

2006 Groundwater Investigation Results Dearborn Street Redevelopment Seattle, Washington

Prepared for Dearborn Street Developers, LLC

Zulik V. Will

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Prepared by **Hart Crowser, Inc.**

Julie K.W. Wukelic Senior Principal

(CONTENTS		<u>Page</u>
ı	EXECUTIVE SUMMARY		1
	Introduction Scope of Work Summary of Findings Conclusions		1 1 2 3
•	1.0 INTRODUCTION		4
2	2.0 BACKGROUND SUMMARY	•	5
	2.1 Property Location and Historical Use 2.2 Geology and Hydrogeology		5 6
	3.0 SUMMARY OF ACTIVITIES ACCOMPLISHED		. 8
	3.1 Well Survey 3.2 Dearborn Street Explorations 3.3 Groundwater Quality Sampling and Analysis 3.4 Soil Quality Sampling and Analysis		8 8 9 11
-	TABLES		
2	 Summary of Analytical Results for Water Samples Summary of Analytical Results for Soil Samples Groundwater Elevation Data 		
ı	FIGURES	•	
3	 Vicinity Map Site and Exploration Plan Groundwater Elevation Contour Map, August 2006 Groundwater Elevation Contour Map, November 2006 Generalized Subsurface Cross Section A-A' 		·

CONTENTS (Co	ntinued)		<u>Page</u>
APPENDIX A SOIL SAMPLING AND STRATAPR		, .	
Soil Sampling			A-1
FIGURES			
A-1 A-2 A-3 through A-7	Key to Exploration Logs Strataprobe Log and Data for Monitoring Well P-1 Strataprobe Log P-2 through P-6		
APPENDIX B SURVEY DATA BUSH, ROED &	HITCHINGS, INC.	·	
APPENDIX C	R SAMPLING PROCEDURES	•	
Groundwater Sa Groundwater Sa Grab Groundwa	· · · · · · · · · · · · · · · ·		C-1 C-2 C-2
	A QUALITY REVIEW TES OF ANALYSIS		
CHEMICAL ANA	LYSIS	÷	D-1
Groundwater Sa Soil Samples	mples		D-1 D-1
CHEMICAL DAT	A QUALITY REVIEW	;	D-1
Groundwater An Soil Analytical D	nalytical Data Quality Pata Quality		D-2 D-2
	OF ANALYSIS ALYTICAL LABORATORY ABORATORIES, INC.		

2006 GROUNDWATER INVESTIGATION RESULTS DEARBORN STREET REDEVELOPMENT SEATTLE, WASHINGTON

EXECUTIVE SUMMARY

Introduction

This report presents the results of a groundwater quality investigation conducted by Hart Crowser in 2006 at the Dearborn Street property (Figure 1). The primary purpose of this work was to assess current groundwater quality conditions on the property; provide supplemental data for the preparation of the revised remedial investigation/ feasibility study/cleanup action plan (RI/FS/CAP) for the property; and provide data on potential off-site migration.

Activities documented in this report include the following:

- Completion of a well survey on 22 wells to assess groundwater flow direction across the property;
- Collection and analysis of groundwater quality samples from 11 monitoring wells spatially distributed across the property;
- Collection and analysis of soil and groundwater samples from six strataprobes advanced near the southern boundary of the property; and
- Installation of a new monitoring well on the former Marlac property.

Scope of Work

Field Activities

Six strataprobes (P-1 through P-6) were pushed in October 2006 to depths between 16 to 27 feet below ground surface near Dearborn Street along the southern boundary of the property (Figure 2). One of the additional strataprobes located southeast of the former Marlac Building (P-1) was converted to a monitoring well. Eleven soil samples were selected for chemical analysis of total chromium, hexavalent chromium, and/or volatile organic compounds (VOCs).

Twenty-two wells were surveyed by a licensed surveyor and groundwater elevation measurements were collected in August and November of 2006 to

assess groundwater flow direction (Figures 3 and 4). Groundwater samples from eleven of the twenty-two wells and three of the six strataprobes were collected and analyzed for VOCs, dissolved metals (including As, Cd, Cr, Cu, Pb, Hg, Ni, and Zn), petroleum hydrocarbons (NWTPH-Gx and NWTPH-Dx), and/or total suspended solids (TSS).

Summary of Findings

Soil Sample Analytical Results

Of the 8 soil samples analyzed for VOCs, no detectable concentrations were reported. No elevated concentrations of total chromium or hexavalent chromium were detected in any of the nine soil samples analyzed. Total chromium concentrations, which ranged from 3.9 to 48 mg/kg, were generally lower than results obtained historically at the property and are generally within the range of background concentrations typically encountered in Puget Sound area soils. The detectable concentrations of total or hexavalent chromium were all below MTCA Method A unrestricted cleanup levels.

Groundwater Sample Analytical Results

Grab Groundwater Samples from 2006 Strataprobes

No TPH, lead, chromium, cadmium, mercury, or copper concentrations were detected above the detection limits in any of the three grab groundwater samples (P-2, P-3, and P-4) collected along the southern property boundary. Nickel and zinc were detected in the three grab groundwater samples at concentrations below MTCA Method B drinking water cleanup levels. Arsenic was detected in two of the three grab groundwater samples at concentrations slightly above the MTCA Method A cleanup level of 0.005 mg/L. As discussed in previous reports, elevated arsenic concentrations are likely the result of localized oxygen-deficient (reducing) conditions caused by the presence of natural organic material in shallows soils beneath the property.

Low concentrations (below MTCA Method A drinking water cleanup levels) of tetrachloroethene (PCE), toluene, and xylenes were detected in the three grab groundwater samples. No trichloroethene (TCE) was detected in any of the three grab groundwater samples.

Vinyl chloride and cis-1,2-dichloroethene were detected in the three grab groundwater samples at concentrations slightly above MTCA Method A or B drinking water cleanup levels. Both of these compounds are common biological degradation products of PCE. Their presence in shallow groundwater beneath

the property likely indicates that PCE concentrations are being reduced by natural anaerobic degradation.

Groundwater Samples from 2006 Sampling Event of Select Existing Monitoring Wells (10) and New Monitoring Well P-1

TPH was not detected in any of the groundwater samples collected from the eleven monitoring wells. Dissolved chromium, lead, and arsenic were the only metals detected at concentrations exceeding MTCA drinking water cleanup levels in these wells. Dissolved chromium was detected in only one sample (well HC-4) at a concentration of 0.16 mg/L. Although this chromium concentration in well HC-4 exceeds the MTCA Method A cleanup level of 0.05 mg/L, it is well below levels previously observed near the historical plating facility. It should also be noted that chromium was not detected in well SP-15A located downgradient (south) of well HC-4.

Dissolved lead was detected in wells P-1 (0.002 mg/L) and MW-4 (0.017 mg/L). The exceedance of the MTCA Method A lead cleanup level (0.015 mg/L) in well MW-4 appears to be an isolated occurrence.

The occurrence of elevated dissolved arsenic in well P-1 (0.044 mg/L) is likely associated with localized reducing conditions.

Most of the groundwater samples had either low (below MTCA Method A Cleanup levels) or non-detectable concentrations of VOCs. The only groundwater samples with detectable concentrations of VOCs above MTCA Method A cleanup levels were SP-7 (PCE and TCE) and P-1 (cis-1,2dichloroethene and vinyl chloride). Only four other groundwater samples (HC-4, SP-8, SP-24, and SP-15A) had detectable concentrations of PCE or TCE and all with concentrations at or below MTCA Method A cleanup levels. No vinyl chloride was detected in any of the other groundwater samples except for P-1.

Conclusions

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The previous 2002 RI/FS/CAP identified chromium in soil and groundwater, and PCE and TCE in groundwater as the chemicals of concern for the property. Even though the size of the property proposed for remediation has been expanded (now includes the Goodwill main building, Herzog Glass parcel, and the former. Unocal parcel) from the previous 2002 RI/FS/CAP, the chemicals of concern are still chromium, PCE, and PCE degradation products (including TCE, cis-1,2-DCE, and vinyl chloride). However, recent groundwater investigation results indicate that exceedance of the MTCA groundwater cleanup level for chromium is limited to a single well (HC-4) located near the former plating facility. Chromium does not appear to be migrating off the property at concentrations exceeding MTCA groundwater cleanup levels. In addition, no elevated concentrations of chromium were detected in the soil samples downgradient from the identified source area.

PCE and TCE groundwater concentrations measured during the recent 2006 sampling event indicated both slight increases and decreases in several of the existing wells, but the overall concentration distribution does not suggest any significant change in the suspected nature and extent of PCE and TCE contamination on the property. In the grab groundwater samples collected along the southern (downgradient) property boundary, concentrations of PCE or TCE do not exceed MTCA Method A cleanup levels. These results indicate that the lateral extent of PCE and TCE groundwater exceedances is located within the property boundary. The PCE degradation products vinyl chloride and cis-1,2-DCE were detected only in groundwater samples collected from strataprobes P-1 through P-4, and SP-7. Although vinyl chloride and cis-1,2-DCE slightly exceed MTCA drinking water cleanup levels in samples collected along the southern property boundary, the absence of PCE at these locations indicates that these are residual occurrences and should decrease naturally over time.

The recent groundwater investigation results further indicate that previously identified chemicals of concern (including chromium, PCE, and TCE) appear to be contained within the property boundaries and are not migrating off the property. The planned cleanup (mass soil removal) of source areas within the property boundaries as well as post-remediation groundwater monitoring still appears to be the preferred cleanup alternative. The degradation products of PCE and TCE (including vinyl chloride and cis-1,2-DCE) will also be included in post-remediation groundwater monitoring. Accordingly, no off-property investigation is recommended at this time and the site should coincide with property boundaries.

1.0 INTRODUCTION

This report presents the results of a groundwater investigation conducted in 2006 at the Dearborn Street property by Hart Crowser. The primary purpose of this work was to assess the current groundwater quality on the property; provide supplemental data for the preparation of the revised remedial investigation/ feasibility study/cleanup action plan (RI/FS/CAP) for the property; and provide data on potential off-site migration.

Activities documented in this report included the following:

- Completion of a well survey on 22 wells to assess groundwater flow direction across the property;
- Collection and analysis of groundwater quality samples from 11 monitoring wells throughout the property;
- Collection and evaluation of natural attenuation parameters from selected wells;
- Collection and analysis of soil and groundwater samples from six strataprobes advanced near the southern boundary of the property; and
- Installation of a new monitoring well on the former Mariac property.

2.0 BACKGROUND SUMMARY

2.1 Property Location and Historical Use

The Dearborn Street property is located just east/southeast of the International District in Seattle, Washington. The property is defined as the area between South Dearborn Street and South Weller Street and Rainier Avenue South and 13th Avenue South, including the Herzog Glass property (1300-1308 South Dearborn Street). See Figures 1 and 2 for property boundaries. South Lane Street, Corwin Place South, and Dearborn Place South transverse through the property. The property consists of fourteen parcels with eight existing buildings. The remainder of the property is covered with asphalt and used for parking or storage. The eight buildings are currently being used as offices (Goodwill), a training center (Goodwill), storage (Goodwill), and retail (Goodwill). The Herzog Glass property houses a commercial glass fabrication business.

The property is located in Section 4, Range 4 East, Township 24 North within King County and covers approximately 8.55 acres.

The current Dearborn Street property was part of a large brick, tile, and terra cotta manufacturing company in 1893 and 1904. The brick company extended from South Weller Street (north boundary) to past South Charles Street (south boundary) and between Rainier Avenue South (east border) and approximately 13th Avenue South (west border). South Dearborn Street, South Lane Street, Corwin Place South, and Dearborn Place South did not extend through the brick company at that time.

By 1916, South Dearborn and South Lane Streets existed through the property. The brick company was gone and the property contained undeveloped land and one building. Corwin Place South did not exist. The building at 1416 (currently one of the former Mar-Lac Buildings) first appeared in the 1916 Sanborn map and was the first building to appear along the north side of South Dearborn Street between 13th Avenue South and Rainier Avenue South.

According to the 1950 Sanborn map, the property was developed with an auto painting shop, pattern shop and plating works, plating works company, sausage factory, refrigerator machinery and repair, service station, and donut factory located on the north side of South Dearborn Street and between Rainier Avenue South and the current Herzog Glass property. An auto body and repair shop was located in the current Herzog Glass building at 1300-1308 South Dearborn Street and operated until the late 1960s.

Several storage buildings were also located behind the South Dearborn Street properties and on the south side of South Lane Street.

General Paint Corporation occupied a portion of the property (current location of the Goodwill Learning Center building) directly east of Corwin Place along the north side of South Dearborn Street from the 1930s until 1960s. Further east along South Dearborn Street included businesses such as bottling works, macaroni and envelope manufacturing companies, and a service station on the northwest corner of South Dearborn Street and Rainier Avenue South.

By 1969, the pattern shop and plating workshops were gone along South Dearborn Street. A rag warehouse was visible in the 1969 Sanborn in the northwest corner of South Dearborn Street and Corwin Place South. The service station was gone by 1960. A large portion of the property between South Dearborn and South Lane Streets was used for parking.

2.2 Geology and Hydrogeology

The interpretation of the physical setting is based on current and previous field investigations performed at the property by Hart Crowser and others. Most of the pertinent explorations that have been performed at the property are shown on Figure 2. Figures 3 and 4 show groundwater elevation contours based on measurements in the wells in August and November 2006. Figure 5 shows Cross Section A-A' through a portion of the property. We present logs for the strataprobes and wells most recently advanced and installed at the property in Appendix A. Logs for previous explorations are available from previous reports concerning the property.

2.2.1 Geologic Characteristics

The property is relatively flat with an elevation of approximately 90 feet, and is covered with either paved parking areas or buildings. To the west of the property, across 13th Avenue, ground surface rises steeply to the northwest. The soils in this area are highly erratic, with fill materials, slide debris, and glacial till. Based on the field explorations, four general soil units were identified at the property, as described below.

Fill and Sandy, Silty Clay. The upper soil unit in this area varies from a silty, gravelly Sand fill, to a sandy, silty Clay. Some peat was encountered in HC-3 in the upper 7 feet. Brick and ash were encountered in the fill beneath the eastern portions of the property. The thickness of the fill and sandy, silty Clay varies from about 6 to 20 feet.

Silty Sand and Gravel. This silty Sand and Gravel unit is present across most of the site, beneath the fill and sandy, silty Clay. In some areas it is interbedded with sandy Clay. This unit was generally encountered to depths of up to 20 feet below the ground surface.

Clayey Silt and Clayey Sand. Throughout most of the property a clayey Sand or sandy Clay with interbedded sandy silt was encountered to depths of up to 50 to 60 feet. In the southwestern part of this site, fractured clayey Silt was encountered to depths up to 102 feet below the ground surface.

Gravelly Sand with Silt. Gravelly Sand, with zones of till-like gravelly, silty sand, was the deepest soil unit encountered during the exploration programs. These soils are dense to very dense, and were generally first encountered at depths from about 50 to 60 feet below the ground surface.

2.2.2 Groundwater Characteristics

Depth to water measurements were collected from selected wells in November 2001 and August and November 2006, using an electronic water level indicator. The groundwater elevation data are summarized in Table 3, and presented for August and November 2006 on Figures 3 and 4. Typical depth to water at the site ranges from 5 to 20 feet below ground surface, depending on location and ground surface elevation. Based on the water level measurements, the groundwater flow direction in the vicinity of Weller Street is toward the south changing to southeast along Dearborn Street. The hydraulic gradient varies from 0.007 to 0.04 ft/ft with the steepest gradients occurring at the eastern and northern portions of the property.

Slug tests to determine hydraulic conductivity were conducted in selected monitoring wells (MW-104, MW-105, MW-106, MW-107S, MW-107D and MW-112) in 2001. The calculated hydraulic conductivity ranged from 0.14 to 3.5 ft/day. The average hydraulic conductivity was estimated to be 0.6 ft/day. With an assumed porosity of 0.25 and an average gradient of 0.01, the linear groundwater velocity through the property is approximately 0.024 ft/day.

3.0 SUMMARY OF ACTIVITIES ACCOMPLISHED

3.1 Well Survey

A survey of the accessible property wells was performed in November 2006. The survey consisted of measuring the elevations and locations of the accessible monitoring wells to a common datum and was performed by a licensed surveyor, Bush, Roed & Hitchings, Inc. The Bush, Roed & Hitchings, Inc., data summary is included in Appendix B.

Results of the well survey are presented in Appendix B and well construction information, where available from boring logs, is presented in Table 3. Confirmed well locations are shown on Figure 2. The well survey confirmed the existence of 22 usable monitoring wells. We were able to collect groundwater samples from 11 of these wells during this study. The other wells were either purged and did not recover or were not sampled during this study.

3.2 Dearborn Street Explorations

In October 2006, six additional strataprobes were advanced near Dearborn Street along the south boundary of the property. One of the additional strataprobes located southeast of the former Marlac Building was converted to a monitoring well. Figure 2 shows the locations of the strataprobe explorations. The logs for these strataprobe are provided in Appendix A.

The strataprobes (P-1 through P-6) were drilled to depths of 16 to 27 feet. Strataprobe P-1 was converted to a monitoring well that was constructed with a 3/4-inch inside diameter pre-packed 5-foot-long 10-slot screen. The depth to water in strataprobes P-1 through P-4 ranged from 14 to 18.5 feet at the time of drilling. Strataprobes P-5 and P-6 did not have any measurable water. An effort was made to probe deeper in P-5 and leave the hole open for several hours to allow time for any groundwater to accumulate. No measurable water was collected and strataprobes P-5 and P-6 were considered dry.

Soils encountered in the strataprobes consisted of fill material overlying native materials. Fill consists of a variety of soft to stiff, sandy Silt with brick and wood fragments, to loose to medium dense, silty, gravelly Sand with brick fragments, to medium stiff, sandy, gravelly Silt. No petroleum-like or chlorinated-solvent odors and sheen were noted in any of the soil samples collected.

3.3 Groundwater Quality Sampling and Analysis

The existing wells that we sampled and analyzed were selected based on the September 2006 proposed exploration plan and accessibility. The wells were selected as a representative set to update current groundwater quality conditions at the property. In addition, grab groundwater samples were collected from three of the six strataprobes and one groundwater sample was collected from the newly installed monitoring well in P-1. The grab groundwater samples were collected from the strataprobes after a temporary screen was pushed to the groundwater table in the strataprobe. No groundwater was collected from P-5 or P-6 because the strataprobes were considered dry.

The groundwater samples were submitted to Advanced Analytical in Redmond, Washington, for one or more of the following analyses:

- Volatile Organic Compounds (VOCs) by EPA Method 8260;
- Dissolved Metals (including As, Cd, Cr, Cu, Pb, Hg, Ni, and Zn); and
- Total Suspended Solids (TSS).

The groundwater samples were collected using standard groundwater sampling techniques as described in Appendix C.

Groundwater Analytical Results

Table 1 presents an analytical data summary of Hart Crowser's October 2006 groundwater quality evaluation.

VOC Chemical Analysis Results

Analytical results from the October 2006 samples indicated VOC constituents detections in six wells and three strataprobes. Detected trichloroethene (TCE) concentrations ranged from 2.5 (SP-8) to 7.2 ug/L (SP-7). Tetrachloroethene (PCE) concentrations were detected in monitoring wells HC-4, SP-8, SP-7, and SP-24 at concentrations of 1.3, 91, 4.8, and 1.0 ug/L, respectively. Detected vinyl chloride concentrations in the groundwater samples from the four recent

strataprobes ranged from 1.5 (P-4) to 4.3 ug/L (P-3). Low concentrations of cis-1,2-dichloroethene, ethylbenzene, toluene, and xylenes (all below their respective MTCA cleanup level) were detected in several groundwater samples.

Dissolved Metals Chemical Analysis Results

Low concentrations of Pb, As, Ni, Zn, and Cr were detected in several of the groundwater samples. Chromium was detected in only one groundwater sample (HC-4) at a concentration of 0.16 mg/L. Arsenic was only detected in the grab groundwater samples from P-2 and P-4 and the groundwater sample from the newest strataprobe well P-1 at concentrations of 0.018, 0.020, and 0.044 mg/L, respectively. Lead was detected in groundwater samples (P-1 and MW-4) at concentrations of 0.002 and 0.017 mg/L, respectively. Detected concentrations of zinc ranged from 0.05 (HC-3) to 0.15 (SP-8) mg/L. Nickel concentrations ranged from 0.01 (SP-7) to 0.044 (P-3).

Groundwater Analytical Observations

Laboratory analytical data presented in Table 1 indicate that in some of the monitoring well locations along Lane Street (e.g., SP-24, SP-8, and SP-7), PCE and TCE concentrations had slightly increased since 2000 while the two other monitoring wells (HC-106 and HC-107) in Lane Street and directly downgradient of SP-7 and SP-8 still were non-detect for PCE and TCE in 2006. Both monitoring wells HC-106 and HC-107 are 2-inch wells completed in hollow-stem auger borings while all of the SP-series wells were completed in strataprobes with prepacked 3/4-inch inside diameter casings.

TCE concentrations in monitoring well SP-15A have decreased since 2000.

Vinyl chloride concentrations were only detected in the four groundwater samples from new strataprobes P-1 through P-4 in 2006. Vinyl chloride was not detected in any of the other groundwater samples from the existing wells in 2006 or since those wells were installed and sampled in 2000.

Dissolved arsenic concentrations in groundwater samples from P-1, P-2, and P-4 were less than any previous arsenic concentration from wells sampled on the property since 2000. In addition, arsenic was not detected in 2006 samples collected from two of the wells (HC-106 and HC-107), that previously had detections of dissolved arsenic in 2000. As previously concluded in 2000 and further supported with the recent soil sample observations in the recent strataprobes P-1 through P-6, detected elevated concentrations of arsenic are the likely result of localized oxygen-deficient (reducing) conditions caused by the presence of natural organic material in the shallow soils on the property.

Page 10

Chromium was detected in only one (HC-4) of the fourteen groundwater samples collected and analyzed. Monitoring well SP-15A was non-detect for chromium in 2006 while in 2000, it had detectable concentrations of 2 and 3 mg/L. Although chromium has been identified as a chemical of concern in the soils on the property, groundwater appears to be minimally impacted by this metal. During the 2006 sampling event, the only detected chromium in shallow groundwater was encountered in well HC-4 located near the former plating facility. Chromium was not detected in well SP-15A located downgradient of HC-4.

TSS concentrations ranged from 20 (P-1) to 1,050 (P-4) mg/L in seven of the fourteen groundwater samples collected. The others had TSS concentrations below 10 mg/L.

3.4 Soil Quality Sampling and Analysis

Soil samples were collected from the six strataprobes (P-1 through P-6) advanced in October 2006. Figure 2 shows the locations of the strataprobe explorations. The logs for these strataprobe are provided in Appendix A.

The strataprobes (P-1 through P-6) were drilled to depths of 16 to 27 feet. Soil samples were collected and screened approximately every 4 feet. A photoionization detector (PID) was used to screen the soil samples for volatile organic vapors indicative of petroleum hydrocarbons and/or VOCs. No odors or PID measurements greater than 15 were noted in any of the soil samples. Select soil samples were submitted to Advanced Analytical in Redmond, Washington, for one or more of the following analyses:

- Volatile Organic Compounds (VOCs) by EPA Method 8260;
- Total Chromium (Cr); and
- Hexavalent Chromium.

The soil samples were collected using standard soil sampling techniques as described in Appendix A.

Soil Analytical Results

Table 2 presents an analytical data summary of Hart Crowser's October 2006 sampling event.

VOC Chemical Analysis Results

During the October 2006 sampling, no VOCs were detected in the 8 soil samples analyzed.

Total and Hexavalent Chromium Chemical Analysis Results

Total chromium concentrations ranged from 3.9 (P1-S3) to 48 (P5-S3) mg/kg in the nine soil samples analyzed. These concentrations fall within expected background conditions for the Puget Sound area. Hexavalent chromium concentrations ranged from not detected (P3-S2, P3-S3, P5-S3, and P6-S3) to 8.4 (P2-S5) mg/kg in the eight soil samples analyzed.

Soil Analytical Observations

October 2006 sampling round indicate that concentrations of constituents in samples are comparable to results obtained historically at the property.

Of the 8 soil samples analyzed for VOCs, no detectable concentrations were reported. No elevated concentrations of total chromium or hexavalent chromium were detected in any of the nine soil samples analyzed. Total chromium concentrations, which ranged from 3.9 to 48 mg/kg, were generally lower than results obtained historically at the property and are generally within the range of background concentrations typically encountered in Puget Sound area soils. The detectable concentrations of total or hexavalent chromium were all below MTCA Method A unrestricted cleanup levels.

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Table 1 - Analytical Results for Water Samples Sheet 1 of 6							
Area	Dearborn	Dearborn	Dearborn	Dearborn	Goodwill	Goodwill	
Sample ID	P-1	P-2	P-3	P-4	MW-4	HC-107	
Sampling Date	10/26/2006	10/26/2006	10/26/2006	10/26/2006	11/1/2006	11/1/2006	
Total Susp. Solids in mg/L	20	90	25	1,050	48	10 U	
Dissolved Metals in mg/L	0.000	0.000.11	0.000.11	0.000.11	0.047		
Lead	0.002	0.002 U	0.002 U	0.002 U	0.017	0.002 U	
Chromium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Arsenic	0.044	0.018	0.005 U	0.020	0.005 U	0.005 U	
Mercury	0.001 U	0.001 U	0.001 U	0.001 U	0.0005 U	0.0005 U	
Copper	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
Nickel	0.01 U	0.01 U	0.044	0.028	0.01 U	0.01 U	
Zinc	0.129	0.068	0.133	0.061	0.14	0.11	
NWTPH-Dx in mg/L							
Kerosene/Jet fuel	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Diesel/Fuel oil	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Heavy oil	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
NWTPH-Gx in mg/L							
Mineral spirits/Stoddard	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Gasoline	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Volatiles in μg/L							
Dichlorodifluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Chloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Vinyl chloride	2.2	2.0	4.3	1.5	0.2 U	0.2 U	
Bromomethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Chloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Trichlorofluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Methylene chloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
trans-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
2,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
cis-1,2-Dichloroethene	19	5.2	26	5.3	1.0 U	1.0 U	
Chloroform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Carbon tetrachloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Benzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,2-Dichloroethane (EDC)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Trichloroethene	2.6	1.0 U	1.0 U	2.6	1.0 U	1.0 U	
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Dibromomethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Bromodichloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
cis-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Toluene	1.0 U	1.3	1.7	1.0 U	1.0 U	1.0 U	
trans-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Tetrachloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,3-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Dibromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	

Table 1 - Analytical Results for Water Samples

Sheet 2 of 6

Table I - Allalytical Resul	is for wate	Jampies		•	•	11000 2 01 0
Sample ID	P-1	P-2	P-3	P-4	MW-4	HC-107
Sampling Date	10/26/2006	10/26/2006	10/26/2006	10/26/2006	11/1/2006	11/1/2006
1,2-Dibromoethane (EDB)	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1,2-Tetrachloroethane	1.0 U	1.0 Ù	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	1.0 U	1.0	1.0 U	. 1.0 U	1.0 U	1.0 U
Xylenes	1.0 U	4.7	2.8	1.0 U	1.0 U	1.0 U
Styrene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	-1.0 U	1.0 U
1,2,3-Trichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chiorotoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	1.0 U	1.0 U	1.0 U	. 1.0 U	1.0 U	1.0 U
tert-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyltoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	1.0 U	. 1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 1 - Analytical Resu	S	heet 3 of 6				
Area	Goodwill	Goodwill	Goodwill	Goodwill	Goodwill	Goodwill
Sample ID	SP-8	HC-106	HC-4	SP-7	SP-24	SP-15A
Sampling Date	11/1/2006	11/1/2006	11/1/2006	11/1/2006	11/1/2006	11/1/2006
Total Susp. Solids in mg/L	10 U	76	10 U	10 U	10 U	10 U
Dissolved Metals in mg/L						
Lead	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Chromium	0.01 U	0.01 U	0.16	0.01 U	0.01 U	0.01 U
Cadmium	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Mercury	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Copper	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Nickel	0.01 U	0.01 U	0.01 U	0.01	0.01 U	0.02
Zinc	0.15	0.06	0.08	0.06	0.07	0.07
NWTPH-Dx in mg/L						
Kerosene/Jet fuel	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Diesel/Fuel oil	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Heavy oil	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
NWTPH-Gx in mg/L						
Mineral spirits/Stoddard	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Gasoline	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Volatiles in μg/L						
Dichlorodifluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromomethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	3.9	1.0 U	1.0 U
Chloroform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane (EDC)	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	2.5	1.0 U	1.0 U	7.2	4.6	5.0
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromomethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	4.8	1.0 U	1.3	91	1.0	1.0 U
1,3-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 1 - Analytical Results for Water Samples Sheet 4 of 6							
Sample ID	SP-8	HC-106	HC-4	SP-7	SP-24	SP-15A	
Sampling Date	11/1/2006	11/1/2006	11/1/2006	11/1/2006	11/1/2006	11/1/2006	
1,2-Dibromoethane (EDB)	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	
Chlorobenzene	1.0 U	·1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 ป	
Ethylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Xylenes	1.0 U	1.0 U	. 1.0 U	1.0 U	. 1.0 U	1.0 U	
Styrene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Bromoform	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Isopropylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,2,3-Trichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Bromobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
n-Propylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
2-Chlorotoluene	1.0 U	1.0 _. U	1.0 U	1.0 U	1.0 U	1.0 U	
4-Chlorotoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,3,5-Trimethylbenzene	1.0 U	1.0 U	¹ 1.0 U	1.0 U	1.0 U	1.0 U	
tert-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,2,4-Trimethylbenzene	1.0 U	1.0 U	1.0 U	. 1.0 U	1.0 U	1.0 U	
sec-Butylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Isopropyltoluene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,2-Dichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
n-Butylbenzene	1.0 U	1.0 U	1:0 U	1.0 U	1.0 U	1.0 U	
1,2-Dibromo-3-Chloropropane	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,2,4-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Hexachloro-1,3-butadiene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Naphthalene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
1,2,3-Trichlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	

Table 1 - Analytical	Results	for Water	Samples
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Table 1 - Allalytical Results for Water Samples						
Area	Goodwill	Goodwill	Goodwill			
Sample ID	HC05-02	HC05-02 DUF	HC-3			
Sampling Date	11/2/2006	11/2/2006	11/2/2006			
Total Susp. Solids in mg/L	10 U	_. 10 U	124			
Dissolved Metals in mg/L			•			
Lead	0.002 U	0.002 U	0.002 U			
Chromium	0.01 U	0.01 U	0.01 U			
Cadmium	0.005 U	0.005 U	0.005 U			
Arsenic	0.005 U	0.005 U	0.005 U			
Mercury	0.0005 U	0.0005 U	0.0005 U			
Copper	0.01 U	0.01 U	0.01 U			
Nickel	0.01 U	0.01 U	0.01 U			
Zinc	0.05	0.06	0.05			
NWTPH-Dx in mg/L	0.00	0.00	0.00			
Kerosene/Jet fuel	0.20 U	0.20 U	0.20 U			
Diesel/Fuel oil	0.20 U	0.20 U	0.20 U			
Heavy oil	0.50 U	0.50 U	0.50 U			
NWTPH-Gx in mg/L	0.50	0.00 0	0.50 0			
Mineral spirits/Stoddard	0.10 U	0.10 U	0.10 U			
Gasoline	0.10 U	0.10 U	0.10 U			
Volatiles in µg/L	0.10 0	0.10 0	. 0.10 0			
Dichlorodifluoromethane	1.0 U	1.0 U	1.0 U			
Chloromethane	1.0 U	1.0 U	1.0 U			
Vinyl chloride	0.2 U	0.2 U	0.2 U			
Bromomethane	1.0 U	1.0 U	1:0 U			
Chloroethane	1.0 U	1.0 U	1.0 U			
Trichlorofluoromethane	1.0 U	1.0 U	1.0 U			
1,1-Dichloroethene	1.0 U	1.0 U	1.0 U			
Methylene chloride	1.0 U	1.0 U	1.0 U			
trans-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U			
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U			
2,2-Dichloropropane	1.0 U	1.0 U	1.0 U			
	1.0 U	1.0 U	1.0 U			
cis-1,2-Dichloroethene Chloroform	1.0 U	1.0 U	1.0 U			
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U			
Carbon tetrachloride	1.0 U	1.0 U	1.0 U			
1,1-Dichloropropene	1.0 U	1.0 U	1.0 U			
Benzene	1.0 U	1.0 U	1.0 U			
1,2-Dichloroethane (EDC)	1.0 U	1.0 U	1.0 U			
Trichloroethene	1.0 U	1.0 U	1.0 U			
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U			
Dibromomethane	1.0 U	1.0 U	1.0 U			
	1.0 U	1.0 U	1.0 U			
Bromodichloromethane	1.0 U					
cis-1,3-Dichloropropene	•	1.0 U	1.0 U			
Toluene	1.0 U	1.0 U	1.0 U			
trans-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U			
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U			
Tetrachloroethene	1.0 U	1.0 U	1.0 U			
1,3-Dichloropropane	1.0 U	1.0 U	1.0 U			
Dibromochloromethane	1.0 U	1.0 U	1.0 U			

Table 1 - Analytical Results for Water Samples

Sample ID	HC05-02	HC05-02 DUF	P HC-3
Sampling Date	11/2/2006	11/2/2006	11/2/2006
1.2 Dibramaethana (EDD)	0.04.11	0.04.11	`0.01 U
1,2-Dibromoethane (EDB)	0.01 U	0.01 U	
Chlorobenzene	1.0 U	1.0 U	1.0 U
1,1,1,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U
Ethylbenzene	1.0 U	1.0 U	1.0 U
Xylenes	1.0 U	1.0 U	1.0 U
Styrene	1.0 U	1.0 บ	1.0 U
Bromoform	1.0 U	1.0 U	1.0 U
Isopropylbenzene	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	1.0 U	1.0 U	1.0 U
Bromobenzene	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	´ 1.0 U
n-Propylbenzene	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	1.0 U	. 1.0 U	1.0 U
4-Chlorotoluene	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	1.0 U	1.0 U	1.0 U
tert-Butylbenzene	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	1.0 U	1.0 U	1.0 U
Isopropyltoluene	1.0 U	. 1.0 U	1.0 U
1,4-Dichlorobenzene	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	1.0 U	1.0 U	1.0 U
n-Butylbenzene	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	, 1.0 U	1.0 U	1.0 U
Hexachloro-1,3-butadiene	1.0 U	1.0 U	1.0 U
Naphthalene	1.0 U	· 1.0 U	1.0 U
1,2,3-Trichlorobenzene	1.0 U	1.0 U	1.0 U

Note: Samples P-2, P-3, and P-4 were grab groundwater samples collected directly through the probe rods.

U = not detected at detection limit indicated.

Area	Ilts for Soil : Dearborn	Dearborn	Dearborn	Dearborn	Dearborn	Dearborn
Sample ID	P1-S2	P1-S3	P2-S5	P3-S2	P3-S3	P3-S4
Sample Depth in Feet	5 to 9	9 to 13	16 to 20	4 to 8	8 to 12	12 to 16
Sampling Date	10/26/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006	10/26/200
fletals in mg/kg		3.9	13	13	10	
Chromium		3.9	8.4	1 U	. 10 1 U	
Hexavalent Chromium			0.4	1 0	10	
/olatiles in µg/kg	E0.11		E0 11		50 U	50 U
Dichlorodifluoromethane	50 U		50 U		50 U	
Chloromethane	50 U		50 U			50 U
Vinyl chloride	50 U		50 U		50 U	50 U
Bromomethane	50 U		50 U		50 U	50 U
Chloroethane	50 U		50 U		50 U	50 U
Trichlorofluoromethane	50 U		50 U		50 U	50 U
1,1-Dichloroethene	50 U		50 U	•	50 U	50 U
Methylene chloride	20 U		20 U		20 U	20 U
trans-1,2-Dichloroethene	50 U.		50 U		50 U	50 U
1,1-Dichloroethane	50 U		50 U		50 U	50 U
2,2-Dichloropropane	50 U		50 U		50 U	50 U
cis-1,2-Dichloroethene	50 U		50 U		, 50 U	50 U
Chloroform	50 U		50 U `		์ 50 ับ	50 U
1,1,1-Trichloroethane	50 U		50 U		50 U	50 U
Carbon tetrachloride	50 U		50 U		50 U	50 U
1,1-Dichloropropene	50 U		50 U		50 U 🕟	50 U
Benzene	50 U	•	50 U		50 U	50 U
1,2-Dichloroethane (EDC)	20 U		20 U		20 U	20 U
Trichloroethene	20 U		20 U		20 U	20 U
1,2-Dichloropropane	50 U		50 U		50 U	50 U
Dibromomethane	50 U		50 U		50 U	50 U
Bromodichloromethane	50 U		50 U		50 U	50 U
cis-1,3-Dichloropropene	50 U		50 U		50 U	50 U
Toluene	50 U		50 U		50 U	50 U
trans-1,3-Dichloropropene	50 U		50 U		50 U	50 U
1,1,2-Trichloroethane	50 U		50 U		50 U	50 U
Tetrachloroethene	. 50 U		50 U		50 U	50 U
1,3-Dichloropropane	50 U		50 U		50 U	50 U
Dibromochloromethane	20 U		20 U		20 U	20 U
1,2-Dibromoethane (EDB)	5 U		20 U		5 U	5 U
Chlorobenzene	50 U		50 U		50 U	50 U
	50 U		50 U		50 U	50 U
1,1,1,2-Tetrachloroethane	50 U		50 U	•	50 U	50 U
Ethylbenzene					•	50 U
Xylenes	50 U	·	50 U		50 U	
Styrene	50 U		50 U		50 U	50 U
Bromoform	50 U		50 U		50 U	50 U
Isopropylbenzene	50 U		50 U		50 U	50 U
1,2,3-Trichloropropane	50 U		50 U		50 U	50 U
Bromobenzene	50 U		50 U	٠	50 U	50 U
1,1,2,2-Tetrachloroethane	50 U		50 U		50 U	50 U
n-Propylbenzene	50 U		50 U	,	50 U	50 U
2-Chlorotoluene	50 U		50 U		50 U	50 U
4-Chlorotoluene	50 U		50 U		50 U	50 U

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Table 2 - Analytical Results for Soil Samples Sheet 2 of 4							
Sample ID	P1-S2	P1-S3	P2-S5	P3-S2	P3-S3	P3-S4	
Sample Depth in Feet	5 to 9	9 to 13	16 to 20	4 to 8	8 to 12	12 to 16	
Sampling Date	.10/26/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006	
1,3,5-Trimethylbenzene	50 U	٠	50 U		50 U	50 U	
tert-Butylbenzene	50 U		50 U		50 U	50 U	
1,2,4-Trimethylbenzene	` 50 U		50 U	•	50 U	50 U	
sec-Butylbenzene	50 U		50 U	•	50 U	50 U	
1,3-Dichlorobenzene	50 U		50 U		50 U	50 U	
Isopropyltoluene	50 U		50 U		50 U	50 U	
1,4-Dichlorobenzene	50 U		50 U		50 U	50 U	
1,2-Dichlorobenzene	50 U		50 U		50 U	50 U	
n-Butylbenzene	50 U		50 U		50 U	. 50 U	
1,2-Dibromo-3-Chloropropane	50 U		50 U		50 U	50 U	
1,2,4-Trichlorobenzene	50 U		50 U		50 U	50 U	
Hexachloro-1,3-butadiene	50 U		50 U		50 U	50 U	
Naphthalene	50 U		50 U		50 U	50 U	
1,2,3-Trichlorobenzene	50 U		50 U	,	50 U	50 U	

Table 2 - Analytical Results for Soil Samples									
Area	Dearborn	Dearborn	Dearborn	Dearborn	Dearborn				
Sample ID	P4-S3	P5-S2	P5-S3	P6-S2	P6-S3				
Sample Depth in Feet	8 to 12	4 to 8	8 to 12	4 to 8	8 to 12				
Sampling Date	10/26/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006				
Motols in malka									
Metals in mg/kg Chromium	14	. 25	48	15	9.0				
Hexavalent Chromium	4.9	1.4	1 U	2.2	9.0 1 U				
Volatiles in µg/kg	4.5	1.4	, 1 0	2.2	10				
Dichlorodifluoromethane	50 U	50 U		50 U	50 U				
Chloromethane	50 U	50 U		50 U	50 U				
Vinyl chloride	50 U	50 U		50 U	50 U				
Bromomethane	50 U	50 U		50 U	50 U				
Chloroethane	50 U	50 U		50 U	50 U				
Trichlorofluoromethane	50 U	50 U		50 U	50 U				
1,1-Dichloroethene	50 U	50 U		50 U	50 U				
Methylene chloride	20 U	20 U		20 U ,	20 U				
trans-1,2-Dichloroethene	50 U	50 U		50 U	50 U				
1,1-Dichloroethane	50 U	50 U		50 U	50 U				
2,2-Dichloropropane	50 U	50 U		50 U	50 U				
cis-1,2-Dichloroethene	50 U	50 U		50 U	50 U				
Chloroform	50 U	50 U		50 U	50 U				
1,1,1-Trichloroethane	50 U	50 U		50 U	50 U				
Carbon tetrachloride	.50 U	50 U		50 U	50 U				
1,1-Dichloropropene	50 U	50 U		50 U	50 U				
Benzene	50 U	50 U		50 U	50 U				
1,2-Dichloroethane (EDC)	20 U	20 U		20 U	20 U				
Trichloroethene	20 U	20 U		20 U	20 U				
1,2-Dichloropropane	50 U	50 U		50 U	50 U				
Dibromomethane	50 U	50 U		50 U	50 U				
Bromodichloromethane	50 U	50 U		50 U	50 U				
cis-1,3-Dichloropropene	50 U	50 U	•	50 U	50 U				
Toluene	50 U	50 U		50 U	50 U				
trans-1,3-Dichloropropene	50 U	50 U	.•	50 U	50 U				
1,1,2-Trichloroethane	50 U	50 U		50 U	50 [.] U				
Tetrachloroethene	50 U	50 U		50 U	50 U				
1,3-Dichloropropane	50 U	50 U		50 U	50 U				
Dibromochloromethane	20 U	20 U		20 Ų	20 U				
1,2-Dibromoethane (EDB)	5 U	5 U	•	5 U	. 5 U				
Chlorobenzene	50 U	50 U		50 U	50 U				
1,1,1,2-Tetrachloroethane	50 U	50 U		50 U	50 U				
Ethylbenzene	50 U	50 U		50 U	50 U				
Xylenes	· 50 U	2.0		50 U	50 U				
Styrene	50 U	50 U		50 U	50 U				
Bromoform	50 U	50 U		50 U	50 U				
Isopropylbenzene	50 U	50 U		50 U	50 U				
1,2,3-Trichloropropane	50 U	50 U		50 U	50 Ü				
Bromobenzene	50 U	50 U		50 U	50 U				
1,1,2,2-Tetrachloroethane	50 U	50 U		50 U	50 U				
n-Propylbenzene	50 U	50 U		50 U	50 U				
2-Chlorotoluene	50 U	50 U		50 U	50 U				
4-Chlorotoluene	50 U	50 U		50 U	50 U				

Hart Crowser 1725004\ChemRslts.xls-Soil

Table 2 - Analytical Results for Soil Samples

Sheet 4 of 4

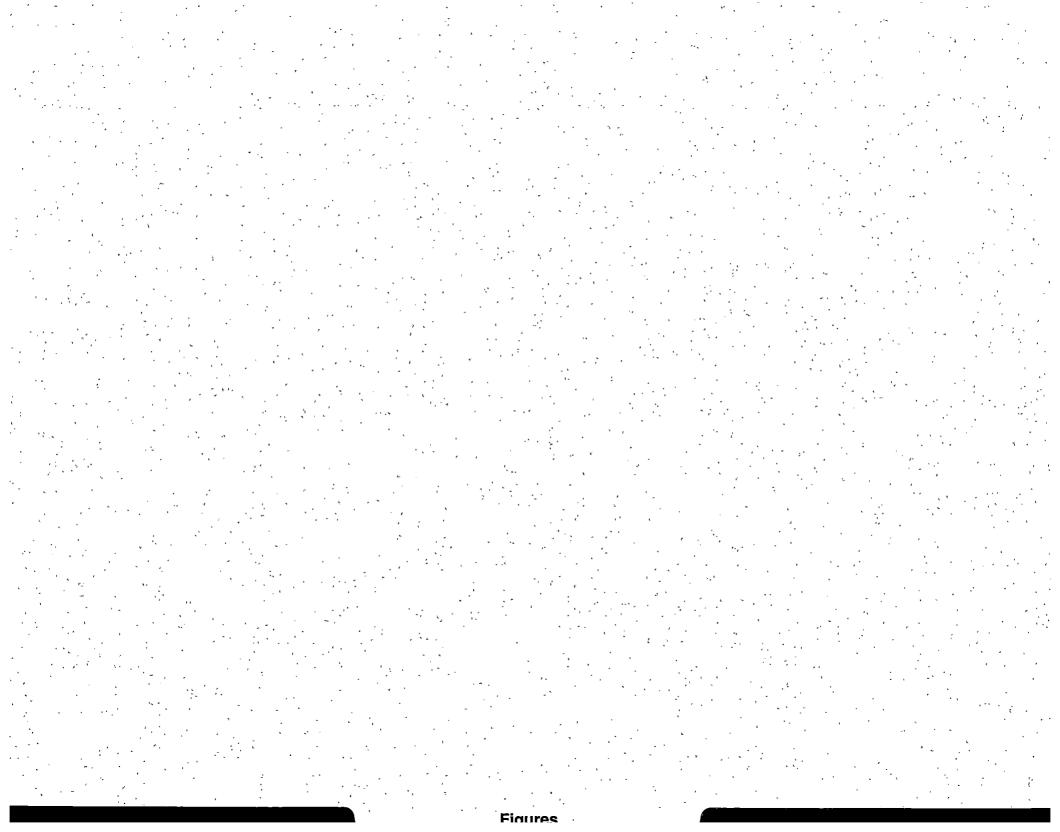
Sample ID	P4-S3	P5-S2	P5-S3	P6-S2	P6-S3
. •					•
Sample Depth in Feet	8 to 12	4 to 8	8 to 12	4 to 8	8 to 12
Sampling Date	10/26/2006	10/26/2006	10/26/2006	10/26/2006	10/26/2006
1,3,5-Trimethylbenzene	50 U	50 U		50 U	50 U
tert-Butylbenzene	50 U	50 U		√ 50 U	50 U
1,2,4-Trimethylbenzene	50 U	50 U		50 U	50 U
sec-Butylbenzene	50 U	- 50 U		50 U	50 U
1,3-Dichlorobenzene	50 U	50 U		50 U	50 U
Isopropyltoluene	50 U	50 U		50 U	.50 U
1,4-Dichlorobenzene	50 U	50 U		50 U	50 U
1,2-Dichlorobenzene	50 U	50 U		50 U	50 U
n-Butylbenzene	50 U	50 U	•	50 U	50 U
1,2-Dibromo-3-Chloropropane	. 50 U	50 U		50 U	50 U
1,2,4-Trichlorobenzene	50 U	50 U		50 U	50 U
Hexachloro-1,3-butadiene	50 U	50 U		50 U	50 U
Naphthalene	50 U	50 U		50 U	50 U
1,2,3-Trichlorobenzene	50 U	50 Ú		50 U	50 U

U = not detected at detection limit indicated.
Blank indicates sample not analyzed for specific analyte.

Table 3 - Groundwater Elevation Data

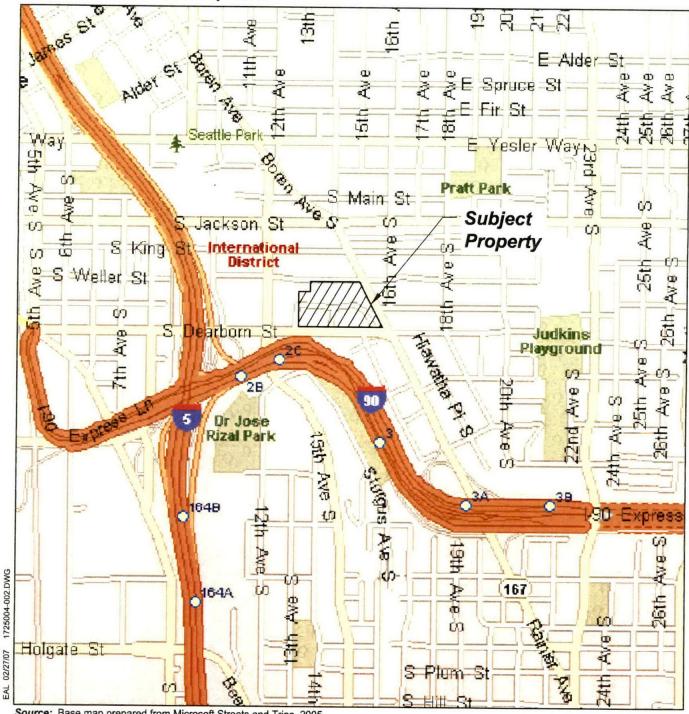
Number	Top of Casing Elevation in Feet	Sample Date	Depth to Water in Feet	Groundwater Elevation in Feet	Comments
MW-1	102.99	-	-		
MW-2	104.97		_	<u> </u>	
MW-3	-	_			Could not open
MW-4	104.87	Nov-06	19.80	85.07	l coald Hot open
MW-5	108.15	- 44	-		
P-1	99.95	Nov-06	16.00	83.95	Strataprobe
P-2	-	Nov-06	18.50	-	Strataprobe
P-3	_	Nov-06	17.00	-	Strataprobe
P-4	<u> </u>	Nov-06	13.80	_	Strataprobe
SP-7	97.93	Nov-01	9.41	88.52	0.1141451525
	1	Aug-06	8.79	89.14	
	· }	Nov-06	9.46	88.47	
SP-8	100.54	Nov-01	10.79	89.75	
	100.01	Aug-06	9.44	91.10	
		Nov-06	10.79	89.75	
SP-11	101.46	Nov-01	10.89	90.57	
		Aug-06	DRY	-	
		Nov-06	DRY		-
SP-12	102.14	Nov-01	13.83	88.31	
		Aug-06	13.02	89.12	
		Nov-06	13.78	88.36	,
SP-14	101.10	Nov-01	DRY		
		Aug-06	14.69	86.41	
SP-15A	100.87	Nov-01	10.84	90.03	
	100.01	Aug-06	9.90	90.97	
		Nov-06	11.07	89.80	
SP-23	102.56	Nov-01	12.13	90.43	
	102.00	Aug-06	10.88	91.68	-
	·	Nov-06	12.35	90.21	,
SP-24	100.98	Aug-06	8.10	92.88	-
,		Nov-06	10.60	90.38	· ·
SP-25	104.24	Aug-06	5.32	98.92	
		Nov-06	10.50	93.74	
HC-3	-	Aug-06	10.72	-	-
		Nov-06	12.30		· · · · · · · · · · · · · · · · · · ·
HC-4	102.13	Aug-06	10.96	91.17	
		Nov-06	12.10	90.03	
HC-104	101.98	Aug-06	14.69	87.29	
HC-105	100.11	Aug-06	8.79	91.32	
	·	Nov-06	-	-	
HC-106	98.12	Aug-06	7.26	90.86	
		Nov-06	8.25	89.87	
HC-107	96.45	Aug-06	9.85	86.60	
		Nov-06	9.95	86.50	
HC05-1	131.20	-	-	-	
HC05-2	123.49	Aug-06		_	٠.
_]	Nov-06	20.23	. 103.26	

Datum: NAVD 88

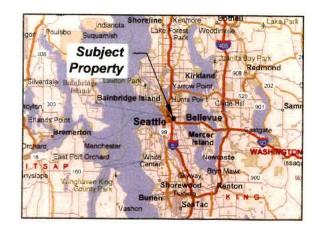


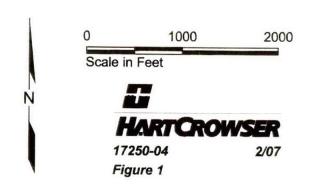


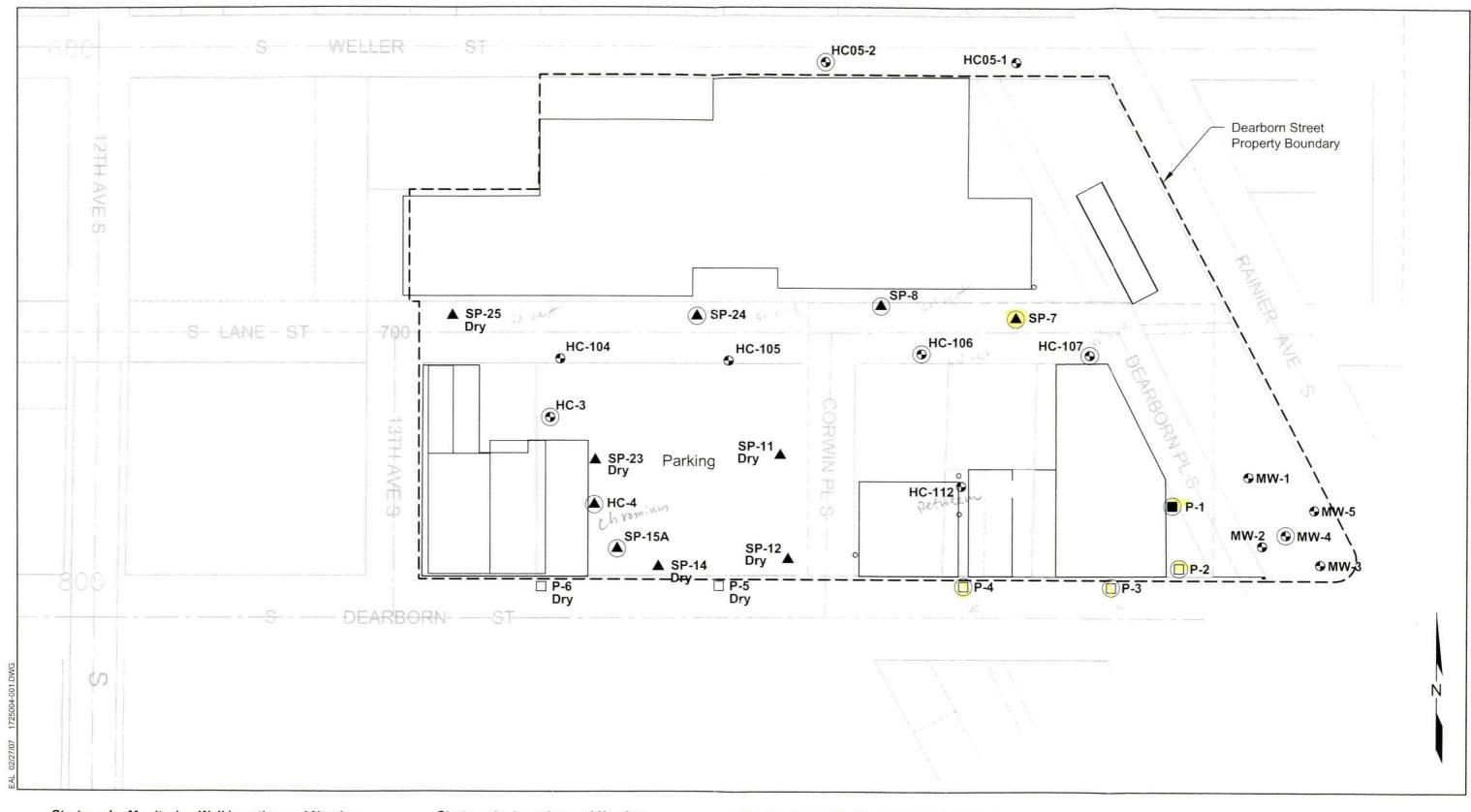
Vicinity Map Dearborn Street Redevelopment

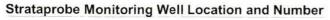


Source: Base map prepared from Microsoft Streets and Trips, 2005.









P-1■ Current Study

SP-23 ▲ Previous Study

Groundwater Sample Collected

Strataprobe Location and Number

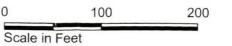
P-2 ☐ Current Study

Grab Groundwater Sample Collected

HSA Monitoring Well Location and Number

MW-3 Previous Study

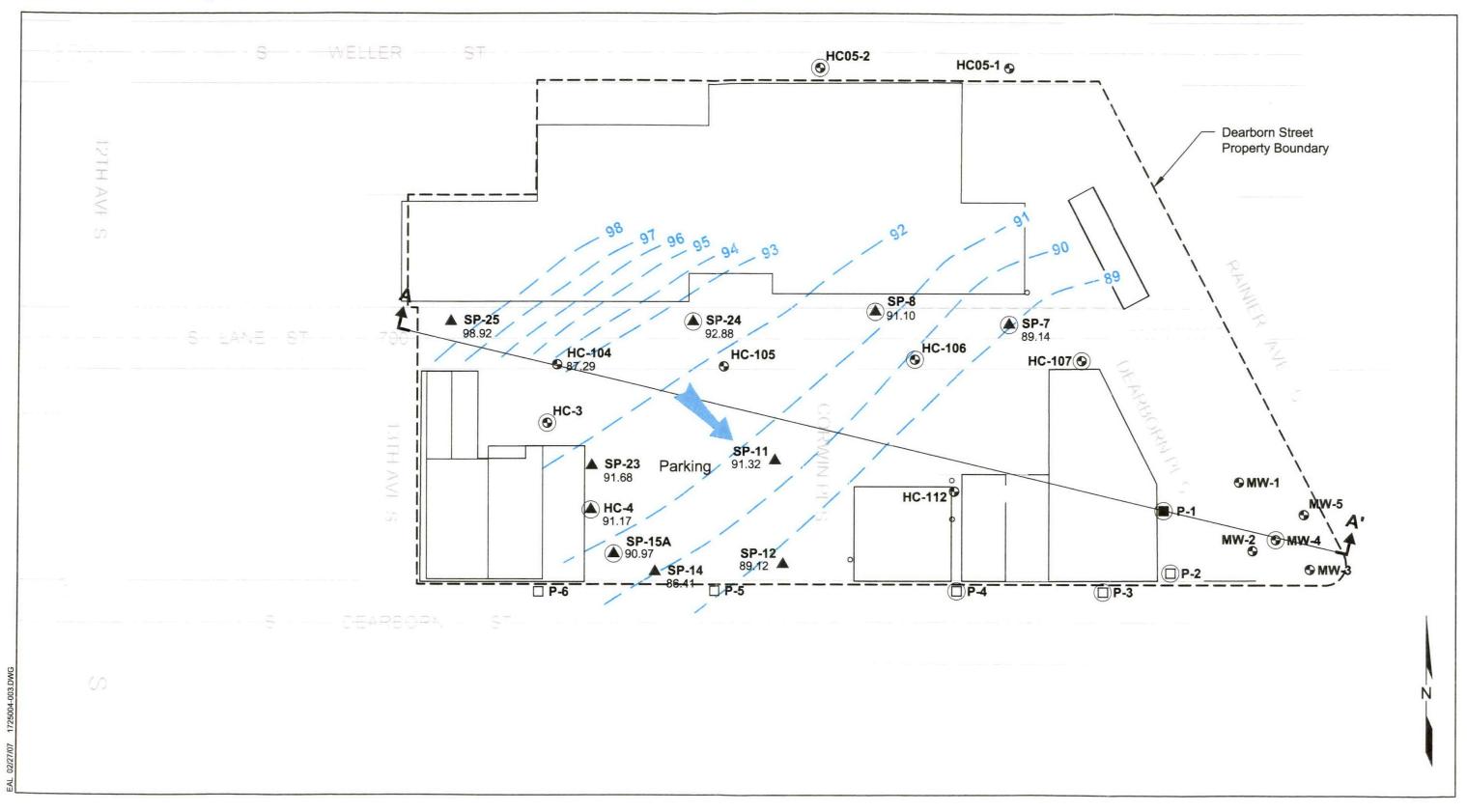
Groundwater Sample Collected





17250-04 Figure 2

Groundwater Elevation Contour Map, August 2006 Dearborn Street Redevelopment



Notes:

Refer to Figure 2 for well information.

Data from Wells SP-14 and HC-104 were not used for contouring.



91.32

Spot Groundwater Elevation in Feet

Groundwater Elevation Contour in Feet

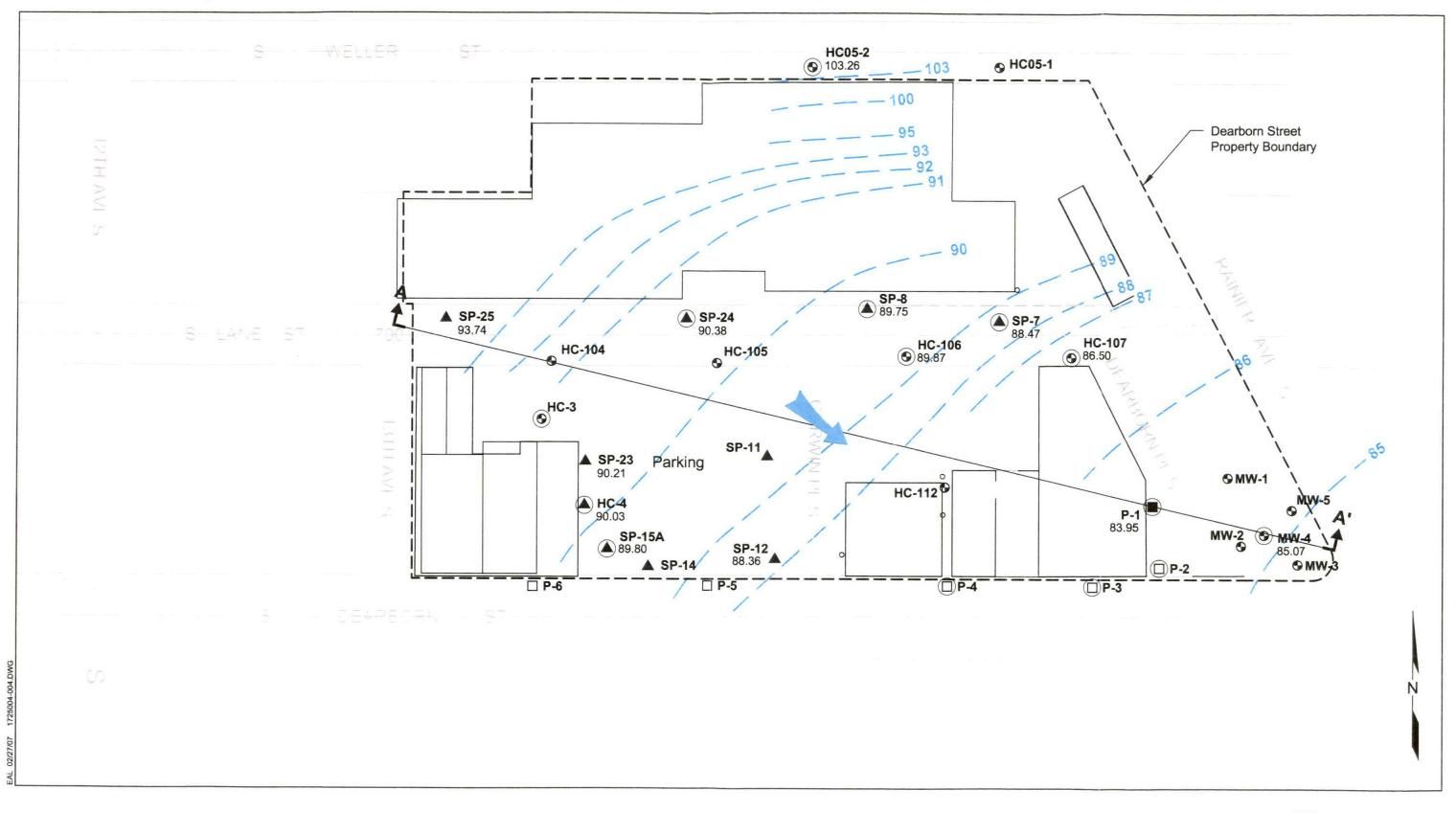
100 Scale in Feet

200

HARTCROWSER 2/07

17250-04 Figure 3

Groundwater Elevation Contour Map, November 2006 Dearborn Street Redevelopment



Notes:

Refer to Figure 2 for well information.

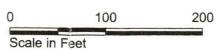
2. Data from P-1 was not used for contouring.



Cross Section Location and Designation

90.03

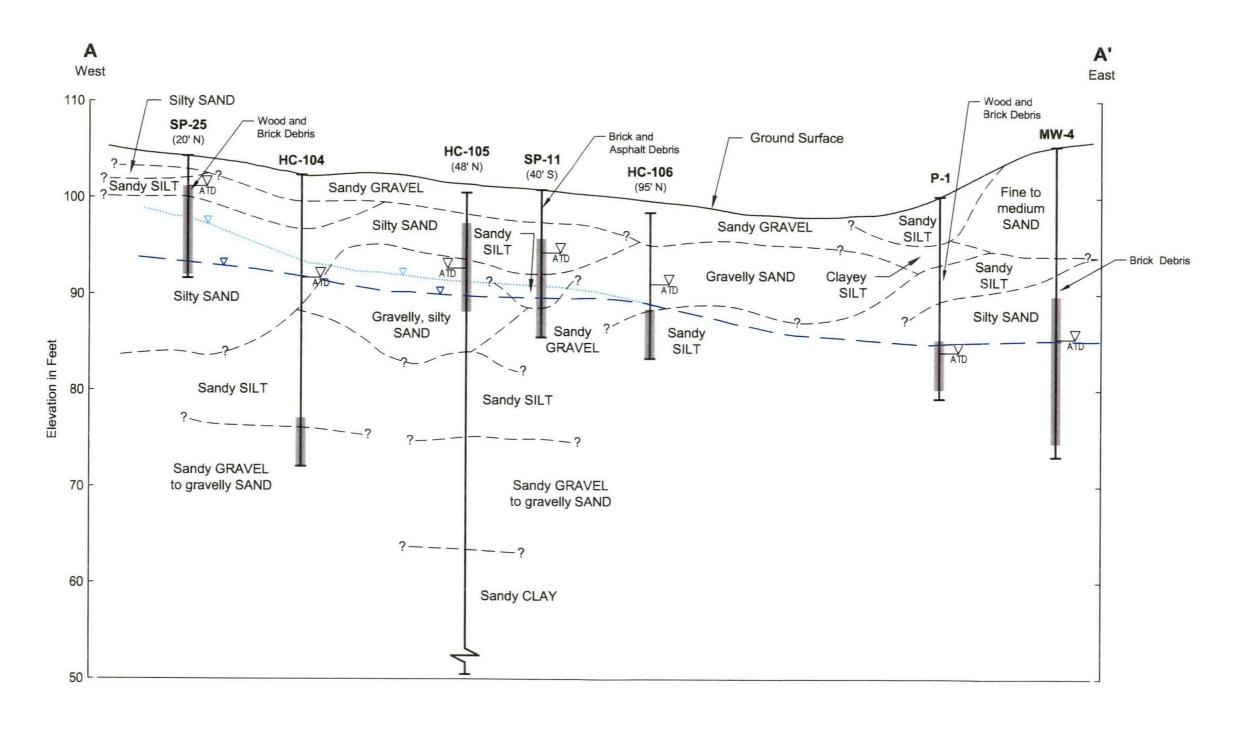
Spot Groundwater Elevation in Feet



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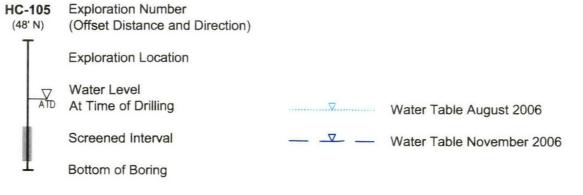
2/07

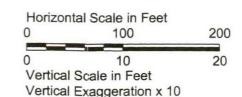
Generalized Subsurface Cross Section A-A' Dearborn Street Redevelopment





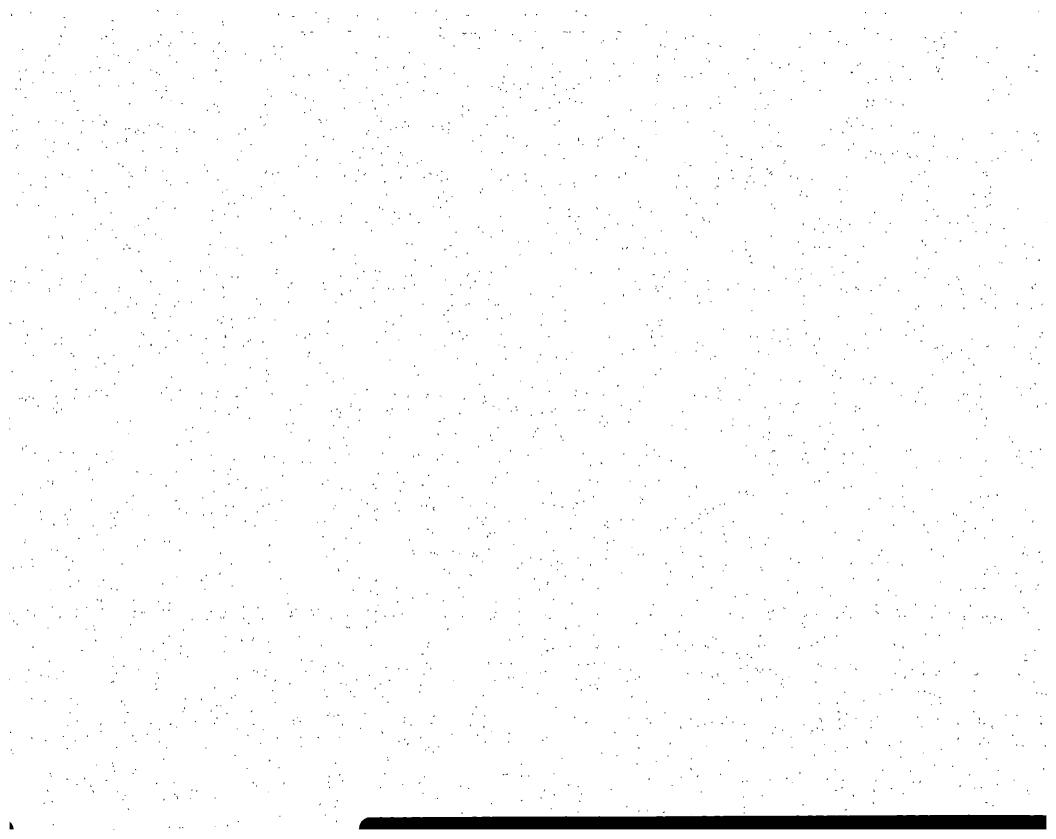
Contacts between soil units are based upon interpolation between borings and represent our interpretation of subsurface conditions based on currently available data.







SOIL SAMPLING PROCEDURES
AND STRATAPROBE LOGS



APPENDIX A SOIL SAMPLING PROCEDURES AND STRATAPROBE LOGS

Soil Sampling

Soil samples were collected from six strataprobes (P-1 through P-6) on October 26, 2006. Soil samples were collected and characterized at a depth interval of approximately 4 feet. Select soil samples had chemical analyses assigned (refer to logs and Table 2 for soil analyses conducted).

Samples were transmitted to Advanced Analytical Laboratory under chain of custody protocols for chemical analysis. Samples were analyzed for metals and volatile organic compounds (VOCs) (refer to Appendix D for chemical data).

Logs of strataprobes P-1 through P-6 are presented on Figures A-2 through A-7. Figure A-1 presents a key to exploration logs.

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Key to Exploration Logs

Sample Description

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:

Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

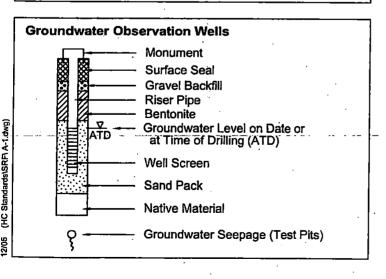
SAND or GRAVEL Density	Standard Penetration Resistance (N) in Blows/Foot	SILT or CLAY Consistency	Standard Penetration Resistance(N) in Blows/Foot	Approximate Shear Strength In TSF
Very loose	0 - 4	Very soft	0 - 2	<0.125
Loose	4 - 10	Soft	2 - 4	0.125 - 0.25
Medium dense	10 - 30	Medium stiff	4 - 8	0.25 - 0.5
Dense .	30 - 50	Stiff	8 - 15	0.5 - 1.0
Very dense	>50	Very stiff	15 - 30	1.0 - 2.0
·		Hard	>30	>2.0

Moist	ure
Dry	Little perceptible moisture
Damp	Some perceptible moisture, probably below optimum
Moist	Probably near optimum moisture content
Wet	Much perceptible moisture, probably above optimum

Minor Constituents	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	. 5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

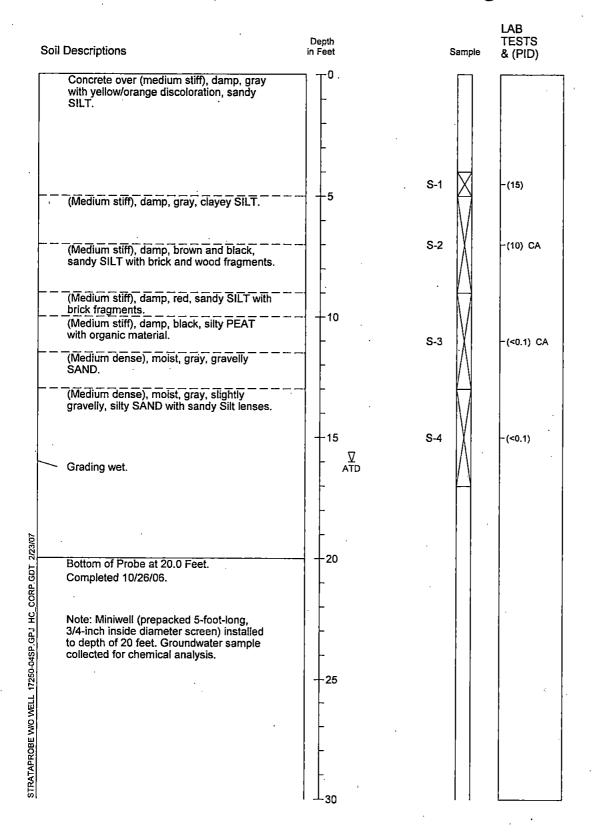
Samp	Sampling Test Symbols											
Boring	g Samples	Test F	it Samples									
\boxtimes	Split Spoon	\boxtimes	Grab (Jar)									
	Shelby Tube		Bag									
	Cuttings		Shelby Tube									
	Core Run											
*	No Sample Recovery											
Р	Tube Pushed, Not Driven											



Test S	Symbols
GS	Grain Size Classification
CN	Consolidation
ບບ	Unconsolidated Undrained Triaxial
CU	Consolidated Undrained Triaxial
CD	Consolidated Drained Triaxial
QU	Unconfined Compression
DS	Direct Shear
K	Permeability
PP	Pocket Penetrometer Approximate Compressive Strength in TSF
TV	Torvane Approximate Shear Strength in TSF
CBR	California Bearing Ratio
MD	Moisture Density Relationship
AL	Atterberg Limits
	Water Content in Percent
	Liquid Limit Natural
	Plastic Limit
PID	Photoionization Detector Reading
CA	Chemical Analysis
DT	In Situ Density Test



Strataprobe Log and Data for Monitoring Well P-1

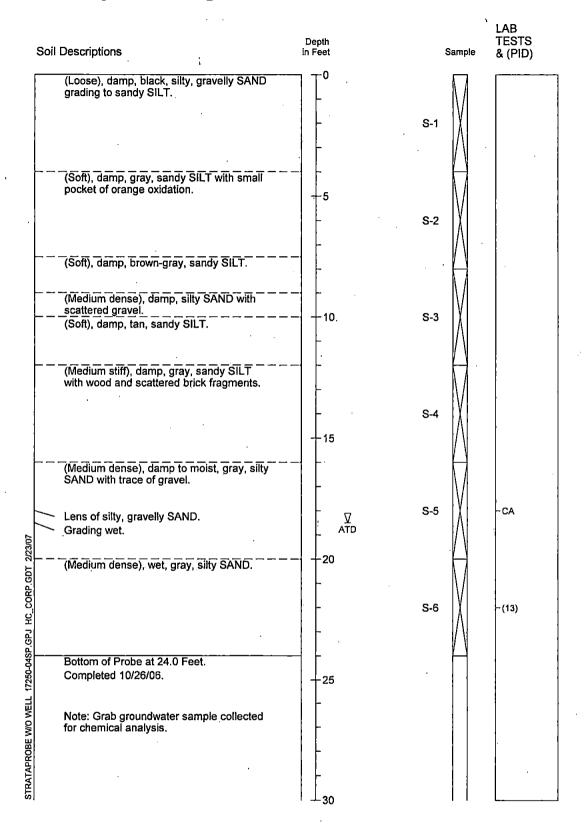


 Refer to Figure A-1 for explanation of descriptions and symbols.
 Soil descriptions and stratum lines are interpretive and actual changes may be gradual.

Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.



17250-04 Figure A-2 10/06

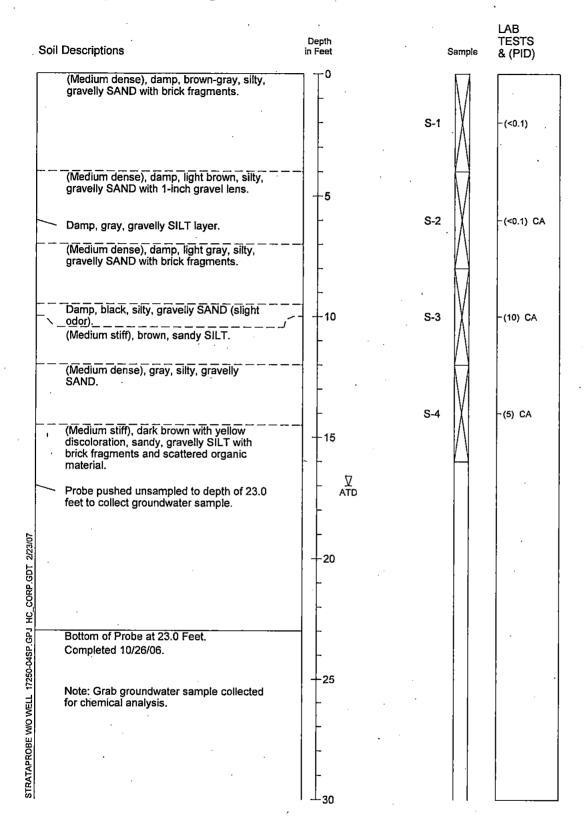


 Refer to Figure A-1 for explanation of descriptions and symbols.
 Soil descriptions and stratum lines are interpretive and actual changes. may be gradual.

Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.



17250-04 Figure A-3 10/06



 Refer to Figure A-1 for explanation of descriptions and symbols.
 Soil descriptions and stratum lines are interpretive and actual changes may be gradual.

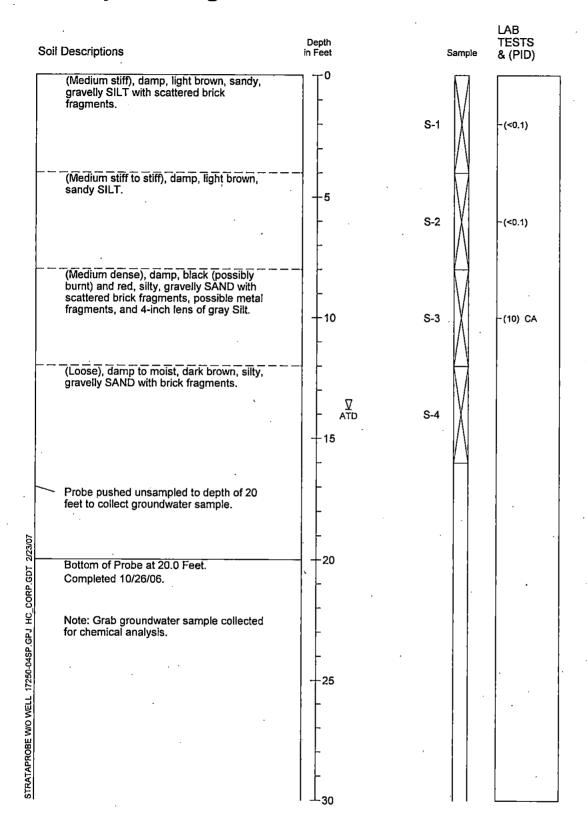
Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

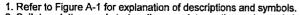


17250-04

10/06

Figure A-4



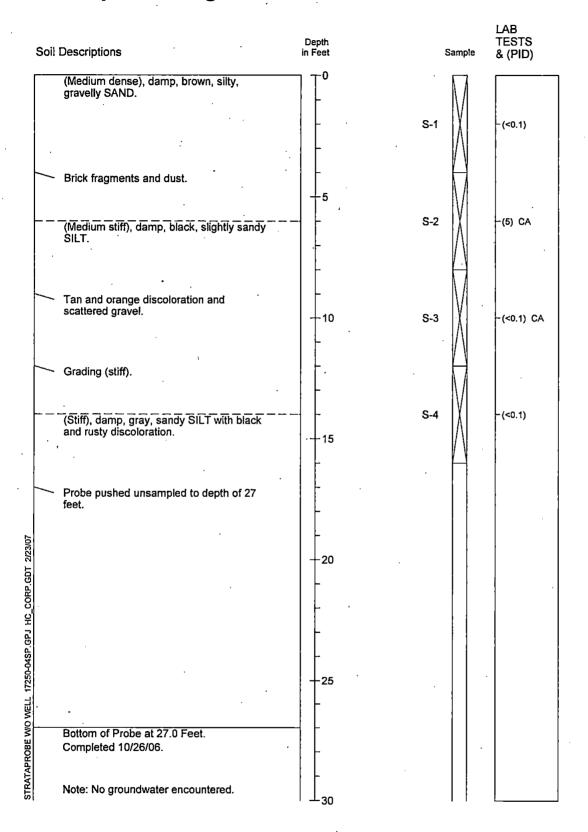


Soil descriptions and stratum lines are interpretive and actual changes may be gradual.

Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.



17250-04 Figure A-5 10/06

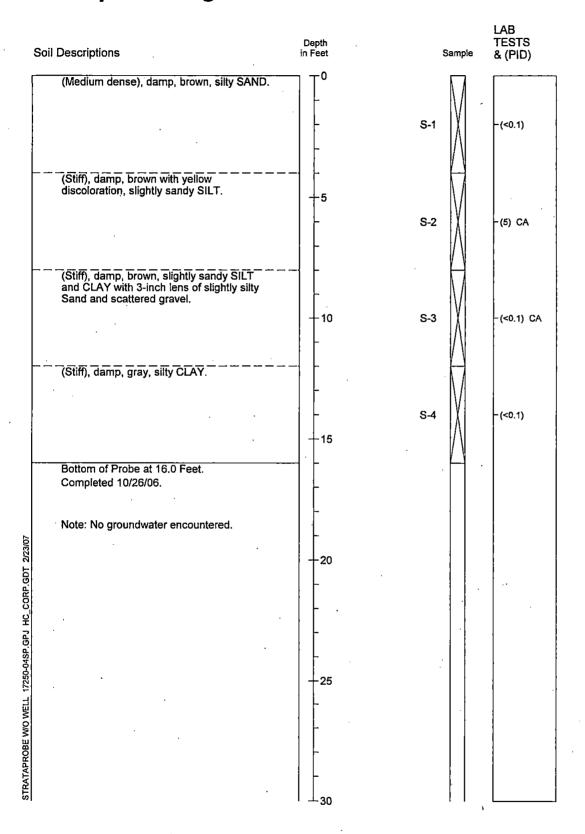


Refer to Figure A-1 for explanation of descriptions and symbols.
 Soil descriptions and stratum lines are interpretive and actual changes

3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.



17250-04 Figure A-6 10/06



 Refer to Figure A-1 for explanation of descriptions and symbols.
 Soil descriptions and stratum lines are interpretive and actual changes may be gradual.

3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

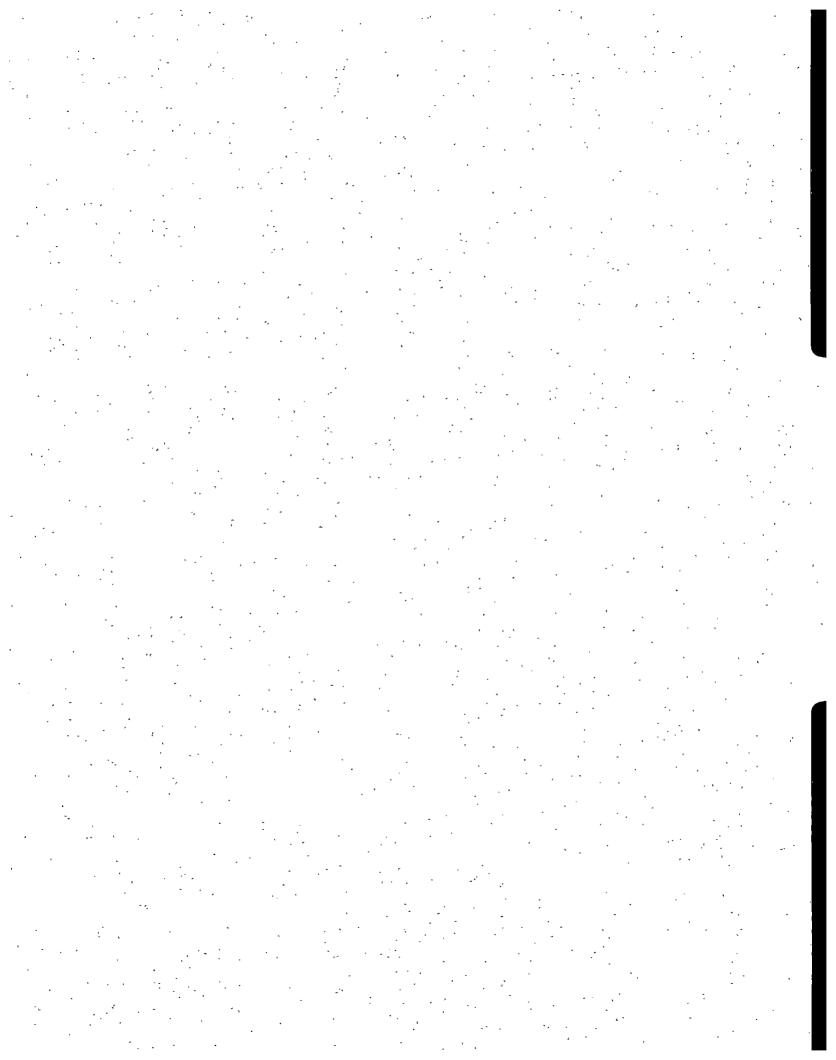


17250-04

10/06

Figure A-7

APPENDIX B SURVEY DATA BUSH, ROED & HITCHINGS, INC.





Bush, Roed & Hitchings, Inc.

Civil Engineers and Land Surveyors

November 27, 2006

JOB NO. 2006228.00 HART CROWSER GOODWILL SITE



MONITORING WELL SURVEY

ELEVATIONS (ALL IN FEET)

MONITORING WELL		TOP OF COVER (LID)	GROUND AT LID
MW-1	102.99		103.05
MW-2	104.97	105.34	105.34
MW-3	COULD NOT OPEN	104.00	104.01
MW-4	104.87	105.52	105.50
MW-5	108.15	108.45	108.49
P-1	!19.95	100,11	100.11
SP-7	97.93	98.22	98.15
SP-8	100.54	100.94	100.90
SP-11	101.46	101.71	101.65
SP-12	102.14	102.44	102.43
SP-14	101.10	101.37	101.35
SP-15A	100.87	101.12	101.07
SP-23	102.56	102.69	102.67
SP-24	100.98	101.35	101.31
SP-25	104.24	104.50	104.47
HC-4	102.13	102.28	102.29
HC-104	101.98	102.42	102.37
HC-105	100.11	100.31	100,30
-IC-106	98.12	98.53	98.51
1C-107	96.45	96.92	96.91
HC05-1	131.20	131.43	131.46
1C05-2	123.49	123.76	123.77
IC-112	DESTROYED		

VERTICAL DATUM:

NAVD 88

BENCHMARK:

CITY OF SEATTLE VERTICAL CONTROL STATION NO.: SNV-5129

ELEVATION: 76.489 FEET

2009 Minor Avenue East, Seattle, Washington 98102-3513 Phone: (206) 323-4144 / (800) 935-0508, Fax: (206) 323-7135, Internet: <u>www.brhine.com</u> **DESCRIPTION:**

BRASS CAP 0.5 FEET NORTH OF MID POINT OF CURVE OF BACK OF WALK AT THE SW INTERSECTION OF S. DEARBORN STREET AND 9TH AVE S.

DATE OF SURVEY: NOVEMBER 13, 14 AND 16, 2006

SURVEY METHODE: DIFFERENTIAL LEVEL

ALL MEASEMENTS ARE AT NORTH SIDE OF STRUCTURE NOTE: SOME PIPES HAVE CAP - MEASUREMENTS WERE

MADE TO TOP OF PIPE, NOT CAP

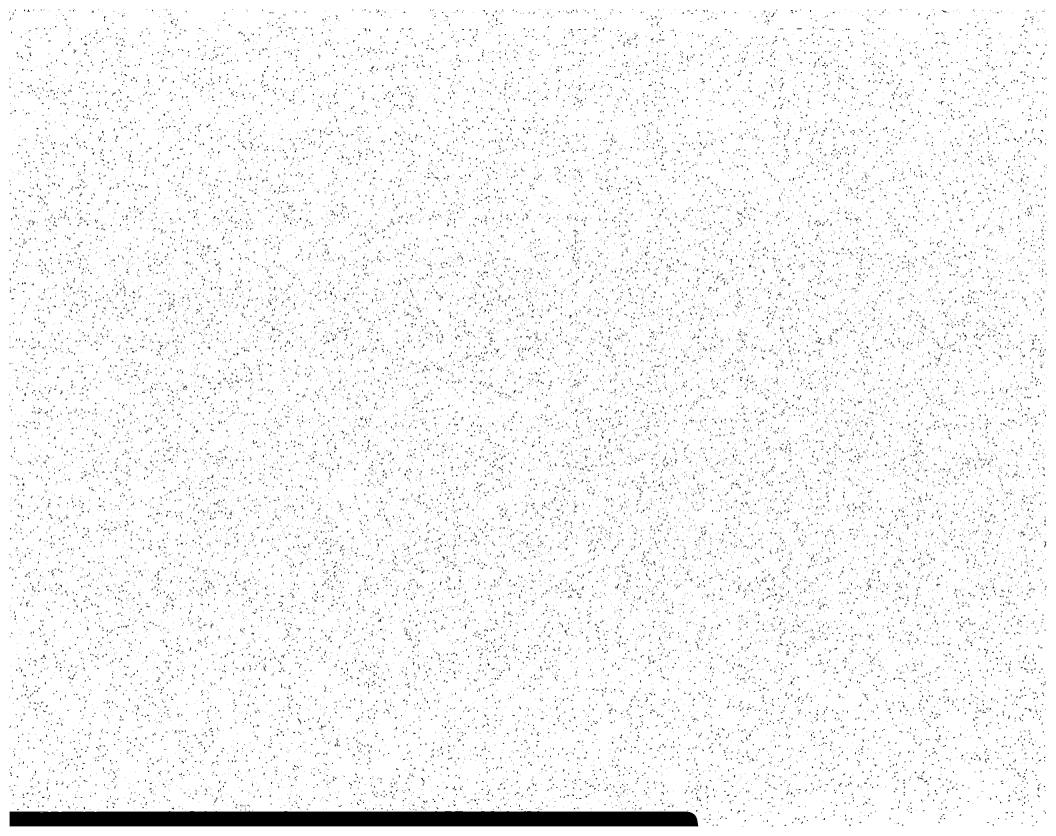
LOCATION:

GOODWILL SITE - DEARBORN PLACE SOUTH & SOUTH LAND STREET

BUSH, ROED & HITCHINGS, INC. Johann Wassermann, P.L.S.



APPENDIX C
GROUNDWATER SAMPLING PROCEDURES



APPENDIX C GROUNDWATER SAMPLING PROCEDURES

Groundwater Sampling Procedures

Sampling Equipment

Equipment used for the collection of groundwater samples included:

- pH, temperature, and specific conductivity meters;
- Water level sounder;
- Disposable polyethylene bailer;
- Peristaltic pump with disposable polyethylene tubing;
- Laboratory-supplied pre-cleaned sample containers;
- Coolers with blue ice; and
- Hart Crowser Sample Custody Record and Groundwater Sampling Data form.

Sampling Procedure

Upon arrival at the well, field personnel recorded conditions, depth to water, depth to product (if applicable), and depth to sediment in the wells using a Solinst or equivalent interface probe. This information, coupled with well diameter, was used to calculate a casing volume for each well. To prevent cross-contamination of the wells, the interface probe was decontaminated between well locations using a non-phosphate-based cleaner and de-ionized water.

Each well was purged using a peristaltic pump until approximately three casing volumes of groundwater were removed. If moderate levels of turbidity persisted throughout the purging process in a particular monitoring well, the well was given ample recovery time to allow some of the suspended particles to settle out to facilitate the collection of a less turbid groundwater sample.

Sample Handling

Labeled sample containers were placed in coolers with blue ice. Samples were transferred under chain of custody procedures to Advanced Analytical Environmental Testing Laboratory of Redmond, Washington, for laboratory analysis.

Groundwater Sampling

Groundwater samples were collected from 10 monitoring wells between November 1 and 2, 2006. Groundwater was collected from monitoring well P-1 (3/4-inch inside diameter pre-packed well screen) after drilling on October 26, 2006. The well was screened from a depth of 15 to 20 feet below ground surface. Groundwater samples were analyzed for total suspended solids (TSS), dissolved metals, NWTPH-Dx, NWTPH-Gx, and VOCs. One duplicate sample was collected for each analyte during the sampling event.

Grab Groundwater Sampling

Grab groundwater samples were collected from three strataprobes (P-2 through P-4; P-5 and P-6 were dry) on October 26, 2006. The three grab groundwater samples were analyzed for TSS, dissolved metals, NWTPH-Dx, NWTPH-Gx, and VOCs.

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APPENDIX D
CHEMICAL DATA QUALITY REVIEW
AND CERTIFICATES OF ANALYSIS



APPENDIX D CHEMICAL DATA QUALITY REVIEW AND CERTIFICATES OF ANALYSIS

CHEMICAL ANALYSIS

Groundwater Samples

Four water samples were collected from the Dearborn property on October 26, 2006. The samples were submitted to Advanced Analytical Laboratory in Redmond, Washington, for chemical analysis under chain of custody protocols. Water samples were analyzed for gasoline-range hydrocarbons (TPHNW-Gx), diesel-range hydrocarbons (TPHNW-Dx), dissolved metals, total suspended soils (TSS), and volatile organic compounds (VOCs).

Eleven water samples were collected from the Dearborn property on November 1 and 2, 2006. These samples were submitted to Advanced Analytical Laboratory in Redmond, Washington. Water samples, including a field duplicate, were analyzed for TPHNW-Gx, TPHNW-Dx, dissolved metals, TSS, and VOCs

Soil Samples

Twenty-two soil samples were collected from the Dearborn property on October 26, 2006. The samples were submitted to Advanced Analytical Laboratory in Redmond, Washington, for chemical analysis. Soil samples were analyzed for VOCs, total chromium, and hexavalent chromium. Hexavalent chromium analysis was performed by AMTest Laboratories, Inc.

CHEMICAL DATA QUALITY REVIEW

The following criteria were evaluated in the standard data quality review process for the analytical results for groundwater and soil samples:

- Holding Times;
- Laboratory Method Blanks;
- Surrogate Compound Recoveries;
- Standard Reference Material Recoveries;
- Laboratory Control Sample (LCS) Recoveries and Relative Percent Differences (RPD);
- Matrix Spike (MS) Recoveries and RPDs;
- Laboratory and Field Duplicate RPDs.

Groundwater Analytical Data Quality

Data quality review for water samples collected on October 26, 2006, from the Dearborn property identified criteria were met for holding times, method blanks (all analyte concentrations were non-detect), percent surrogate recoveries, LCS percent recoveries, and laboratory duplicate RPDs. However, no quality review could be performed on TSS data because no quality review data were submitted with the exception of holding times. Also note that there were no trip blanks submitted with VOC or TPH-Gx sample vials.

Data quality review criteria for water samples collected November 1 and 2, 2006, from the Dearborn property were met for holding times, method blanks (all analyte concentrations were non-detect), percent surrogate recoveries, LCS percent recoveries, MS/MSD percent recoveries and RPDs, laboratory duplicate RPDs and field duplicate RPDs. The samples were not filtered nor preserved in the field but were filtered by the laboratory prior to analysis. In addition, no quality review could be performed on TSS data because no quality review data were submitted with the exception of holding times. Also note that there were no trip blanks submitted with VOC or TPH-Gx sample vials.

Soil Analytical Data Quality

Data quality review for soil samples from the Dearborn property identified criteria were met for holding times, method blanks (all analyte concentrations were non-detect), percent surrogate recoveries, LCS percent recoveries, MS/MSD percent recoveries and RPDs, and laboratory duplicate RPDs. However, VOC analysis was performed on October 30 and 31, 2006, and only data for method blanks submitted on October 30, 2006, were submitted. Also note that no trip blank was submitted along with VOC samples.

In addition, no quality review could be performed on the hexavalent chromium data provided by AMTest Laboratories, Inc., because no quality review data were submitted.

J:\jobs\1725004\Final Groundwater Invest Report Draft.doc

CERTIFICATES OF ANALYSIS ADVANCED ANALYTICAL LABORATORY AND AMTEST LABORATORIES

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November 10, 2006

Julie Wukelic Hart Crowser, Inc. 1910 Fairview Avenue East Seattle, WA 98102

Dear Ms. Wukelic:

Please find enclosed the analytical data report for the *Dearborn*, 17250 (A61030-1) Project.

Samples were received on *October 30, 2006*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

Val G. Ivanov, Ph.D.

Laboratory Manager

Sample Custody Record

Samples Shipped to:

A61030-1

II IARTCROMSER Hart Crowser, Inc. 1910 Fairview Avenue East Seattle, Washington 98102-3699 Phone: 206-324-9530 FAX: 206-328-5581

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Sample Custody Record

Samples Shipped to: _

White and Yellow Copies to Lab

Pink to Project Manager

Lab to Return White Copy to Hart Crowser

A61030-1



Hart Crowser, Inc. 1910 Fairview Avenue East Seattle, Washington 98102-3699 Phone: 206-324-9530 FAX: 206-328-5581

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Gold to Sample Custodian

Sample Custody Record

Samples Shipped to: _

A61030-1 1

HART CROWSER

Hart Crowser, Inc. 1910 Fairview Avenue East Seattle, Washington 98102-3699 Phone: 206-324-9530 FAX: 206-328-5581

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A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results	•			_			Dupl
NWTPH-Dx, mg/l		MTH BLK	P-1	·P - 2	P-3	P-4	. P-4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06
Date analyzed	Limits	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06
Kerosene/Jet fuel	0.20	. nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	0.20	- nd	nd	nd	nd	· nd	nd
Heavy oil	0.50	nd	nd	nd	nd	nd	nd
Surrogate recoveries:							
Fluorobiphenyl		89%	103%	; 93%	98%	102%	104%
o-Terphenyi	•	93%	114%	98%	104%	105%	108%

Data Qualifiers and Analytical Comments

, nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 70% TO 130%

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number: 17250-04

Date received:

10/30/06

Ana	lytica	l Re	erilte

Dupl

NWTPH-Gx	·	MTH BLK	P-1	P-2	P-3	P-4	P-1
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06
NWTPH-Gx, mg/L							
Mineral spirits/Stoddard	0.10	nd	nd	nd	nd	nd	nd
Gasoline	0.10	nd	nd	nd	nd	nd	nd
Surrogate recoveries:							
Trifluorotoluene	·	101%	103%	95%	105%	101%	92%
Bromofluorobenzene	•	110%	. 113%	100%	109%	113%	100%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 70% TO 130%

Advanced Analytical Laboratory (425) 497-0110, fax (425) 497-8089

AAL Job Number:

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results

TSS (160.2), mg/l	P-1	P-2	P-3	P-4
Matrix	Water	Water	Water	Water
Date analyzed	11/02/06	11/02/06	11/02/06	11/02/06
Total Suspended Solids	. 20	90	25	1,050

90/08/01 90/08/01

Water

£-q

Water

2-d

Water

b-4

Project Manager: Julie Wukelic Hart Crowser, Inc. :tneilO 1-05019A :nedmuM doL JAA

17250-04 Dearborn

Reporting Limits

Water

10/30/06 Client Project Number: Client Project Name:

Analytical Results Date received:

Date analyzed

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	*						
1,2,3-Trichloropropane	0.1	pu		pu	pu	pu	pu
lsopropylbenzene	0.1	pu		pu	pu	pu	pu
Bromoform	0.1	pu		pu	pu	pu	pu
Styrene	١.0	pu		pu	pu	pu	pu
Xylenes	1.0	pu		pu	L. A	8.2	pu
Ethylbenzene	٥.٢	pu		pu	0.1	pu	pu
1,1,1,2-Tetrachloroethane	1.0	. pu		pu	pu	pu	pu
Chlorobenzene	0.1	pu	103%	рџ	pu	pu	pu
1,2-Dibromoethane (EDB)*	10.0	pu		pu	pu	pu-	pu
Dibromochloromethane .	1.0	pu.		pu	pu	pu	pu
9-3-Dichloropropane	0.1	pu		pu ·	pu	pu	pu
Tetrachloroethene	٥.٢	pu		рu	pu	pu	pu
1,1,2-Trichloroethane	1.0	рù	•	pu	pu	pu	pu
trans-1,3-Dichloropropene	0.1	pu		pu	pu	pu	pu
onene	0.1	pu	١٥٥%	pu	£.1	7.1	pu
enaqorqoroldoid-£,t-sio	٦.0	pu	•	pu	pu	pu	pu
Bromodichloromethane	1.0	pu		pu	pu	pu	pu,
Dipromomethane	0.1	pu ·		pu	pu	pu	pú.
1,S-Dichloropropane	1.0	pu		pu	pu	pu	pu
Trichloroethene	0.1	pu	% † 6	2.6	pu `	pu	9.2
1,2-Dichloroethane(EDC)	1.0	pu		pu	pu.	рu	pu
Benzene	١.0	pu	% † 01	pu	pu	pu	pu
1,1-Dichloropropene	1.0	pu		pu	pu	рu	pu
Carbontetrachloride	j. r	pu		pu	pu	pu	pu
1,1,1-Trichloroethane	0.1	pu		ри	pu	pu	pu .
Chloroform	۱.0	pu		pu	pu	pu	pu
cis-1,2-Dichloroethene	0.1	pu		61	5.2	56	5.3
2,2-Dichloropropane	0.1	pu		рu	pu	рu	pu
1,1-Dichloroethane	۱.0	pu		.pu	pu	pu	pu
trans-1,2-Dichloroethene	۱.0	pu		pu	pu	pu	pu
Methylene chloride	٦.0	pu		pu	pu	pu	pu
1,1-Dichloroethene	٥.٢	pu .		pu	pu	pu	pu
Trichlorofluoromethane	1.0	pu		pu	pu	pu	pu
Chloroethane	0.1	pu		ри	pu	ри	pu
Bromomethane	0.1	pu .	•	pu	pu	pu	pu
∧inyl chloride(*)	2.0	pu ·		2.2	2.0	4.3	9.1
Chloromethane	0.1	pu .		pu	pu	pu	pu
Dichlorodilluoromethane	0.1	pu		pu .	pu	pu	pu

90/06/01 90/06/01 90/06/01

Water

rcs

Water

MTH BLK

Water

1-4

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results

8260B, μg/L	· · · · · · · · · · · · · · · · · · ·	MTH BLK	LCS	P-1	P-2	P-3	P-4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	10/30/06	10/30/06	10/30/06	10/30/06	10/30/06	10/30/06
•							
Bromobenzene	1.0	nd		, nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	•	nd .	nd	. nd	nd
n-Propylbenzene	1.0	nd	•	nd	nd	nd	nd
2-Chlorotoluene	1.0	nd	•	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	•	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	nd	nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd _.		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
n-Butylbenzene	1.0	nd		nd	nd	nd	, nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	- nd	nd	nd
1,2,4-Trichlorobenzene	- 1.0	nd		′ nd	′ nd	nd	nd
Hexachloro-1,3-butadiene	1.0	nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd _.	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
*-instrument detection limits						_	
Surrogate recoveries							
Dibromofluoromethane	_	99%	99%	103%	98%	100%	93%
Toluene-d8	•	96%	99%	98%	95%	97%	95%
1,2-Dichloroethane-d4		97%	100%	101%	100%	100%	98%
4-Bromofluorobenzene		101%	101%	108%	95%	99%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits Acceptable Recovery limits: 70% TO 130%

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results

Metals Dissolved (7010/7470	A), mg/l	MTH BLK	LCS	P-1	P-2	P-3	P-4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	11/01/06	11/01/06	11/01/06	11/01/06	11/01/06	11/01/06
Date analyzed	Limits	11/01/06	11/01/06	11/01/06	11/01/06	11/01/06	11/01/06
Lead (Pb)	0.002	nd	109%	0.002	nd	nd	nd
Chromium (Cr)	0.01 ~	nd	109%	nd	nd	nd	nd
Cadmium (Cd)	0.005	nd	77%	nd	nd	nd	nd
Arsenic (As)	0.005	nd	112%	0.044	0.018	nd	0.020
Mercury (Hg) (7470A)	0.001	nd	72%	nd	nd	nd	nd
Copper (Cu)	0.01	nd	108%	nd	nd	nd	nd
Nickel (Ni)	0.01	· nd	119%	nd	nd	0.044	0.028
Zinc (Zn)	0.001	nd	119%	0.129	0.068	0.133	0.061

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Acceptable Recovery limits: 70% TO 130%

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results			Dupl	RPD
Metals Dissolved (7010/7470/	\), mg/l	MTH BLK	P-4	P-4
Matrix	Water	Water	Water	Water
Date extracted	Reporting	11/01/06	11/01/06	11/01/06
Date analyzed	Limits	11/01/06	11/01/06	11/01/06
·.			,	
Lead (Pb)	0.002	· nd	: nd	
Chromium (Cr)	0.01	nd	nd	
Cadmium (Cd)	0.005	nd	nd	
Arsenic (As)	0.005	nd	0.019	5%
Mercury (Hg) (7470A)	0.001	nd	nd	
Copper (Cu)	0.01	nd	nd	
Nickel (Ni)	0.01	. nd	0.028	0%
Zinc (Zn)	0.001	nd	0.060	2%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Acceptable Recovery limits: 70% TO 130%

Advanced Analytical Laboratory (425) 497-0110, fax (425) 497-8089

AAL Job Number:

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name: Client Project Number: Dearborn 17250-04

Date received:

17250-04

Analytical Results

Metals (7010/7471), mg/kg		MTH BLK	LCS	P1-S3	P2-S5	P3-S2	P3-S3
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06
Date analyzed	Limits	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06
Chromium (Cr)	2.0	nd	127%	3.9	13	13	10

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Advanced Analytical Laboratory (425) 497-0110, fax (425) 497-8089

AAL Job Number:

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results

Allaly lical Floodillo			_				
Metals (7010/7471), mg/kg	•	MTH BLK	P4-S3	P5-S2	P5-S3	P6-S2	P6-S3
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06
Date analyzed	Limits	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06	10/31/06
Chromium (Cr)	2.0	nd	. 14	25	48	15	9.0

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results			Dupl	RP <u>D</u>
Metals (7010/7471), mg/kg		MTH BLK	P6-S3	P6-S3
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	10/31/06	10/31/06	10/31/06
Date analyzed	Limits	10/31/06	10/31/06	10/31/06
Chromium (Cr)	2.0	nd	8.0	12%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Am Test Inc. 14603 N.E. 87th St. Redmond, WA 98052 (425) 885-1664 www.amtestlab.com



Professional Analytical Services

Advanced Analytical 2821 152nd Ave NE Redmond, WA 98052 Attention: Val Ivanov

Project Name: DEARBERN

Project #: A61030-1

All results reported on an as received basis.

Date Received: 10/30/06 Date Reported: 11/8/06

AMTEST Identification Number

Client Identification Sampling Date

06-A015052

P2-S5 10/26/06

Total Metals

PARAMETER	RESULT	UNITS	Q: D.L:	METHOD ANA	LYST DATE
Hexavalent Chromium	8.4	ug/g	0.53	JR	10/31/06

AMTEST Identification Number

Client Identification Sampling Date 06-A015053

P3-S2 10/26/06

Total Metals

PARAMETER	RESULT:	UNITS	Q D.L,	METHOD ANALYST DATE	
Hexavalent Chromium	< 1	ug/g	0.53	JR 10/31/0	6

AMTEST Identification Number

Client Identification Sampling Date 06-A015054 P3-S3

10/26/06

Total Metals

10tal motals						The second secon	7 0 0 0 0 0
PARAMETER	RESULT	UNITS	Q 🌁	D.L.	9 1	METHOD ANALYST	DATE -
Hexavalent Chromium	< 1	ug/g		0.53		JR	10/31/06

AMTEST Identification Number

Client Identification

Sampling Date

06-A015055 P4-S3 10/26/06

Total Metals

PARAMETER	RESULT	UNITS	Q D.L.	METHOD ANALYST	DATE
Hexavalent Chromium	4.9	ug/g	0.53	JR	10/31/06

AMTEST Identification Number

Client Identification Sampling Date

06-A015056 P5-S2

10/26/06

Total Metals

PARAMETER	RESULT	UNITS	Q :	D.L.*	METHOD	ANALYST	DATE
Hexavalent Chromium	1.4	ug/g		0.53		JR	10/31/06

AMTEST Identification Number

Client Identification
Sampling Date

06-A015057 P5-S3

10/26/06

Total Metals

PARAMETER	RESULT	UNITS	Q:	D.L. ::	METHOD	ANALYST	DATE
Hexavalent Chromium	< 1	ug/g	·	0.53		JR	10/31/06

AMTEST Identification Number

Client Identification Sampling Date

06-A015058

P6-S2 10/26/06

Total Metals

PARAMETER	RESULT	UNITS	Q : D:L:	METHOD ANALYST	DATE
Hexavalent Chromium	2.2	ug/g	0.53	JR 1	10/31/06

AMTEST Identification Number

Client Identification Sampling Date 06-A015059

P6-S3 10/26/06

Total Metals

i Utai ivietais							
PARAMETER	RESULT	UNITS	Q.	D.L.	METHOD	ANALYST	DATE
Hexavalent Chromium	< 1	ua/a		0.53		JR	10/31/06

Aaron W. Young Laboratory Manager

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn 17250-04

Client Project Number: Date received:

10/30/06

Analytical Results

Matrix Soil <	0/06 nd
Date extracted Reporting 10/30/06 10/30/06 10/30/06 10/31/06 10/30/06	0/06 0/06 nd
Date analyzed Limits 10/30/06 10/30/06 10/30/06 10/31/06 10/30/06 10/30/06 10/30/06	0/06 nd
	nd
Dichlorodifluoromethane 50 nd nd nd	
Dichlorodifluoromethane 50 nd nd nd nd nd	
Dictionality of the state of the	
Cincionation of the contract o	nd
Virty Cilibride	nd
Diditioniculatio	nd
Onlore Charles	nd
The final distriction of the first state of the fir	nd
1,1 Didition out one	nd
Wellylone onlonge	nd
tions () Explorations	nd
1) Foldinoroditatio	nd
Z,Z Diditioropropario	nd
cis-1,2-Dichloroethene 50 nd nd nd nd	nd
Chloroform 50 nd nd nd nd	nd
1,1,1-Trichloroethane 50 nd nd nd nd	nd
Carbontetrachloride 50 nd nd nd nd	nd
1,1-Dichloropropene 50 nd nd nd nd	nd.
Benzene 50 nd 104% nd nd nd	nd
1,2-Dichloroethane(EDC) 20 nd nd nd nd	nd
Trichloroethene 20 nd 94% nd nd nd	nd
1,2-Dichloropropane 50 nd nd nd nd	nd
	nd
Bromodichloromethane 50 nd nd nd nd	nd
cis-1,3-Dichloropropene 50 nd nd nd nd	nd
Toluene 50 nd 100% nd nd nd	nd
trans-1,3-Dichloropropene 50 nd nd nd nd	nd
1,1,2-Trichloroethane 50 nd nd nd nd	nd
Tetrachloroethene 50 nd nd nd nd	nd
1,3-Dichloropropane 50 nd nd nd nd	nd
Dibromochloromethane 20 nd nd nd nd	nd
1,2-Dibromoethane (EDB)* 5 nd nd nd nd	nd
Chlorobenzene 50 nd 103% nd nd nd	nd
1,1,1,2-Tetrachloroethane 50 nd nd nd nd	nd
Ethylbenzene 50 nd nd nd nd	nd
Xylenes 50 nd nd nd	nd
Styrene 50 nd nd nd nd	nd
Bromoform 50 nd nd nd nd	nd

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results

8260B, μg/kg	· - ·	MTH BLK	LCS	P1-S2	P2-S5	P3-S3	P3-S4
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	. 10/30/06	10/30/06	10/30/06	10/31/06	10/30/06	10/30/06
Date analyzed	Limits	10/30/06	10/30/06	10/30/06	10/31/06	10/30/06	10/30/06
					,	-	
Isopropylbenzene	50	nd		nd	nd	nd	nd
1,2,3-Trichloropropane	50	nd		nd	nd	nd	nd
Bromobenzene	50	, nd		nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	50	nd		nd	. nd	nd	nd
n-Propylbenzene	50	nd		nd	nd	nd	nd
2-Chlorotoluene	50	nd		nd	. nd	nd	nd
4-Chlorotoluene	50	nd	,	nd	nd	nd	nd
1,3,5-Trimethylbenzene	50	nd		nd	nd	nd	nd
tert-Butylbenzene	. 50	nd		nd	nď	nd	nd
1,2,4-Trimethylbenzene	50 .	nd		nd	nd	nd	nd
sec-Butylbenzene	50	nd		nd	nd	' nd	nd
1,3-Dichlorobenzene	50	nd		nd	nd	nd	nd
Isopropyltoluene	50	ņd		nd	nd	nd	. nd
1,4-Dichlorobenzene	50	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	50	nd		nd	nd	· nd	nd
n-Butylbenzene	50	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	50	nd		nd	nd	nd	nd
1,2,4-Trichlorobenzene	50	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	50	nd		nd	nd	nd	nd
Naphthalene	50	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	50	nd		nd	nd	nd	<u>nd</u>
*-instrument detection limits							<u> </u>
Surrogate recoveries						_	
Dibromofluoromethane		99%	99%	95%	97%	96%	104%
Toluene-d8		96%	99%	96%	94%	100%	109%
1,2-Dichloroethane-d4		97%	100%	99%	100%	99%	106%
4-Bromofluorobenzene		101%	101%	104%	95%	94%	87%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 70% TO 130%

90/02/01 90/02/01

10/30/06

P6-53

lio2

10/30/06

lioS

P1-52

MSD

90/08/01

90/06/01

lioS

P6-52

10/30/06

10/30/06

lioS

P5-52

10/30/06

10/30/06

lioS

P4-53

10/30/06

10/30/06

МТН ВГК

lio2

Dearborn Client Project Name: Project Manager: Hart Crowser, Inc. :tneilO :nedmuM dot JAA 1-05019A

Date analyzed

Date extracted

8260B, µg/kg

Analytical Results

Client Project Number:

Date received:

XinteM

17250-04

Limits

Reporting

lioS

10/30/06 Julie Wukelic

Вготобогт		pu	pu	pu	pu	pu	
Styrene	20	pu	pu	pu	pu	pu	•
z. Xylenes	20	pu .	pu	pu	pu	pu	
 Ethylpenzene	20	pu	pu	pu	pu	pu	
1,1,1,2-Tetrachloroethane	20	pu	pu	pu	pu	pu	
Chlorobenzene	02	pu	pu	pu	pu	pu	103
1,2-Dibromoethane (EDB)*	9	pu	pu	pu	pu	pu	1001
Dibromochloromethane	So	pu	pu	pu	pu	pu .	
1,3-Dichloropropane	. 20	pu	pu	pu pu	pu	pu	
Tetrachloroethene	20	pu	pu	pu	pu	pu	
1,1,2-Trichloroethane	09	pu	pu	pu	pu	pu	
trans-1,3-Dichloropropene	20	pu	. pu	pu	pu	pu	
Toluene	20	pu	pu	pu	. bn	pu	103
cis-1,3-Dichloropene	20	pu	pu	pu	·pu	pu	,601
Bromodichloromethane	20	pu	pu	pu	pu	pu	
Dibromomethane	. 09	pu	pu	pu	pu	pu	
1,S-Dichloropropane	. 02	pu	pu	pu	pu	pu	
Trichloroethene	20	pu	pu .	pu	pu	pu	86
1,2-Dichloroethane(EDC)	20	pu	pu	pu	pu	pu	6 U
Benzene	20	pu	pu	pu	. pu	pu	40L
-1-Dichloropropene	20	pu	pu	pu	pu	pu	LUF
Carbontetrachloride	20	pu	· pu	pu	pu	pu	
1,1,1-Trichloroethane	. 20	pu	pu	pu	pu	pu	
Chloroform	09	pu pu	pu	pu	pu	pu	
cis-1,2-Dichloroethene	09 -	pu	pu	pu	pu	pu	
2,2-Dichloropropane	09	pu	pu	pu	pu	pu	
1,1-Dichloroethane	09.	pu	pu	pu	pu	pu	
trans-1,2-Dichloroethene	09	pu	pu	pu	pu	pu	
Methylene chloride	20	pu	pu	pu	pu	pu	
1,1-Dichloroethene	90	pu	pu	pu	pu	pu	
Trichlorofluoromethane	90	pu	pu	pu	pu	pu	
Chloroethane	90	pu	pu	pu	pu	pu	
Bromomethane	09	pu	pu	pu	pu	pu	
Vinyl chloride	20	pu [.]	pu	pu	pu	pu	
Chloromethane	09	pu	pu	pu	pu	pu	
Dichlorodifluoromethane	09	pu	pu	pu	pu ·	pu	

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

A	li di co	l Resul	•-

MSD

Analytical Results							IVIOL
8260B, µg/kg		MTH BLK	P4-S3	P5-S2	P6-S2	P6-S3	P1-S2
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soi
Date extracted	Reporting	10/30/06	10/30/06	10/30/06	10/30/06	10/30/06	10/30/06
Date analyzed	Limits	10/30/06	10/30/06	10/30/06	10/30/06	10/30/06	10/30/06
Isopropylbenzene	50	· nd	nd	nd	nd	nd	. 1
1,2,3-Trichloropropane	50	nd	nd	nd	nd	nd	
Bromobenzene	50 .	nd	nd	nd	nd	nd	
1,1,2,2-Tetrachloroethane	50	nd	nd	nd	nd	nd	
n-Propylbenzene	50	· nd	nd	nd	nd	nd	
2-Chlorotoluene	50	nd	nd	nd	nd	nd	
4-Chlorotoluene	50	nd	nd	nd	nd	nd	
1,3,5-Trimethylbenzene	50	nd	nd	nd	nd	nd	
ert-Butylbenzene	50	nd	nd	nd	nd	nd	
1,2,4-Trimethylbenzene	50	nd	nd	nd	. nd	nd	
sec-Butylbenzene	50	nd	nd	nd	nd	nd	
1,3-Dichlorobenzene	50	nd	nd	nd	nd	nd	
sopropyltoluene	50	nd	nd	nd	nd	nd	
1,4-Dichlorobenzene	50	nd	· nd	nd	nd	nd	
1,2-Dichlorobenzene	50	nd	nd	nd	nd	_, nd	-
n-Butylbenzene	50	nd	nd	nd	nd	nd	
1,2-Dibromo-3-Chloropropane	50	nd	nd	. nd	nd	nd	-
1,2,4-Trichlorobenzene	50	nd	nd	nd	nd	nd	
Hexachloro-1,3-butadiene	50	nd	nd	nd	nd	nd	
Naphthalene	50	nd	· nd	nd	nd	nd	
1,2,3-Trichlorobenzene	- 50	nd	nd	nd	nd	nd	
-instrument detection limits	·		_				•
Surrogate recoveries					•		·
Dibromofluoromethane		99%	94%	95%	95%	96%	95%
Toluene-d8		96%	87%	99%	102%	100%	98%
1,2-Dichloroethane-d4		97%	105%	101%	101%	103%	99%
4-Bromofluorobenzene	•	101%	111%	99%	96%	101%	97,%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 70% TO 130%

A61030-1

Client:

Hart Crowser, Inc.

Project Manager.

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

Analytical Results			MSD	RPD
8260B, μg/kg		MTH BLK	P1-S2	P1-S2
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	10/30/06	10/30/06	10/30/06
Date analyzed	Limits	10/30/06	10/30/06	10/30/06
Dichlorodifluoromethane :	50	nd	,	
Chloromethane	50	, nd		
Vinyi chloride	50	nd		
Bromomethane	50	nd		
Chloroethane	50	nd	' .	
Trichlorofluoromethane	50	nd		' .
1,1-Dichloroethene	50	nd		
Methylene chloride	20	nd		•
trans-1,2-Dichloroethene	50	nd		
1,1-Dichloroethane	50	nd		
2,2-Dichloropropane	50	nd		
cis-1,2-Dichloroethene	50	nd		,
Chloroform	50	nd		
1,1,1-Trichloroethane	50	nd		
Carbontetrachloride	50	nd		
1,1-Dichloropropene	50	nd		
Benzene	50	nd	111%	4%
1,2-Dichloroethane(EDC)	20	nd		
Trichloroethene	20	nd	99%	1%
1,2-Dichloropropane	. 50	nd		
Dibromomethane	50	nd		
Bromodichloromethane	50	· nd		
cis-1,3-Dichloropropene	50	nd		,
Toluene	50	nd	105%	2%
trans-1,3-Dichloropropene	- 50	nd	•	
1,1,2-Trichloroethane	50	nd		
Tetrachloroethene	50	nd		
1,3-Dichloropropane	50	nd		
Dibromochloromethane	20	nd		
1,2-Dibromoethane (EDB)*	5	· nd		
Chlorobenzene	50	nd	106%	3%
1,1,1,2-Tetrachloroethane	50	nd		
Ethylbenzene	50	nd		
Xylenes ·	50	nd		
Styrene	50	nd		
Bromoform	50	. nd		

A61030-1

Client:

Hart Crowser, Inc.

Project Manager:

Julie Wukelic

Client Project Name:

Dearborn

Client Project Number:

17250-04

Date received:

10/30/06

			•	
Analytical Results			MSD	RPD
8260B, μg/kg		MTH BLK	P1-S2	P1-S2
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	10/30/06	10/30/06	10/30/06
Date analyzed	Limits	10/30/06	10/30/06	10/30/06
Isopropylbenzene	50	nd .		•
1,2,3-Trichloropropane	50	nd		
Bromobenzene	50	nd		
1,1,2,2-Tetrachloroethane	50	· nd		
n-Propylbenzene	50	nd		
2-Chlorotoluene	50	nd		
4-Chlorotoluene	50	nd		
1,3,5-Trimethylbenzene	50	nd		
tert-Butylbenzene	50	nd		
1,2,4-Trimethylbenzene	50	nd		
sec-Butylbenzene	50	nd		
1,3-Dichlorobenzene	50 .	nd		
Isopropyltoluene	50	nd	•	
1,4-Dichlorobenzene	50	nd		
1,2-Dichlorobenzene	50	nd		
n-Butylbenzene	50	nd		. ,
1,2-Dibromo-3-Chloropropane	50	nd		
1,2,4-Trichlorobenzene	50	nd		
Hexachloro-1,3-butadiene	50	nd		
Naphthalene	50	nd		
1,2,3-Trichlorobenzene	50	nd		
*-instrument detection limits	٠			
Surrogate recoveries				<u> </u>
Dibromofluoromethane		99%	95%	
Toluene-d8		96%	99%	
1,2-Dichloroethane-d4		97%	99%	

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

4-Bromofluorobenzene

100%

101%

November 10, 2006

Julie Wukelic Hart Crowser, Inc. 1910 Fairview Avenue East Seattle, WA 98102

Dear Ms. Wukelic:

Please find enclosed the analytical data report for the *Goodwill, 7250-04* (A61103-2) Project.

Samples were received on *November 03*, 2006. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

Val G. Ivanov, Ph.D.

Laboratory Manager

Sample Custody Record

A61103-2

Hart Crowser, Inc. 1910 Fairview Avenue East Seattle, Washington 98102-3699

HARTCROWSER Samples Shipped to: Phone: 206-324-9530 FAX: 206-328-5581 REQUESTED ANALYSIS JOB 7250-04 LAB NUMBER CONTAINERS PROJECT NAME **OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS** NO. OF SAMPLED BY: Cordell SAMPLE ID DESCRIPTION DATE LAB NO. TIME MATRIX 11/106/14:50 Water Poly's Not Preserved MW-4 HC-107 15:30 13:15 HL-106 13:40 8:20 14:00 SP-24 11:45 SP-15A 4:40 4105-02 Polys Not Preserved 10:30 H(05-02/DUP) 10:30 HC-3 15:45 RECEIVED BY **RELINQUISHED BY** DATE DATE SPECIAL SHIPMENT HANDLING OR TOTAL NUMBER OF CONTAINERS 11 3/4 STORAGE REQUIREMENTS: SIGNATURE SAMPLE RECEIPT INFORMATION **CUSTODY SEALS:** NATURE HIL (U)ZDELL TIME CYES CONO CONO CONTRACTOR CONTRAC GOOD CONDITION PRINT NAME XZT (Rows ed 8:13 □YES 🖟 🔆 □NO: COMPANY TEMPERATURE SHIPMENT METHOD: THAND **RELINQUISHED BY** DATE **RECEIVED BY** DATE TICOURIER DOVERNIGHT COOLER NO.: STORAGE LOCATION: TURNAROUND TIME: SIGNATURE SIGNATURE ☐ 24 HOURS C.1 WEEK TIME: TIME PRINT NAME PRINT NAME STANDARD 48 HOURS See Lab Work Order No. COMPANY COMPANY ☐ 72 HOURS OTHER for Other Contract Requirements

AAL Job Number: Hart Crowser
Client: Julie Wukelic
Client Project Name: Goodwill
Client Project Number: 7250-04
Date received: 11/03/06

Date analyzed

8260B, µg/L

Analytical Results

xinteM

Reporting Limits

Water

Bromobenzene

	• ,			_	J	P	P
P.S.3-Trichloropropane	٥.٢	pu -		pu	pu	pu	pu
cobropylbenzene	0.1	pu		pu	pu	pu	pu
Bromoform	1.0	pu ·		pu	pu	pu	pu
Styrene	0.1	pu		pu	pu	pu	pu
ylenes ⋅	1.0	pu		pu	pu	pu	pu
Ethylbenzene	0.1	pu		pu	pu	pu	pu
1,1,1,2-Tetrachloroethane	٥.٢	pu	•	рu	pu	pu	pu
Chlorobenzene	1.0	pu	% 1 01	pu	pu	pu	pu
1,2-Dibromoethane (EDB)*	10.0	pu -		pu	pu	pu	pu
Dibromochloromethane	0.1	pu ·		pu	pu	pu	pu
1,3-Dichloropropane	٥.٢	pu		pu	pu	pu 🕟	pu
Tetrachloroethene	٥.٢	pu		pu	pu	8.4	рu
1,1,2-Trichloroethane	0.1	pu	-	pu [*]	· pu	рu	pu
rans-1,3-Dichloropropene	0.1	pu		pu	pu	pu	pu
Toluene	١.0	pu	% 1 01	pu	pu	pu	pu .
cis-1,3-Dichloropropene	0.1	pu		, pu	pu	pu	pu
Bromodichloromethane	1.0	pu		pu	· pu	pu	pu
Dibromomethane	0.1	pu		pu	рù	· pu	pu
9.S-Dichloropropane	0.1	pu		рù	pu	· pu	pu
Trichloroethene	0.1	pu	%60 L	рu	. pu	2.5	рu
1,2-Dichloroethane(EDC)	0.1	pu '		pu	pu	pu	pu
Benzene	۱.0	pu	% 7 11	pu	pu ,	pu ·	pu
1,1-Dichloropropene	۱.0	pu		pu	pu	pu	pu
Carbontetrachloride	1.0	pu		pu	pu	pu	pu
1,1,1-Trichloroethane	0.1	pu		pu	pu	рu	pu ·
Chloroform	1.0	pu		pu	pu	pu	pu
eis-1,2-Dichloroethene	0.1	pu		pu	, pu	pu	pu
2,2-Dichloropropane	1.0	pu		pu	pu	pu	pu
1,1-Dichloroethane	0.1	pu		pu	pu	pu	pu
trans-1,2-Dichloroethene	0.1	pu		pu	pu	pu	pu
Methylene chloride	۱.0	pu	•	pu ·	pu .	pu ,	pu
1,1-Dichloroethene	1.0	pu	%8 L	pu	pu	pu	pu
Trichlorofluoromethane	0.1	pu		pu	pu	pu	pu
Chloroethane	0.1	pu		pu	pu	pu	pu
Bromomethane	0.1	pu į		pu	pu	pu	pu
√inyl chloride(*)	2.0	pu		pu [*]	pu	pu	pu
Chloromethane	1.0	pu į		pu	pu	pu	pu
Dichlorodifluoromethane	1.0	pu		pu	рu	[`] pu	pu
					•		

pu

0.1

pu

pu

pu

11/03/06

Water

HC-107

11/03/06

Water

7-WM

11/03/09

Water

rcs

11/03/06

MTH BLK

Water

11/03/06

HC-108

Water

11/03/06

Water

8-4S

pu

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results

8260B, μg/L		MTH BLK	LCS	MW-4	HC-107	SP-8	HC-106
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd	nd
n-Propylbenzene	1.0	nd		nd	nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd	nd
tert-Butylbenzene	1.0	, nd		nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nđ		nd	nd	nd,	. nd
sec-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd i	nd
Isopropyltoluene	1.0	nd		nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd	nḍ
n-Butylbenzene	1.0	nd		nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		_ nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
Hexachloro-1,3-butadiene	1.0	· nd		nd	nd	nd	nd
Naphthalene	1.0	nd		nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd	nd
*-instrument detection limits							
Surrogate recoveries							
Dibromofluoromethane		119%	118%	126%	126%	126%	128%
Toluene-d8		111%	109%	119%	119%	119%	120%
1,2-Dichloroethane-d4		103%	102%	96%	98%	102%	100%
4-Bromofluorobenzene	•	85%	93%	85%	86%	94%	91%

<u>Data Qualifiers and Analytical Comments</u> nd - not detected at listed reporting limits

Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name: Client Project Number: Goodwill 7250-04

Date received:

11/03/06

Analytical Results

8260B, µg/L		HC-4	SP-7	SP-24	SP-15A	HC05-02
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06
Dichlorodifluoromethane	1.0	nd	nd	nd	nd	nd
Chloromethane	1.0	nd	nd	nd	nd	nd
Vinyl chloride(*)	· 0.2	nd	nd	nd	nd	nd
Bromomethane	1.0 ·	nd	nd	nd	ńd	nd
Chloroethane	1.0	nd	nd	nd	nd	· nd
Trichlorofluoromethane	1.0	nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd	nd	nd
2,2-Dichloropropane	1.0	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	3.9	nd	nd	nd
Chloroform	1.0 .	nd	nd	nd	. nd	nd
1,1,1-Trichloroethane	1.0	nd	nd	nd	nd	, nd
Carbontetrachloride	1.0	nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd	nd	nd	nd	nd
Benzene	1.0	nd	nd	· nd	nd	nd
1,2-Dichloroethane(EDC)	1.0	nd	nd	nd	nd	nd
Trichloroethene	1.0	nd	7.2	4.6	5.0	nd
1,2-Dichloropropane	1.0	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0 ·	nd '	nd	nd	nd	nd
Toluene	1.0	nd	nd	nd	nd.	nd
trans-1,3-Dichloropropene	1.0	· nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd	nd	nd	nd
Tetrachloroethene	1.0	1.3	91	1.0	nd	' nd
1,3-Dichloropropane	1.0	nd ,	nd	nd	nd	nd
Dibromochloromethane	1.0	nd	nd	nď	nd	nd
1,2-Dibromoethane (EDB)*	0.01	nd	nd	nd	nd	nd
Chlorobenzene	1.0	. nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd
Ethylbenzene	· 1.0	nd	nd	nd	nd	nd
Xylenes	1.0	nd	nd	nd	nd	nd
Styrene	1.0	nd	nd	nd	nd	nd
Bromoform	1.0	nd	nd	nd	nd	nd
Isopropylbenzene	1.0	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	1.0	nd	nd	nd	nd	nd
Bromobenzene	1.0	nd	nd	nd	nd	<u>nd</u>

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Ģoodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results

8260B, μg/L		HC-4	SP-7	SP-24	SP-15A	HC05-02
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06
1,1,2,2-Tetrachloroethane	, 1.0 .	nd	nd.	nd	· nd	nd
n-Propylbenzene	1.0	_. nd	nd	nd	nd	nd
2-Chlorotoluene	1.0	nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd	nd	· nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd	nd	nd	nd
tert-Butylbenzene	1.0	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd	nd	nd	nd
sec-Butylbenzene	1.0	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd	nd	nd	nd
Isopropyltoluene	1.0	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd	· nd	nd	nd
n-Butylbenzene	1.0	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd	nd	_. nd	nd
Hexachloro-1,3-butadiene	1.0	nd	nd	nd	nd	nd
Naphthalene	1.0	nd	nd	- nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd	nd	nd
*-instrument detection limits	•					,
Surrogate recoveries						<u> </u>
Dibromofluoromethane		114%	123%	119%	123%	129%
Toluene-d8		106%	117%	118%	121%	126%
1,2-Dichloroethane-d4		107%	104%	104%	100%	104%
4-Bromofluorobenzene	•	92%	88%	86%	87%	84%

<u>Data Qualifiers and Analytical Comments</u> nd - not detected at listed reporting limits

Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results				MS	MSD	RPD
8260B, μg/L		HC05-02 DUP	HC-3	HC-3	HC-3	HC-3
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06
Dichlorodifluoromethane	1.0	. nd	nd	•		
Chloromethane	1.0	nd	nd			
Vinyl chloride(*)	0.2	nd	'nd			
Bromomethane	1.0	nd	nd			
Chloroethane	1.0	nd	nd			
Trichlorofluoromethane	1.0	· nd	nd			
1,1-Dichloroethene	1.0	· nd	nd	70%	84%	18%
Methylene chloride	1.0	nd	nd			
trans-1,2-Dichloroethene	1.0	nd	nd			
1,1-Dichloroethane	1.0	nd	nd	•		
2,2-Dichloropropane	1.0	nd	nd			
cis-1,2-Dichloroethene	1.0	nd	nd			
Chloroform	1.0	nd	nd			
1,1,1-Trichloroethane	1.0	nd	nd			
Carbontetrachloride	1.0	nd	nd			
1,1-Dichloropropene	1.0	nd	nd			•
Benzene	1.0	nd	nd	106%	119%	12%
1,2-Dichloroethane(EDC)	1.0	nd	nd			
Trichloroethene	1.0	nd	nd	98%	114%	15%
1,2-Dichloropropane	1.0	nd	nd	•		
Dibromomethane	1.0	nd	nd			
Bromodichloromethane	1.0	nd	nd			
cis-1,3-Dichloropropene	1.0	nd	nd			
Toluene	1.0	nd	nd	95%	106%	11%
trans-1,3-Dichloropropene	· 1.0	nd	· nd			
1,1,2-Trichloroethane	1.0	nd	nd			
Tetrachloroethene	1.0	nd	nd	•		
1,3-Dichloropropane	1.0	nd	nd			
Dibromochloromethane	1.0	nd	nd			
1,2-Dibromoethane (EDB)*	0.01	nd	nd			
Chlorobenzene	1.0	nd	nd	98%	110%	12%
1,1,1,2-Tetrachloroethane	1.0	nd	nd			
Ethylbenzene	1.0 ,	nḍ	nd			
Xylenes	1.0	nd	nd			
Styrene	1.0	nd	nd			
Bromoform	1.0	nd	· nd			
Isopropylbenzene	1.0	nd	nd			
1,2,3-Trichloropropane	1.0	nd	nd			
Bromobenzene	1.0	nd	nd			

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results				MS	MSD	RPD
8260B, μg/L		HC05-02 DUP	HC-3	HC-3	HC-3	HC-3
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06
1,1,2,2-Tetrachloroethane	1.0	nd	nd		ć	٠
n-Propylbenzene	1.0	nd	nd			
2-Chlorotoluene	1.0	nd	nd			
4-Chlorotoluene	1.0	. nd	nd	`		
1,3,5-Trimethylbenzene	1.0	nd	nd			
tert-Butylbenzene	1.0	nd	nd		•	
1,2,4-Trimethylbenzene	1.0	nd	nd			
sec-Butylbenzene	1.0	nd	nd			•
1,3-Dichlorobenzene	1.0	· nd	nd			
isopropyltoluene	1.0	nd	nd			
1,4-Dichlorobenzene	1.0	nd	nd			
1,2-Dichlorobenzene	. 1.0	nd	nd			
n-Butylbenzene	1.0	nd	' nd			
1,2-Dibromo-3-Chloropropane	1.0	nd	nd			
1,2,4-Trichlorobenzene	1.0	nd	nd			
Hexachloro-1,3-butadiene	1.0	nd	nd			
Naphthalene	1.0	nd	nd			
1,2,3-Trichlorobenzene	1.0	nd	nd			
*-instrument detection limits						
Surrogate recoveries						
Dibromofluoromethane		129%	99%	115%	115%	
Toluene-d8		121%	94%	113%	113%	
1,2-Dichloroethane-d4		100%	98%	100%	109%	
4-Bromofluorobenzene		83%	104%_	92%	85%	

<u>Data Qualifiers and Analytical Comments</u> nd - not detected at listed reporting limits Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name: Client Project Number: Goodwill 7250-04

Date received:

11/03/06

Analytical Results

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NWTPH-Dx, mg/l	_	MTH BLK	MW-4	HC-107	SP-8	HC-106	HC-4	SP-7
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06
Date analyzed	Limits	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06
Kerosene/Jet fuel	. 0.20	nd	nd	nd	nd	nd	nd	. nd
Diesel/Fuel oil	0.20	nd						
Heavy oil	0.50	nd						
Surrogate recoveries:								
Fluorobiphenyl		85%	81%	75%	88%	98%	94%	94%
o-Terphenyl		113%	86%	85%	96%	102%	101%	99%

Data Qualifiers and Analytical Comments

. nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name: Client Project Number: Goodwill 7250-04

Date received:

11/03/06

Analytical Results

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Alialytical Results .							- Jupi
NWTPH-Dx, mg/l		SP-24	SP-15A	HC05-02	HC05-02 DUP	HC-3	HC-3
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	11/05/06	11/05/06	11/05/06	. 11/05/06	11/05/06	11/05/06
Date analyzed	Limits	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06
Kerosene/Jet fuel	0.20	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	0.20	nd	nd	nd	nd	nd	nd
Heavy oil	0.50	nd	nd	nd	nd	nd	nd
Surrogate recoveries:							•
Fluorobiphenyl	<u>-</u>	92%	. 101%	97%	97%	93%	104%
o-Terphenyl		101%	119%	103%	103%	107%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 70% TO 130°

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results

NWTPH-Gx		MTH BLK	MW-4	HC-107	SP-8	HC-106	HC-4	SP-7
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06
NWTPH-Gx, mg/L								
Mineral spirits/Stoddard	0.10	nd						
Gasoline	0.10	nd						
Surrogate recoveries:								
Trifluorotoluene	4	95%	99%	97%	91%	95%	95%	89%
Bromofluorobenzene		104%	107%	109%	106%	108%	112%	109%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

•							
Analytical Results			•				Dup
NWTPH-Gx		SP-24	SP-15A	HC05-02	HC05-02 DUP	HC-3	HC-3
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06	11/03/06
NWTPH-Gx, mg/L							
Mineral spirits/Stoddard	0.10	nd	nd	nd	nd	nd	nd
Gasoline	0.10	nd	nd	nd	nd	nd	no
Surrogate recoveries:	•		•				
Trifluorotoluene		89%	95%	93%	93%	102%	.99%
Bromofluorobenzene		107%	110%	106%	104%	117%	119%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

M - matrix interference

J - estimated value

Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results

Metals Dissolved (7010), mg/L	Water	MTH BLK	LCS	MW-4	HC-107	SP-8
Matrix	Reporting	Water	Water	Water	Water	Water
Date analyzed	Limits	11/4-8/06	11/4-8/06	11/4-8/06	11/4-8/06	11/4-8/06
Lead (Pb)	0.002	nd	81%	0.017	nd	nd
Chromium (Cr)	0.01	nd	121%	nd	nd	nd
Cadmium (Cd)	0.005	i nd	73%	nd	. nd	nd
Arsenic (As)	0.005	nd	103%	· nd	nd	nd
Mercury (Hg) (7470A)	0.0005	nd	88%	. nd	nd	nd
Copper (Cu)	0.01	nd	119%	nd	nd	nd
Nickel (Ni)	0.01	nd	115%	nd	nd	nd
Zinc (Zn)	0.01	nd	-114%	0.14	0.11	0.15

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results

Allalytical i teaulta							<u>-</u>
Metals Dissolved (7010), mg/L	Water	HC-106	HC-4	SP-7	SP-24	SP-15A	SP-15A
Matrix	Reporting	Water	Water	Water	Water	Water	Water
Date analyzed	Limits	11/4-8/06	11/4-8/06	11/4-8/06	11/4-8/06	11/4-8/06	11/4-8/06
Lead (Pb)	0,002	nd	. nd	nd	nd	nd	nd
Chromium (Cr)	0.01	nd	0.16	nd	nď	nd	nd
Cadmium (Cd)	0.005	nd	nd	nd	nd	nd	nd
Arsenic (As)	0.005	nd	nd	nd	nd	' nd	nd
Mercury (Hg) (7470A)	0.0005	nd	nd	nd	nd	' nd	nd
Copper (Cu)	0.01	nd	nd	nd	nd	nd	nd
Nickel (Ni)	0.01	nd	nd	0.01	nd	nd	0.02
Zinc (Zn)	0.01	0.06	0.08	0.06	<u>0.07</u>	nd	0.07

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Results reported on dry-weight basis Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results				. ,	DUP	RPD
Metals Dissolved (7010), mg/L	Water	HC05-02	HC05-02 DUP	HC-3	.HC-3	HC-3
Matrix	Reporting	Water	Water	Water	Water	Water
Date analyzed	Limits	11/4-8/06	11/4-8/06	11/4-8/06	11/4-8/06	11/4-8/06
Lead (Pb)	0.002	nd	nd	nd	nd	
Chromium (Cr)	0.01	nd	nd	nd	nd	
Cadmium (Cd)	0.005	nd	nd	nd	nd	
Arsenic (As)	0.005	nd	nd	nd	nd	
Mercury (Hg) (7470A)	0.0005	nd	'nd	nd	nd	
Copper (Cu)	0.01	nd	, nd	nd	nd	
Nickel (Ni)	0.01	nd _.	nd	nd	nd	
Zinc (Zn)	0.01	0.05	0.06	0.05	0.07	20%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

J - estimated value

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

A61103-2

Client:

Hart Crowser

Project Manager:

Julie Wukelic

Client Project Name:

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results

TSS (160.2), mg/l	MW-4	HC-107	SP-8	HC-106	HC-4	SP-7	SP-24
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06	11/05/06
-							
Total Suspended Solids	48	<10	<10	<u>76</u>	<10	<10	<10

AAL Job Number: Client:

A61103-2

Hart Crowser

Project Manager: Client Project Name:

Julie Wukelic

Goodwill

Client Project Number:

7250-04

Date received:

11/03/06

Analytical Results

TSS (160.2), mg/l	SP-15A	HC05-02	HC05-02 DUP	_ HC-3
Matrix	Water	Water	Water	Water
Date analyzed	11/05/06	11/05/06	11/05/06	11/05/06
Total Suspended Solids	<10	· <10	<10	124