50	µg/L	9/26/01	WGC42174	EPA 8015 MOD. (Purgeable)
	<b>Surrogate</b> aaa-Trifluorotoluene	<b>Surrogate Recovery</b> 107		<b>Control Limits (%)</b> 65 - 135					
BTEX	Benzene	ND	1	0.5	0.5	µg/L	9/26/01	WGC42174	EPA 8020
	Ethyl Benzene	ND	1	0.5	0.5	µg/L	9/26/01	WGC42174	EPA 8020
	Toluene	ND	1	0.5	0.5	µg/L	9/26/01	WGC42174	EPA 8020
	Xylenes, Total	ND	1	0.5	0.5	µg/L	9/26/01	WGC42174	EPA 8020
	<b>Surrogate</b> aaa-Trifluorotoluene	<b>Surrogate Recovery</b> 101		<b>Control Limits (%)</b> 65 - 135					
MTBE by EPA 8020	Methyl-t-butyl Ether	ND	1	5	5	µg/L	9/26/01	WGC42174	EPA 8020
	<b>Surrogate</b> aaa-Trifluorotoluene	<b>Surrogate Recovery</b> 101		<b>Control Limits (%)</b> 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)

  
Michelle L. Anderson, Laboratory Director

Environmental Analysis Since 1983

Page 1 of 1

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: WGC42172

Units: µg/L

Matrix: Liquid

Date Analyzed: 9/25/01

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND		561		499.44	LCS	89.0			59.2 - 111.9
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			103		65 - 135					
<b>Test: BTEX</b>											
Benzene	EPA 8020	ND		6.2		6.270	LCS	101.1			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		6.520	LCS	83.6			65.0 - 135.0
Toluene	EPA 8020	ND		35.8		30.575	LCS	85.4			65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		34.109	LCS	79.3			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			97		65 - 135					
<b>Test: MTBE by EPA 8020</b>											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		58.566	LCS	110.9			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			97		65 - 135					
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND		561		487.69	LCSD	86.9	2.38	25.00	59.2 - 111.9
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			101		65 - 135					
<b>Test: BTEX</b>											
Benzene	EPA 8020	ND		6.2		6.277	LCSD	101.2	0.11	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND		7.8		6.500	LCSD	83.3	0.31	25.00	65.0 - 135.0
Toluene	EPA 8020	ND		35.8		30.496	LCSD	85.2	0.26	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND		43		33.871	LCSD	78.8	0.70	25.00	65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			104		65 - 135					
<b>Test: MTBE by EPA 8020</b>											
Methyl-t-butyl Ether	EPA 8020	ND		52.8		59.460	LCSD	112.6	1.51	25.00	65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			104		65 - 135					
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND	27003-001	561	380.40	653.24	MS	48.6			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			70		65 - 135					
<b>Test: BTEX</b>											
Benzene	EPA 8020	ND	27003-001	6.2	1.651	6.449	MS	77.4			65.0 - 135.0
Ethyl Benzene	EPA 8020	ND	27003-001	7.8	31.930	35.324	MS	43.5			65.0 - 135.0
Toluene	EPA 8020	ND	27003-001	35.8	2.597	27.109	MS	68.5			65.0 - 135.0
Xylenes, total	EPA 8020	ND	27003-001	43	8.887	35.304	MS	61.4			65.0 - 135.0
<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>					
	aaa-Trifluorotoluene			88		65 - 135					

# Entech Analytical Labs, Inc.

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## Quality Control Results Summary

QC Batch #: WGC42172  
Matrix: Liquid

Units: µg/L  
Date Analyzed: 9/25/01

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
<b>Test: MTBE by EPA 8020</b>											
Methyl-t-butyl Ether	EPA 8020	ND	27003-001	52.8	ND	45.703	MS	86.6			65.0 - 135.0
<b>Surrogate</b>		<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>							
aaa-Trifluorotoluene		88		65 - 135							
<b>Test: TPH as Gasoline</b>											
TPH as Gasoline	EPA 8015 M	ND	27003-001	561	380.40	686.10	MSD	54.5	4.91	25.00	65.0 - 135.0
<b>Surrogate</b>		<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>							
aaa-Trifluorotoluene		74		65 - 135							
<b>Test: BTEX</b>											
Benzene	EPA 8020	ND	27003-001	6.2	1.651	6.511	MSD	78.4	0.96	25.00	65.0 - 135.0
Ethyl Benzene	EPA 8020	ND	27003-001	7.8	31.930	35.640	MSD	47.6	0.89	25.00	65.0 - 135.0
Toluene	EPA 8020	ND	27003-001	35.8	2.597	27.961	MSD	70.8	3.09	25.00	65.0 - 135.0
Xylenes, total	EPA 8020	ND	27003-001	43	8.887	36.143	MSD	63.4	2.35	25.00	65.0 - 135.0
<b>Surrogate</b>		<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>							
aaa-Trifluorotoluene		92		65 - 135							
<b>Test: MTBE by EPA 8020</b>											
Methyl-t-butyl Ether	EPA 8020	ND	27003-001	52.8	ND	47.247	MSD	89.5	3.32	25.00	65.0 - 135.0
<b>Surrogate</b>		<b>Surrogate Recovery</b>		<b>Control Limits (%)</b>							
aaa-Trifluorotoluene		92		65 - 135							



# 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

PAGE 1 OF 1

PROJECT NAME AND JOB #: Harbert Transportation / H9042.Q

LABORATORY: Entech Analytical

SEND CERTIFIED RESULTS TO: Chad Taylor

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

Sample Identification <i>CT</i> (sampler)	Sample Depth	Date Sampled	SAMPLE CONTAINERS				REQUESTED ANALYSIS						
			40 mL VOAs (preserved)	1 Liter Amber Jars	___ mL Poly Bottle	Liner Acetate or Brass	Total Petroleum Hydrocarbons			Volatile Organics		Additional Analysis	
							Extractable Fuel-Scan	Purgeable Fuel-Scan	Gasoline & BTEX-MTBE by EPA Method# 8015M-2-8020	MTBE by by EPA Method# 8260	Solvents by by EPA Method# 8010	Fuel Oxygenates by EPA Method 8260	Title 22: General, Physical and Inorganic Minerals
27003-001 002 003 004 005 006 007 008 009 010 011 Purge Water	MW-3 MW-4 MW-5 MW-6 MW-7 MW-8 MW-9 MW-10 MW-11 MW-12 G.S.	9/20/01           v	5 5 5 5 5 5 5 5 5 5 5					X X X X X X X X X X					

### RECEIVED BY:

Date & Time

### RELEASED BY:

Date & Time

### SAMPLE CONDITION:

(circle 1)

1.) Sampler: <u>J.H.H.</u>	<u>9/20/01 1950</u>	→	<u>J.H.H.</u>	<u>9/21/01</u>	Ambient	<input checked="" type="radio"/> Refrigerated	Frozen
2.) <u>RR STEWART</u>	<u>9/21 16:10</u>	→	<u>John Smith</u>	<u>9/21 10:00</u>	Ambient	<input type="radio"/> Refrigerated	<input type="radio"/> Frozen
3.)	<u>9/21/01 1345</u>	→	<u>RR STEWART</u>	<u>9/21 1515</u>	Ambient	<input type="radio"/> Refrigerated	<input type="radio"/> Frozen
4.) <u>Qi-Lay</u>		→			Ambient	<input type="radio"/> Refrigerated	<input type="radio"/> Frozen
5.)		→			Ambient	<input type="radio"/> Refrigerated	<input type="radio"/> Frozen

### NOTES:

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

### ADDITIONAL COMMENTS

# Entech Analytical Labs, Inc.

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

Weber, Hayes & Associates

October 05, 2001

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

R OCT 17 2001 D  
E C E I V E

**Order:** 27003

**Date Collected:** 9/20/01

**Project Name:** Harbert Transportation

**Date Received:** 9/21/01

**Project Number:** H9042.Q

**P.O. Number:** H9042.Q

**Project Notes:**

On September 21, 2001, samples were received under documented chain of custody. Results for the following analyses are attached:

<u>Matrix</u>	<u>Test</u>	<u>Method</u>
Liquid	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,



Michelle L. Anderson  
Laboratory Director

# 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: 10/5/01  
Date Received: 9/21/01  
Project Name: Harbert Transportation  
Project Number: H9042.Q  
P.O. Number: H9042.Q  
Sampled By: Client

## Certified Analytical Report

Order ID: 27003

Lab Sample ID: 27003-005

Client Sample ID: MW-7

Sample Time:

Sample Date: 9/20/01

Matrix: Liquid

Parameter	Result	Flag	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
Methyl-t-butyl Ether	ND		1	5	5	µg/L	10/4/01	WMS31197	EPA 8260B
	<b>Surrogate</b>			<b>Surrogate Recovery</b>			<b>Control Limits (%)</b>		
	4-Bromofluorobenzene				127		65 - 135		
	Dibromofluoromethane				111		57 - 139		
	Toluene-d8				124		65 - 135		

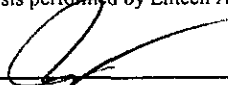
DF = Dilution Factor

ND = Not Detected

DLR = Detection Limit Reported

PQL = Practical Quantitation Limit

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

  
Michelle L. Anderson, Laboratory Director

*Environmental Analysis Since 1983*





# 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

PAGE 1 OF 1

PROJECT NAME AND JOB #: Harbert Transportation / H9042.Q

LABORATORY: Entech Analytical

SEND CERTIFIED RESULTS TO: Chad Taylor

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

Sample Identification <i>CT</i> (sampler)	Sample Depth	Date Sampled	SAMPLE CONTAINERS				REQUESTED ANALYSIS							
			40 mL VOAs (preserved)	1 Liter Amber Jars	___ mL Poly Bottle	Liner Acetate or Brass	Total Petroleum Hydrocarbons			Volatile Organics		Additional Analysis		
							Extractable Fuel-Scan	Purgeable Fuel-Scan	Gasoline & BTEX/MTBE by EPA Method 8015M & 8020	MTBE by EPA Method # 8260	Solvents by EPA Method # 8019	Fuel Oxygenates by EPA Method # 8260	Title 22 General Physical and Inorganic Minerals	
27003-001 002 003 004 005 006 007 008 009 010 011 Purge Water	24.18' 24.41' 24.79' 25.91' 25.64' 26.01' 24.10' 23.80' 24.06' 25.03' G.S.	9/20/01           v	5 5 5 5 5 5 5 5 5 5 5						X X X X X X X X X X X					

RECEIVED BY:	Date & Time	RELEASED BY:	Date & Time	SAMPLE CONDITION: (circle 1)		
1.) <u>Sampler: J.H.H.</u>	<u>9/20/01 19:50</u>	<u>J.H.H.</u>	<u>9/21/01</u>	Ambient	<u>Refrigerated</u>	Frozen
2.) <u>RR STEWART</u>	<u>9/21 16:10</u>	<u>RR STEWART</u>	<u>9/21 10:00</u>	Ambient	Refrigerated	Frozen
3.)	<u>9/21/01 13:45</u>	<u>RR STEWART</u>	<u>9/21 15:15</u>	Ambient	Refrigerated	Frozen
4.) <u>Qi Lay</u>				Ambient	Refrigerated	Frozen
5.)				Ambient	Refrigerated	Frozen

**NOTES:**

Please report only confirmed MTBE detections by EPA Method 8260 with a minimum detection limit of 5 ug/L

For MTBE-analyzed samples with non-detectable results (ND) but having elevated detection limits, please confirm by EPA Method #8260.

Please use MDL (Minimum Detection Limit) for any diluted samples.

**ADDITIONAL COMMENTS**

Groundwater Monitoring Report - Third Quarter 2001  
19984 Meekland Avenue, Hayward, California  
November 6, 2001

## **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



Well	Date Sampled	EPA Test Methods										Other µg/L
		8015 Modified			8020				8010			
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
µg/L			µg/L				µg/L					
MW1	07/86	42,000	NA	NA	5,500	NA	4,900	6,100	NA	NA	NA	
	03/90	27,000	NA	NA	2,700	491	840	800	ND	ND	ND	
	07/90	27,000	11,000	ND	4,000	ND	1,500	4,400	ND	ND	62	
	10/90	43,000	8,500	ND	3,400	1,200	2,700	5,300	0.4	ND	28	
	01/91	22,000	2,700	ND	3,000	990	1,800	2,800	ND	ND	27	
	04/91	42,000	3,100	NA	5,100	1,200	3,700	3,200	ND	ND	120	
	07/91	46,000	4,300	NA	6,500	830	2,900	3,700	ND	ND	64	
	10/91	27,000	4,300	NA	4,400	1,100	1,400	3,200	ND	ND	25	
	01/92	27,000	14,000	NA	3,300	1,200	1,600	3,800	ND	ND	24	
	04/92	33,000	11,000	NA	8,900	1,200	3,500	3,700	ND	ND	120	
	07/92	41,000	19,000	NA	5,600	1,300	2,600	4,000	ND	ND	49	
	10/92	33,000	3,500	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	38	Lead 40
	11/89	NA	NA	NA	NA	NA	NA	NA	ND	ND	36	Lead 40
	03/90	12,000	NA	NA	2,300	59	300	490	ND	ND	ND	
	07/90	7,300	990	ND	5,200	ND	440	480	ND	ND	67	
	10/90	6,200	970	ND	75	7.5	150	250	ND	ND	48	
	10/90	NA	NA	NA	NA	NA	NA	NA	ND	ND	22	Lead 3
	01/91	4,600	680	ND	2,200	220	110	89	ND	ND	40	
	04/91	8,300	640	NA	2,800	370	490	760	ND	ND	43	
	07/91	6,600	890	NA	2,000	250	230	380	ND	ND	29	
	10/91	6,300	1,700	NA	2,000	410	330	550	ND	ND	27	
	01/92	4,000	790	NA	1,200	250	60	200	ND	ND	22	
	04/92	7,400	1,800	NA	730	370	180	640	ND	ND	19	
	07/92	3,000	2,400	NA	190	ND	2.8	410	ND	ND	30	
	10/92	5,000	970	NA	1,300	320	45	340	ND	ND	26	
	01/93	2,300	680	NA (2)	630	180	31	330	ND	ND	13	
	06/93	5,000	1,100	ND	730	240	43	380	ND	ND	13	

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



Well	Date Sampled	EPA Test Methods										
		8015 Modified			8020				8010			Other
		TPH-G	TPH-D	TPH-MO	Benzene	Ethylbenzene	Toluene	Total Xylenes	TCE	PCE	1,2-DCA	
µg/L			µg/L				µg/L			µg/L		
MW4	11/89	ND	NA	NA	33	1.3	1	5.2	NA	NA	NA	Lead 12
	03/90	ND	NA	NA	7.4	2	2	1.1	ND	ND	ND	
	07/90	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	
	10/90	ND	ND	ND	ND	ND	ND	ND	0.7	ND	0.5	
	01/91	80	ND	ND	9.2	2.4	1.7	0.7	ND	ND	ND	
	04/91	1,400	130 <sup>a</sup>	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 <sup>a</sup>	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 <sup>a</sup>	NA	200	41	4.6	9.4	ND	ND	1	
	08/93	650	140 <sup>a</sup>	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	
	01/91	10,000	1,200	ND	1,600	720	200	510	ND	ND	33	
	04/91	18,000	860 <sup>a</sup>	NA	2,500	550	580	500	ND	ND	61	
	07/91	15,000	2,200 <sup>a</sup>	NA	4,800	610	1,100	760	ND	ND	62	
	10/91	14,000	3,300 <sup>a</sup>	NA	5,000	530	820	800	ND	ND	49	
	01/92	12,000	1,900 <sup>a</sup>	NA	4,300	390	380	590	ND	ND	56	
	04/92	23,000	6,400 <sup>a</sup>	NA	8,600	ND	2,600	1,900	ND	ND	125	
	07/92	27,000	5,900 <sup>a</sup>	NA	6,000	ND	1,500	1,600	ND	ND	93	
	10/92	13,000	2,100 <sup>a</sup>	NA	4,600	140	470	550	ND	ND	59	
	01/93	18,000	1,900 <sup>a</sup>	NA	5,800	560	1,900	1,600	ND	ND	110	
	01/93	19,000	2,100 <sup>a</sup>	NA	4,600	370	1,600	1,400	ND	ND	120	
	06/93	22,000	2,900 <sup>a</sup>	ND	8,300	740	2,500	1,900	ND	ND	110	
	06/93	23,000	2,300 <sup>a</sup>	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



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

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



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	ND	
	04/91	ND	ND	NA	ND	ND	ND	ND	ND	ND	0.5	ND	
	07/91	ND	ND	NA	ND	ND	2	ND	ND	ND	1.2	ND	
	10/91	ND	ND	NA	ND	ND	0.6	ND	ND	ND	0.4	ND	
	01/92	ND	ND	NA	ND	ND	ND	ND	ND	ND	0.68	ND	
	04/92	ND	ND	NA	ND	ND	ND	ND	ND	ND	0.8	ND	
	07/92	ND	ND	NA	ND	ND	3.3	ND	ND	ND	1.6	ND	
	10/92	ND	ND	NA	ND	ND	ND	ND	ND	ND	1.4	ND	
	01/93	ND	ND	NA	ND	ND	ND	ND	ND	ND	0.8	ND	
	06/93	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	
MW9	02/91	8,000	1,600	NA	180	19	170	200	ND	ND		13	
	04/91	4,200	410 <sup>a</sup>	NA	520	130	410	580	ND	ND		28	
	07/91	1,900	180 <sup>a</sup>	NA	190	12	52	77	ND	6.5		12	
	10/91	880	300 <sup>a</sup>	NA	160	31	44	83	ND	ND		10	
	01/92	380	120 <sup>a</sup>	NA	14	7.6	2.2	14	ND	ND		9.6	
	04/92	2,900	700 <sup>a</sup>	NA	510	80	260	260	ND	ND		11	
	07/92	4,400	1,300 <sup>a</sup>	NA	860	210	340	640	ND	ND		22	
	10/92	200	290 <sup>a</sup>	NA	6.8	1.4	2.1	7.8	ND	ND		12	
	01/93	8,500	740 <sup>a</sup>	NA	2,400	390	620	1,500	ND	ND		29	
	08/93	8,200	1,300 <sup>a</sup>	ND	2,400	360	480	1,500	ND	ND		29	
MW10	01/92	13,000	3,700 <sup>a</sup>	NA	130	580	110	3,000	ND	ND		33	
	05/92	15,000	5,000 <sup>a</sup>	NA	180	ND	18	2,700	ND	ND		20	
	05/92 (dup)	13,000	7,500 <sup>a</sup>	NA	240	490	65	2,500	ND	ND		22	
	07/92	8,100	4,400 <sup>a</sup>	NA	74	360	ND	1,100	ND	ND		29	
	10/92	3,200	1,500 <sup>a</sup>	NA	ND	ND	ND	320	ND	ND		25	
	01/93	7,500	2,200 <sup>a</sup>	NA	130	170	20	710	ND	ND		18	
	06/93	8,000	2,100 <sup>a</sup>	ND	69	7.8	ND	490	ND	ND		16	

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



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 <sup>a</sup>	NA	23	250	ND	1,100	ND	ND	ND	
	04/92	160	1,200 <sup>a</sup>	NA	ND	ND	ND	ND	ND	ND	ND	
	07/92	2,100	710 <sup>a</sup>	NA	39	100	2.3	53	ND	ND	ND	
	10/92	660	220 <sup>a</sup>	NA	2.9	19	ND	3.8	ND	ND	ND	
	10/92	770	230 <sup>a</sup>	NA	3.2	26	ND	5.7	ND	ND	ND	
	01/93	780	370 <sup>a</sup>	NA	10	2.1	ND	39	ND	ND	ND	
	06/93	2,500	180 <sup>a</sup>	ND	27	99	ND	34	ND	ND	ND	
MW12	12/92	2,800	1,700 <sup>a</sup>	NA	14	ND	ND	ND	ND	ND	ND	
	06/93	1,100	750 <sup>a</sup>	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 <sup>b</sup>		8,865	1,883	250	1,562	235	517	871	0.21	0.41	24.8	
Laboratory Detection Limit		50	50	500	0.5	0.5	0.5	0.5	0.4	0.4	0.4	

Notes:

a) The detection for petroleum hydrocarbons as diesel appears to be due to the presence of lighter hydrocarbons rather than diesel.

b) Average of sampled data, ND equals 1/2 detection limit.

µg/L - Micrograms per liter is approximately equivalent to parts per billion, depending on density of water.

NA - Not analyzed.

ND - Not detected.

TPH-G - Total petroleum hydrocarbons quantified as gasoline.

TPH-D - Total petroleum hydrocarbons quantified as diesel.

TPH-MO - Total petroleum hydrocarbons quantified as motor oil.

TCE - Trichloroethylene.

PCE - Tetrachloroethylene.

1,2-DCA - 1,2-Dichloroethane.

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

Well	Date Sampled	EPA Test Methods								
		8015 M		BETX 5030/8020				8010		
		TPH Gasoline µg/L	TPH Diesel µg/L	Benzene µg/L	Ethylbenzene µg/L	Toluene µg/L	Xylenes µg/L	1,2-DCA µg/L	PCE µg/L	TCE µg/L
MW3	07/28/94	7,700	970 <sup>a</sup>	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 <sup>b</sup>	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 <sup>a</sup>	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 <sup>b</sup>	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 <sup>c</sup>	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



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

Well	Date Sampled	EPA Test Methods								
		8015 M		8015 M				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 <sup>a</sup>	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 <sup>c</sup>	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 <sup>c</sup>	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 <sup>b</sup>	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 <sup>a</sup>	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 <sup>b</sup>	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**  
 Haibert Transportation/Meekland Avenue  
 Hayward, California

Well	Date Sampled	EPA Test Methods								
		8015 M		8030/8020				8010		
		TPH Gasoline µg/L	TPH Diesel µg/L	Benzene	Ethylbenzene	Toluene	Xylenes	1,2-DCA µg/L	PCE µg/L	TCE 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
<b>Method Detection Limit</b>		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<sub>6</sub>-C<sub>12</sub>), possibly gasoline.
- c) Hydrocarbons quantified as diesel are due to the presence of a lighter petroleum product (C<sub>6</sub>-C<sub>12</sub>) 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.

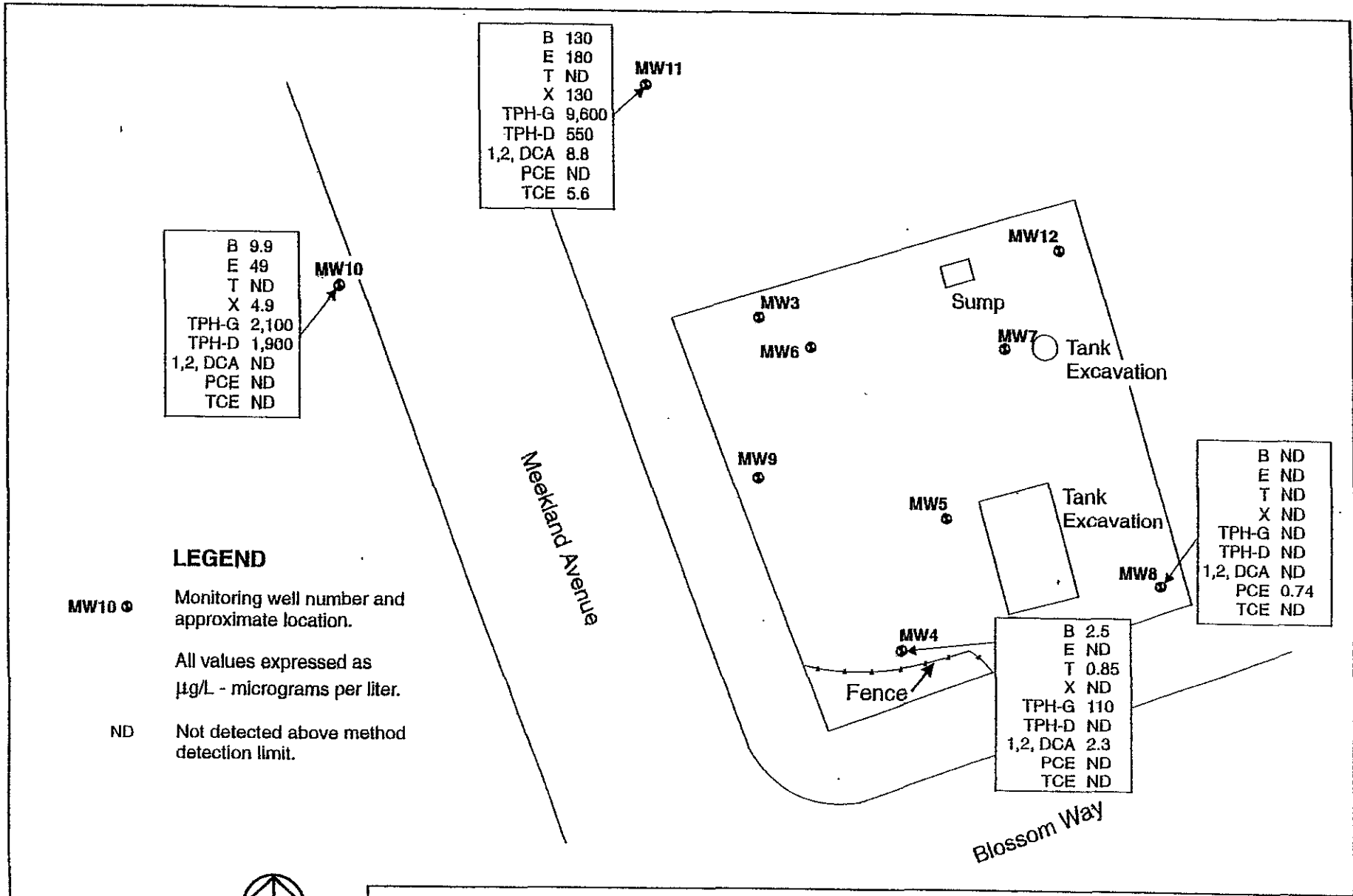
NS - Not sampled.

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.



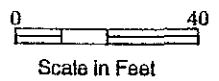


**LEGEND**

**MW10** ● Monitoring well number and approximate location.

All values expressed as  $\mu\text{g/L}$  - micrograms per liter.

ND Not detected above method detection limit.

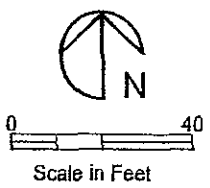
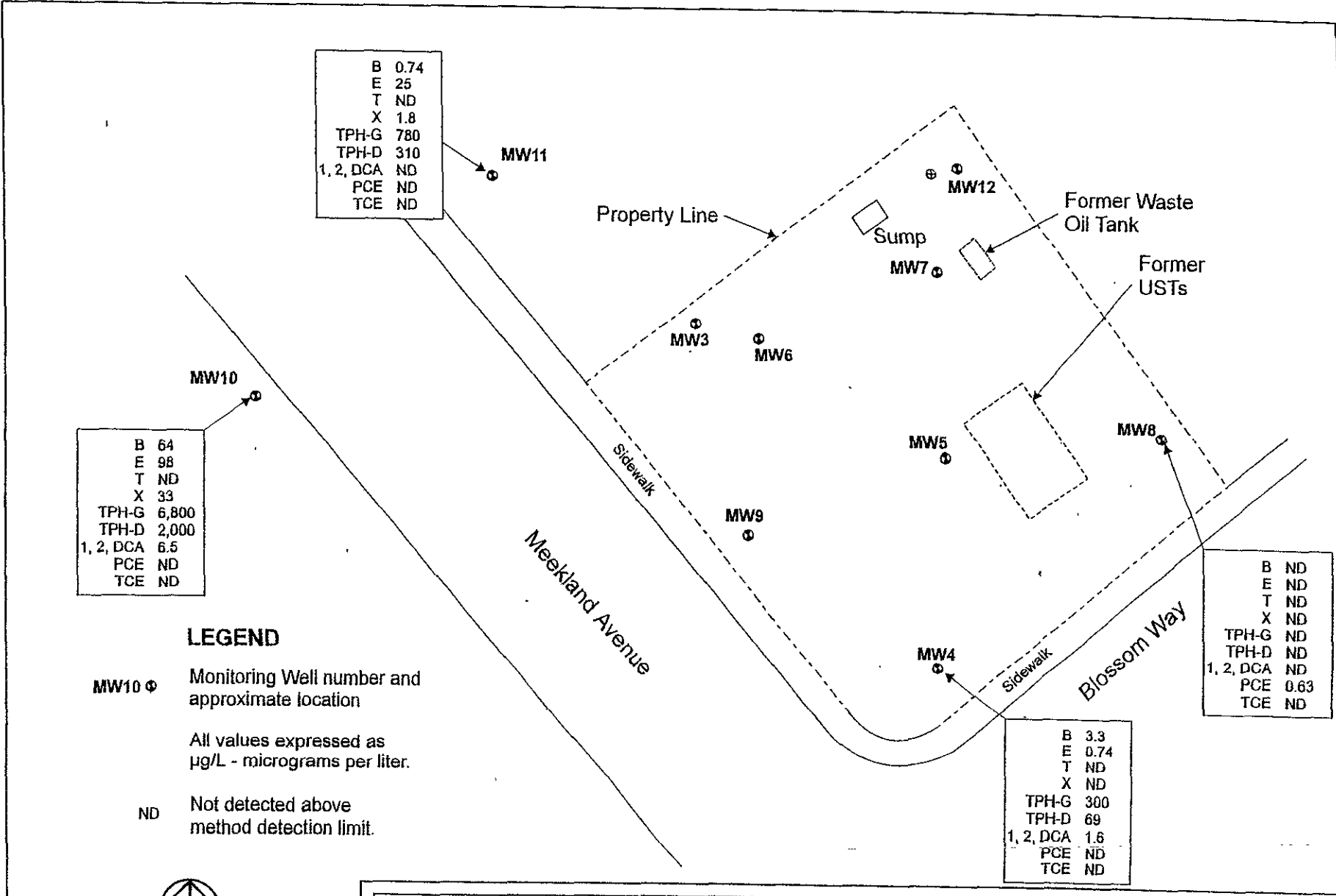


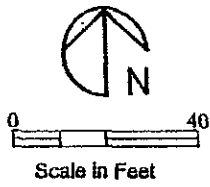
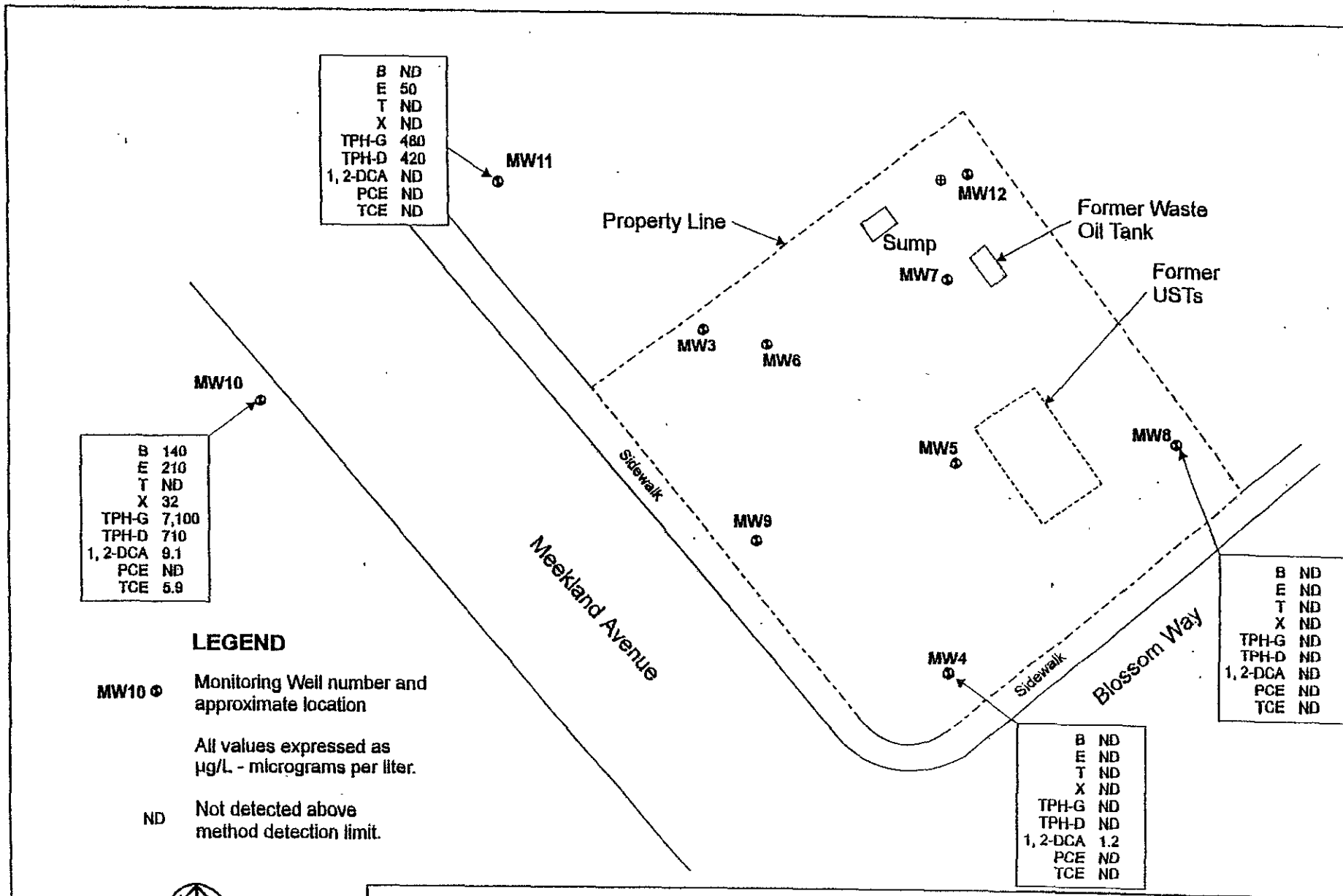
**AGI**  
TECHNOLOGIES

**Groundwater Chemical Analysis Results - 9/15/95**  
Harbert Transportation/Meekland Avenue  
Hayward, California

FIGURE  
**4**

PROJECT NO. 83300201.cdr	DRAWN DFF	DATE 1 Feb 95	APPROVED <i>[Signature]</i>	REVISED BJA	DATE 8 Nov 95
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**AGI**  
TECHNOLOGIES

**Groundwater Chemical Analysis Results - September 1996** FIGURE

Harbert Transportation/Meekland Avenue  
Hayward, California

**4**