



January 25, 2012

Ms. Sharon R. Fisher, CHMM
Environmental Manager
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road
York, PA 17402

Re: Site Characterization Report
Tank 009 Release – fYNOP
SAIC Project 2603100044-2000-100

Dear Sharon:

SAIC Energy, Environment & Infrastructure, LLC (SAIC) is transmitting to you one copy of the attached report entitled “Site Characterization Report – Tank 009 Release – Former York Naval Ordnance Plant,” dated January 2012. Copies of the report were distributed to the individuals listed below.

Please contact me if you have questions about this report.

Respectfully submitted,

SAIC Energy, Environment & Infrastructure, LLC

A handwritten signature in blue ink that reads "Rodney G. Myers".

Rodney G. Myers
Project Manager

CDO:pr

Enclosure

cc: Ralph T. Golia, P.G. (AMOED) – 1 copy
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Bethany Smith (ICF International-USTIF) – 1 copy



Corrective Action Process Report / Plan Cover Sheet

CHAPTER 245 STORAGE TANK ACT

- Site Characterization Report – Section 245.310(b)**
- Site Characterization Report – Site-Specific Standard**
- Site Characterization Report – Statewide Health or Background Standard**
- Site Characterization Report PLUS – Statewide Health Standard**
- Remedial Action Plan – Statewide Health or Background Standard**
- Remedial Action Plan – Site-Specific Standard**
- Remedial Action Progress Report**
- Remedial Action Completion Report – Statewide Health or Background Standard**
- Remedial Action Completion Report – Site-Specific Standard**
- Post-Remediation Care Plan Report**
- Environmental Covenant**

(check all that apply to the enclosed submission)



**SITE CHARACTERIZATION REPORT
TANK 009 RELEASE
HARLEY-DAVIDSON MOTOR COMPANY OPERATIONS, INC.
FORMER YORK NAVAL ORDNANCE PLANT
1425 EDEN ROAD
YORK, YORK COUNTY, PENNSYLVANIA**

PADEP Facility ID No. 67-00823

SAIC Project 2603100044-2000-100

Prepared for:

**Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road
York, PA 17402**

January 2012

Site Characterization Report
Tank 009 Release
Harley-Davidson Motor Company Operations, Inc.
Former York Naval Ordnance Plant
1425 Eden Road
York, York County, Pennsylvania

PADEP Facility ID No. 67-00823

SAIC Project 2603100044-2000-100

Prepared for:

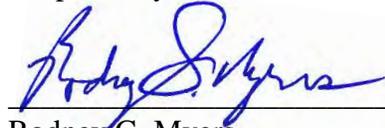
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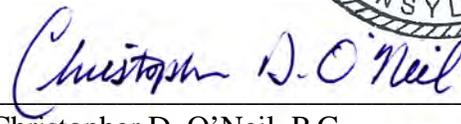
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LIST OF ACRONYMS

ALSI	Analytical Laboratory Services, Inc.
AMSL	above mean sea level
ATG	automatic tank gauging
BTEX	benzene, toluene, ethylbenzene, and xylene
COCs	constituents of concern
DoD	United States Department of Defense
EPA	United States Environmental Protection Agency
fbg	feet below grade
fbtoc	feet below the top of the well casing
FRP	fiberglass-reinforced plastic
fYNOP	former York Naval Ordnance Plant
gpm	gallons per minute
GPS	global positioning system
GSC	Groundwater Sciences Corporation
GWTS	groundwater extraction and treatment system
Harley-Davidson	Harley-Davidson Motor Company Operations, Inc.
HASP	Health and Safety Plan
ICF	ICF International
IDW	investigation-derived wastes
LNAPL	light non-aqueous phase liquid
mg/kg	milligrams per kilogram
ml	milliliter
MSC	medium-specific concentrations
MTBE	methyl tertiary-butyl ether
NCP	National Contingency Plan
NIR	Notice of Intent to Remediate
NPA	North Plant Area
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PADEP	Pennsylvania Department of Environmental Protection
PAHs	polycyclic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	tetrachloroethene
PID	photoionization detector
POC	point of compliance
PPE	personal protective equipment
ppm	parts per million
QA/QC	quality assurance/quality control
REWAI	R. E. Wright Associates, Inc.
RI/FS	remedial investigation/feasibility study
SAIC	SAIC Energy, Environment & Infrastructure, LLC
SCR	Site Characterization Report
SHS	Statewide health standard
SRI	Supplemental Remedial Investigation

SSS	site-specific standard
SWLs	static water levels
TCA	1,1,1-trichloroethane
TCE	trichloroethene
TestAmerica	TestAmerica Laboratories, Inc.
TOC	top of casing
TPH	total petroleum hydrocarbons
TVOCs	total volatile organic compounds
USACE	United States Army Corps of Engineers
USCS	Unified Soil Classification System
UST	underground storage tank
USTIF	UST Indemnification Fund
VI	vapor intrusion
VOA	volatile organic analysis
VOCs	volatile organic compounds
YCP	YCP, Inc.
YCIDA	York County Industrial Development Authority
µg/L	micrograms per liter

1.0 INTRODUCTION

On behalf of Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson), SAIC Energy, Environment & Infrastructure, LLC (SAIC) prepared this Site Characterization Report (SCR) to address a release from a former underground storage tank (UST) at the former York Naval Ordnance Plant (fYNOP) site. The site is located at 1425 Eden Road in Springettsbury Township, York County, York, Pennsylvania (**Figure 1**) and is currently occupied by Harley-Davidson.

1.1 Project Description

The SCR is being submitted in accordance with the Storage Tank Spill Prevention Act (Act 32 of 1989) and implementing regulations in Pennsylvania Code, Chapter 245, Section 245.310, to address a subsurface release from a former 10,000-gallon gasoline UST that was removed from an area to the west of Buildings 45 and 50 (former Harley-Davidson maintenance/garage areas) in July 2010 (**Figure 2**). The former UST was listed as tank number 009 on Harley-Davidson's Pennsylvania Department of Environmental Protection (PADEP) storage tank registration certificate. The release occurred from the area of the dispenser for Tank 009 (**Figure 3**).

1.2 Report Organization

Background information and a description of the site setting are provided in Chapter 2.0 of this SCR. Chapter 3.0 provides the results of the activities that were performed to characterize the release from Tank 009. Chapter 4.0 includes a discussion on ecological screening. A discussion of the remediation standard is described in Chapter 5.0, and conclusions and recommendations are presented in Chapter 6.0. A list of references is included in Chapter 7.0.

2.0 SITE SETTING

2.1 Background Information

Ongoing environmental investigation, characterization, and remediation activities have been performed at the fYNOP site pursuant to a 1995 settlement agreement between Harley-Davidson and the United States, the United States Department of Defense (DoD), and the United States Department of Navy (collectively, the “United States”), as represented by the United States Army Corps of Engineers (USACE) due to past operations. Under the settlement agreement, the environmental assessment and remediation of the site are to be performed by Harley-Davidson, with review and input from the USACE, in substantial compliance with the National Contingency Plan (NCP) and consistent with other federal and applicable state and local laws and regulations. Harley-Davidson and the United States are working to complete a site-wide remedial investigation/feasibility study (RI/FS), pursuant to the One Cleanup Program. In 2005, Harley-Davidson submitted a Notice of Intent to Remediate (NIR) to the PADEP for the site. The PADEP and United States Environmental Protection Agency (EPA) Region III acknowledged the NIR and confirmed that Harley-Davidson is enrolled in the One Cleanup Program.

The EPA and the PADEP approved the Facilities Supplemental Remedial Investigation (SRI) Report for Soils in March 2010. The SRI Report for Soils sets forth the full results of the environmental investigation into contaminated soils on the site. The SRI Report for Groundwater was submitted to the EPA and PADEP in September 2011. The results of the Soil and Groundwater SRIs will form the basis for the selection of future cleanup action. Both SRI reports are accessible for review on the fYNOP website: www.yorksiteremedy.com.

2.2 Site Location

The site is located in Springettsbury Township in York, York County, Pennsylvania, and is currently an active motorcycle manufacturing facility situated on approximately 230 acres. The fYNOP is bordered on the south by Route 30 (Arsenal Road); on the west by Eden Road, a

railroad line and Codorus Creek; and on the east and north by residential properties (**Figure 1**). Tank 009 was formerly located in the North Plant Area (NPA) of the fYNOP, to the west of Buildings 45 and 50 (maintenance and garage buildings) that were demolished in July 2010 (**Figure 2**). The area where Tank 009 was formerly located is referred to in this SCR as the “study area.”

In January 2010, Harley-Davidson announced the sale of approximately 58 acres of its property to the York County Industrial Development Authority (YCIDA). The remainder of the property (i.e., the East Campus) is currently being consolidated into one facility located at current Building 3. This property is now referred to as the “West Campus,” and the sale is expected to close in 2012. The boundary between the West Campus and the East Campus crosses through the study area (**Figure 2**).

Harley-Davidson is in the process of demolition of unused buildings and structures on both campuses to allow for future development of the West Campus and consolidation on the East Campus. Harley-Davidson and the United States, as part of their existing cost share agreement, have retained all environmental liability and obligations relating to the current environmental conditions on both of the campuses. Harley-Davidson will retain access to the West Campus property and to all monitoring wells and remediation facilities/utilities in order to perform site investigation and remediation activities.

2.3 Topography and Surface Water

The topography at the site slopes from the east toward the west-southwest. The surface elevation in the northeast corner of the site is approximately 565 feet above mean sea level (AMSL), and the surface elevation on the western property boundary is approximately 360 feet AMSL.

The ground surface over most of the study area is relatively flat with a surface elevation of approximately 378 feet AMSL. A relatively steep slope borders the west side of the study area (**Figure 3**).

The closest surface water body to the study area is Johnsons Run, which is located approximately 200 feet to the east (**Figure 2**). Johnsons Run is a perennial stream (Langan, 2005) that flows toward the north and then turns and flows toward the west, roughly following the northern property boundary until it discharges into Codorus Creek (approximately 2,200 feet to the west of the study area).

2.4 Geology

Two main geologic rock types underlie the site. A solution-prone gray limestone is beneath the flat lowland section in the western portion of the site. A quartzitic sandstone is beneath the more steeply sloping hills or upland areas in the eastern part of the site. The boundary between the limestone and the sandstone is illustrated on **Figure 4**. The study area is underlain by the limestone.

Unconsolidated overburden materials consist of fill and residual soils developed from the weathering of the underlying bedrock. Portions of the site also have alluvial deposits, which include more coarse-grained sediments interspersed among the predominantly fine-grained residual soils (Groundwater Sciences Corporation [GSC], 2011). These overburden materials range in thicknesses from 15 feet to greater than 67 feet.

2.5 Hydrogeology

Groundwater beneath the site flows from the upland area in the eastern portion of the site westward toward Codorus Creek (**Figure 4**). Groundwater flow is influenced by the subsurface geologic conditions; man-made disturbances, such as the storm water line and storm water detention basin located in the central portion of the site (**Figure 2**); and the active groundwater extraction wells located at the site (see Section 2.7).

Groundwater in the upland area (i.e., quartzitic sandstone) flows mainly through the interconnected network of fractures, joints, and bedding planes. Groundwater in the lowland

area (i.e., limestone) is directed along fractures, dissolution cavities, interconnected conduits, and weathered zones in the rock.

2.6 Constituents of Concern in Site-Wide Soil and Groundwater

The constituents of concerns (COCs) in site-wide soil include metals, volatile organic compounds (VOCs), polycyclic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total and free cyanide. These COCs appear to be restricted to specific source locations, several of which have already been or are being remediated.

The COCs in site-wide groundwater are chlorinated solvents, including tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA), and degradation products of these VOCs. Additional COCs are hexavalent chromium, lead, and cyanide, which were detected less frequently than the VOCs, in certain site groundwater monitoring wells.

2.7 Interim Remediation

The interim remedy for addressing the VOCs in groundwater included groundwater capture via extraction wells and treatment of the groundwater using air stripping in association with thermal treatment or carbon adsorption to control off-gasses, followed by on-site discharge of the treated groundwater into Codorus Creek under National Pollutant Discharge Elimination System (NPDES) permit No. PA0085677. The groundwater extraction and treatment system (GWTS) was constructed in 1990 and has continued operations to date. The groundwater extraction system consists of 15 active extraction wells that are designed to depress the groundwater table and capture VOC-impacted groundwater prior to off-site migration. The locations of the extraction wells are illustrated on **Figure 4**. The status of the GWTS operations is reported to the PADEP via annual reports.

2.8 Water Use Information

Potable water is supplied to the site and the surrounding properties by York Water Company. Extensive well and surface water use surveys have been performed on behalf of Harley-Davidson at the site. The results of the surveys indicated that there are no public water supply wells or surface water intake locations within a one-mile area downgradient of the site (Langan, 2004). Numerous private wells have been identified surrounding the site; however, based on the remedial investigations and groundwater elevation data, these wells are not located downgradient of the site (Langan, 2005). Additionally, nearby private wells are not used for drinking because homeowners adjacent to the fYNOP site, which were identified as having private wells, have all been connected to public water.

2.9 Local Water Use Ordinance

A copy of the Springettsbury Township ordinance related to water use is included in **Appendix A**. The ordinance requires connection to the existing public water supply system if a connection is within 1,000 feet; however, the ordinance does not preclude the use of groundwater if a connection is not available. Most, if not all, properties surrounding the site appear to be located within 1,000 feet of the existing public water supply system.

2.10 Former Underground Storage Tanks

2.10.1 1991 UST Removals

In October 1991, four USTs were removed by Harley-Davidson from an area to the west of Building 45 (**Figure 5**). The following is a description of the former USTs:

- T-1 – 1,000-gallon diesel fuel UST installed in 1970 (PADEP registration number 005)
- T-2 – 4,000-gallon gasoline UST installed in 1976 (PADEP registration number 008)
- T-3 – 5,000-gallon gasoline UST installed in 1976 (PADEP registration number 007)
- T-4 – 3,500-gallon gasoline UST installed in 1973 (PADEP registration number 006)

The removal of T-1 through T-4 is documented in a UST Closure Report dated March 1992, a copy of which is provided in **Appendix B**. The remainder of this section provides a summary of the removals and the associated investigation/remedial actions for T-1 through T-4 that were completed.

Environmental assessment activities were conducted during the removal of T-1 through T-4 that consisted of the inspection/screening of soil for signs of hydrocarbon impact (i.e., discoloration, odors, elevated photoionization detector [PID] measurements, etc.) and the collection of confirmatory soil samples for laboratory analysis of benzene, toluene, ethylbenzene, and total xylene (BTEX) using EPA Modified Method 8020 and total petroleum hydrocarbons (TPH) using EPA Method 418.1.

The results of the environmental assessment activities are summarized below:

- T-1 – No hydrocarbon impact was detected.
- T-2 – Hydrocarbon impact was not apparent based upon field inspection of soil. Total xylenes were detected in one soil sample (0.102 milligrams per kilogram [mg/kg]), and TPH was detected in three soil samples (66 to 110 mg/kg). The detected total xylene concentration is less than the PADEP nonresidential soil-to-groundwater and direct contact medium-specific concentrations (MSCs) of 1,000 mg/kg and 9,100 mg/kg, respectively. The PADEP does not have an MSC for TPH. Based on the sample results, no remedial action was performed.
- T-3 – Minor hydrocarbon impact was apparent based upon field inspection of soil. Total xylenes were detected in one soil sample (0.9 mg/kg), and TPH was detected in three soil samples (96 to 220 mg/kg). The detected total xylene concentration is less than the PADEP nonresidential soil-to-groundwater and direct contact MSCs. Based on the sample results, no remedial action was performed.

- T-4 – A subsurface release of gasoline from the product line(s) or valves located above the UST was discovered based upon the results of the environmental assessment activities (i.e., staining on the outer surface of T-4, hydrocarbon odors in soil, BTEX and TPH concentrations in soil samples, etc.).

To address the release from T-4, approximately 1,200 tons of hydrocarbon-impacted soil were excavated and removed from the subsurface. However, because of the presence of active aboveground/underground utilities and other structures, some hydrocarbon-impacted soil could not be excavated and removed from the subsurface. Vapor extraction pipes were installed into the excavation during the backfilling activities to facilitate in-situ treatment.

From October 1996 through September 1997, a soil gas extraction system was operated periodically to remediate hydrocarbon-impacted soil from the T-4 release that could not be excavated. The extraction system was shut down after it was concluded that its operation would not be effective in further remediating the hydrocarbon-impacted soils in the area of T-4 to levels below the PADEP standards.

In December 1997, six soil samples were collected at the former location of T-4 (**Appendix B**). Benzene was detected in three samples (3.2 to 17 mg/kg), and toluene was detected in one sample (120 mg/kg) at concentrations greater than the PADEP nonresidential soil-to-groundwater MSCs (0.5 mg/kg and 100 mg/kg, respectively).

In a letter from SAIC to PADEP dated September 16, 1998, Harley-Davidson requested that the PADEP approve shutdown of the extraction system because they were conducting an RI/FS to address soil and groundwater on a site-wide basis (**Appendix B**). On behalf of Harley-Davidson, Dames & Moore prepared a letter dated December 27, 1999 (**Appendix B**) which confirmed that PADEP agreed with the request to shut down the extraction system and to address the release from T-4 as part of the ongoing RI/FS. Thus, based on the data available, the former location of T-4 remains a potential source area. The former location of T-4 is approximately 35 feet to the south of Tank 009.

2.10.2 2010 UST Removals

2.10.2.1 UST Removal Activities

On July 13 and 14, 2010, a 10,000-gallon unleaded gasoline UST (Tank 009) and a 1,000-gallon diesel fuel UST (Tank 010) were excavated and removed by YCP, Inc. (YCP) on behalf of Harley-Davidson (**Figure 5**). Tanks 009 and 010 were located next to each other and were used to fuel Harley-Davidson vehicles and equipment.

Tanks 009 and 010 were installed in December 1991 and were constructed of double-walled steel with galvanic anodes for cathodic protection. The USTs were equipped with spill containment (catch basin on direct fill) and overfill protection (automatic shutoff device on the drop tube and an overfill alarm). The leak detection system for the USTs was an automatic tank gauging (ATG) system (Veeder-Root TLS-350). Leak sensors connected to the ATG were present in the tank top containment sumps and the interstitial space between the primary and secondary UST walls. The product piping was constructed of double-walled fiberglass-reinforced plastic (FRP) and extended underground from the USTs to separate product dispensers.

A release from Tanks 009 and 010 was not apparent during their removal based upon inspection of the UST excavation (soil discoloration, odors, sheen, etc.) and PID screening for total volatile organic compounds (TVOCs). Additionally, observations of the USTs, product piping, product dispensers, spill containment buckets, etc., did not show any signs of structural failure (i.e., cracks, loose connections, holes, stained surfaces, etc.). All soil that was excavated during the UST removals was placed back into the excavation for backfill.

2.10.2.2 UST Removal Soil Sampling

On July 13 and 14, 2010, eight confirmatory soil samples were collected for laboratory analysis from the excavation by YCP following the removal of Tanks 009 and 010 (see Figure 3 in **Appendix C**). Four soil samples were collected at each of the two tanks (two at the tank, one underneath the product piping, and one underneath the dispenser). The samples were submitted

to Analytical Laboratory Services, Inc. (ALSI) for analysis of the PADEP Short List of Petroleum Products (unleaded gasoline and diesel fuel) using EPA Method 8260/5035.

Unleaded gasoline and diesel fuel parameters were detected in the soil samples collected from underneath the former dispenser for Tank 009 (i.e., under gas dispenser), the former product piping associated with Tank 009 (i.e., gas line), and the former product piping associated with Tank 010 (i.e., diesel line). None of the concentrations detected in the samples associated with Tank 009 were greater than the PADEP nonresidential direct contact MSCs for subsurface soil (2 to 15 feet below grade [fbg]). The concentrations of naphthalene (43.7 mg/kg), 1,2,4-trimethylbenzene (417 mg/kg), and 1,3,5-trimethylbenzene (127 mg/kg) in the sample collected from underneath the former dispenser for Tank 009 were greater than the PADEP nonresidential soil-to-groundwater MSCs of 25 mg/kg, 35 mg/kg, and 9.3 mg/kg, respectively. The analytical results for the samples with Tank 009 are summarized on **Table 1** and **Figure 3**. None of the concentrations detected in the samples associated with Tank 010 were greater than the nonresidential MSCs for direct contact (2 to 15 fbg) or the soil-to-groundwater pathway.

2.10.2.3 UST Removal Water Sampling

On July 13, 2010, two water samples were collected by YCP from the excavation for Tank 009 at a depth of approximately 11 fbg (see Figure 3 in **Appendix C**). No water was present in the excavation for Tank 010. The source of the water sampled in the excavation under Tank 009 was from precipitation (i.e., rain and surface water runoff into the excavation) that occurred concurrent with the UST removals. The samples were submitted to ALSI for analysis of the PADEP Short List of Petroleum Products (unleaded gasoline and diesel fuel) using EPA Method 8260B.

Benzene, toluene, ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene were detected in the water samples (**Table 2**). The concentrations of benzene detected in the two water samples (92.8 and 91.4 micrograms per liter [$\mu\text{g/L}$]) were greater than the PADEP nonresidential MSC for groundwater of 5 $\mu\text{g/L}$. All other detected concentrations were less than PADEP nonresidential MSCs for groundwater.

2.10.2.4 Release Reporting

On July 29, 2010, the release was verbally reported to the PADEP following receipt of the analytical results for the UST removal samples from the laboratory. Written notification of the release was submitted by Harley-Davidson to the PADEP on August 17, 2010.

2.10.2.5 Supplemental UST Removal Soil Sampling

On November 12, 2010, SAIC completed three soil borings (SB-001, SB-002, and SB-003) to assess the soil quality conditions beneath the centerline of Tank 009 (**Figure 3**). The samples were collected for analysis because soil samples were not collected from underneath Tank 009 when it was removed in July 2010 as required in the PADEP Technical Document entitled *Closure Requirements for Underground Storage Tank Systems*, effective April 1, 1998.

The sampling was completed using a direct-push (i.e., Geoprobe[®]) rig that was equipped to push downward through the backfill that was used in the UST excavation and into the underlying soil. Soil samples were collected in dedicated disposable acetate liners. The sampling equipment (rods, sample probe, drive points, etc.) was decontaminated before each sample location by washing with a Liqui-Nox[®]/potable water solution and rinsing with potable water. Upon the completion of the sampling, the boreholes were backfilled with soil and bentonite hole plug to grade.

As indicated on the soil boring logs in **Appendix D**, sampling was completed to depths ranging from approximately 15.9 fbg (SB-001) to 20.0 fbg (SB-002 and SB-003). Field inspection and screening of the soil samples by SAIC with a PID for TVOCs did not indicate the presence of hydrocarbon impact (i.e., odors, staining, elevated PID measurements, etc.).

One soil sample was collected from each of the 3 borings at depths of approximately 12.5 to 13.0 fbg (SB-001), 16.9 to 17.4 fbg (SB-002), and 16.9 to 17.4 fbg (SB-003). The soil samples were collected in accordance with EPA Method 5035 using laboratory-provided Terra Core

samplers (a dedicated disposable syringe-type sample transfer tool) and placed into laboratory-provided 40-milliliter (ml) volatile organic analysis (VOA) vials containing methanol preservative. Additionally, samples to be analyzed for moisture content were placed into laboratory-provided four-ounce glass soil jars. Upon collection, labels were affixed to the sample containers, and the samples were placed into a cooler with ice and transported by SAIC to ALSI. A chain-of-custody accompanied the sample shipment to the laboratory. The soil samples were submitted for analysis of the PADEP Short List of Petroleum Products (unleaded gasoline) using EPA Methods 8260/5035. The analytical results showed no detectable concentrations of unleaded gasoline parameters in the soil samples (**Table 1**).

2.10.2.6 UST Removal Reporting

On January 4, 2011, SAIC submitted a UST Closure Report for Tanks 009 and 010 to the PADEP on behalf of Harley-Davidson. The report documented the results of the UST removals and the environmental assessment activities. A copy of the UST closure report is included in **Appendix C**.

2.10.2.7 PADEP Correspondence

On February 14, 2011, Harley-Davidson received a letter from the PADEP that confirmed receipt/review of the UST closure report and set the due date for the submittal of an SCR at July 2, 2011. On June 8, 2011, SAIC submitted a request to the PADEP on behalf of Harley-Davidson to extend the due date for the submittal of the SCR to December 23, 2011. The basis for the extension request was to allow more time to characterize the groundwater conditions associated with the release. In an E-mail to SAIC dated June 10, 2011, the PADEP concurred with the request to extend the due date for the SCR to December 23, 2011. On December 6, 2011, the PADEP approved a request to extend the due date for the submittal of the SCR to January 27, 2012.

2.10.2.8 USTIF Claim

On August 20, 2010, Harley-Davidson filed a claim with the Pennsylvania UST Indemnification Fund (USTIF) to obtain reimbursement for eligible investigation and remediation costs related to the release (USTIF Claim Number 2010-0106[M]). On December 17, 2010, and June 2, 2011, Harley-Davidson submitted information to ICF International (ICF), the third-party administrator for USTIF, in support of the claim. In a letter to Harley-Davidson dated November 23, 2011, ICF states that the claim is eligible for funding of corrective action costs (**Appendix E**).

2.11 Underground Utilities

Underground utilities are present in the study area (**Figure 3**). Specifically, underground water (eight-inch-diameter fire protection), steam, and electric lines are located to the south of former Tank 009. Underground storm water and electric lines are located to the east of former Tank 009. The water line is approximately 5 feet deep, the electric and steam lines are housed within a vault that is approximately 6 feet deep, and the storm water line (approximately 48-inch-diameter) is approximately 10 feet deep. The storm water line discharges into a storm water detention basin located to the north of the study area (**Figure 2**). The storm water line and detention basin were installed relatively recently (July–August 2010). The backfill material in the trench for the storm water line may be intercepted by springs and has the potential to transmit water and is a potential source of recharge to groundwater. Based upon the depth and location of the underground water, steam, and electric lines with respect to the source, it is not likely that they are preferential pathways for the migration of hydrocarbons in the subsurface as a result of the release from the former dispenser associated with Tank 009. Additional characterization activities, however, may need to be performed to assess whether the storm water line is a preferential pathway for hydrocarbon migration because of its proximity to the release from Tank 009 and depth (the line appears to intercept the groundwater table). The data/information obtained during the completion of the recommendations included in Section 6.2 will provide the basis for assessing the need to perform additional characterization activities along the storm water line (i.e., collection and analysis of samples from within and/or around the line).

3.0 SITE CHARACTERIZATION

3.1 Introduction

In response to the PADEP's request to prepare an SCR, the following site characterization activities were completed to investigate the release from Tank 009:

- May 4, 2011 – Installation and sampling of eight soil borings (SB-004 through SB-011).
- August 15 through 18, 2011 – Installation and sampling of four monitoring wells (MW-118 through MW-121).
- August 17 through November 28, 2011 – Periodic water level gauging of five monitoring wells (MW-118 through MW-121 and MW-77).
- August 25, 2011 – Collection of groundwater samples from four monitoring wells (MW-118 through MW-121).
- September 30, 2011 – Collection of groundwater samples from four monitoring wells (MW-118 through MW-121).

All fieldwork was performed using Level D Occupational Safety and Health Administration (OSHA) personal protective equipment (PPE) and in accordance with the Health and Safety Plan (HASP) for Harley-Davidson field operations. The HASP outlines the anticipated contaminants, monitoring equipment, protective clothing, action levels, and emergency procedures.

3.2 Soil Borings

3.2.1 Sampling Procedures

On May 4, 2011, eight soil borings (SB-004 through SB-011) were completed to assess the soil conditions at and around the former dispenser for Tank 009 (**Figure 5**). The sampling was completed using SAIC's direct-push Geoprobe[®] rig. Soil samples were collected in each boring in 4-foot-long dedicated disposable acetate liners from the ground surface to the total depth of the borings (approximately 12 to 20 fbg). The Geoprobe[®] sampling equipment was decontaminated before use at each sample location by washing with a Liqui-Nox[®]/potable water solution and a potable water rinse. Upon the completion of sampling, the boreholes were backfilled with soil and bentonite hole plug to grade.

3.2.2 Environmental Assessment Results

An SAIC scientist inspected the soil samples for signs of apparent hydrocarbon impact (staining, odors, etc.), and performed screening for TVOCs using a PID. Soil boring logs are included in **Appendix D**. Hydrocarbon impact was apparent in SB-008 (located at the former dispenser for Tank 009) and SB-005 (approximately 10 feet to the west of the former dispenser for Tank 009). At SB-008, hydrocarbon impact was apparent from approximately 2 fbg to the bottom of the boring (approximately 12 fbg). In SB-005, hydrocarbon impact was apparent from approximately 10 fbg to the bottom of the boring (approximately 15.7 fbg). Hydrocarbon impact was not apparent in the other six borings. The subsurface stratigraphy encountered in the borings is described in Section 3.4, and **Table 3** provides information on the physical characteristics of the overburden materials.

Two or three soil samples were collected for laboratory analysis from each of the borings at various depths based upon the field inspection and PID screening results. The samples were collected from soils that were not observed to be water saturated. The soil samples were collected in laboratory-provided Encore[®] samplers (a dedicated disposable volumetric sampling device that prevents the loss of volatiles). Additionally, samples to be analyzed for moisture

content were placed into laboratory-provided four-ounce glass soil jars. Upon collection, labels were affixed to the sample containers, and they were placed into a cooler with ice and sent to TestAmerica Laboratories, Inc. (TestAmerica). A laboratory-provided quality assurance/quality control (QA/QC) trip blank and a chain-of-custody accompanied the soil samples in the cooler during shipment to TestAmerica. The samples were submitted for laboratory analysis of the PADEP Short List of Petroleum Products (unleaded gasoline) using EPA Method 8260B.

The soil sample analytical results are summarized on **Table 1** and **Figure 6**. A copy of the laboratory analysis report is included in **Appendix F**. Concentrations of unleaded gasoline parameters were detected in the following borings:

- SB-005 – 11.1 to 11.6 fbg, 12 to 12.5 fbg, and 15.2 to 15.7 fbg
- SB-006 – 12.0 to 12.5 fbg
- SB-008 – 5.5 to 6.0 fbg and 10.3 to 10.8 fbg
- SB-010 – 15.0 to 15.5 fbg
- SB-011 – 9.3 to 9.8 fbg

None of the detected concentrations were greater than the PADEP nonresidential direct contact MSCs for subsurface soil (2 to 15 fbg). The concentrations of 1,2,4-trimethylbenzene (120 mg/kg) and 1,3,5-trimethylbenzene (30 mg/kg) in the sample collected from SB-005 (11.1 to 11.6 fbg) are the only parameters that were detected in the samples above the PADEP nonresidential soil-to-groundwater MSCs of 35 mg/kg and 9.3 mg/kg, respectively. No unleaded gasoline parameters were detected in the trip blank.

3.3 Monitoring Wells

3.3.1 Background Information

Monitoring wells exist in the vicinity of the study area that were installed during previous investigations at the site (**Figure 2**). The wells provide information that was used to characterize the release from Tank 009. Construction logs for the wells that are in relative close

proximity to Tank 009 (i.e., MW-26, MW-52 [abandoned], MW-53 [abandoned], MW-77, and MW-83 are included in **Appendix G. Table 4** provides a summary of pertinent information from the wells.

Based upon the distance of well MW-26 from Tank 009 (approximately 260 feet to the east-southeast) and the absence of BTEX and methyl tertiary-butyl ether (MTBE) in groundwater during previous sampling events, it does not appear to have been impacted by the release from Tank 009. Wells MW-52 and MW-53 (located approximately 120 feet to the north and 130 feet to the northwest of Tank 009, respectively) were abandoned on May 14, 2010. Previous sampling of MW-52 showed low concentrations of chlorinated VOCs, benzene (0.57 µg/L), and MTBE (0.42 µg/L). No VOCs were detected in groundwater samples from MW-53. Well MW-77 is the closest existing well to former Tank 009 (approximately 50 feet to the southwest of Tank 009), and samples from it have contained detectable concentrations of unleaded gasoline parameters above the PADEP nonresidential MSCs. The top of the well screen in MW-77, however, is approximately 20 feet below the groundwater table surface. Well MW-83 (approximately 330 feet to the southwest of Tank 009) has contained detectable concentrations of chlorinated VOCs, benzene (0.72 µg/L), MTBE (0.73 µg/L), and toluene (3.1 µg/L). Well MW-83 was constructed with the purpose of monitoring chlorinated VOCs in the bedrock aquifer and is cased off to a depth of approximately 51 fbg.

3.3.2 Drilling and Well Construction Procedures

On August 15 through 18, 2011, four monitoring wells (MW-118 through MW-121) were drilled and constructed in the study area to characterize the groundwater conditions associated with the release from Tank 009. The wells were installed using a hollow-stem auger rig by Eichelbergers, Inc., under SAIC oversight. Split-spoon samples (2-inch-diameter by 2-foot-long) were collected during the drilling of the monitoring wells at 5-foot-depth intervals (5 to 7 fbg, 10 to 12 fbg, 15 to 17 fbg, etc.) to a depth of approximately 25 fbg. Additionally, continuous split-spoon samples were collected in MW-120 (30 to 40 fbg) and MW-121 (25 to 33 fbg). The subsurface stratigraphy encountered in the wells is described in Section 3.4.

Monitoring wells were constructed in the borings using 2-inch-diameter schedule 40 PVC casing and screen. The drilling and sampling equipment was decontaminated with a pressure washer between each location. The tops of the wells were completed within flush-on-grade manhole covers that were concreted in place. Construction logs for the monitoring wells are included in **Appendix H**. The following is a chronological summary of the drilling and construction activities for each of the wells:

- **MW-118** – Drilling started on August 15, 2011, approximately 30 feet to the east of the former dispenser for Tank 009 in an anticipated upgradient location with respect to groundwater flow. The well was drilled to a depth of approximately 25 fbg, and the well screen was installed from approximately 8 to 23 fbg.
- **MW-121** – Drilling started on August 15, 2011, approximately 40 feet to the southwest of the former dispenser for Tank 009 in an anticipated downgradient location with respect to groundwater flow. The well was drilled to a depth of approximately 25 fbg. On August 17, 2011, the well was reamed out and deepened to a depth of approximately 36 fbg because no groundwater was present in the well. On August 18, 2011, the well was installed with a screened interval from approximately 7 to 35 fbg.
- **MW-120** – Drilling started on August 16, 2011, approximately 60 feet to the west of the former dispenser for Tank 009 in an anticipated downgradient location with respect to groundwater flow. Initial attempts to install the well closer to the former dispenser for Tank 009 were not successful because refusal was encountered on concrete (possible UST hold-down anchors that were not removed from the subsurface). Drilling was completed to a total depth of approximately 40 fbg. Upon the completion of drilling, groundwater was not present in the borehole. On the morning of August 17, 2011, approximately 5 feet of groundwater had accumulated in the borehole, and a well was installed with a screened interval from approximately 6 to 39 fbg.

- **MW-119** – Drilling started on August 16, 2011, at the location of the former dispenser for Tank 009 (i.e., the source area). The well was drilled to a depth of approximately 27 fbg with a screened interval from approximately 5 to 25 fbg.

The monitoring wells were developed by SAIC with a submersible pump following installation. All wells were dewatered during the development activities after pumping one to two standing well volumes of groundwater at a flow rate of approximately 1 gallon per minute (gpm).

The horizontal locations of the monitoring wells were surveyed by SAIC using a global positioning system (GPS) and physical measurements for inclusion on the site map (**Figure 2**). The vertical elevations of the wells were manually surveyed by SAIC using an auto level/stadia rod to within 0.01 feet. The top of casing (TOC) elevation at MW-77 was used as the benchmark to establish relative elevations for the wells (**Table 5**).

3.3.3 Soil Sampling

As indicated on the well construction logs in **Appendix H**, field inspection and PID screening of soil samples from the monitoring wells identified hydrocarbon impact at MW-118 (approximately 10 to 24 fbg) and MW-119 (approximately 2 to 25 fbg). Relatively low PID measurements ranging from 2 to 12.7 parts per million (ppm) TVOCs were detected in the soil sample collected from MW-121 at a depth of approximately 15 to 17 fbg; however, no sign of hydrocarbon impact was apparent in the sample (staining, odors, etc.). Hydrocarbon impact was not apparent in MW-120.

Soil samples were not planned to be collected for laboratory analysis during the monitoring well installations because the soil quality conditions were assessed during the installation of the soil borings in May 2011 (e.g., SB-008 and MW-119 were completed at the same approximate location). One soil sample, however, was collected for laboratory analysis from a depth of approximately 11 to 12 fbg in MW-118 because of the hydrocarbon impact that was identified. The sample was collected in laboratory-provided Encore[®] samplers and a four-ounce glass soil jar. Upon collection, labels were affixed to the sample containers, and they were placed into a

cooler with ice and sent to TestAmerica. A laboratory-provided QA/QC trip blank and a chain-of-custody accompanied the soil sample in the cooler shipped to TestAmerica. The soil sample was submitted for laboratory analysis of the PADEP Short List of Petroleum Products (unleaded gasoline) using EPA Method 8260B.

The analytical results for the MW-118 sample are summarized on **Table 1** and **Figure 6**. A copy of the laboratory analysis report is included in **Appendix F**. Unleaded gasoline parameters were detected in the soil sample from MW-118; however, the concentrations were less than the PADEP nonresidential soil-to-groundwater and direct contact MSCs. No unleaded gasoline parameters were detected in the trip blank.

3.3.4 Well Gauging

The new monitoring wells (MW-118 through MW-121) and MW-77 were gauged by SAIC on 10 occasions between August 17 and November 28, 2011 (**Table 5**). Depth-to-groundwater measurements were measured in the wells using an interface probe. The depth to groundwater in the wells following recovery to static conditions ranged from approximately 6 feet below the top of the well casing (fbtoc) in MW-120 to 20 fbtoc in MW-77. No light non-aqueous phase liquid (LNAPL) was detected in the wells during the gauging events.

Depth to groundwater measurements indicate that the groundwater table surface is above the top of the screened interval in wells MW-118 and MW-77. In MW-118, groundwater is approximately 1 foot above the top of the well screen, and in MW-77, groundwater is approximately 20 feet above the top of the well screen. Additionally, in MW-120, groundwater was approximately 0.25 feet above the top of the well screen on 3 occasions (August 8, August 12, and September 30, 2011).

3.3.5 Groundwater Sampling

Two rounds of groundwater samples were collected by SAIC from monitoring wells MW-118 through MW-121 (August 25 and September 30, 2011). The wells were purged with a

submersible pump prior to sampling at a relatively low purge rate (i.e., less than approximately 0.5 gpm) to minimize the drawdown of the groundwater level in the wells. The pump was decontaminated before use at each well by washing with a Liqui-Nox[®]/potable water solution and a potable water rinse. During purging, water quality field parameters were measured and recorded (temperature, pH, conductivity, dissolved oxygen, and turbidity). The water quality field parameters are documented on the sampling logs included in **Appendix I**.

Upon stabilization of the field parameters or dewatering of the monitoring well, the latter of which only occurred at MW-119 during the first round of sampling (August 25, 2011), groundwater samples were collected directly from the dedicated disposable pump discharge tubing in laboratory-provided 40 ml VOA vials containing preservative (i.e., hydrochloric acid). Additionally, QA/QC samples were collected during both rounds of groundwater sampling that consisted of a laboratory-provided trip blank, field (rinsate) blank, and a blind duplicate groundwater sample from well MW-118.

Upon collection, labels were affixed to the sample containers, and they were placed into a cooler with ice and a chain-of-custody and sent to TestAmerica. The groundwater samples were submitted for laboratory analysis of the PADEP Short List of Petroleum Products (unleaded gasoline) using EPA Method 8260B.

The analytical results for the groundwater samples are summarized on **Table 6** and **Figure 7**. Copies of the laboratory analysis reports are included in **Appendix J**. The following is a summary of the groundwater sample analytical data:

- Unleaded gasoline parameters were detected in the samples from MW-118, MW-119, and MW-121 at concentrations above the PADEP nonresidential MSCs for groundwater.
- The groundwater samples collected from MW-119, which is in the area of the former dispenser for Tank 009, contained the highest concentrations of unleaded gasoline parameters compared to the concentrations detected in the other wells that were sampled.

- The concentrations of benzene, toluene, and MTBE that were detected in the samples from MW-120 were relatively low and below the PADEP nonresidential MSCs for groundwater. The absence of unleaded gasoline parameters at concentrations greater than the PADEP nonresidential MSCs at MW-120 suggests that the migration of dissolved-phase unleaded gasoline parameters in groundwater from the source area toward the northwest is limited.
- The extent of dissolved-phase unleaded gasoline parameters in groundwater was not completely delineated by wells MW-118 through MW-121.
- No concentrations of unleaded gasoline parameters were detected in the QA/QC trip and rinse blanks. The analytical results for the second (September) round of groundwater samples and the blind duplicate samples collected from well MW-118 are within accepted precision and are consistent with the results for the actual samples. Most of the parameters from the first (August) round of groundwater duplicate sampling were not within accepted precision due to holding times associated with rerun (diluted) samples. However, these data are considered usable for the purposes of groundwater characterization.

3.3.6 Investigation-Derived Waste Management

Investigation-derived waste (IDW) consisting of soil and groundwater that was generated during the monitoring well installations, development, and sampling was containerized and managed by Harley-Davidson. The soil (i.e., drill cuttings) was disposed of as nonhazardous waste on November 9, 2011, at Modern Landfill in York, Pennsylvania (**Appendix K**). The groundwater was treated at the on-site Harley-Davidson GWTS on or about November 4, 2011.

3.4 Subsurface Stratigraphy

The subsurface stratigraphy in the study area was described during the drilling of the soil borings and monitoring wells. The descriptions for the borings and wells are presented on the logs in

Appendices D and H. A cross section illustrating the borings/wells, subsurface stratigraphy, and sampling data is included as **Figure 8**.

Unconsolidated overburden materials extend to a depth of greater than 67 fbg in the study area (see well construction log for MW-77 in **Appendix G**). The overburden materials are heterogeneous (i.e., variable both laterally and vertically) and are composed of clay, silt, sand, and gravel. The shallow overburden materials are likely reworked soil and fill material associated with historical development/construction activities. Examples of known fill material include gravel that was used to backfill the former UST excavations and along the underground utility corridors. Bedrock was not encountered during the drilling of the soil borings and monitoring wells.

Two samples of the overburden materials were collected during the drilling of the monitoring wells for laboratory analysis of physical parameters. The samples were obtained using a thin-walled metal tube (i.e., Shelby Tube) that facilitates the collection of a relatively intact (i.e., undisturbed) sample. The samples were collected from a depth of approximately 17 to 19 fbg in MW-118 and approximately 33 to 34.7 fbg in MW-121. The samples were sent with a chain-of-custody to TestAmerica for analysis of total organic carbon, percent solids, density, specific gravity, porosity, and grain size.

A copy of the laboratory analysis report for the samples is included in **Appendix F**, and the results of the sample are summarized on **Table 3**. Based upon the Unified Soil Classification System (USCS), the grain size analysis results indicate that the sample from MW-118 is identified as a lean clay (CL), and the sample from MW-121 is clayey sand with gravel (SC).

3.5 Hydrologic Conditions

Discontinuous zones of water-saturated overburden materials were encountered at various depths during the drilling of the soil borings and monitoring wells, as follows:

- SB-001 – In gravel used to backfill the excavation for former Tank 009 from approximately 12 to 12.5 fbg.
- SB-002 – In gravel used to backfill the excavation for former Tank 009 from approximately 9.0 to 16.5 fbg.
- SB-003 – In gravel used to backfill the excavation for former Tank 009 from approximately 12 to 16.5 fbg.
- SB-004 – In gravel from approximately 12 to 14 fbg and in sand from approximately 16 to 18.5 fbg.
- SB-006 – In gravel from approximately 12 to 13 fbg.
- SB-007 – In silt and gravel from approximately 12 to 13.5 fbg.
- SB-008 – In clay at approximately 12 fbg.
- SB-011 – In silt from approximately 8 to 10 fbg.
- MW-118 – In clay from approximately 15 to 25 fbg.
- MW-119 – In gravel from approximately 25 to 27 fbg.
- MW-120 – In gravel from approximately 36 to 39 fbg.
- MW-121 – In clay from approximately 10.5 to 12 fbg and 15 to 17 fbg, and in sand from approximately 31 to 32 fbg.

The water-saturated overburden materials are formed through the infiltration of surface water (i.e., recharge). In areas where fill material is extensive or has higher permeability (e.g., former UST excavations, utility corridors, etc.), infiltration into the subsurface may be enhanced. Enhanced infiltration, coupled with the variable subsurface stratigraphy and higher than average precipitation in 2011, has resulted in perched groundwater in the overburden materials.

During the drilling of monitoring wells MW-118 through MW-121, groundwater was observed to rise upward in the boreholes after intercepting water-saturated overburden materials. The static water levels (SWLs) in the wells stabilized at depths above where the water-saturated overburden materials were observed. For example, in well MW-120, water-saturated gravel was encountered at approximately 36 to 39 fbg, and the SWL in the well is approximately 7 fbg. Additionally, similar conditions are documented on the log for MW-77 (**Appendix G**). These conditions suggest that shallow overburden aquifer penetrated by the wells may be confined.

The groundwater elevations in the wells are graphically depicted on **Figure 9**. The graph shows that the groundwater elevation fluctuations in the wells are consistent with each other. Note that the groundwater elevation in MW-120 is recovering to static conditions during the initial measurements. From September 8, 2011, to present, the groundwater elevations in the wells have remained relatively stable.

The groundwater elevations in the wells on September 30 and November 28, 2011, are presented on **Figures 10** and **11**, respectively. The groundwater elevations in MW-118 and MW-120 (located on the east and west sides of the study area, respectively) are consistently higher than the elevations in the other wells. The groundwater elevations in MW-119 and MW-121 are similar to each other and approximately five feet lower than the elevations in MW-118 and MW-120. The groundwater elevation in MW-77 (the deepest of the 5 wells in the study area [approximately 65 feet deep]) is consistently lower than the groundwater elevations in MW-118 through MW-121. Groundwater elevation contours are not depicted on the figures because additional groundwater elevation data are needed to further define the hydrologic conditions in the study area.

3.6 Vapor Intrusion Evaluation

3.6.1 Objective and Method

Analytical data for soil and groundwater samples were compared with vapor intrusion (VI) screening values in the PADEP guidance document titled *Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard*, dated January 24, 2004. The comparison was performed to determine whether the concentrations of unleaded gasoline parameters detected in either soils or groundwater would require further evaluation of the VI pathway.

3.6.2 Soil

The detected concentrations of unleaded gasoline parameters in the soil samples and the PADEP nonresidential volatilization to indoor air default screening concentrations for VI are presented on **Table 1**. Detected concentrations of unleaded gasoline parameters in 2 of the 25 soil samples are greater than the nonresidential default screening values. Specifically, the concentrations of ethylbenzene, total xylenes, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene in the soil samples collected at a depth of approximately 3.5 fbg from underneath the former dispenser for Tank 009 (i.e., under gas dispenser) and at a depth of approximately 11.1 to 11.6 fbg in SB-005 are greater than the nonresidential default screening values.

3.6.3 Groundwater

The detected concentrations of unleaded gasoline parameters in the groundwater samples from the monitoring wells and the PADEP nonresidential volatilization to indoor air default screening concentrations for VI are presented on **Table 6**. The detected concentrations of benzene in the samples from MW-119 (6,100 and 11,000 µg/L) are above the PADEP default nonresidential volatilization to indoor air screening value for groundwater of 5,900 µg/L. All other detected concentrations are below the residential default screening values for VI.

3.6.4 Summary

Based upon the results of the VI evaluation, detected concentrations of unleaded gasoline parameters in both soil and groundwater samples are greater than the PADEP nonresidential volatilization to indoor air default screening concentrations. Additionally, preferential exposure pathways (e.g., underground utilities) exist, and soil containing unleaded gasoline parameters is present underneath the former dispenser for Tank 009 starting at a depth of approximately 2 fbg. Thus, further evaluation of the VI pathway is warranted.

4.0 ECOLOGICAL SCREENING

The subsurface hydrocarbon impact from the Tank 009 release does not pose an unacceptable risk to potential ecological (terrestrial) receptors based upon the following criteria:

- The site is developed for commercial use.
- The current and anticipated future use of the site is for nonresidential (commercial) purposes.
- The ground surface is predominantly covered with buildings, asphalt paving, concrete, etc., which prevent exposure by terrestrial receptors.
- Surface soil is not impacted; the release from Tank 009 impacted subsurface soils.
- Terrestrial receptors are not directly exposed to groundwater.
- There are no known threatened or endangered species at the site.

Moreover, the unleaded gasoline parameters detected in soils in the study area are various constituents of petroleum products, which were detected at relatively low concentrations. Petroleum products are susceptible to biodegradation and are not highly toxic to ecological receptors at low concentrations.

5.0 IDENTIFICATION OF REMEDIATION STANDARDS

5.1 Soil

The laboratory analysis of soil samples collected during the removal of Tank 009 and the site characterization activities documented concentrations of unleaded gasoline parameters above the nonresidential soil-to-groundwater MSCs and the screening values for VI. No concentrations of unleaded gasoline parameters were detected above the PADEP nonresidential direct contact MSCs for subsurface soil (2 to 15 fbg). Thus, based on the current data from the study area, the site-specific standard (SSS) is applicable for soil; however, the collection of additional data or the completion of remedial actions may result in the use of the Statewide health standard (SHS).

5.2 Groundwater

Dissolved-phase unleaded gasoline parameters were detected in groundwater samples at concentrations greater than the PADEP nonresidential MSCs for used aquifers and the screening values for VI. The point of compliance for attainment of the SHS for groundwater is defined by the PADEP as the property boundary that existed at the time the contamination was discovered. The distance to the property boundary from Tank 009 to the north (i.e., the nearest property boundary) and to the south (i.e., the downgradient property boundary) is approximately 450 feet and 1,650 feet, respectively. Thus, based upon the current data from the study area, distance to the property boundary, and the analytical results from site-wide groundwater sampling that shows little to no detections of unleaded gasoline parameters, the SHS is applicable for groundwater; however, the remediation standard will be reevaluated based upon the results of the additional site characterization activities recommended in Section 6.2.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are presented based upon the site characterization activities taken to address the release from former Tank 009.

6.1 Conclusions

- The subsurface conditions in the study area were characterized through the installation and sampling of eight soil borings (SB-004 through SB-011) and four monitoring wells (MW-118 through MW-121). Additionally, 10 monitoring well gauging events were completed, and 2 rounds of groundwater samples were collected from the monitoring wells. Background information from previous investigations at the site was also used to supplement the characterization of the subsurface conditions.
- The characterization activities addressed a subsurface release of gasoline that was discovered in July 2010 from the area of the former dispenser for Tank 009. A separate release of gasoline was discovered in October 1991 from a former UST (T-4) that was located approximately 35 feet to the south of Tank 009. The release from T-4 was partially remediated; however, residual hydrocarbon impact remains in the subsurface based upon soil sampling performed in December 1997.
- The subsurface stratigraphy characterized by the borings/wells is composed of heterogeneous overburden materials that are over 67 feet thick. The overburden contains fill material from historical development/construction activities.
- The release from Tank 009 impacted soils in a relatively small area underneath and to the west of the former dispenser. Unleaded gasoline parameters were detected in soil samples at concentrations less than the PADEP nonresidential direct contact MSC for subsurface soil (2 to 15 fbg) and greater than the nonresidential soil-to-groundwater MSCs.

- Groundwater was present in overburden materials. The average depth to groundwater in monitoring wells MW-118 through MW-121 and MW-77 was approximately 11 fbg.
- Groundwater was impacted by the release from Tank 009. Dissolved-phase unleaded gasoline parameters were detected in groundwater samples at concentrations greater than the PADEP nonresidential MSCs. No LNAPL was detected in the monitoring wells.
- The release does not pose a threat to known public or private water supply wells. A local water use ordinance requires connection to public water; however, the ordinance does not completely eliminate the potential future use of groundwater.
- Further evaluation of the VI pathway in the study area is warranted based upon the detected concentrations of unleaded gasoline parameters in soil and groundwater.
- The release does not pose a risk to ecological receptors.

6.2 Recommendations

- Installing additional monitoring wells in the overburden material is recommended to further characterize the hydrologic conditions (groundwater gradient, flow direction, etc.), delineate the extent of dissolved-phase unleaded gasoline parameters in shallow groundwater, and assess potential impacts to surface water (i.e., Johnsons Run). Additional wells are recommended to be installed to the north of well MW-119, to the south of well MW-119, to the southwest of well MW-77, and to the east of well MW-18.
- Soil gas sampling is recommended to evaluate the VI pathway.
- Based on the conclusions and recommendations presented herein, the PADEP is respectfully requested to approve this SCR. An amended SCR will be submitted to the PADEP upon completion of the recommended activities listed above.

7.0 REFERENCES

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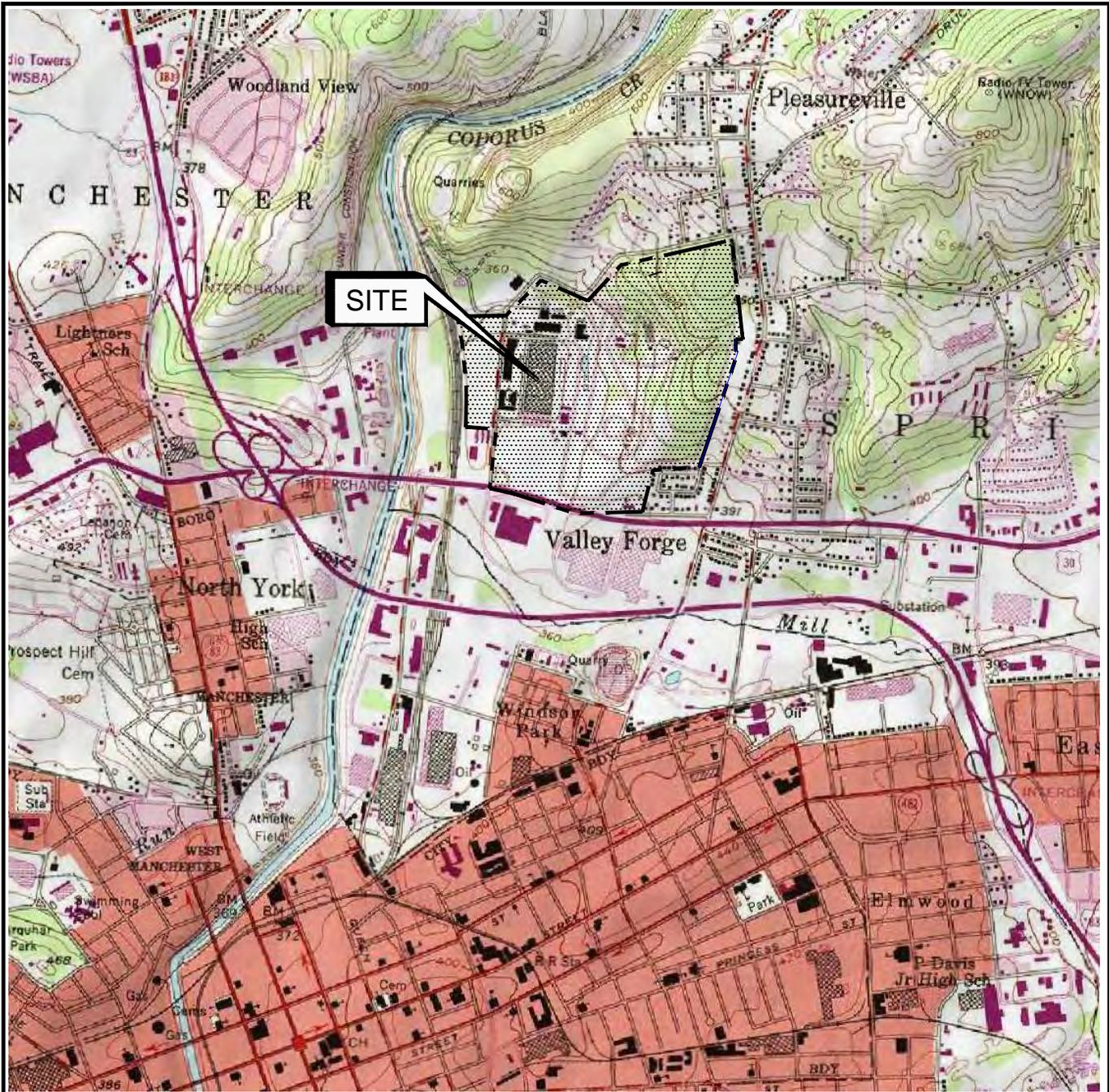
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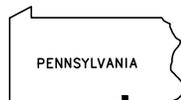
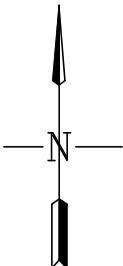
SAIC, 2011a. *UST Closure Report*, January 2011.

SAIC, 2011b. *Groundwater Extraction and Treatment System Annual Operations Report for the Period January 1, 2010, Through December 31, 2010*, March 2011.

FIGURES



NOTE: BASE MAP FROM THE YORK PA., USGS 7 1/2 MIN TOPOGRAPHIC QUADRANGLE (PR 1990).



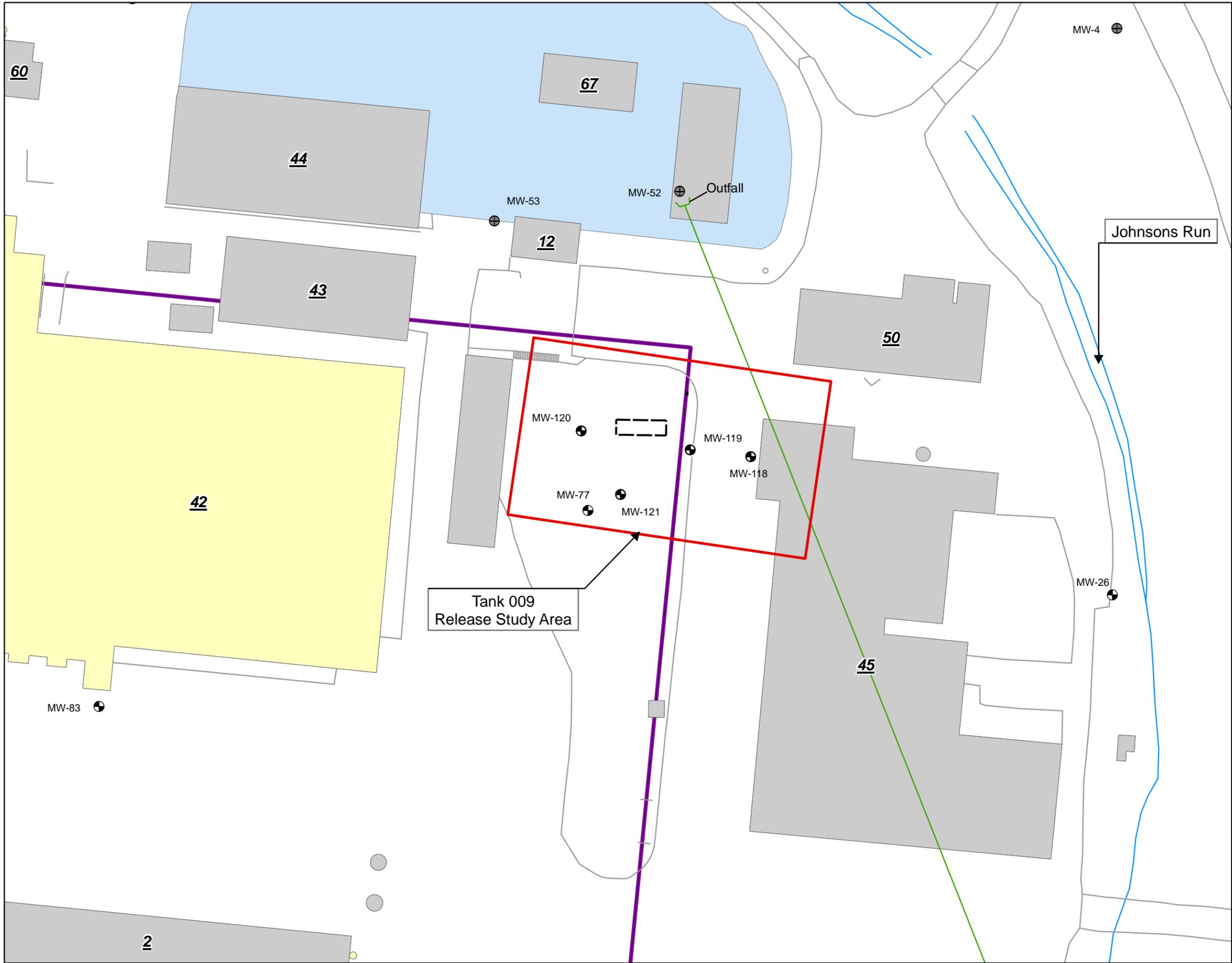
QUADRANGLE LOCATION

HARLEY-DAVIDSON MOTOR COMPANY OPERATIONS, INC.
 YORK VEHICLE OPERATIONS
 1425 EDEN ROAD, YORK PA 17402

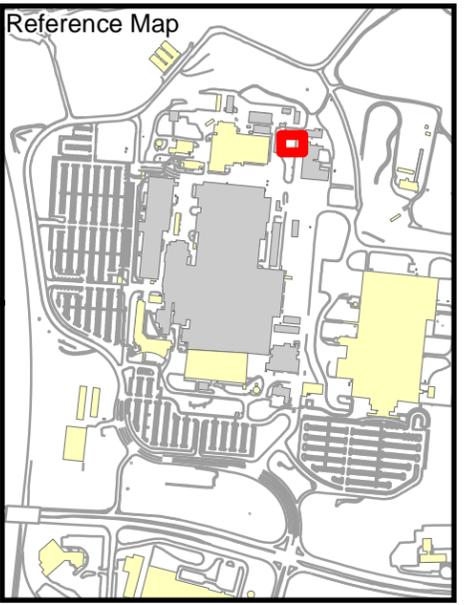
SITE LOCATION MAP

drawn RAM	checked	approved	figure no.
date 11/20/07	date	date	1
job no. 01-1633-00-1501-000	file no. 1501-001.dwg		





- Legend**
- Tank 009 (Removed July 2010)
 - Existing Buildings
 - Demolished Buildings
 - Storm Water Detention Basin
 - Underground Storm Water Line
 - Roads and Curbs
 - East/West Campus Boundary
 - Monitoring Well
 - Abandoned Well



SOURCE:
 1. Base data (Buildings, Building Boundaries, Roads and Curbs, underground utilities and Contour Lines, from NuTec Survey conducted in 2006).



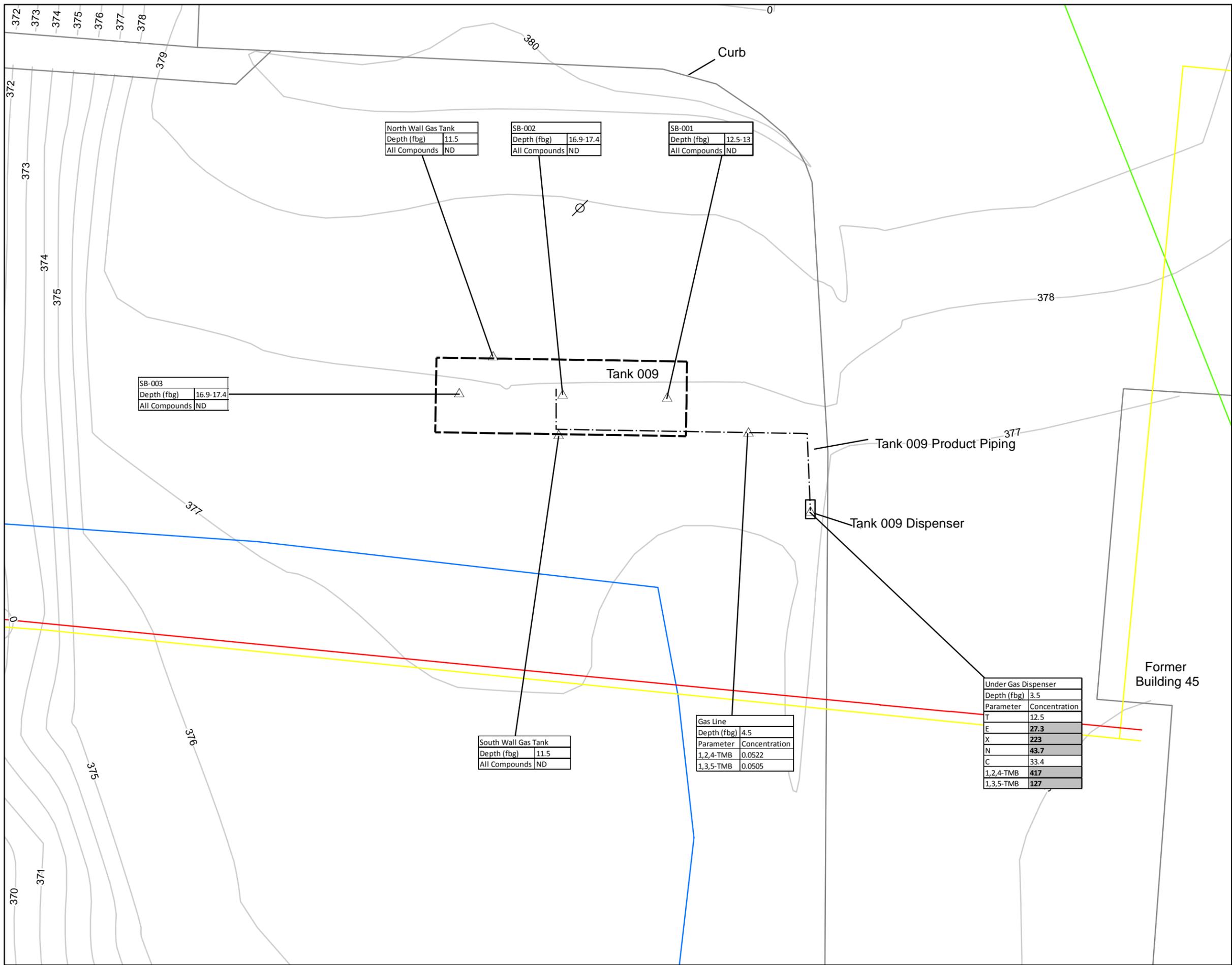
Harley-Davidson Motor Company Operations, Inc.
 1425 Eden Rd York, Pa 17402

Site Map

drawn	JEB	checked		approved		figure no.
date	12/14/2011	date		date		2
job no.	4501020212/1000/100			file no.	Fig. 2_Site_Location_20111208	

initials	date	revision





Legend

- Underground Electric Line
- Underground Steam Line
- Underground Fire (i.e., water) Protection Line
- Underground Storm Water Line
- Site Features
- Ground Surface Elevation Contour Lines (Feet)
- ⊘ Utility Pole
- △ Soil Sample Location
- ⊠ Tank 009 (Removed July 2010)

T: Toluene
 E: Ethylbenzene
 X: Total Xylenes
 N: Naphthalene
 C: Cumene
 1,2,4-TMB: 1,2,4 - Trimethylbenzene
 1,3,5-TMB: 1,3,5 - Trimethylbenzene

fbg: Feet Below Grade
 MSC: Medium Specific Concentration
 ND: Not Detected
 PADEP: Pennsylvania Department of Environmental Protection

All results are reported in milligrams per kilogram (mg/kg)

Bold/Shaded concentrations are greater than a PADEP Non-Residential MSC

SOURCE:
 1. Base data (Buildings, Building Boundaries, Roads and Curbs, Underground Utilities and Contour Lines, from NuTec Survey conducted in 2006)
 2. Monitoring Wells, Soil Borings, and Underground Storage Tank Features from SAIC site measurements.

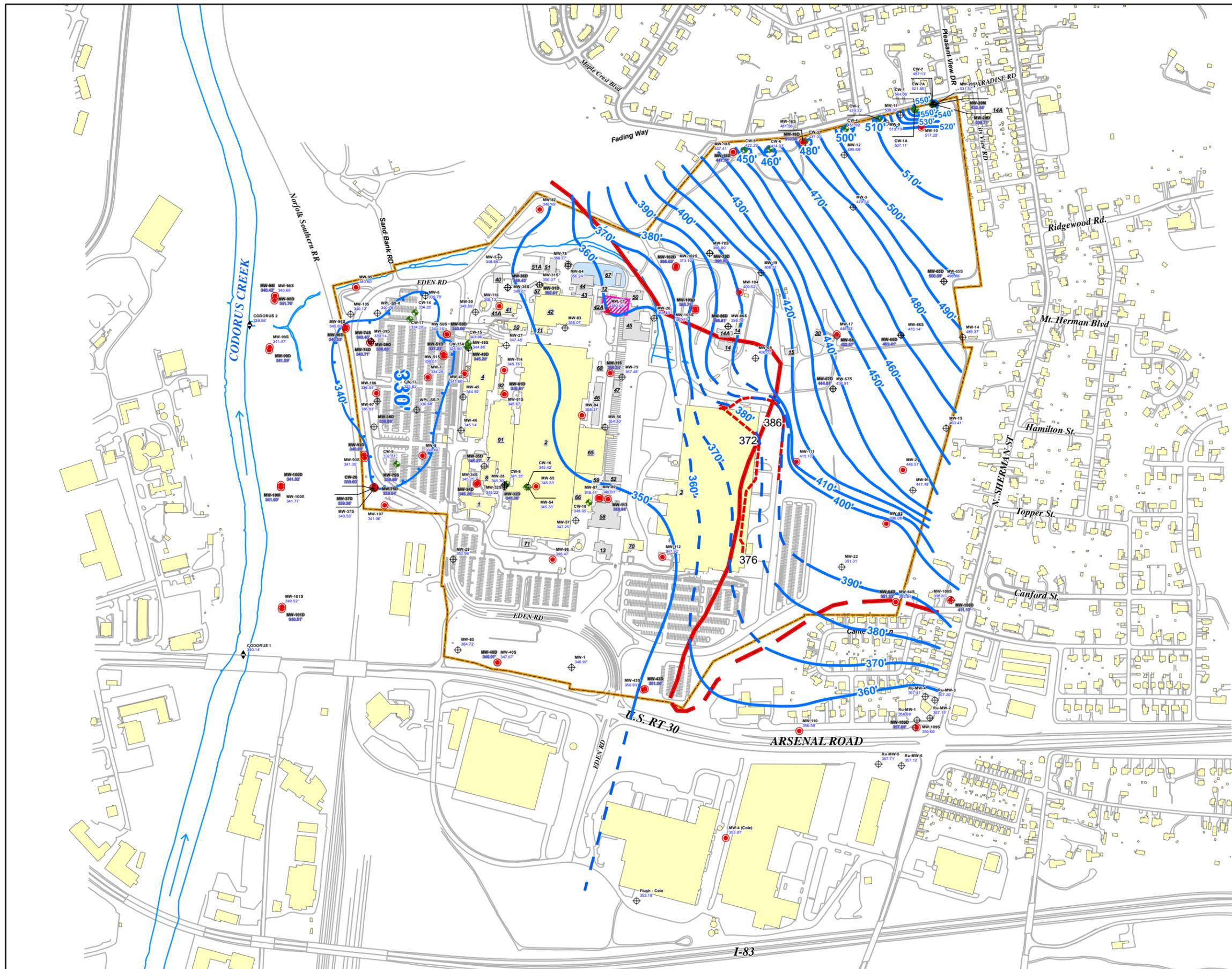


Harley-Davidson Motor Company Operations, Inc.
 1425 Eden Rd York, Pa 17402

Tank 009 Removal Soil Sample Analytical Map

drawn	JEB	checked		approved		figure no.	
date	12/14/2011	date		date			3
job no.	4501020212/1000/100		file no.	Fig_3_Tank_3_soils_20111208			
initials		date		revision			

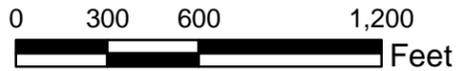




Legend

- Monitoring Well and Designation
- Key Well and Designation
- ◇ Extraction Well and Designation
- ◊ Stream Gauge and Designation
- Groundwater Contour (Feet)
- - - Inferred Groundwater Contour (Feet)
- Groundwater Contour Sink (Feet)
- - - Bedrock Contact (dashed where inferred)
- - - Groundwater Interceptor Trench
- ▭ Harley - Davidson Property Boundary
- ▭ Existing Buildings
- ▭ Removed Buildings
- ▭ Stormwater Basin
- ▨ Tank 009 Release Study Area
- Surface Water
- Roads and Curb Boundary

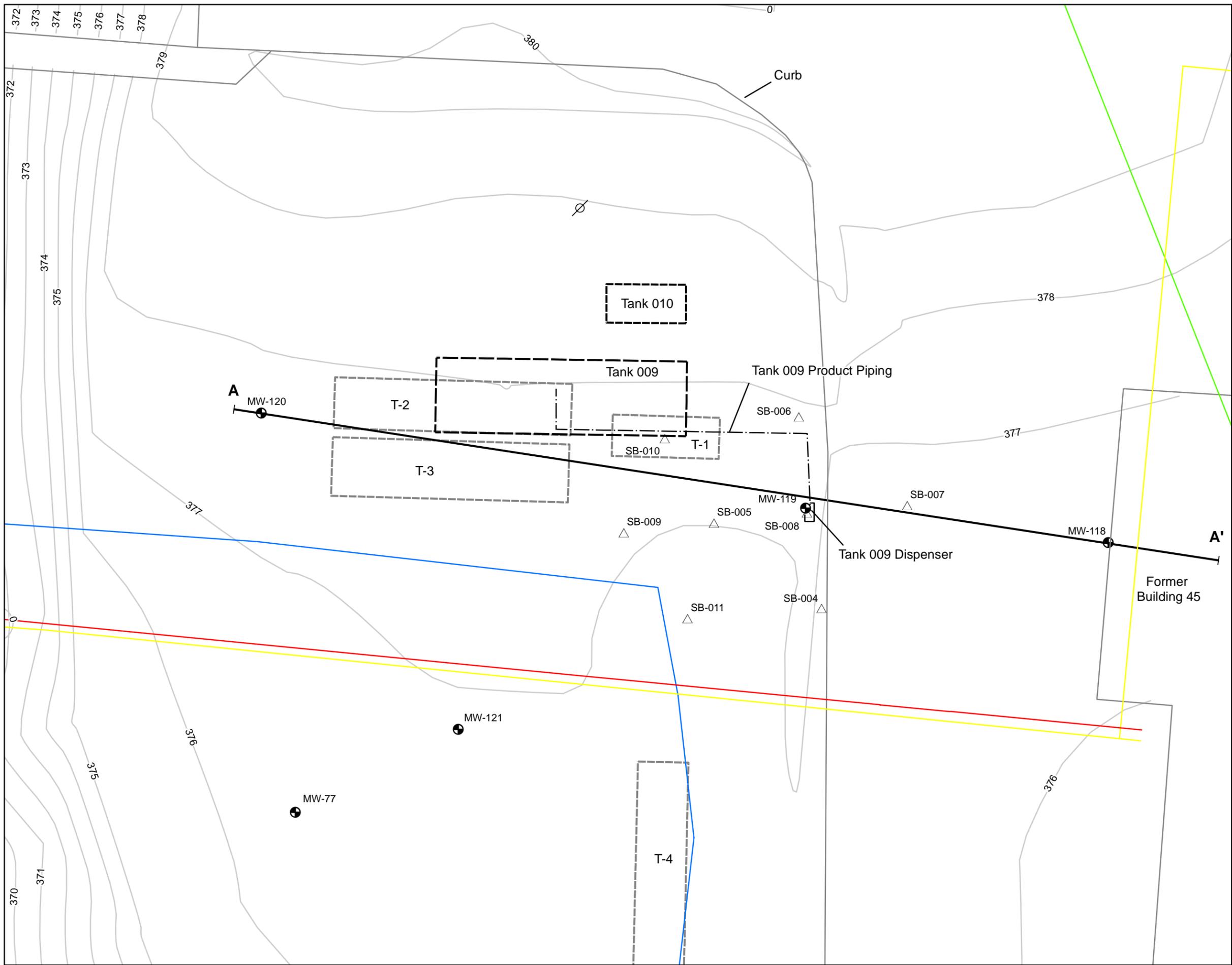
NOTE:
 1. Base data (Buildings, Building Boundaries, Roads and Curbs, and Contour Lines, from NuTec Survey conducted in 2006)
 2. Gauging data that was used was from the 6/17/2011 gauging event.
 3. The shallow groundwater elevation was used when contouring at well pairs (in black). Gray water levels are from deep wells and are presented for comparison only.
 4. The groundwater elevations at MW-29 and MW-85 were not used for contouring because they are considered to be anomalously high.



FORMER YORK NAVAL ORDNANCE PLANT
 1425 EDEN ROAD, YORK, PA 17402
GROUNDWATER SURFACE
CONTOUR MAP JUNE 2011

drawn JWS	checked	approved	figure no.
date 9/23/2011	date	date	4
job no. 4501020172/8000/100		file no. Fig_4_GW_Con_Jun_11	
initials	date	revision	



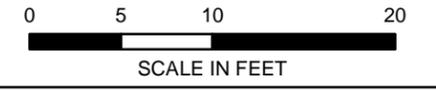


- ### Legend
- Underground Electric Line
 - Underground Steam Line
 - Underground Fire (i.e., water) Protection Line
 - Underground Storm Water Line
 - Site Features
 - Ground Surface Elevation Contour Lines (Feet)
 - Cross-Section Transect (Refer to Figure 8)
 - ⊘ Utility Pole
 - △ Soil Boring
 - Monitoring Well
 - ▭ Tanks 009 and 010 (Removed July 2010)
 - ▭ Tanks T-1 through T-4 (Removed October 1991)



SOURCE:

1. Base data (Buildings, Building Boundaries, Roads and Curbs, underground utilities and Contour Lines, from NuTec Survey conducted in 2006).
2. Monitoring Wells, Soil Borings, and Tank 009 features from SAIC site measurements.
3. Tanks T-1 through T-4 from R.E. Wright Environmental Drawing 57736-001-A dated 5/4/1998.



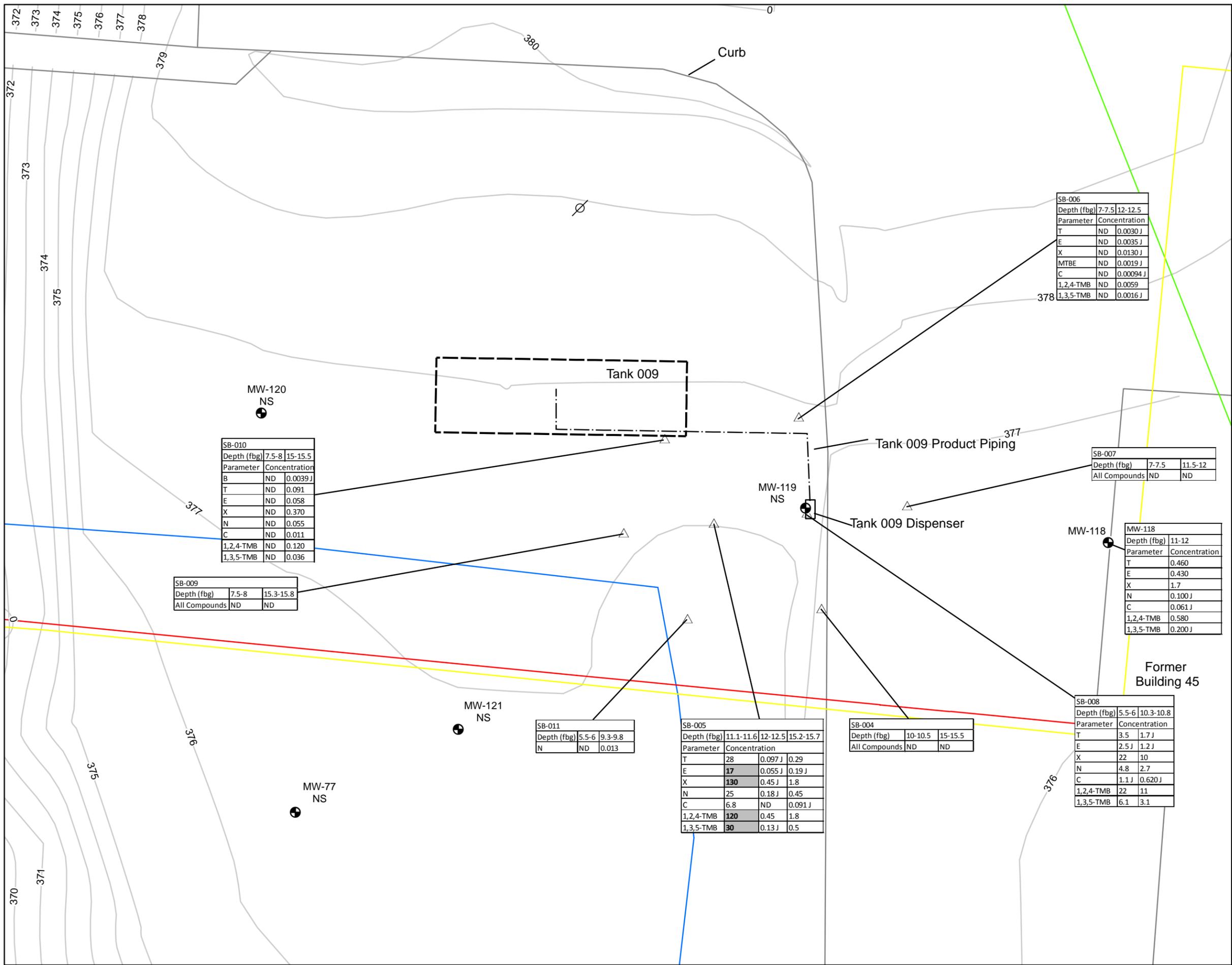
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Rd York, Pa 17402

Building 45 UST Release Characterization Map

drawn	JEB	checked	approved	figure no.
date	10/6/2011	date		5
job no.	4501020212/1000/100	file no.	Fig_5_char_map	

initials	date	revision





- ### Legend
- Underground Electric Line
 - Underground Steam Line
 - Underground Fire (i.e., water) Protection Line
 - Underground Storm Water Line
 - Site Features
 - Ground Surface Elevation Contour Lines (Feet)
 - ⊘ Utility Pole
 - △ Soil Boring
 - Monitoring Well
 - ⊠ Tank 009 (Removed July 2010)

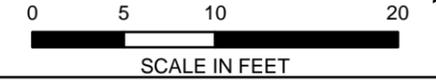
B: Benzene
 T: Toluene
 E: Ethylbenzene
 X: Total Xylenes
 MTBE: Methyl Tertiary Butyl Ether
 N: Naphthalene
 C: Cumene
 1,2,4-TMB: 1,2,4 - Trimethylbenzene
 1,3,5-TMB: 1,3,5 - Trimethylbenzene

fbg: Feet Below Grade
 J: Laboratory reported concentration as an approximate value.
 MSC: Medium Specific Concentration
 ND: Not Detected
 NS: Soil Sample Not Collected for Laboratory Analysis
 PADEP: Pennsylvania Department of Environmental Protection

All results are reported in milligrams per kilogram (mg/kg)

Bold/Shaded concentrations are greater than a PADEP Non-Residential MSC

SOURCE:
 1. Base data (Buildings, Building Boundaries, Roads and Curbs, Underground Utilities and Contour Lines, from NuTec Survey conducted in 2006)
 2. Monitoring Wells, Soil Borings, and Underground Storage Tank Features from SAIC site measurements.

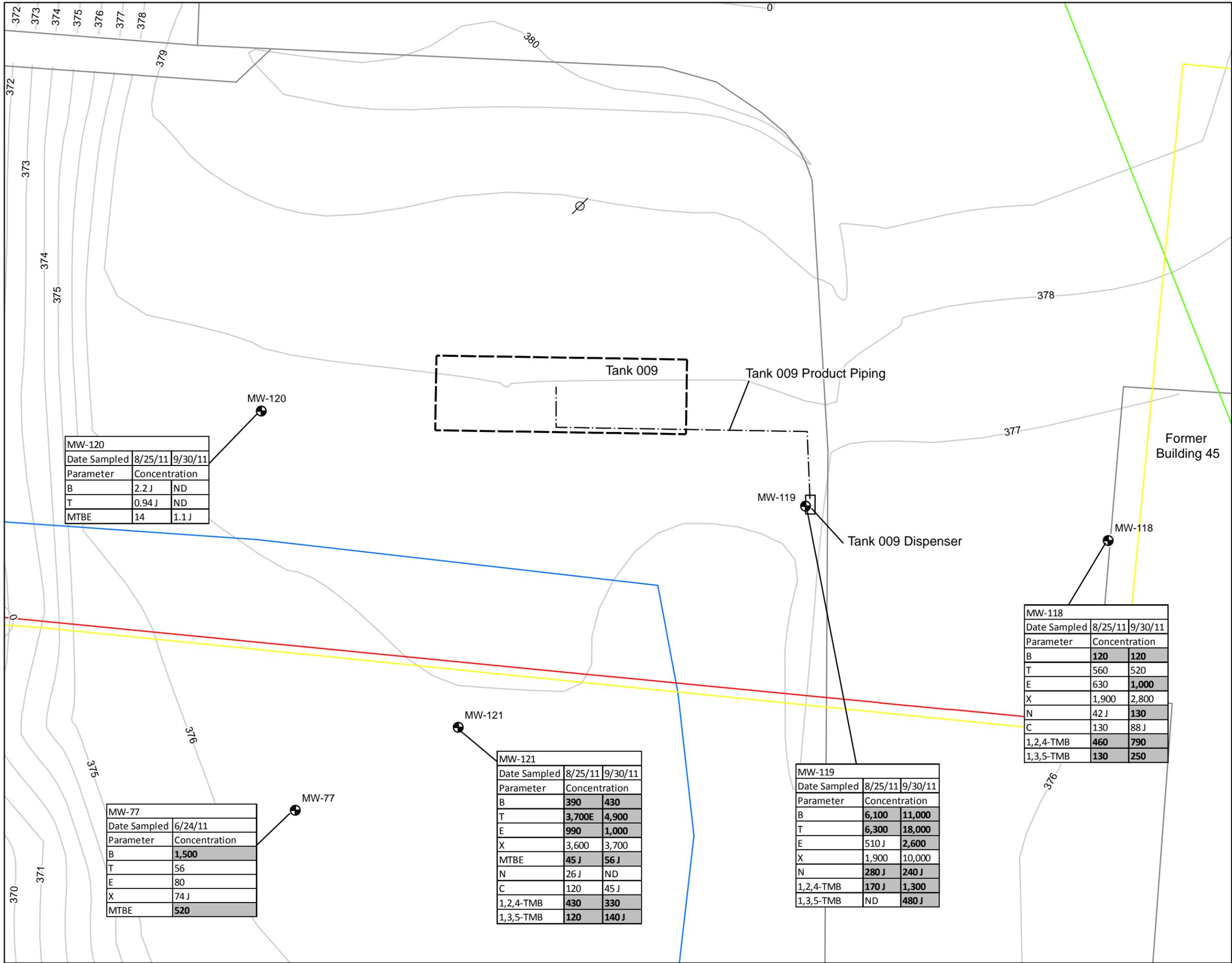


Harley-Davidson Motor Company Operations, Inc.
 1425 Eden Rd York, Pa 17402

Soil Sample Analytical Data

drawn	JEB	checked	approved	figure no.
date	10/6/2011	date	date	6
job no.	4501020212/1000/100	file no.	file no.	
initials	date	revision		





MW-120		
Date Sampled	8/25/11	9/30/11
Parameter	Concentration	
B	2.2 J	ND
T	0.94 J	ND
MTBE	14	1.1 J

MW-118		
Date Sampled	8/25/11	9/30/11
Parameter	Concentration	
B	120	120
T	560	520
E	630	1,000
X	1,900	2,800
N	42 J	130
C	130	88 J
1,2,4-TMB	460	790
1,3,5-TMB	130	250

MW-119		
Date Sampled	8/25/11	9/30/11
Parameter	Concentration	
B	6,100	11,000
T	6,300	18,000
E	510 J	2,600
X	1,900	10,000
N	280 J	240 J
1,2,4-TMB	170 J	1,300
1,3,5-TMB	ND	480 J

MW-121		
Date Sampled	8/25/11	9/30/11
Parameter	Concentration	
B	390	430
T	3,700E	4,900
E	990	1,000
X	3,600	3,700
MTBE	45 J	56 J
N	26 J	ND
C	120	45 J
1,2,4-TMB	430	330
1,3,5-TMB	120	140 J

MW-77	
Date Sampled	6/24/11
Parameter	Concentration
B	1,500
T	56
E	80
X	74 J
MTBE	520

- ### Legend
- Underground Electric Line
 - Underground Steam Line
 - Underground Fire (i.e., water) Protection Line
 - Underground Storm Water Line
 - Site Features
 - Ground Surface Elevation Contour Lines (Feet)
 - ⊙ Utility Pole
 - ⊕ Monitoring Well
 - ⊠ Tank 009 (Removed July 2010)
- B: Benzene
T: Toluene
E: Ethylbenzene
X: Total Xylenes
MTBE: Methy Tertiary Butyl Ether
N: Naphthalene
C: Cumene
1,2,4-TMB: 1,2,4 - Trimethylbenzene
1,3,5-TMB: 1,3,5 - Trimethylbenzene

MSC: Medium Specific Concentration
E: Result exceeded calibration range
J: Laboratory reported concentration as an approximate value.
ND: Not Detected
PADEP: Pennsylvania Department of Environmental Protection

All results are reported in micrograms per liter (ug/L)
Bold/Shaded concentrations are greater than a PADEP Non-Residential MSC

SOURCE:
1. Base data (Buildings, Building Boundaries, Roads and Curbs, Underground Utilities and Contour Lines, from NuTec Survey conducted in 2006).
2. Monitoring Wells, Soil Borings, and Tank 009 features from SAIC site measurements.

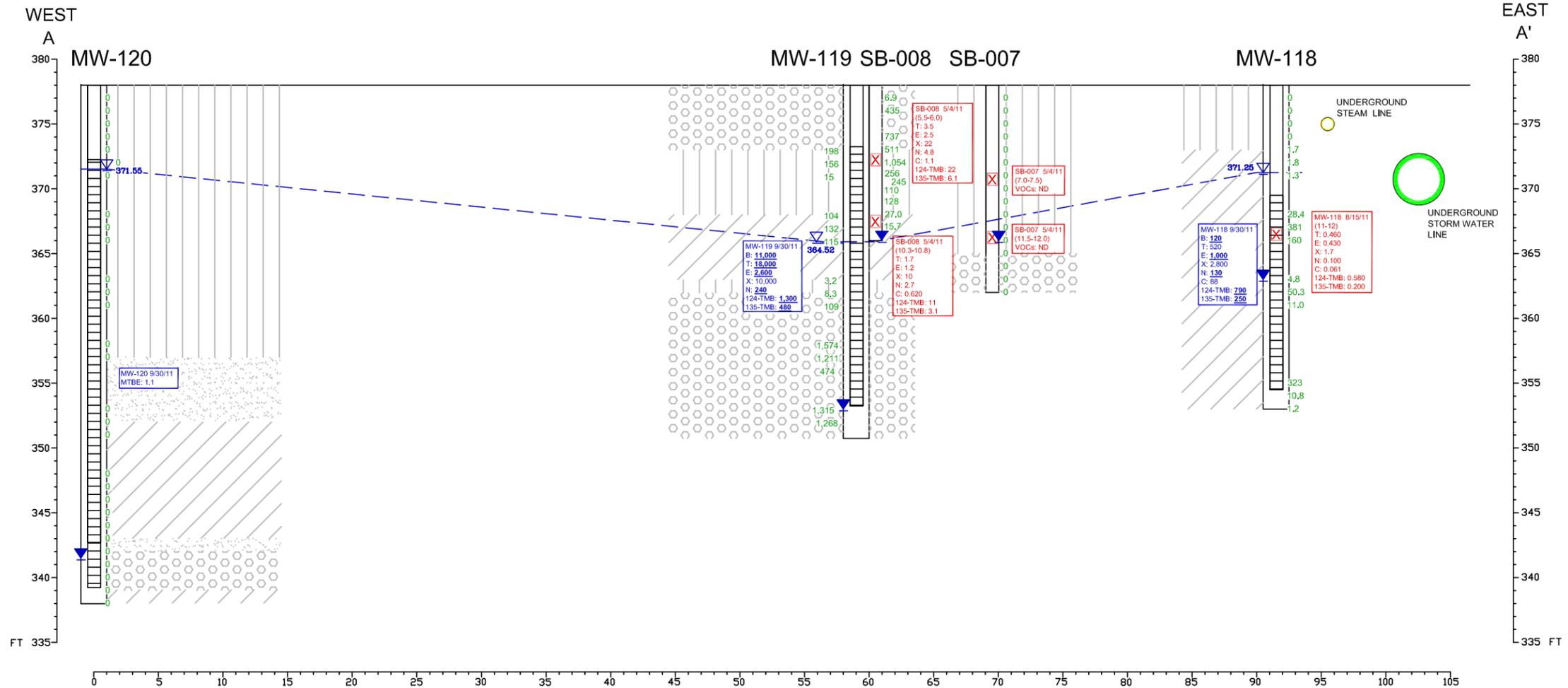


Harley-Davidson Motor Company Operations, Inc.
1425 Eden Rd York, Pa 17402

Groundwater Quality Analytical Data

drawn	JEB	checked		approved		figure no.	
date	10/6/2011	date		date			7
job no.	4501020212/1000/100	file no.		file no.			
		Fig. 7_wat_chem					





LEGEND

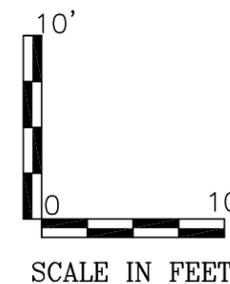
	GRAVEL (GW)		DEPTH WHERE GROUNDWATER SATURATION WAS ENCOUNTERED DURING DRILLING
	SAND (SP)		GROUNDWATER ELEVATION ON NOVEMBER 28, 2011
	SILT (ML)	20	PHOTOIONIZATION DETECTOR (PID) MEASUREMENT IN PPM
	CLAY (CL)	UG/L	MICROGRAMS PER LITER
	WELL SCREEN	ND	NO VOCs DETECTED
	SOIL SAMPLE LOCATION	MG/KG	MILLIGRAMS PER KILOGRAM
		VOC	VOLATILE ORGANIC COMPOUND

SOIL SAMPLE RESULTS SHOWN IN RED - MG/KG
GROUNDWATER SAMPLE RESULTS SHOWN IN BLUE - UG/L

MW-119 9/30/11 (7.5-8.0)
B: 10
T: 18
E: 6.2
X: 10
MTBE: 50
N: 10 J
C: 14
124-TMB: 13
135-TMB: 48

SAMPLE ID / SAMPLE DATE
SAMPLE INTERVAL (FOR SOIL SAMPLES)
BENZENE
TOLUENE
ETHYLBENZENE
TOTAL XYLENES
METHYL-TERTIARY-BUTYL ETHER
NAPHTHALENE
CUMENE
1,2,4-TRIMETHYLBENZENE
1,3,5-TRIMETHYLBENZENE

CONCENTRATION GRATER THAN PADEP NON-RESIDENTIAL MEDIUM SPECIFIC CONCENTRATIONS (MSC)



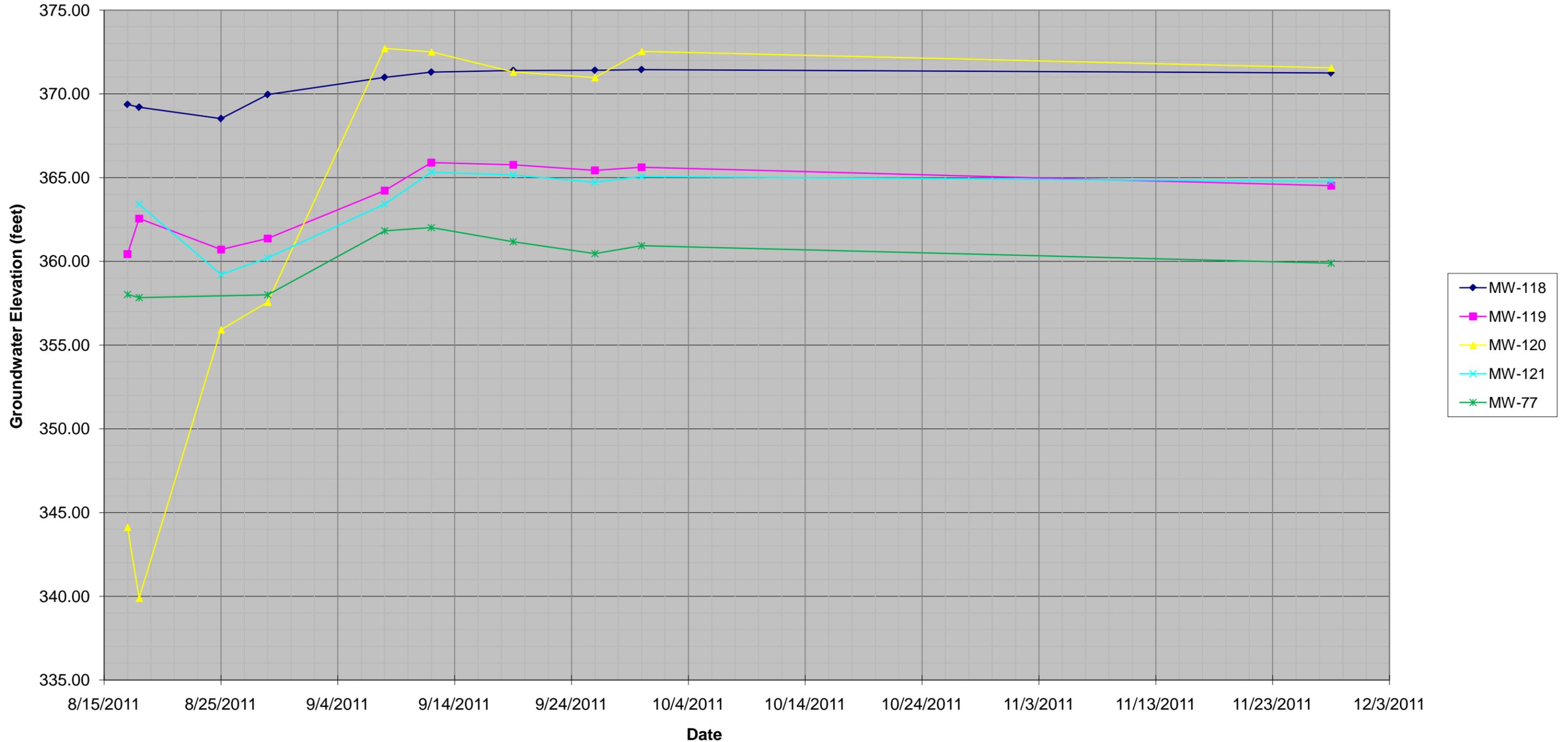
Harley-Davidson Motor Company Operations Inc.
1425 Eden Road
York, PA 17402

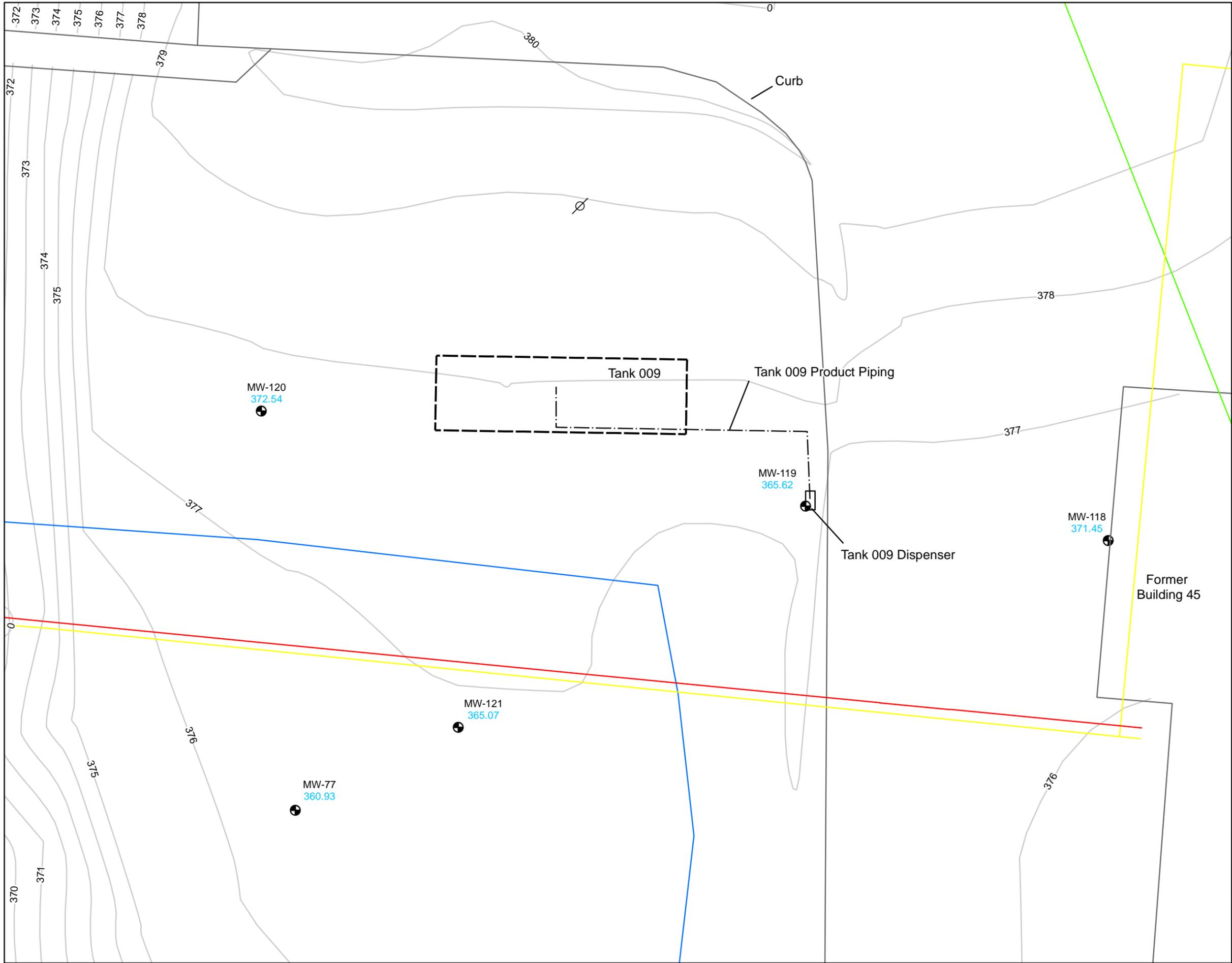
CROSS SECTION A TO A'

drawn <i>JWS</i>	checked <i>CDO</i>	approved <i>CDO</i>	figure no.
date 12/09/11	date	date	8
job no.	file no. HD_UST_XSect.dwg		

SAIC
From Science to Solutions

Figure 9
Monitoring Well Groundwater Elevations
Building 45 UST Release Characterization
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 2603100044-2000-100





Legend

- Underground Electric Line
- Underground Steam Line
- Underground Fire (i.e., water) Protection Line
- Underground Storm Water Line
- Site Features
- Ground Surface Elevation Contour Lines (Feet)
- ⊘ Utility Pole
- ⊕ Monitoring Well
- MW-121 365.07 Groundwater Elevation (feet)
- ⊠ Tank 009 (Removed July 2010)



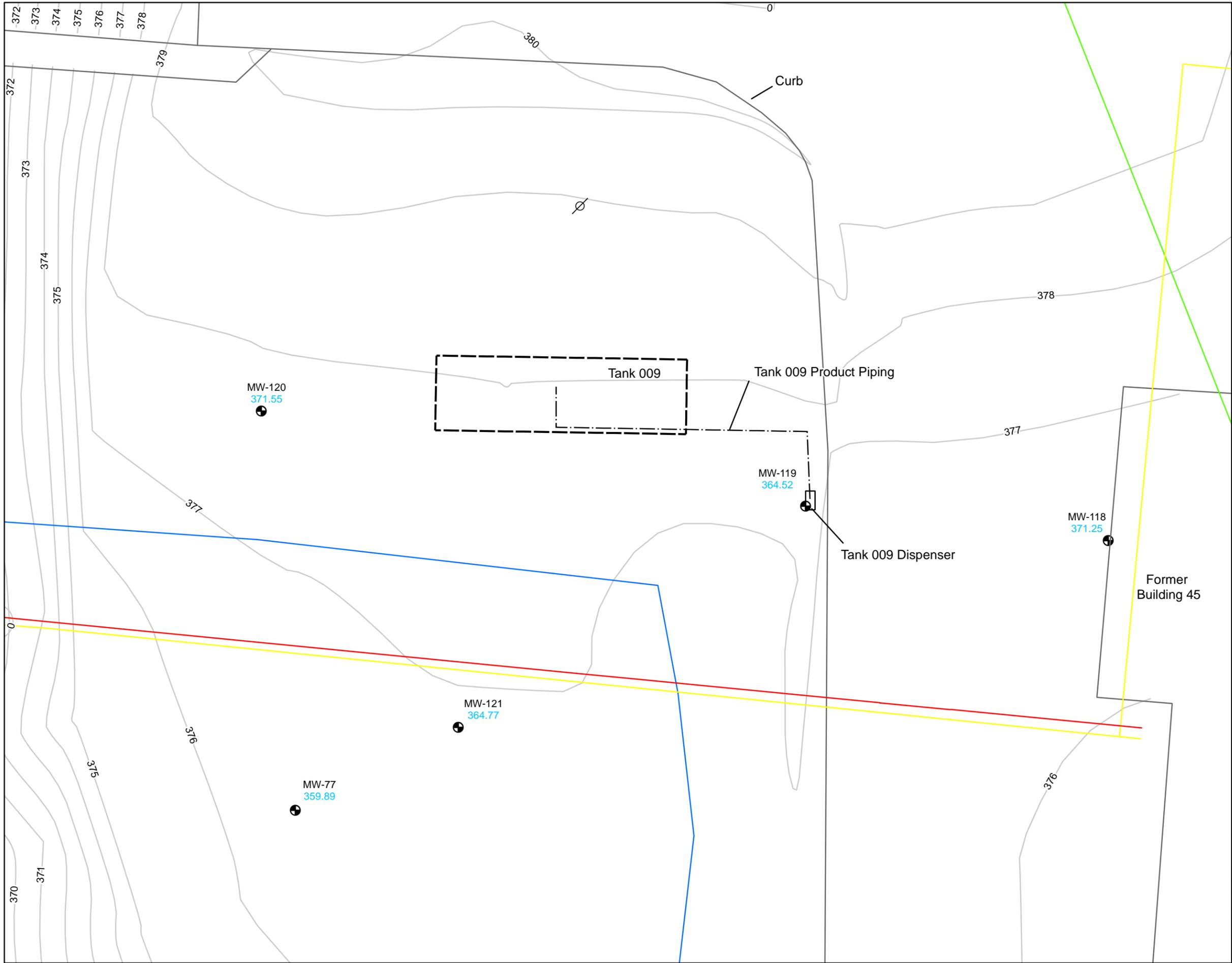
SOURCE:
 1. Base data (Buildings, Building Boundaries, Roads and Curbs, Underground Utilities and Contour Lines, from NuTec Survey conducted in 2006).
 2. Monitoring Wells, Soil Borings, and Underground Storage Tank Features from SAIC site measurements.



Harley-Davidson Motor Company Operations, Inc.
 1425 Eden Rd York, Pa 17402
**Groundwater Elevations for
 September 30, 2011**

drawn	JEB	checked		approved		figure no.
date	10/6/2011	date		date		10
job no.	4501020212/1000/100	file no.		file no.	Fig_10_gw_cont_sept	
initials		date		revision		





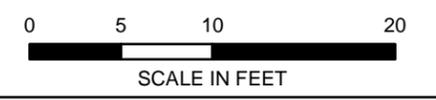
Legend

- Underground Electric Line
- Underground Steam Line
- Underground Fire (i.e., water) Protection Line
- Underground Storm Water Line
- Site Features
- Ground Surface Elevation Contour Lines (Feet)
- ⊘ Utility Pole
- ⊕ Monitoring Well
- MW-121 365.07 Groundwater Elevation (feet)
- ⊠ Tank 009 (Removed July 2010)



SOURCE:

1. Base data (Buildings, Building Boundaries, Roads and Curbs, Underground Utilities and Contour Lines, from NuTec Survey conducted in 2006).
2. Monitoring Wells, Soil Borings, and Underground Storage Tank Features from SAIC site measurements.



Harley-Davidson Motor Company Operations, Inc.
 1425 Eden Rd York, Pa 17402
**Groundwater Elevations for
 November 28, 2011**

drawn	JEB	checked		approved		figure no.
date	12/14/2011	date		date		11
job no.	4501020212/1000/100	file no.		file no.	Fig_11_gw_cont_nov	
initials		date		revision		



TABLES

Table 1
Soil Sample Analytical Results
Building 45 UST Release Characterization
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 2603100044-2000-100

Sample Location	Sample ID	Approximate Sample Depth (feet below grade)	Date Sample Collected	Date Sample Analyzed	Analysis Method 8260/5035								
					Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl Tertiary Butyl Ether (MTBE)	Naphthalene	Isopropylbenzene (Cumene)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
Tank 009 Closure Samples	North Wall Gas Tank	11.5	7/13/2010	7/19/2010	< 0.0664	< 0.0664	< 0.0664	< 0.199	< 0.0664	< 0.133	< 0.0664	< 0.0664	< 0.0664
	South Wall Gas Tank	11.5	7/13/2010	7/19/2010	< 0.0584	< 0.0584	< 0.0584	< 0.175	< 0.0584	< 0.117	< 0.0584	< 0.0584	< 0.0584
	Under Gas Dispenser	3.5	7/14/2010	7/19/2010	< 0.270	12.5	27.3	223	< 0.270	43.7	33.4	417	127
	Gas Line	4.5	7/14/2010	7/22/2010	< 0.0486	< 0.0486	< 0.0486	< 0.146	< 0.0486	< 0.0972	< 0.0486	0.0522	0.0505
	HD-B45T-SB-001	12.5 - 13	11/12/2010	11/16/2010	< 0.0515	< 0.0515	< 0.0515	< 0.155	< 0.0515	< 0.103	< 0.0515	< 0.0515	< 0.0515
	HD-B45T-SB-002	16.9 - 17.4	11/12/2010	11/16/2010	< 0.0445	< 0.0445	< 0.0445	< 0.134	< 0.0445	< 0.089	< 0.0445	< 0.0445	< 0.0445
	HD-B45T-SB-003	16.9 - 17.4	11/12/2010	11/16/2010	< 0.0471	< 0.0471	< 0.0471	< 0.141	< 0.0471	< 0.0942	< 0.0471	< 0.0471	< 0.0471
Site Characterization Samples	HD-B45T-SB-004	10 - 10.5	5/4/2011	5/9/2011	< 0.0058	< 0.0058	< 0.0058	< 0.018	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058
	HD-B45T-SB-004	15 - 15.5	5/4/2011	5/9/2011	< 0.0055	< 0.0055	< 0.0055	< 0.017	< 0.0055	< 0.0055	< 0.0055	< 0.0055	< 0.0055
	HD-B45T-SB-005	11.1 - 11.6	5/4/2011	5/9/2011	< 2.5	28	17	130	< 2.5	25	6.8	120	30
	HD-B45T-SB-005	12 - 12.5	5/4/2011	5/9/2011	< 0.26	0.097 J	0.055 J	0.45 J	< 0.26	0.18 J	< 0.26	0.45	0.13 J
	HD-B45T-SB-005	15.2 - 15.7	5/4/2011	5/9/2011	< 0.24	0.29	0.19 J	1.8	< 0.24	0.45	0.091 J	1.8	0.5
	HD-B45T-SB-006	7 - 7.5	5/4/2011	5/9/2011	< 0.005	< 0.005	< 0.005	< 0.015	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
	HD-B45T-SB-006	12 - 12.5	5/4/2011	5/9/2011	< 0.0049	0.003 J	0.0035 J	0.013 J	0.0019 J	< 0.0049	0.00094 J	0.0059	0.0016 J
	HD-B45T-SB-007	7 - 7.5	5/4/2011	5/9/2011	< 0.0062	< 0.0062	< 0.0062	< 0.019	< 0.0062	< 0.0062	< 0.0062	< 0.0062	< 0.0062
	HD-B45T-SB-007	11.5 - 12	5/4/2011	5/9/2011	< 0.0059	< 0.0059	< 0.0059	< 0.018	< 0.0059	< 0.0059	< 0.0059	< 0.0059	< 0.0059
	HD-B45T-SB-008	5.5 - 6	5/4/2011	5/9/2011	< 2.8	3.5	2.5 J	22	< 2.8	4.8	1.1 J	22	6.1
	HD-B45T-SB-008	10.3 - 10.8	5/4/2011	5/9/2011	< 2.6	1.7 J	1.2 J	10	< 2.6	2.7	0.62 J	11	3.1
	HD-B45T-SB-009	7.5 - 8	5/4/2011	5/9/2011	< 0.0047	< 0.0047	< 0.0047	< 0.014	< 0.0047	< 0.0047	< 0.0047	< 0.0047	< 0.0047
	HD-B45T-SB-009	15.3 - 15.8	5/4/2011	5/9/2011	< 0.0051	< 0.0051	< 0.0051	< 0.015	< 0.0051	< 0.0051	< 0.0051	< 0.0051	< 0.0051
	HD-B45T-SB-010	7.5 - 8	5/4/2011	5/9/2011	< 0.0045	< 0.0045	< 0.0045	< 0.013	< 0.0045	< 0.0045	< 0.0045	< 0.0045	< 0.0045
	HD-B45T-SB-010	15 - 15.5	5/4/2011	5/9/2011	0.0039 J	0.091	0.058	0.370	< 0.0048	0.055	0.011	0.120	0.036
	HD-B45T-SB-011	5.5 - 6	5/4/2011	5/9/2011	< 0.0056	< 0.0056	< 0.0056	< 0.017	< 0.0056	< 0.0056	< 0.0056	< 0.0056	< 0.0056
	HD-B45T-SB-011	9.3 - 9.8	5/4/2011	5/9/2011	< 0.0056	< 0.0056	< 0.0056	< 0.017	< 0.0056	0.013	< 0.0056	< 0.0056	< 0.0056
HD-B45T-MW-118	11 - 12	8/15/2011	8/21/2011	< 0.32	0.460	0.430	1.7	< 0.32	0.1 J	0.061 J	0.580	0.2 J	
PADEP Non-Residential Soil-to-Groundwater MSCs					0.5	100	70	1,000	2	25	2,500	35	9.3
PADEP Non-Residential Direct Contact MSCs (2 - 15 feet)					330	10,000	10,000	9,100	9,900	190,000	10,000	640	550
PADEP Default Non-Residential Volatilization to Indoor Air Screening Values for Soil					0.63	110	9.5	77	86	NOC	360+	29	6.4

Notes:
All results reported in milligrams per kilogram (mg/kg)
J - Result is less than the reporting limit (RL), but greater than or equal to the method detection limit (MDL) and the concentrations is an approximate value.
MSCs - Medium Specific Concentrations
NA - Sample not analyzed for this compound
NOC - Not of Concern
PADEP - Pennsylvania Department of Environmental Protection
+ - Soil Saturation Concentration (Csat) - concentrations above Csat may suggest the need to investigate the potential presence of non-aqueous phase liquid (LNAPL)
Results that are bold/shaded are greater than PADEP nonresidential MSCs and/or indoor air screening values

Table 2
UST Removal Water Sample Analytical Results
Building 45 UST Release Characterization
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 2603100044-2000-100

Sample ID	Sample Depth (feet below grade)	Sampled By	Date Sample Collected	Date Sample Analyzed	Analysis Method 8260B								
					Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl Tertiary Butyl Ether (MTBE)	Naphthalene	Isopropylbenzene (Cumene)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
North End Gas Tank	11.0	YCP	7/13/2010	7/20/2010	92.8	252	13	115	<1.0	<2.0	<1.0	2.7	4.6
South End Gas Tank	11.0	YCP	7/13/2010	7/20/2010	91.4	273	12.4	113	<1.0	<2.0	<1.0	2.6	4.8
PADEP Non-Residential Groundwater MSCs					5	1,000	700	10,000	20	100	3,500	62	53
PADEP Default Non-Residential Volatilization to Indoor Air Screening Values for Groundwater					5,900	NOC	45,000	NOC	640,000	NOC	NOC	12,000	10,000

Notes:
All results reported in micrograms per liter (µg/L)
PADEP - Pennsylvania Department of Environmental Protection
MSCs - Medium Specific Concentrations
NOC - Not of concern, value above constituent water solubility
YCP - YCP, Inc. (UST Removal Contractor)
Results that are bold/shaded are greater than PADEP nonresidential MSCs and/or indoor air screening values

Table 3
Soil Sample Characterization Data
Building 45 UST Release Characterization
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 2603100044-2000-100

Sample Location	Sample ID	Approximate Sample Depth (feet below grade)	Date Sample Collected	Total Organic Carbon (mg/kg)	Percent Solids	In Place Density (g/cc)	Specific Gravity @ 20 Degrees Celsius	Percent Porosity	Percent Gravel	Percent Sand	Percent Silt	Percent Clay	Unified Soil Classification System (USCS) Group Symbol/Name
MW-118	HD-B45T-118-17.0/19.0-0	17.0 - 19.0	8/15/2011	1,410	81.0	1.77	2.69	34.1	11.6	27.7	35.9	24.8	CL - Lean Clay
MW-121	HD-B45T-121-33.0/34.7-0	33.0 - 34.7	8/17/2011	1,850	83.5	1.94	2.70	28.2	29.2	40.5	16.1	14.2	SC - Clayey Sand with Gravel

Notes:

Milligrams per kilogram (mg/kg)

g/cc - grams per cubic centimeter

Table 4
Monitoring Well Information
Building 45 UST Release Characterization
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 2603100044-2000-100

Location	Distance/Direction from Tank 009	Monitoring Well Installation Date	Monitoring Well Abandonment Date	TOC Elevation (Feet)	Well Diameter (inches)	Total Drilled Depth (fbg)	Screened Interval (fbg)	Depth to Bedrock (fbg)	Most Recent Groundwater Sampling Event	Detected VOCs in Groundwater	Concentration (µg/L)
MW-26	260 feet to the east-southeast	5/20/87	N/A	379.44	2	60	9 - 59	Not Encountered	9/29/08	Cis-1,2-DCE	58
										1,1-DCE	19J
										TCE	370
MW-52	120 feet to the north	11/25/91	5/14/10	367.39	4	46	6 - 36	Weathered Limestone 29-32	9/4/08	Benzene	0.57J
										Cis-1,2-DCE	2.9
										1,1-DCA	2.9
										MTBE	0.42J
										TCE	2.1
VC	2.2										
MW-53	130 feet to the northwest	11/26/91	5/14/10	367.15	4	30	8 - 28	Limestone 30	4/23/08	All ND	N/A
MW-77	50 feet to the southwest	6/10/98	N/A	379.48	2	67	40 - 65	Not Encountered	6/24/11	Benzene	1,500
										Ethylbenzene	80
										MTBE	520
										Toluene	56
										Total Xylenes	74J
MW-83	330 feet to the southwest	7/10/98	N/A	363.69	6	76	51 - 76	Limestone 33	10/7/08	Benzene	0.72J
										Cis-1,2-DCE	600
										1,1-DCA	6.3
										Chloroethane	2.4
										1,1-DCE	4.7
										1,2-DCA	0.71J
										MTBE	0.73J
										PCE	0.3J
										Toluene	3.1
										Trans-1,2-DCE	6.6
TCE	11J										
VC	110										

Notes:
Cis-1,2-DCE - cis-1,2-dichloroethene
1,1-DCA - 1,1-dichloroethane
1,1-DCE - 1,1-dichloroethene
1,2-DCA - 1,2-dichloroethane
fbg - feet below grade
MTBE - methyl tert-butyl ether
N/A - not applicable
ND - not detected
PCE - tetrachloroethene
TCE - trichloroethene
TOC - top of casing
Trans-1,2-DCE - trans-1,2-dichloroethene
µg/L - micrograms per liter
VC - vinyl chloride
VOCs - volatile organic compounds

Table 5
Monitoring Well Gauging Data and Groundwater Elevations
Building 45 UST Release Characterization
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 2603100044-2000-100

Location	Monitoring Well Installation Date	TOC Elevation (Feet)	Well Diameter (inches)	Total Drilled Depth (fbg)	Screened Interval (fbg)	Top of Well Screen Elevation (feet)	Date	SWL (fbtoc)	SWL Elevation (feet)
MW-118	8/15/2011	378.30	2	25	8 - 23	369.97	8/17/2011	8.93	369.37
							8/18/2011	9.10	369.20
							8/25/2011	9.78	368.52
							8/29/2011	8.34	369.96
							9/8/2011	7.32	370.98
							9/12/2011	7.00	371.30
							9/19/2011	6.90	371.40
							9/26/2011	6.89	371.41
							9/30/2011	6.85	371.45
							11/28/2011	7.05	371.25
MW-119	8/17/2011	378.28	2	27	5 - 25	373.45	8/17/2011	17.85	360.43
							8/18/2011	15.72	362.56
							8/25/2011	17.57	360.71
							8/29/2011	16.91	361.37
							9/8/2011	14.06	364.22
							9/12/2011	12.39	365.89
							9/19/2011	12.51	365.77
							9/26/2011	12.85	365.43
							9/30/2011	12.66	365.62
							11/28/2011	13.76	364.52
MW-120	8/17/2011	378.73	2	40	6 - 39	372.40	8/17/2011	34.60	344.13
							8/18/2011	38.83	339.90
							8/25/2011	22.81	355.92
							8/29/2011	21.16	357.57
							9/8/2011	6.02	372.71
							9/12/2011	6.22	372.51
							9/19/2011	7.42	371.31
							9/26/2011	7.76	370.97
							9/30/2011	6.19	372.54
							11/28/2011	7.18	371.55
MW-121	8/18/2011	377.40	2	36	7 - 35	370.17	8/17/2011	Dry	N/A
							8/18/2011	14.00	363.40
							8/25/2011	18.19	359.21
							8/29/2011	17.20	360.20
							9/8/2011	13.99	363.41
							9/12/2011	12.08	365.32
							9/19/2011	12.24	365.16
							9/26/2011	12.68	364.72
							9/30/2011	12.33	365.07
							11/28/2011	12.63	364.77
MW-77	6/10/1998	379.48	2	67	40 - 65	339.48	8/17/2011	21.46	358.02
							8/18/2011	21.65	357.83
							8/25/2011	NM	NM
							8/29/2011	21.48	358.00
							9/8/2011	17.66	361.82
							9/12/2011	17.46	362.02
							9/19/2011	18.31	361.17
							9/26/2011	19.02	360.46
							9/30/2011	18.55	360.93
							11/28/2011	19.59	359.89
							Minimum*	6.19	359.89
							Maximum*	19.59	372.54
							Average*	11.54	366.90

Notes:
* - the last five rounds of gauging data (9/12/11 to 11/28/11) were used to determine the minimum, maximum, and average values.
fbtoc - feet below top of well casing
N/A - not applicable
NM - not measured
SWL - static water level

Table 6
Groundwater Sample Analytical Results
Building 45 UST Release Characterization
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 2603100044-2000-100

Sample Location	Sample ID	Date Sample Collected	Date Sample Analyzed	Analysis Method 8260B									
				Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl Tertiary Butyl Ether (MTBE)	Naphthalene	Isopropylbenzene (Cumene)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	
MW-118	HD-MW-118-01-0	8/25/2011	9/9/2011	120 H	560 H	630 H	1,900 H	<50 H	42 J H	130 H	460 H	130 H	
	HD-MW-118-01-0	9/30/2011	10/11/2011	120	520	1,000	2,800	<100	130	88 J	790	250	
MW-119	HD-MW-119-01-0	8/25/2011	9/9/2011	6,100 H	6,300 H	510 J H	1,900 H	<630 H	280 J H	<630 H	170 J H	<630 H	
	HD-MW-119-01-0	9/30/2011	10/11/2011	11,000	18,000	2,600	10,000	<500	240 J	<500	1,300	480 J	
MW-120	HD-MW-120-01-0	8/25/2011	9/7/2011	2.2 J	0.94 J	<5.0	<15.0	14.0	<5.0	<5.0	<5.0	<5.0	
	HD-MW-120-01-0	9/30/2011	10/11/2011	<5.0	<5.0	<5.0	<15.0	1.1 J	<5.0	<5.0	<5.0	<5.0	
MW-121	HD-MW-121-01-0	8/25/2011	9/8/2011	390	3,700 E	990	3,600	45 J	26 J	120	430	120	
	HD-MW-121-01-0	9/30/2011	10/11/2011	430	4,900	1,000	3,700	56 J	<250	45 J	330	140 J	
QA/QC	Blind Duplicate	HD-MW-118-01-1	8/25/2011	9/9/2011	110 H	410 H	380 H	1,200 H	<50 H	64 H	78 H	260 H	73 H
		HD-MW-118-01-1	9/30/2011	10/11/2011	120	530	1,000	2,800	<100	140	78 J	750	240
	Field (rinse) Blank	HD-B45-QC-0/0-3	8/25/2011	9/7/2011	<5.0	<5.0	<5.0	<15.0	<5.0	1.5 J	<5.0	<5.0	<5.0
		HD-B45-QC-0/0-3	9/30/2011	10/11/2011	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Trip Blank	TRIP BLANK 1	8/25/2011	9/7/2011	<5.0	<5.0	<5.0	<15.0	<5.0	0.81 J	<5.0	<5.0	<5.0
		TRIP BLANK 1	9/30/2011	10/11/2011	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<5.0	<5.0
PADEP Non-Residential Groundwater MSCs				5	1,000	700	10,000	20	100	3,500	62	53	
PADEP Default Non-Residential Volatilization to Indoor Air Screening Values for Groundwater				5,900	NOC	45,000	NOC	640,000	NOC	NOC	12,000	10,000	

Notes:
All results reported in micrograms per liter (µg/L)
E - Result exceeded calibration range
H - Sample was prepped or analyzed beyond the specified holding time
J - Result is less than the reporting limit (RL) but greater than or equal to the method detection limit (MDL) and the concentration is an approximate value
MSCs - Medium Specific Concentrations
NOC - Not of concern, value above constituent water solubility
PADEP - Pennsylvania Department of Environmental Protection
QA/QC - Quality Assurance/Quality Control
Results that are bold/shaded are greater than PADEP nonresidential MSCs and/or indoor air screening values

APPENDIX A

Springettsbury Township Ordinance

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Springettsbury Township

York County, Pennsylvania

Subdivision and Land Development Ordinance

Ordinance 07-09

Adopted June 28, 2007

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Chapter 289: SUBDIVISION AND LAND DEVELOPMENT

ARTICLE I: General Provisions.

§ 289-1. Short title.

This chapter shall be known and may be cited as the "Springettsbury Township Subdivision and Land Development Ordinance."

§ 289-2. Purpose and authority.

This chapter is adopted pursuant to the provisions of the Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805 No. 247, as reenacted and amended, for the purpose of the protection and promotion of safety, health and morals; to accomplish coordinated development; to provide for the general welfare by guiding and protecting amenities, convenience, future governmental, economic, practical, and social and cultural facilities, development and growth, as well as the improvement of governmental processes and functions; to guide uses of land and structures, type and location of streets, public grounds and other facilities; to promote the conservation of energy through the use of planning practices and to promote the effective utilization of renewable energy sources; to promote the preservation of natural and historic resources; to promote small business development and foster a business-friendly environment; to encourage the revitalization of established areas; to permit the Township to minimize such problems as may presently exist or which may be foreseen; to provide for the harmonious development of the township by providing uniform standards and procedures for all subdivision and land development plans and to protect the health, safety, morals and general welfare of the citizens of the Township by guiding the development and growth of structures, types and locations of streets, open spaces and public grounds, recreation, proper traffic flows, light and air and the proper distribution of population.

§ 289-3. Application.

No subdivision or land development of any lot, tract or parcel of land shall be made, no street, sanitary sewer, storm sewer, water main or other improvement in connection therewith shall be laid out, constructed, opened or dedicated for public use or travel or for the common use of occupants of buildings abutting thereto, except in accordance with the provisions of this chapter.

- (2) Capped and on-site sewage disposal systems provided until such time that connection to a public sanitary sewer system can be made.
- (3) Storm sewers shall not be connected with sanitary sewers.
- (4) Where there is not an existing public sanitary sewer system and the feasibility report indicates that a public sanitary sewer system and treatment plant is not feasible, the adequate provision of on-site subsurface or alternate sewage disposal systems approved by the Pennsylvania Department of Environmental Protection (DEP) must be investigated.
- (5) If on-site subsurface or alternate sewage disposal systems approved by the DEP, connection to a public sanitary sewer system or installation of a public sanitary sewer system are not feasible, the development shall not be approved.

§ 289-46. Water supply requirements.

- A. Where there is an existing public water supply system within 1,000 feet of the nearest point of the proposed development, a complete water supply system connected to the existing public water supply system must be provided.
- B. Where plans approved by a public water supplier provide for the installation of such public water facilities within six years, the developer shall provide a complete water supply system ready to be connected to the proposed water supply system.
- C. If water is to be provided by means other than by private wells owned and maintained by the individual owners of lots within the subdivision or development, applicants shall present evidence to the Board of Supervisors or Planning Commission, as the case may be, that the subdivision or development is to be supplied by a certified public utility, a bona fide cooperative association of lot owners, or by municipal corporation, authority or utility. A copy of a certificate of public convenience from the Pennsylvania Public Utility Commission or an application for such certificate, a cooperative agreement or a commitment or agreement to serve the area in question, whichever is appropriate, shall be acceptable evidence.
- D. Where there is no existing public water supply system and the feasibility report indicates that connection to a public water supply system is not feasible, each lot in the development must be provided with an individual water supply system in accordance with minimum standards approved by the DEP prior to the issuance of a building permit.

§ 289-47. Storm drainage.

- A. Storm sewers, culverts and related installations shall be provided as necessary to:
 - (1) Permit unimpeded flow of natural watercourses and other existing drainage facilities.
 - (2) Ensure adequate drainage of all low points along the line of streets.
 - (3) Intercept stormwater runoff along streets at intervals related to the extent and grade of the area drained.

APPENDIX B

Historical Information: Former Tanks T-1 through T-4

UNDERGROUND STORAGE TANK CLOSURE
AT THE HARLEY-DAVIDSON, INC. YORK FACILITY

REWAI Project 91164

Prepared for

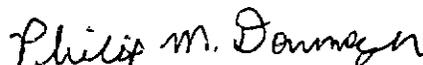
Harley-Davidson, Inc.
1425 Eden Road
York, PA 17402

By

R. E. WRIGHT ASSOCIATES INC.
3240 Schoolhouse Road
Middletown, PA 17057

March 1992

Respectfully submitted,

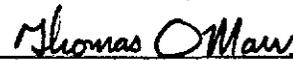


Philip M. Donmoyer
Staff Geologist

Reviewed by:



Stephen M. Snyder, P.G.
Vice President,
Earth Sciences



Thomas O. Marrs
Project Manager

r.e. wright associates, inc.

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EXECUTIVE SUMMARY

On behalf of Harley-Davidson, Inc. (Harley-Davidson), R. E. Wright Associates, Inc. (REWAI) documented and supervised the excavation and removal of six underground storage tanks (USTs) and the closing in-place of one UST and one oil/water separator (OWS) during the period of October 16, 1991 through January 31, 1992 at the Harley-Davidson York facility, Springettsbury Township, York County, Pennsylvania. REWAI retained Keystone Petroleum Equipment, Ltd. to perform the excavations and to empty, purge, and clean all USTs prior to excavation. During all UST permanent closure activities, REWAI visually inspected each UST and its associated piping, obtained soil samples from each UST excavation, and evaluated the soil quality to assess the presence and distribution of hydrocarbons.

Methods of soil quality evaluation included visual observation, screening the soil with an organic vapor analyzer (OVA) employing either a flame ionization detector (FID), or a photoionization detector (PID), and laboratory analysis of soil samples. The samples were analyzed for both total petroleum hydrocarbons (TPH) using United States Environmental Protection Agency (EPA) Method 418.1 and for gasoline constituents--benzene, toluene, ethylbenzene, and xylene (BTEX)--using EPA Method 8020.

All six removed USTs and the UST and OWS closed in-place and associated piping appeared to be intact with no extensive external pitting or rust-through. Seven USTs were constructed of steel, and the OWS was constructed of concrete. Subsurface soils in the excavation of tanks T-1, T-2, T-3, T-5, T-7, and the OWS appeared free of hydrocarbons, based on continued excavation, field observations, OVA measurements, and the analytical results.

1164EX

Hydrocarbons were present in one soil sample obtained from the T-6 excavation at a concentration of 240 milligrams per kilogram (mg/kg). No hydrocarbon odor, free-phase hydrocarbon, or stained soil was observed in the T-6 excavation.

Hydrocarbons were present in the T-4 excavation, where soil analyses detected concentrations of TPH and total BTEX ranging from below detection limits up to 170 mg/kg and 0.3 to 802 mg/kg, respectively. These soils were found primarily in close proximity to four gate valves, suggesting a possible leak in one or more of the valves. Further excavation continued around several underground utilities, including an 8-inch pressurized fire-protection water line (FPWL), a 1-inch carbon dioxide gas line (CO₂), both of which were broken and subsequently repaired, a 2-inch electrical conduit, a 6-inch steel line with unknown contents, and a concrete-encased 440-volt electric line. There was also an aboveground 13,000 volt (Kv) transformer and associated lines, which limited the extent of excavation. Soil samples obtained from the continued excavations ranged in TPH concentration from not detected up to 13,000 mg/kg, and total BTEX concentrations from not detected to 191.1 mg/kg.

Because of the buried utilities and transformer, some hydrocarbon-impacted soil remains at the T-4 location. The benzene concentrations in the analyzed soil exceed the Level C soil criteria of 0.4 mg/kg. These detections will require a site-specific feasibility study and remediation plan.

Prior to backfilling the T-4 excavation, two sets of perforated four-inch PVC vent pipes were placed in the excavation. They are available for future use, if required.

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1164EX

Because the soils underlying the area where the release was detected are relatively thick and fine textured, the soils will tend to absorb hydrocarbons and inhibit their migration.

Groundwater was not encountered or evaluated as part of this work scope. Estimated depth-to-groundwater beneath the T-4 excavation is 40 feet below grade level (bgl).

Approximately 1,200 tons of hydrocarbon-impacted soil from the T-4 site has been stockpiled on-site at Harley-Davidson. Various options are being evaluated for the final disposition of these soils, including thermal destruction, sanitary landfill disposal, or on-site bioremediation.

No further action is necessary for the former tank locations T-1, T-2, T-3, T-5, T-6, and T-7.

1.0 INTRODUCTION

1.1 Project Background

Pursuant to a written proposal submitted by R. E. Wright Associates, Inc. (REWAI) dated July 26, 1991 to Harley-Davidson, Inc. (Harley-Davidson) REWAI personnel were on-site at the Harley-Davidson, York facility from October 16, 1991 to January 1992 to supervise and document the excavations and removal of six underground storage tanks (USTs) and the closing-in-place of one UST and one underground oil/water separator (OWS). Harley-Davidson retained REWAI to assist in meeting the Pennsylvania Department of Environmental Resources (DER) guidelines for permanent UST closure. REWAI obtained soil samples from the UST excavations, assessed the presence and distribution of hydrocarbons in the soil, documented field observations, and provided environmental guidance when hydrocarbon-containing soils were encountered.

REWAI contracted Keystone Petroleum Equipment, Ltd. (Keystone) to unearth, clean, and remove six steel USTs, and to aid REWAI in obtaining soil samples from beneath the UST and OWS which were closed in place. Table 1 lists the UST registration numbers and identifies the tank number system used throughout this report. Also included, as Appendix A, is a copy of the DER Amended Registration of Storage Tanks form, which displays the USTs' current status (removed and closed in place), former contents, and other information.

TABLE 1

Underground Storage Tank Information Survey
 Harley-Davidson, Inc. - York Facility
 York, Pennsylvania
 REWAI Project 91164

<u>UST Reference No.</u>	<u>UST Registration No.</u>	<u>Reported Capacity (gallons)</u>	<u>Contents</u>	<u>Construction</u>	<u>Year Installed (estimated)</u>	<u>Status</u>
T-1	67-00823-005	1,000	Diesel Fuel	Uncoated Steel	1970	Removed
T-2	67-00823-008	4,000	Gasoline	Uncoated Steel	1976	Removed
T-3	67-00823-007	5,000	Gasoline	Uncoated Steel	1976	Removed
T-4	67-00823-006	3,500	Gasoline	Uncoated Steel	1973	Removed
T-5	67-00823-002	20,000	Fuel Oil No. 6	Uncoated Steel	1965	Removed
T-6	67-00823-003	30,000	Fuel Oil No. 6	Uncoated Steel	1970	Removed
T-7	67-00823-001	20,000	Fuel Oil No. 6	Uncoated Steel	1965	Closed in-place
OWS	N/A	1,000	Oil and Water	Concrete	1965	Closed in-place

OWS - Oil/Water Separator

N/A - Not applicable

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1.2 Site Location and Setting

The Harley-Davidson York facility encompasses approximately 230 acres of land (Figure 1) and is located northeast from the intersection of Eden Road and Arsenal Road (U. S. Route 30) (Figure 2) in Springettsbury Township, York County, Pennsylvania. This portion of Springettsbury Township is predominantly commercial and industrial to the northwest, west, and south of the site, and predominantly residential to the northeast and east of the site.

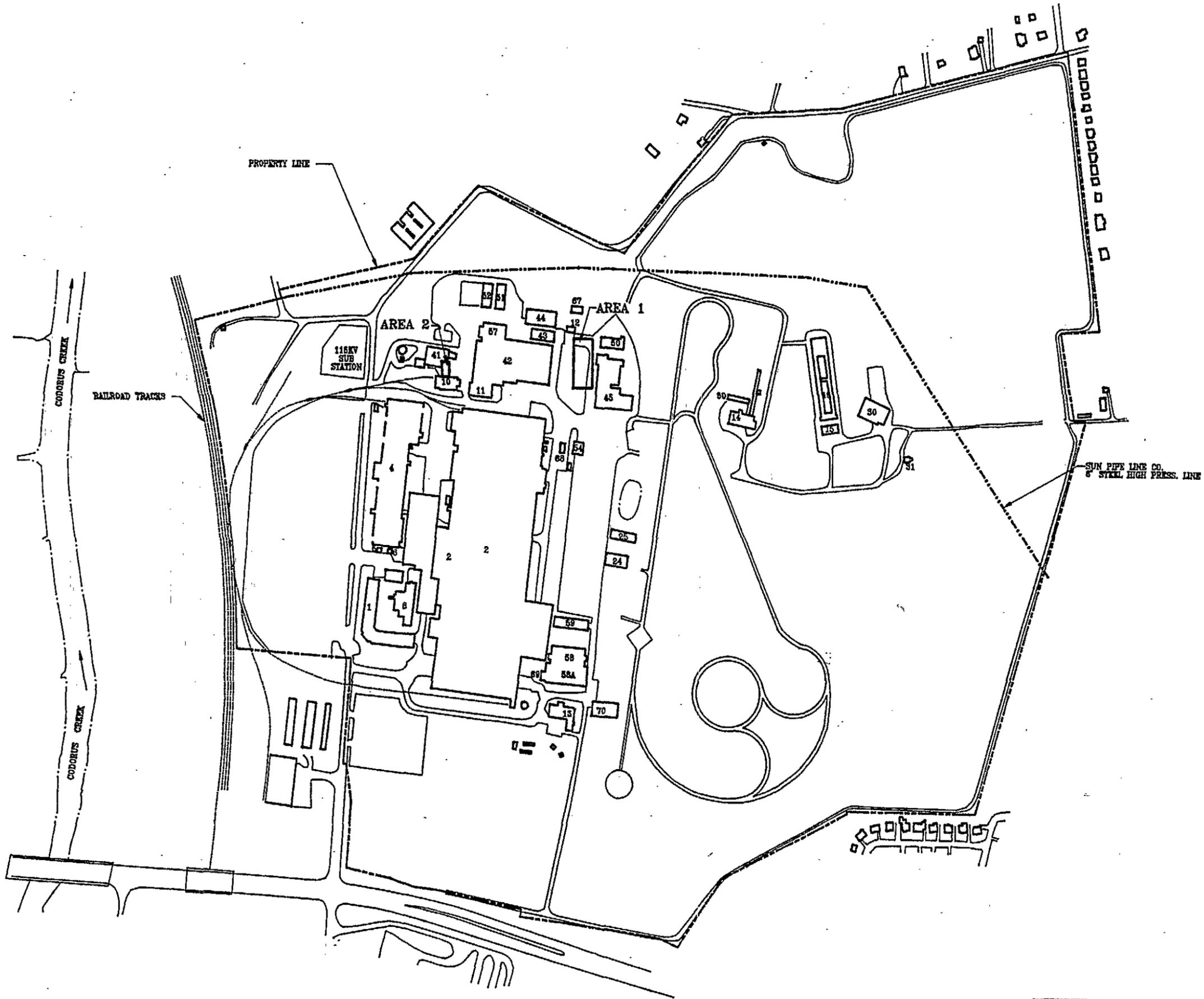
1.2.1 Topography

The surface topography of the site slopes from the east to the west-southwest from an average elevation of approximately 540 feet above mean sea level (AMSL) at the far northeastern corner of the site, to approximately 360 feet AMSL at the Conrail Railroad lines, which parallel the western property line.

The eastern portion of the site has an approximate average surface gradient of eight percent, while the western portion of the site is relatively flat with an approximate average surface gradient of one percent.

1.2.2 Soils

Soils at the site mapped by the United States Department of Agriculture (USDA), Soil Conservation Service (SCS) (1963), consist of numerous soil types; however, the tanks are located within the Duffield series soils. The Duffield series generally consists of dark brown to yellowish-brown, deep, well-drained, and primarily fine-textured soils with a relatively low permeability and high available moisture capacity. The Duffield soils



AREA 1 = TANKS 1, 2, 3, 4
 AREA 2 = TANKS 5, 6, 7, OWS

200' 0 200' 400'
 SCALE IN FEET

FIGURE 1
HARLEY-DAVIDSON, INC.
 YORK FACILITY

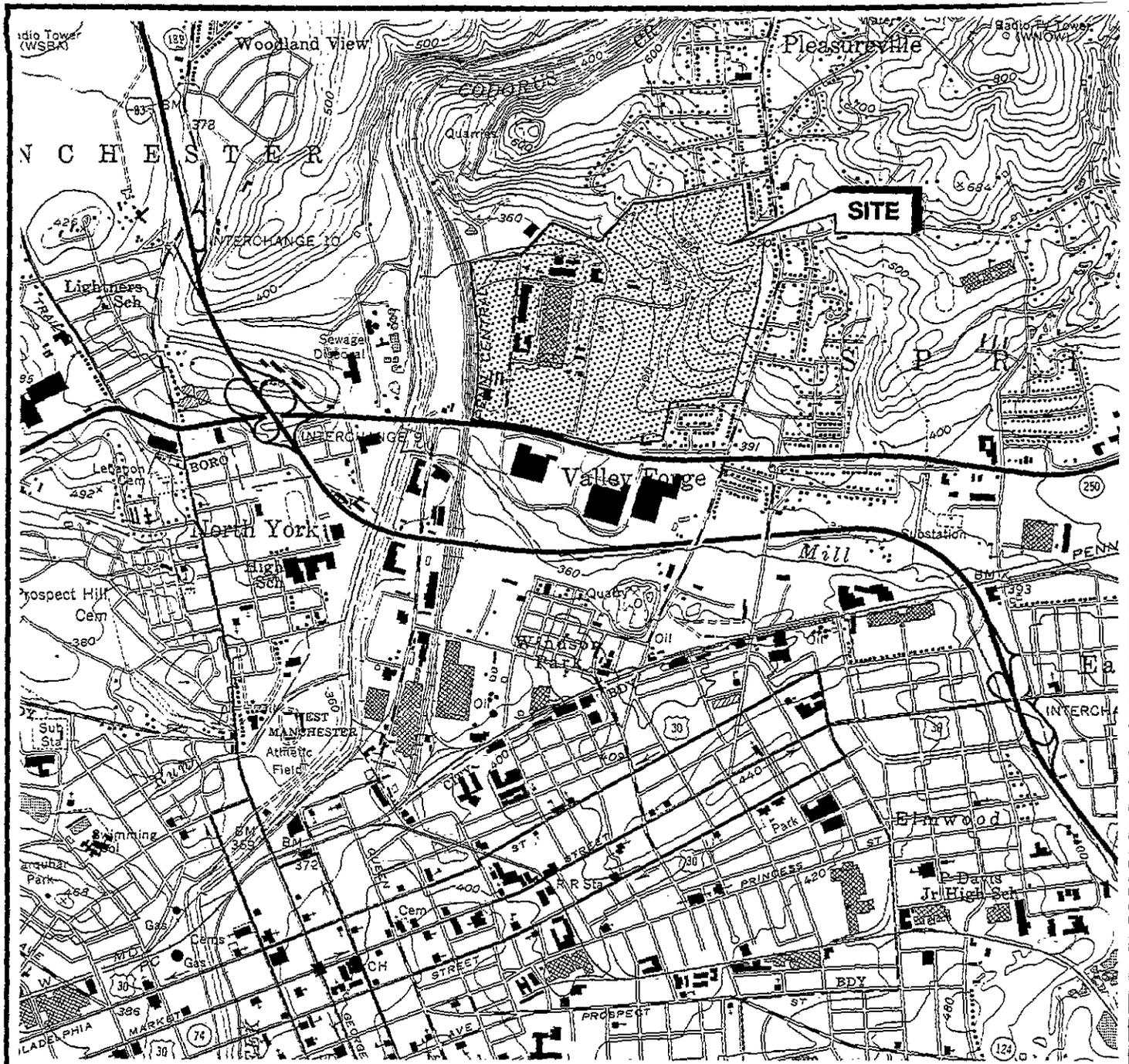
SITE MAP

Drawn	RAY	Approved	TEM	Drawing No.
Checked	MAN	Date	1/7/92	91164-003-C

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 earth resources consultants

NO.	DESCRIPTION	DATE	BY

REVISIONS



NOTE: BASE MAP FROM THE YORK, PA (PHOTOREVISED 1968 AND 1973) 7.5 MINUTE USGS TOPOGRAPHIC QUADRANGLE.

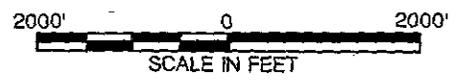


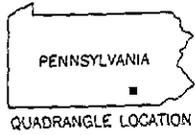
FIGURE 2

HARLEY-DAVIDSON, INC.
YORK FACILITY

SITE LOCATION MAP

drawn	CCS	approved	Tom	drawing no.
checked	1/19	date	1-7-92	91164-002-AA

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range in thickness from less than 5 feet to greater than 15 feet and have been formed primarily from carbonate bedrock.

Fine-textured soils such as the soil types previously mentioned are relatively absorbent to hydrocarbons. This character, combined with low permeability, has the potential to limit the migration of hydrocarbons.

1.2.3 Geology

The bedrock underlying the tank locations was mapped as the Vintage Formation (dolomite) by the Pennsylvania Geologic Survey. However, based upon REWAI's previous and current field investigations, it is believed that the Conestoga Formation (limestone) is present beneath the site, rather than the Vintage Formation.

The Conestoga Formation in York County is characterized as a medium to dark gray and bluish-gray, fine to medium crystalline limestone with some thin shale partings and quartz-filled veins. This unit underlies the relatively flatter, western portion of the site, where the manufacturing buildings and USTs are located.

Typically, groundwater and hydrocarbon migration (if present) in these bedrock units is confined to zones of preferential permeability, such as fractures, joints, faults, and bedding planes.

1.2.4 Hydrology

Depth-to-groundwater at the site varies from less than 20 feet below grade level (bgl) in the western portion (Conestoga Limestone) of the site to greater than 50 feet bgl in the far

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eastern portion (Antietam Sandstone) of the site. The estimated depth-to-groundwater in Areas 1 (fuel USTs) and 2 (No. 6 USTs) is approximately 40 and 20 bgl, respectively. This is based upon monitoring wells installed on-site by REWAI. Based upon groundwater levels and surface topography, groundwater flows east to west beneath the site toward Codorous Creek, which has a surface elevation of approximately 340 feet AMSL. Groundwater was not encountered during any of the field activities performed as part of the UST excavations.

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2.0 HYDROCARBON DELINEATION CRITERIA

2.1 Field Analysis

Evaluation of the presence or absence of hydrocarbons in the subsurface soils during the UST excavation activities was made using three techniques:

1. Observation of visual discoloration (staining), hydrocarbon film on water or sheen, and presence of free-phase liquid hydrocarbons.
2. Detection of odor or significant positive response to organic vapor screening by an organic vapor analyzer (OVA), such as a photoionization detector (PID) or flame ionization detector (FID).
3. Laboratory analysis of soil samples.

In general, when present in the soil, diesel fuel, No. 6 fuel oil and gasoline are easily recognized by odor and/or staining. Using these indicators of hydrocarbon presence, those areas warranting further excavation were identified. Where olfactory or visual evaluation was less applicable or more objective measurement were required, a PID/FID was utilized. Two methods of analysis by OVA were used. The first was to disturb the soils with a pick or trowel and measure the volatile organic compounds (VOCs) released from the soil during the disturbance. The second method utilized a headspace-analysis technique, which consisted of collecting a soil sample in an air-tight plastic bag, agitating it, and subsequently puncturing the bag with the intake probe of the OVA to measure any VOCs that may have been emitted by the soils. Practice and experience have allowed the operator

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to judge the presence or absence of fuel and to estimate fuel concentrations by these methods.

2.2 Laboratory Analyses

The soil samples collected during the investigation were placed into 125-milliliter (ml) glass containers with Teflon-lined lids, labeled, and refrigerated. An appropriate chain-of-custody form was prepared for the samples, which were transported to Wright Lab Services, Inc. (WLSI) or Lancaster Laboratories, Inc. for chemical analysis. Each sample was analyzed for gasoline constituents--benzene, toluene, ethylbenzene, and xylene (BTEX)--using the United States Environmental Protection Agency (EPA) Modified Method 8020, and for total petroleum hydrocarbons (TPH) using EPA Method 418.1 for soils. Complete results of the laboratory analyses are illustrated on figures describing removal of the tanks T-1 through T-6. Copies of the original laboratory reports are attached as Appendix B.

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3.0 TANK EXCAVATION ACTIVITIES

3.1 Area 1

Area 1 is located west of Building 45 (Figure 1). Tank T-1 was used for storage of diesel fuel for use in Harley-Davidson site equipment. Tanks T-2, T-3, and T-4 were used for gasoline storage for use in the production and testing of Harley-Davidson motorcycles.

3.1.1 Tank T-1 Cleaning and Excavation Activities

On October 17, 1991, Tank T-1 was cleaned, excavated, and removed. T-1 was a 1,000-gallon steel diesel fuel UST situated approximately 40 feet south of the concrete platform and 50 feet west of Building 45 (Figure 3). A cross-section and plan view illustrating T-1 with respect to the soil profile, PID measurements, and soil sample locations and results is shown on Figure 4.

Backfilling of the T-1 excavation was completed on October 17, 1991. Soils removed during excavation of T-1 were used as backfill and compacted with the track-hoe bucket.

3.1.2 Tank T-1 Characteristics

T-1 was lifted intact from the excavation and visually inspected. The tank surface was slightly to moderately corroded and pitted. Associated piping showed only slight to moderate corrosion and pitting. No holes or indication of structural or corrosion-induced leakage was observed on T-1 or its associated piping.

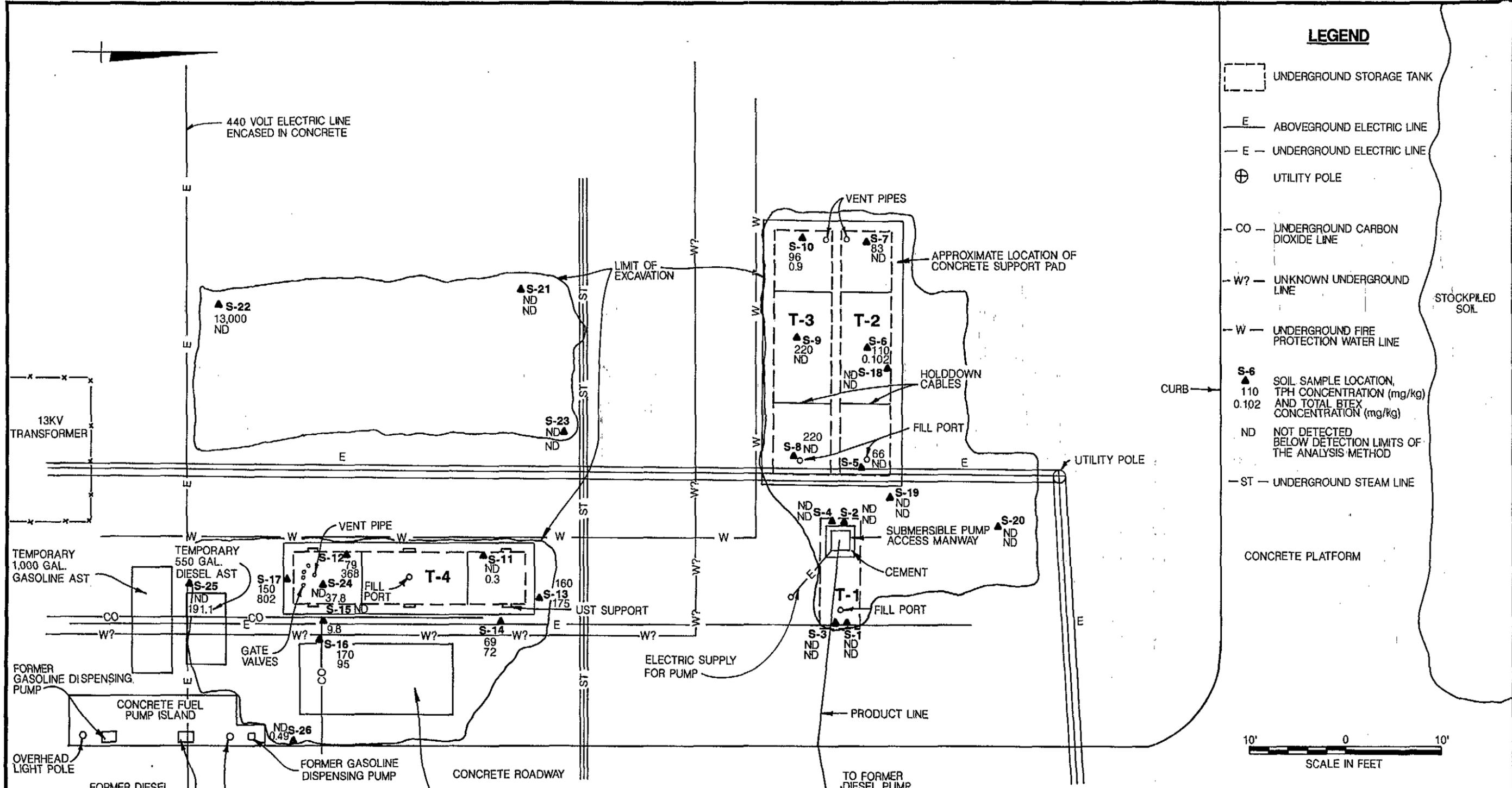


FIGURE 3

HARLEY-DAVIDSON, INC.
YORK FACILITY

AREA 1 - WEST OF BLDG. 45
UST LOCATIONS

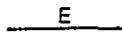
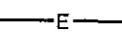
drawn SS	approved TGA	drawing no.
checked M.V.	date 1-7-92	91164-004-A

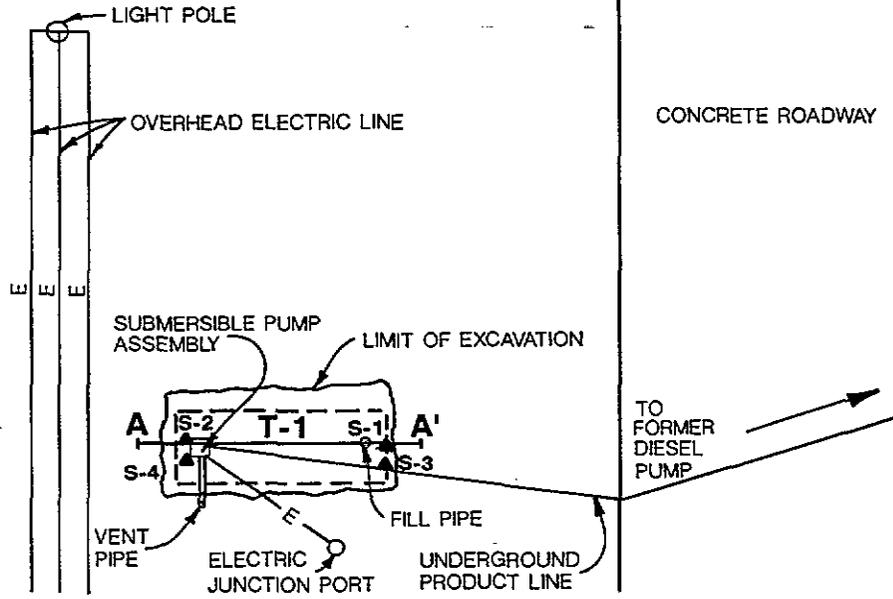
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earth resources consultants
middletown, pa. westminster, md.

CONCRETE PLATFORM

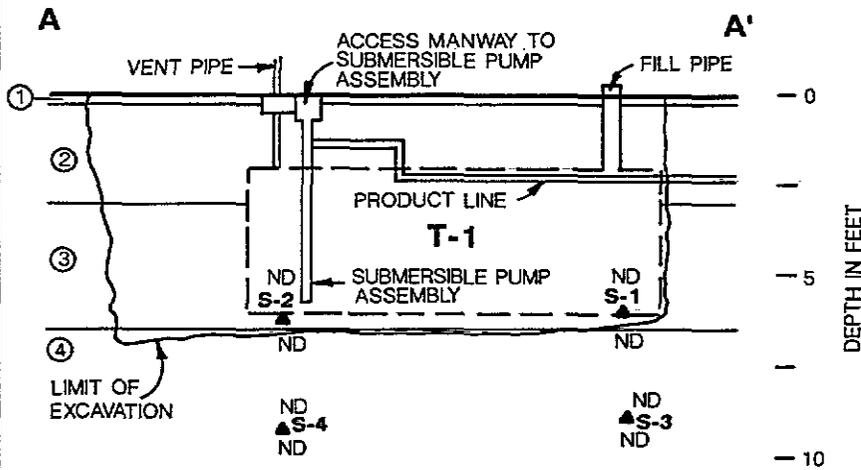
PLAN VIEW OF T-1

LEGEND

-  UNDERGROUND STORAGE TANK
-  ABOVE GROUND ELECTRIC LINE
-  UNDERGROUND ELECTRIC LINE
-  SOIL SAMPLE LOCATION, TPH CONCENTRATION (mg/kg) AND TOTAL BTEX CONCENTRATION (mg/kg)
-  NOT DETECTED BELOW DETECTION LIMITS OF THE ANALYSIS METHOD



CROSS SECTION A - A' OF T-1



SOIL DESCRIPTIONS

- ① BROWN SILT LOAM, LOOSE, MOIST, ORGANIC
- ② YELLOWISH BROWN SILTY CLAY AND GRAVEL, DRY, VERY FIRM, MINOR SAND
- ③ BROWNISH YELLOW SILTY CLAY AND GRAVEL, DRY, VERY FIRM, MINOR SAND
- ④ BROWN CLAYEY SILT AND GRAVEL WITH SOME SAND, SLIGHTLY MOIST, HARD

FIGURE 4

HARLEY-DAVIDSON, INC.		
YORK FACILITY		
PLAN VIEW AND CROSS SECTION OF T-1		
drawn SS	checked PMB	drawing no. 91164-005-AA
approved [Signature]	date 1-7-93	
 r. e. wright associates, inc. earth resources consultants <small>middletown, pa. king of prussia, pa. westminster, md. dallas, tx.</small>		

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3.1.3 Tank T-1 Soil Characteristics

The soil profile exposed by the excavation consisted of a brown silt loam surface layer approximately 0.25 feet thick, underlain by approximately 9.5 feet of yellowish-brown to brown silty clay and gravel with minor sand. This soil was very firm, hard, dry to slightly moist, and had a blocky structure. During the excavation of T-1, no hydrocarbon odors, stained soil, or free-phase hydrocarbons were observed.

Four soil samples (S-1 through S-4) were obtained from each end of the T-1 excavation--two from approximately 6.5 feet bgl and 2 from approximately 9.5 feet bgl. These samples were analyzed for BTEX and TPH. The results of the laboratory analyses are illustrated on Figure 4 and summarized on Table 2. All the BTEX and TPH concentrations were below the laboratory's detection limits of the analysis method.

Based upon visual inspection of T-1 and its associated piping, observed soils, PID measurements, and confirmatory soil samples, it appears that the T-1 excavation contained no hydrocarbon contamination and no release was indicated.

3.1.4 Tank T-2 Cleaning and Excavation Activities

On October 17, 1991, Tank T-2 was cleaned, excavated, and removed. T-2 was a 4,000-gallon steel gasoline UST situated approximately 5 feet west of T-1 (Figure 3). A cross-section and plan view illustrating T-2 with respect to the soil profile, PID measurements, and soil sample locations and results is shown on Figure 5.

Summary of Analytical Results of Soil Samples
Harley-Davidson, Inc. - York Facility
York, Pennsylvania
REWAI Project 91164

Sample Location/ Designation	Total Petroleum ¹ Hydrocarbons (mg/kg)	Benzene ² (mg/kg)	Toluene ² (mg/kg)	Ethylbenzene ² (mg/kg)	Total Xylenes ² (mg/kg)	Total BTEX ² (mg/kg)
<u>AREA 1</u>						
S-1 T-1	ND ³	ND	ND	ND	ND	ND
S-2 T-1	ND	ND	ND	ND	ND	ND
S-3 T-1	ND	ND	ND	ND	ND	ND
S-4 T-1	ND	ND	ND	ND	ND	ND
S-5 T-2	66	ND	ND	ND	ND	ND
S-6 T-2	110	ND	ND	ND	0.102	0.102
S-7 T-2	83	ND	ND	ND	ND	ND
S-8 T-3	220	ND	ND	ND	ND	ND
S-9 T-3	220	ND	ND	ND	ND	ND
S-10 T-3	96	ND	ND	ND	0.9	0.9
S-11 T-4	ND	ND	ND	ND	0.3	0.3
S-12 T-4	79	ND	83	39	246	368
S-13 T-4	160	ND	16	22	137	175
S-14 T-4	69	ND	9	9	54	72
S-15 T-4	ND	ND	0.6	1.3	7.9	9.8
S-16 T-4	170	ND	3	14	78	95
S-17 T-4	150	6	210	86	500	802
S-18	ND	ND	ND	ND	ND	ND
S-19	ND	ND	ND	ND	ND	ND
S-20	ND	ND	ND	ND	ND	ND
S-21	ND	ND	ND	ND	ND	ND
S-22	13,000	ND	ND	ND	ND	ND
S-23	ND	ND	ND	ND	ND	ND
S-24 ⁴ T-4	ND ⁵	2.1	12	3.5	20.2	37.8
S-25 ⁴ T-4	ND ⁵	6.1	61	18	106	191.1
S-26 ⁴ T-4	ND	0.06	0.13	0.06	0.24	0.49
<u>AREA 2</u>						
S-27 T-5	ND	ND	ND	ND	ND	ND
S-28 T-5	ND	ND	ND	ND	ND	ND
S-29 T-5	ND	ND	ND	ND	ND	ND
S-30 T-7	ND	ND	ND	ND	ND	ND
S-31 T-7	ND	ND	ND	ND	ND	ND
S-32 T-7	ND	ND	ND	ND	ND	ND
S-33 T-6	ND	ND	ND	ND	ND	ND
S-34 OWS	ND	ND	ND	ND	ND	ND
S-35 T-6	ND	ND	ND	ND	ND	ND
S-36 T-6	240	ND	ND	ND	ND	ND

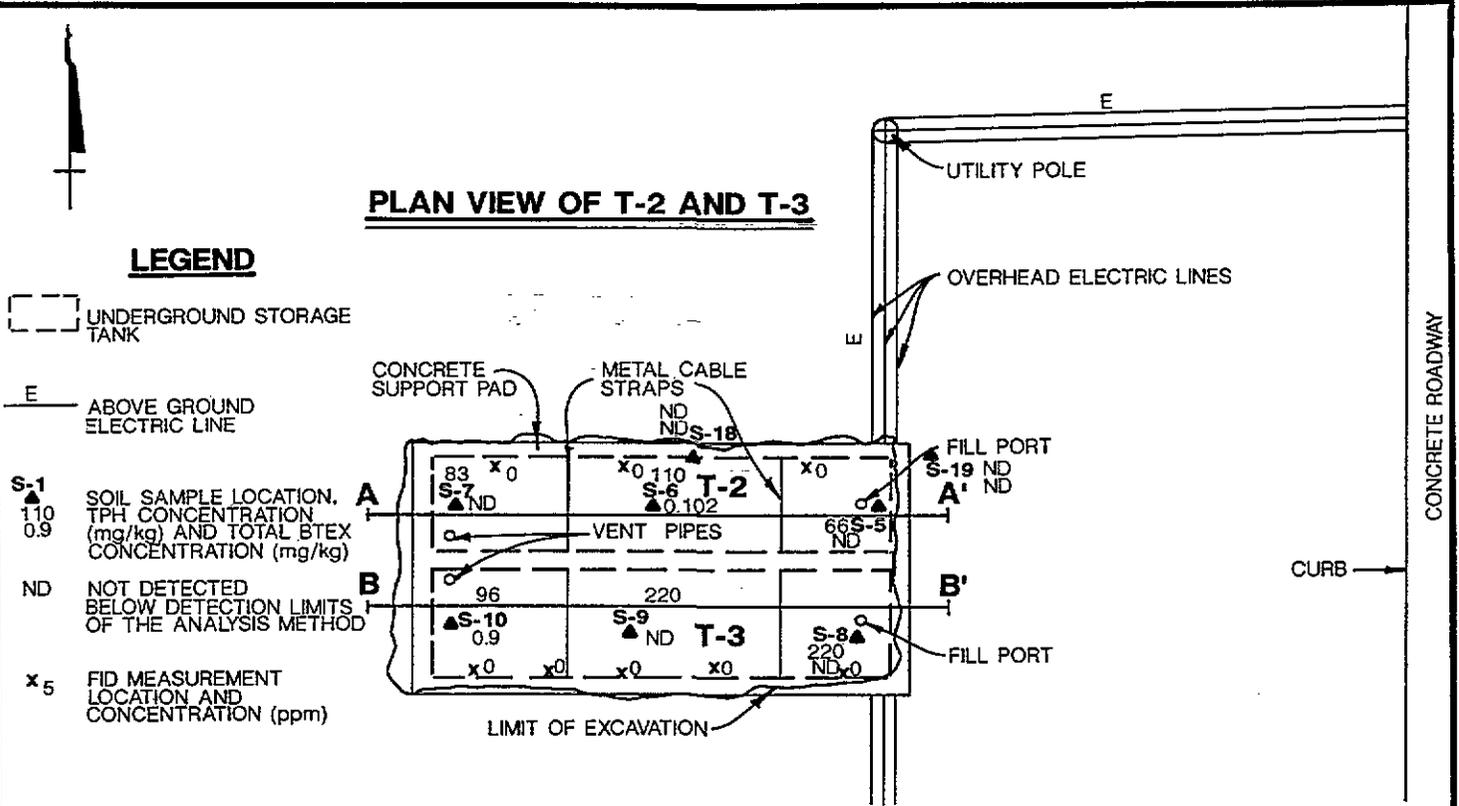
Notes:

Soil samples were analyzed at Wright Lab Services, Inc. (WLSI), a Pennsylvania Department of Environmental Resources (DER) accredited analytical laboratory.

1. Soils analyzed for total petroleum hydrocarbons (TPH) using United States Environmental Protection Agency (EPA) Method 418.1.
2. Soils analyzed for benzene, toluene ethylbenzene, and xylene (BTEX) using EPA Method 8020.
3. Not detected. Below the detection limit of the analysis method.
4. Soil samples analyzed at Lancaster Laboratories, Inc. (LLI) for TPH and BTEX, a DER-accredited analytical laboratory.
5. TPH concentration was below the detection limit of the analysis method once the method blank concentration was subtracted from the result.

OWS = Oil/Water Separator

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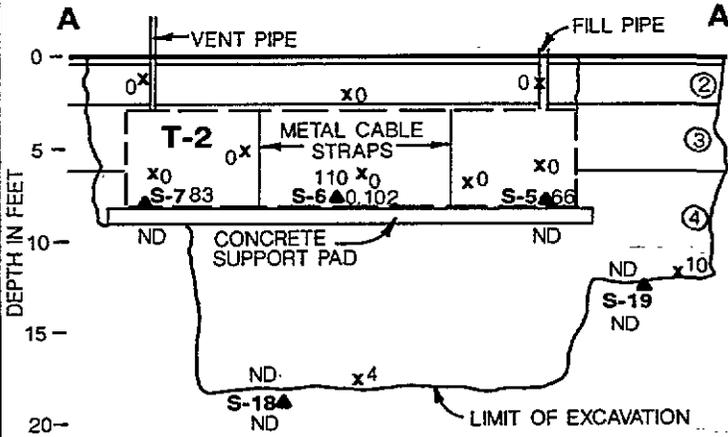


LEGEND

- UNDERGROUND STORAGE TANK
- E ABOVE GROUND ELECTRIC LINE
- S-1 SOIL SAMPLE LOCATION, TPH CONCENTRATION (mg/kg) AND TOTAL BTEX CONCENTRATION (mg/kg)
- ND NOT DETECTED BELOW DETECTION LIMITS OF THE ANALYSIS METHOD
- x 5 FID MEASUREMENT LOCATION AND CONCENTRATION (ppm)

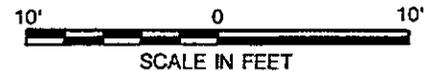
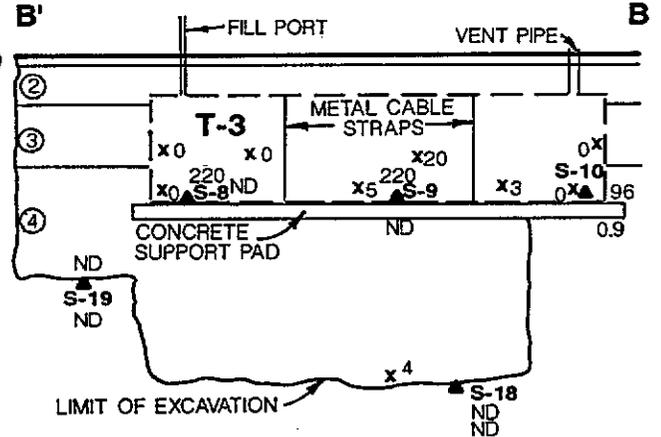
CROSS SECTION OF A - A' OF T-2

LOOKING NORTH



CROSS SECTION B - B' OF T-3

LOOKING SOUTH



SOIL DESCRIPTIONS

- ① BROWN SILT LOAM, LOOSE, MOIST, ORGANIC
- ② YELLOWISH BROWN SILTY CLAY AND GRAVEL, DRY, VERY FIRM, MINOR SAND
- ③ BROWN YELLOW SILTY CLAY AND GRAVEL, DRY, VERY FIRM, MINOR SAND
- ④ BROWN CLAYEY SILT AND GRAVEL WITH SOME SAND, SLIGHTLY MOIST, HARD

FIGURE 5

HARLEY-DAVIDSON, INC.		
YORK FACILITY		
PLAN VIEW AND CROSS SECTION OF T-2 AND T-3		
drawn S.C.	approved T.O.M.	drawing no. 91164-006-AA
checked J.M.G.	date 1-7-92	
r. e. wright associates, inc. earth resources consultants		
Middletown, Pa. King of Prussia, Pa.		Westminster, Md. Dallas, Tx.

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Backfilling of the T-2 excavation was completed on October 17, 1991. Soils removed during excavation of T-2 were used as backfill and compacted with the track-hoe bucket.

3.1.5 Tank T-2 Characteristics

T-2 was lifted intact from the excavation and visually inspected. Beneath T-2 was a reinforced concrete support pad approximately one foot thick (Figure 5). The tank surface was slightly to moderately corroded and pitted. Associated piping showed only moderate corrosion and pitting. No holes or indication of structural or corrosion-induced leakage was observed on T-2 or its associated piping.

3.1.6 Tank T-2 Soil Characteristics

The soil profile exposed by the excavation consisted of a brown silt loam surface layer approximately 0.25 feet thick underlain by approximately 7.75 feet of yellowish-brown to brown silty clay and gravel with some sand. This soil was firm, hard, dry, and had a blocky structure.

During the excavation of T-2, no hydrocarbon odors, stained soils, or free-phase hydrocarbons were observed. Soils were screened with a PID, and readings were not observed above background levels.

Three soil samples (S-5 through S-7) were obtained from the T-2 excavation--one from each end and one from the center--from a depth of approximately eight feet bgl. Samples were obtained from material located on top of the concrete support pad and analyzed for BTEX and TPH. The results of the laboratory analyses are illustrated on Figure 5 and summarized on Table 2.

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Samples S-5 and S-7 had BTEX concentrations below the detection limit of the analysis method. Sample S-6 had a total xylene concentration of 0.102 milligrams per kilogram (mg/kg), while benzene, ethylbenzene, and toluene were not detected. Samples S-5, S-6, and S-7 had TPH concentrations of 66, 110, and 83 mg/kg, respectively.

Based upon visual inspection of T-2 and its associated piping, observed soils, PID measurements, and confirmatory soil samples, it appears that the T-2 excavation contained only slightly hydrocarbon-impacted soils and no hydrocarbon release was indicated.

3.1.7 Tank T-3 Cleaning and Excavation Activities

On October 17, 1991, Tank T-3 was cleaned, excavated, and removed. T-3 was a 5,000-gallon steel gasoline UST situated 2 feet south of T-2, shown on Figure 3. T-2 and T-3 were both placed on the same reinforced concrete support pad. A cross-section and plan view illustrating T-3 with respect to the soil profile, PID measurements, and soil sample locations and results is shown on Figure 5.

Backfilling of the T-3 excavation was completed on October 17, 1991. Soils removed during excavation of T-3 were used as backfill and compacted with the track-hoe bucket.

3.1.8 Tank T-3 Characteristics

T-3 was lifted intact from the excavation and visually inspected. T-3 and its associated piping were slightly to moderately

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corroded and pitted, but no holes or any indication of structural or corrosion-induced leakage was observed.

3.1.9 Tank T-3 Soil Characteristics

The soil profile exposed by the excavation consisted of a brown silt loam surface layer approximately 0.25 feet thick underlain by approximately 7.75 feet of yellowish-brown to brown silty clay and gravel with some sand. This soil was firm, hard, dry to slightly moist, and had a blocky structure.

During the excavation of T-3, slight hydrocarbons odors were observed, but no stained soil or free-phase hydrocarbons were observed. Soils were screened using a PID and readings in the T-3 excavation ranged from background levels up to 20 parts per million (ppm).

Three soil samples (S-8 through S-10) were obtained from the excavation of T-3--one from each end and one from the center of the excavation--from a depth of approximately 8 feet bgl. The samples were analyzed for BTEX and TPH. The results of the laboratory analyses are illustrated on Figure 5 and summarized on Table 2. Samples S-8 and S-9 had BTEX concentrations below the laboratory's detection limit of the analysis method. Sample S-10 had a total xylene concentration of 0.9 mg/kg, while benzene, ethylbenzene, and toluene were not detected. Samples S-8, S-9, and S-10 had TPH concentrations of 220, 220, and 96 mg/kg, respectively.

Based upon visual inspection of T-3 and its associated piping, observed soils, PID measurements, and confirmatory soil samples, it appears that the T-3 excavation contained only slightly

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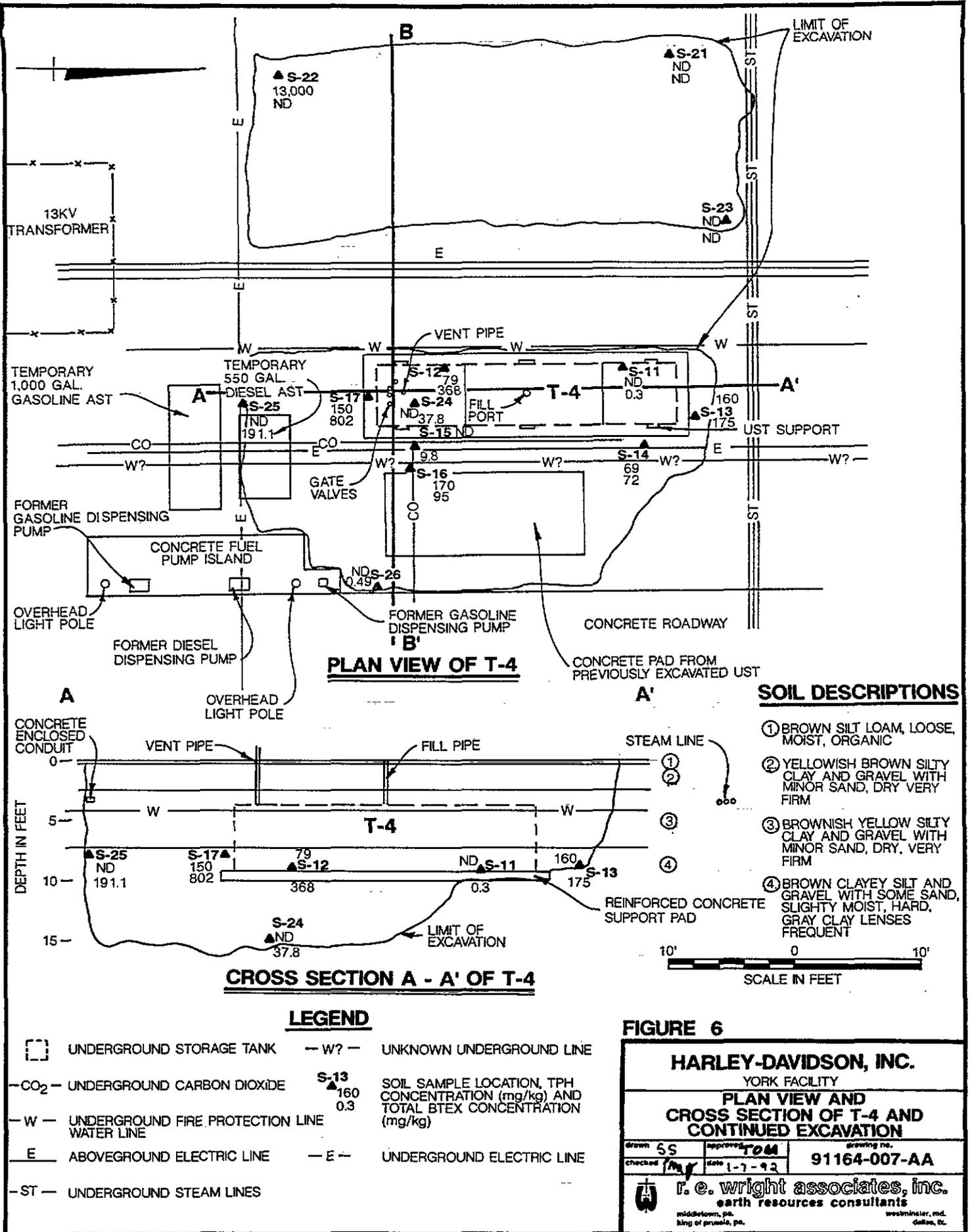
hydrocarbon-impacted soils, while no hydrocarbon release was indicated.

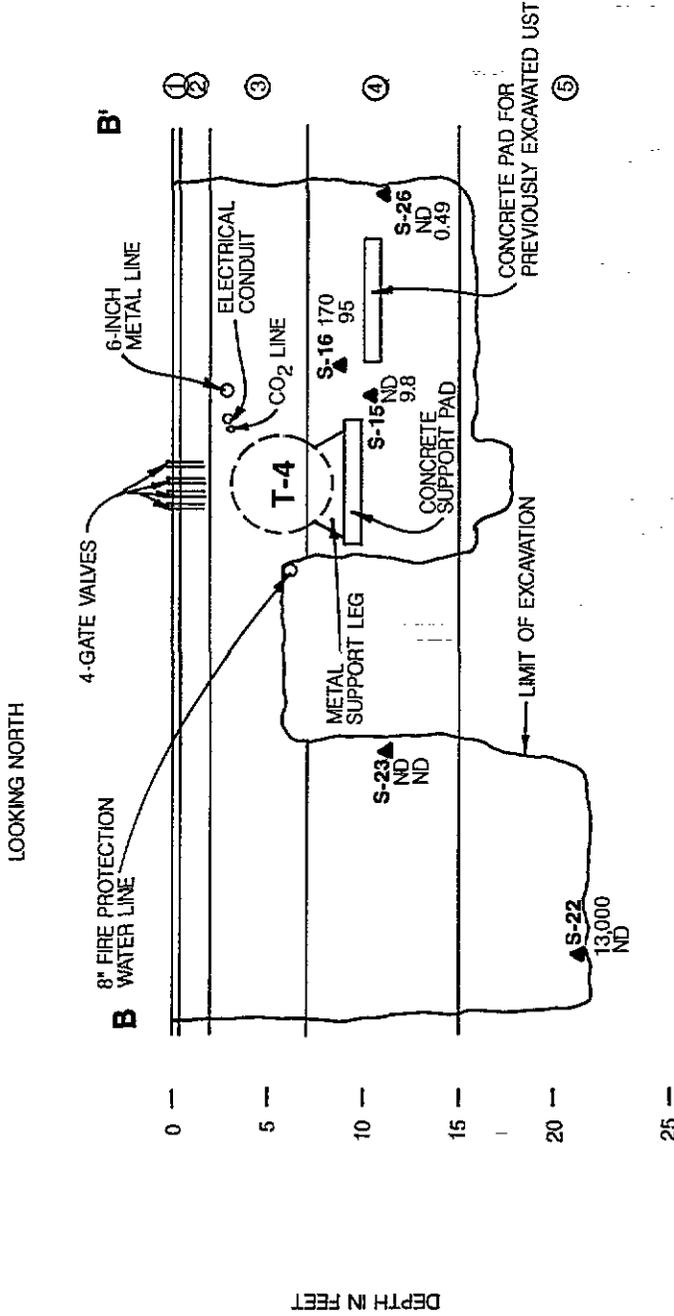
3.1.10 Tank T-4 Cleaning and Excavation Activities

The excavation of soils surrounding Tank T-4 began on October 18, 1991. T-4 was a 3,500-gallon steel gasoline UST situated at approximately 50 to 60 feet west of Building 45, and 20 feet northeast of the 13,000 volt (13 Kv) transformer (Figure 3). Tank T-4 appears to have been designed as an aboveground storage tank, based upon the three support legs beneath the tank which sat flat against the reinforced concrete support pad, and double-steel wall ends. A second reinforced concrete pad, presumably from a UST excavated prior to this work effort, was observed between the concrete pad underlying T-4 and the roadway to the east (Figures 6 and 7). Four gate valves which controlled the flow of gasoline and diesel fuel from the USTs to the dispensing pumps were located above the southern end of T-4 (Figure 3).

During the excavation, 2 underground utility lines were broken by the track-hoe bucket: an 8-inch-diameter metal pressurized fire protection water line (8-inch FPWL) approximately 6 feet bgl and a 1-inch-diameter copper carbon dioxide (CO₂) line approximately 3.5 feet bgl used for welding gas supply purposes (Figure 3). These lines were repaired on October 18, 1991.

Several other underground utility lines were subsequently uncovered but undamaged. These lines included a 2-inch-diameter steel electrical conduit approximately 3 feet bgl, a 6-inch-diameter steel line approximately 3 feet bgl (probably a water line), and a concrete-encased 440-volt electrical line approximately 5 feet bgl (Figure 3). A cross-section and plan view





SOIL DESCRIPTIONS

- ① BROWN SILT LOAM, LOOSE, MOIST
- ② YELLOWISH-BROWN SILTY CLAY AND GRAVEL WITH MINOR SAND, DRY, VERY FIRM
- ③ BROWNISH YELLOW SILTY CLAY AND GRAVEL WITH MINOR SAND, DRY, VERY FIRM, GRAY LENSES FREQUENT
- ④ BROWN CLAYEY SILT AND GRAVEL WITH SOME SAND, SLIGHTLY MOIST, HARD, WITH GRAY CLAY LENSES
- ⑤ ORANGE BROWN AND GRAY CLAY WITH MINOR SILT, SAND & GRAVEL, VERY FIRM, HARD, DRY

LEGEND

- UNDERGROUND STORAGE TANK
- ▲ SOIL SAMPLE LOCATION
170 TPH CONCENTRATION (mg/kg)
95 AND TOTAL BTEX CONCENTRATION (mg/kg)



FIGURE 7

HARLEY-DAVIDSON, INC. YORK FACILITY	
CROSS SECTION B - B' OF T-4 AND CONTINUED EXCAVATION	
drawn S.S.	approved T.M.
checked J.M.	date 1-8-93
drawing no. 91164-008-AA	

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illustrating T-4 with respect to the soil profile and soil sampling locations and results are shown on Figures 6 and 7.

3.1.11 Tank T-4 Characteristics

T-4 was lifted from the excavation on October 21, 1991. When the southern end of T-4 was exposed, stain marks were observed on the top of T-4 and down both sides. These stains were believed to be the result of gasoline leaking out of product line(s) and/or valve(s) positioned above T-4 and seeping down to T-4, staining the top outer surface and creating streak marks down both sides of T-4.

Other than the stains noted above, the remainder of T-4 was slightly to moderately corroded with only slight pitting. The fill and vent pipes and product lines were moderately corroded. No holes or any indication of structural or corrosion-induced leakage was observed in T-4 or its associated piping.

3.1.12 Tank T-4 Soil Characteristics

The soil profile exposed by the excavation consisted of a brown silt loam surface layer approximately 0.25 feet thick underlain by approximately 8.75 feet of yellowish-brown silty clay with gravel and minor sand. This soil was firm, hard, dry to slightly moist, and had a blocky structure.

During excavation of soil surrounding the four gate valves which formerly controlled fuel flow between the dispensers and the storage tanks, gasoline-like hydrocarbon odors were observed. The soil, which appeared to be impacted by hydrocarbons, was segregated and placed on plastic.

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On top of the reinforced concrete pad was a greenish-gray silty clay and gravel, emitting a mixture of gasoline and diesel fuel odors. Additional hydrocarbon-stained soil was located in close proximity to several underground utilities, which hindered continued excavation activities (Figure 3). Approximately 40 tons of hydrocarbon-impacted soil was excavated at this time. Additional excavation of hydrocarbon-impacted soil was temporarily halted to evaluate the integrity, location, and stability of the numerous underground utilities.

Seven soil samples (S-11 through S-17) were obtained from the excavation and analyzed for BTEX and TPH. The results of the laboratory analyses are illustrated on Figure 6 and summarized on Table 2. Copies of the original laboratory reports are attached as Appendix B. Samples S-11 and S-15 had TPH concentrations below the detection limit of the analysis method. Samples S-12, S-13, S-14, S-16, and S-17 had TPH concentrations of 79, 160, 69, 170, and 150 mg/kg, respectively. Samples S-11 through S-16 had benzene concentrations below the detection limit of the analysis method. Sample S-17 had a benzene concentration of 6 mg/kg. Total BTEX concentrations of the samples are as follows:

- o S-11 - 0.3 mg/kg
- o S-12 - 368 mg/kg
- o S-13 - 175 mg/kg
- o S-14 - 72 mg/kg
- o S-15 - 9.8 mg/kg
- o S-16 - 95 mg/kg
- o S-17 - 802 mg/kg

Because of the elevated TPH and BTEX concentrations in some of the samples, it was determined that additional excavation and sampling would be undertaken to determine the extent of the

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hydrocarbon impact. After completing the excavations necessary for the new tank installation (see Section 3.1.13), this extended sampling was begun.

Stewart and March, Inc. of York, Pennsylvania, was contracted to perform further excavation activities. This additional soil investigation began on November 12, 1991 in the area west of the eight-inch FPWL. Three-foot wide trenches were dug to the west and north to determine the extent of hydrocarbon-impacted soil in these directions. Further investigation to the south was hindered due to the 13 Kv transformer pad, and a concrete vault which encased a 440-volt electric line. Excavation to the east was hindered due to the 100 psi pressurized 8-inch FPWL. Therefore, this 8-inch FPWL established the eastern boundary of the pit (Figure 3).

Excavation to the west extended approximately 30 feet from the 8-inch FPWL. Hydrocarbon-impacted soil was encountered from a depth of approximately 12 feet to 22 feet bgl. A headspace analysis was performed on soil obtained from the southwest corner of the excavation at a depth of 22 feet bgl. The headspace vapor had a concentration of 2.1 ppm. This soil had no hydrocarbon odor, and no free-phase hydrocarbon was observed. Excavation was then continued northward approximately 45 feet to the underground steam and condensate return lines (Figure 3). An area beneath the steam lines contained soil which had a black color, at a depth of approximately 12 feet bgl. This soil had an organic odor, not indicative of hydrocarbons. Headspace analysis performed on soil from 22 feet bgl from an area just south of the steam lines had a reading of 1.8 ppm.

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The total area of excavation was approximately 30 feet east-west, 35 feet north-south, and approximately 22 feet bgl. The soil from surface level to 12 feet bgl after field examination was considered to be free of hydrocarbons. The soil between 12 feet and 22 feet bgl was considered to have been impacted by hydrocarbons, based upon field measurements. This impacted soil was segregated and stored on plastic.

Three soil samples (S-21 through S-23) were obtained from this excavation: S-21 from the northwest corner and S-22 from the southwest corner (both from a depth of approximately 22 feet bgl), and S-23 from the black-colored soil. All samples were analyzed for BTEX and TPH. All three samples had BTEX concentrations below the detection limit of the analysis method. Samples S-21 and S-23 also had TPH concentrations below the detection limit of the analysis method. However, sample S-22 had a TPH concentration of 13,000 mg/kg. This sample, when obtained, had no hydrocarbon odor nor free-phase hydrocarbon, and had a reading of 2.1 ppm utilizing the headspace analysis technique. An interferent, such as a high clay content in the soil sample, might have produced this high concentration.

Excavation continued in the previous T-4 excavation east of the eight-inch FPWL. A pillar of soil approximately 8 to 10 feet thick was left in place beneath the FPWL for support. The southern half of the T-4 concrete support pad and the entire concrete support pad to the east were excavated and removed. The excavation limits are shown in Figure 7.

Excavation continued to a depth of approximately 16 feet bgl in the southern half of this area. Three soil samples (S-24 through S-26) were collected from the excavation. S-24 was obtained from the southern end of the excavation (beneath the previous location

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of the tank) from a depth of approximately 16 feet bgl. S-25 was obtained from the southern wall of the excavation (beneath the concrete-encased 440-volt electric line) from a depth of approximately 7 feet bgl. S-26 was obtained from the southeastern wall of the excavation (beneath the roadway) from a depth of approximately 11 feet bgl. S-24, S-25, and S-26 were analyzed at Lancaster Laboratories, Inc. for BTEX and TPH. S-26 had a TPH concentration below the detection limit of the analysis method. S-24 and S-25 had a TPH concentration of 40 mg/kg, but once the method blank concentration of 13 mg/kg was subtracted, the final TPH concentration was below the detection limit of the analysis method. Samples S-24, S-25, and S-26 had BTEX concentrations of 37.8, 191.1, and 0.49 mg/kg, respectively.

At this point, a total of approximately 1,200 tons of hydrocarbon-impacted soil had been excavated and stockpiled from all excavations. It was determined that further excavation at T-4 was not feasible, due to the proximity to various underground utilities such as the 8-inch FPWL line, the 6-inch steel line, the CO₂ line, the 2-inch electrical conduit, the concrete-encased 440-volt electric line, and the steam and return lines. There were also several aboveground obstacles, such as the 13-Kv transformer station, overhead electrical lines, and the concrete roadway.

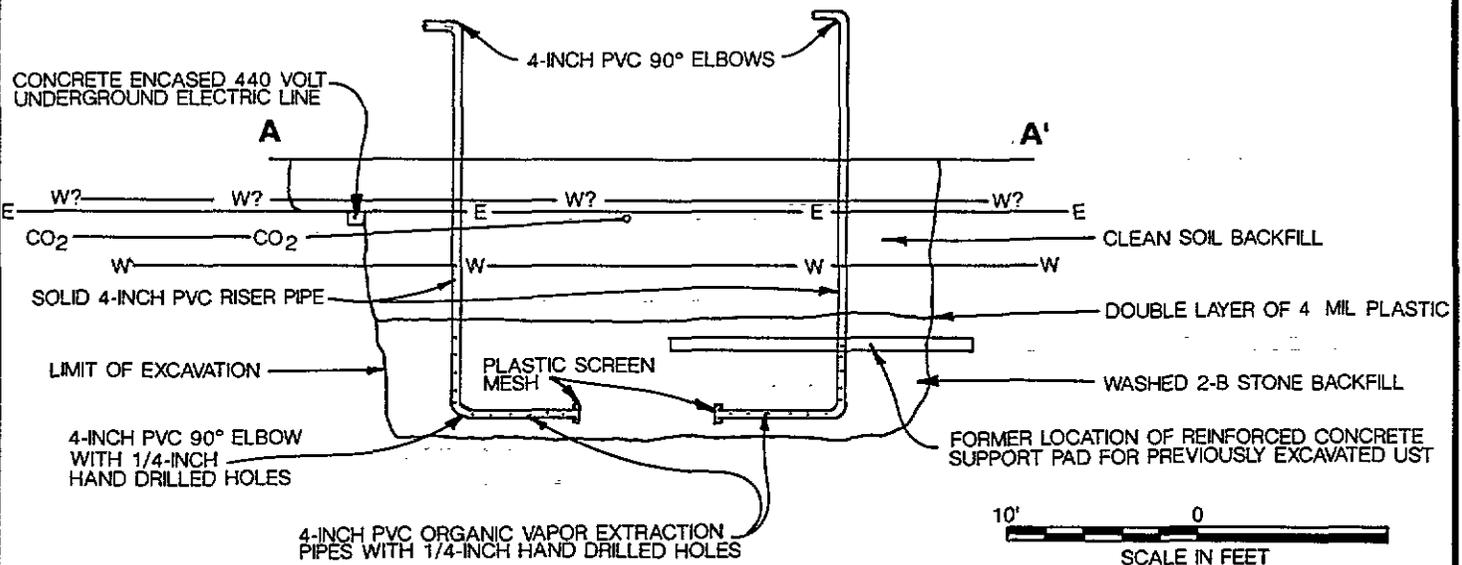
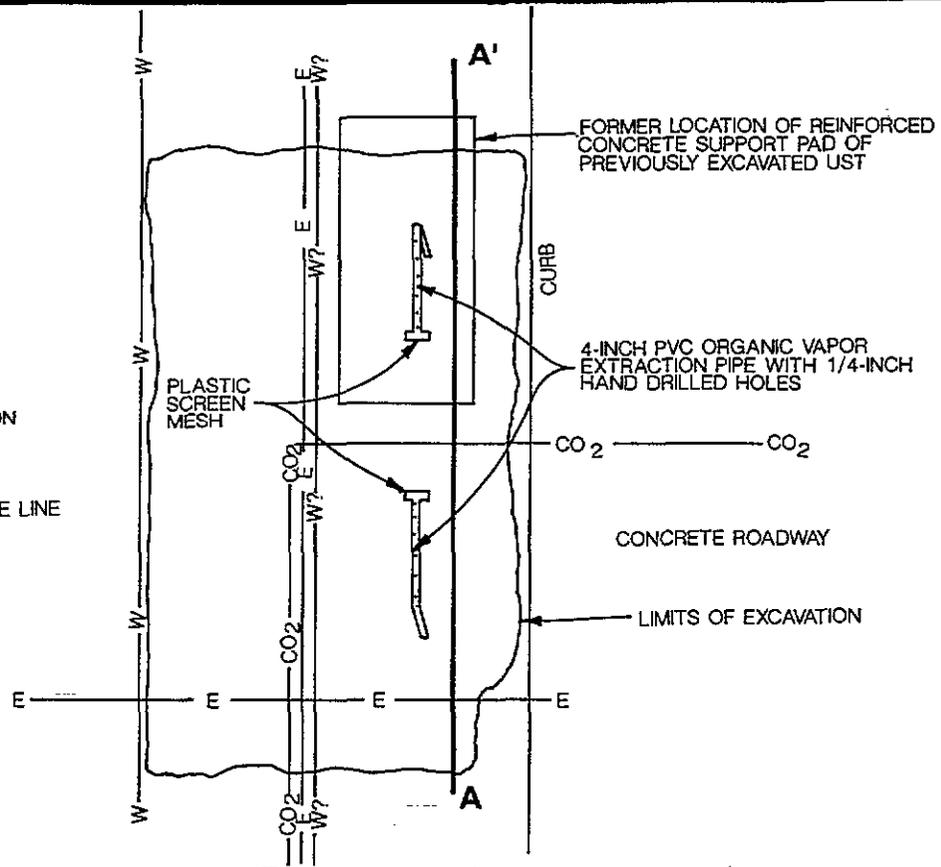
Because continued excavation of soils was not feasible, vapor extraction pipes were installed to facilitate in-situ treatment of affected soils, if required. Two 4-inch-diameter PVC pipes were installed in the open excavation adjacent to the roadway (Figure 8). Two sets of 5-foot-long, 4-inch-diameter PVC pipe were installed in the excavation at a depth of 15.5 feet bgl.

LEGEND

- E — UNDERGROUND ELECTRIC LINE
- W? — UNDERGROUND UNKNOWN LINE
- W — UNDERGROUND FIRE PROTECTION WATER LINE
- CO₂ — UNDERGROUND CARBON DIOXIDE LINE

PLAN VIEW

LOOKING TO THE WEST



CROSS SECTION A - A'

FIGURE 8

HARLEY-DAVIDSON, INC.		
YORK FACILITY		
PLAN VIEW AND CROSS SECTION OF 4-INCH PVC ORGANIC VAPOR EXTRACTION PIPES		
drawn SS	approved <i>[Signature]</i>	drawing no.
checked <i>[Signature]</i>	date 1-9-92	91164-011-AA
r. e. wright associates, inc.		
earth resources consultants		
middletown, pa. king of prussia, pa.		westminster, md. dallas, tx.

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These 5-foot sections contain hand-drilled 1/4-inch holes on 1-foot centers, and had ends sealed with plastic mesh.

Connected to the opposite end of the 5-foot horizontal sections were 4-inch-diameter PVC 90° elbows and riser pipe also containing several 1/4-inch hand-drilled holes. Washed 2-B stone was placed in the excavation to cover the holes in the PVC pipe, approximately 10 feet bgl. The purpose of the stone was to maintain a higher permeability than the surrounding soil material.

A double layer of four-millimeter plastic sheeting was placed over the crushed stone to avoid decreasing the stone permeability with dirt or debris, and also to limit upward migration of organic vapors in the stone. Clean soil was then used as backfill on top of the plastic to grade level.

3.1.13 Installation of Replacement Tanks

On October 23, 1991 excavation activities were begun for the installation of two replacement STIP3 tanks at the western end of the former T-1 excavation (Figure 3). During these excavation activities, the eastern end of the reinforced concrete support pad for T-2 and T-3 was uncovered and broken. The material beneath the pad--consisting of a one-foot thick layer of crushed stone and a silty clay with some gravel and sand beneath the stone--had gasoline odors. A headspace analysis was performed on a soil sample obtained from approximately 12 feet bgl and had a concentration of 400 ppm. The impacted soil was removed and segregated. There was no indication that the impacted soils were the result of leakage from tanks T-1, T-2, or T-3. These minor

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concentrations above and beneath the concrete pads are most likely the result of surface spillage.

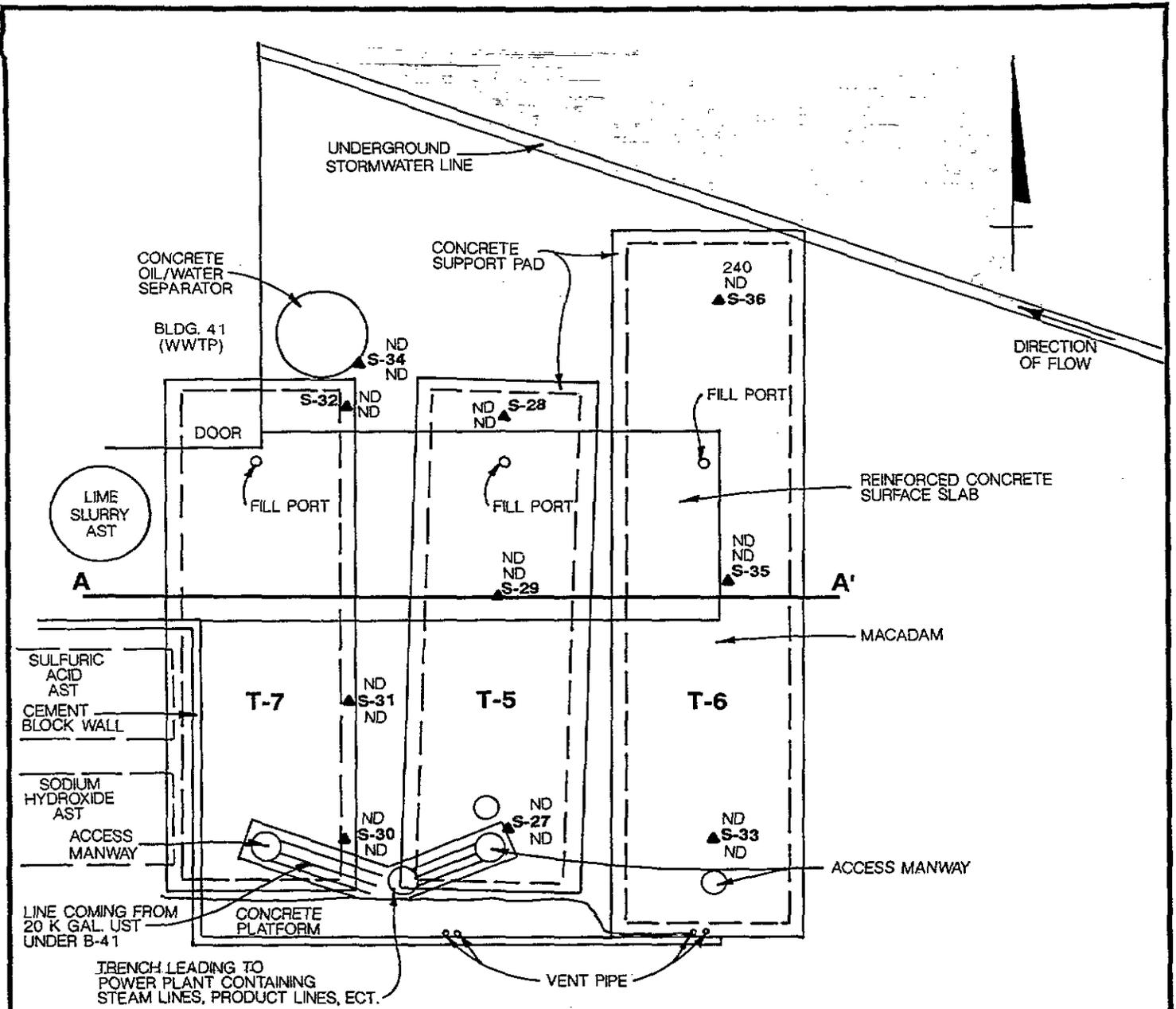
Excavation continued to the west for approximately 30 feet, and gasoline odor decreased. A headspace analysis performed on soil obtained from 18 feet bgl and approximately 40 feet west of the concrete roadway had a concentration below 5 ppm. Excavation activities ceased at this point. Three soil samples (S-18 through S-20) were obtained from this excavation (Figure 3) prior to the installation of the two new USTs and were analyzed for BTEX and TPH. All TPH and BTEX concentrations for the three soil samples were below the detection limit of the analysis method.

3.2 Area 2

Area 2 is located north of the central steam plant, Building 10 (Figure 1). Area 2 was the location of No. 6 fuel oil storage tanks T-5, T-6, and T-7 used as an auxillary fuel supply for the steam boilers. The location also contained a below-grade concrete oil water separator used by the nearby waste treatment building, Building 41.

3.2.1 Tank T-5 Cleaning and Excavation Activities

On December 9, 1991, Tank T-5 was cleaned, excavated, and removed. T-5 was a 20,000-gallon steel No. 6 fuel oil UST, situated approximately 10 feet east of Building 41 (Area 2), the Waste Water Treatment Plant (WWTP), shown on Figure 8. A plan view and cross section illustrating T-5 with respect to the soil profile, and soil sample locations and results are shown on Figures 9 and 10, respectively. Tank T-5 was found to be



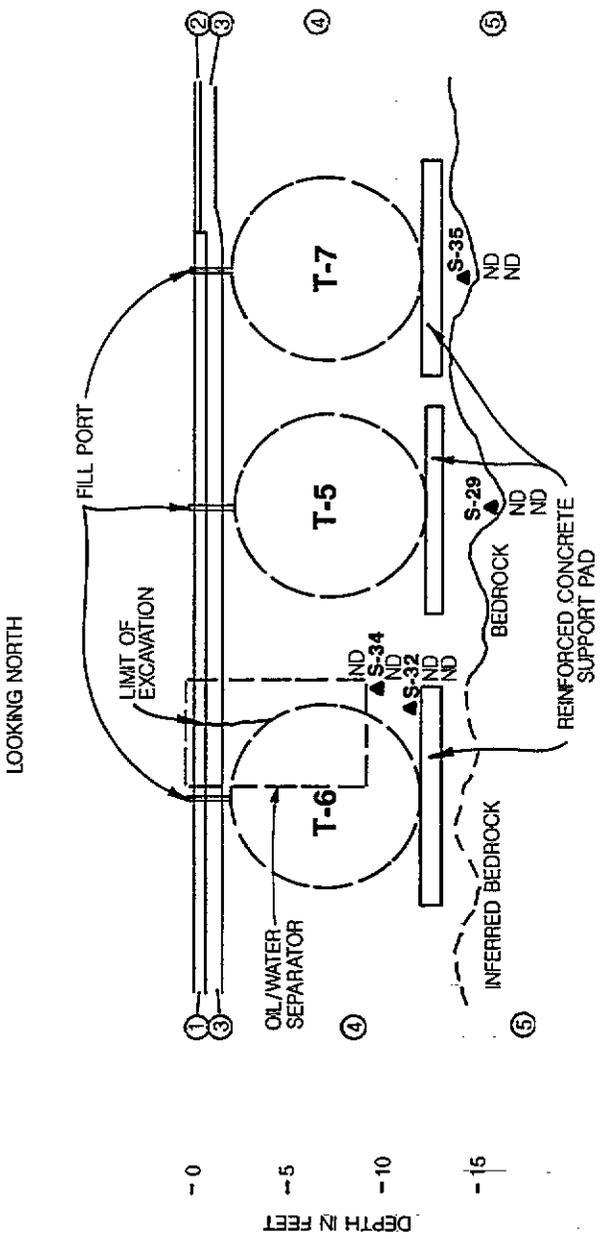
LEGEND

- UNDERGROUND STORAGE TANK
- SOIL SAMPLE LOCATION, TPH CONCENTRATION (mg/kg), AND TOTAL BTEX CONCENTRATION (MG/KG)
- NOT DETECTED, BELOW DETECTION LIMITS OF THE ANALYSIS METHOD



FIGURE 9

HARLEY-DAVIDSON, INC.			
YORK FACILITY			
AREA 2 - EAST OF BLDG. 41 PLAN VIEW OF T-5, T-6, T-7 AND OIL/WATER SEPARATOR			
drawn G.C.	approved <i>[Signature]</i>	drawing no.	
checked <i>[Signature]</i>	date 1-8-92	91164-009-AA	
r. e. wright associates, inc. earth resources consultants			
middletown, pa. king of prussia, pa.	westminster, md. dallas, tx.		



SOIL DESCRIPTIONS

- ① REINFORCED CONCRETE SURFACE SLAB
- ② MACADAM
- ③ CRUSHED STONE BACKFILL
- ④ GRAYISH BROWN TO ORANGE BROWN SILTY CLAY WITH MINOR SAND AND GRAVEL, FIRM, MOIST, REWORKED
- ⑤ BEDROCK - LIMESTONE

LEGEND

- UNDERGROUND STORAGE TANK
- S-35
- ▲ ND
- ▲ ND
- ▲ ND
- ND
- ND
- ND
- NOT DETECTED, BELOW THE DETECTION LIMITS OF THE ANALYSIS METHOD

FIGURE 10

HARLEY-DAVIDSON, INC.
YORK FACILITY

CROSS SECTION A - A' OF T-5, T-6, AND T-7.

Drawn: SS	Reviewed: DM	Drawing No: 91146-010-AA
Checked: [Signature]	Date: 1-8-92	

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earth resources consultants
HARRISBURG, PA.

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supported by a reinforced concrete pad. This pad was 1 foot thick and located at approximately 13 feet bgl.

Backfilling of the T-5 excavation was completed on January 22, 1992, once the installation of a 50,000-gallon replacement STIP3 No. 6 fuel oil UST was completed. The excavation was backfilled using 1-B stone, and covered with reinforced concrete and macadam.

3.2.2 Tank T-5 Characteristics

T-5 was lifted intact from the excavation and visually inspected. The tank surface was slightly pitted and corroded. The associated piping showed slight to moderate pitting and corrosion. No holes were observed and no indication of structural or corrosion-induced leakage was found on T-5 or its associated piping.

3.2.3 Tank T-5 Soil Characteristics

Overlying the tank was a 0.7-foot-thick reinforced concrete pad and/or a 0.2-foot-thick macadam surface layer, underlain by a layer of crushed stone, approximately 1 foot thick.

Beneath the crushed stone at a depth from approximately 1 to 1.5 feet bgl to 13 feet bgl is a grayish-brown to orangish-brown silty clay with minor sand and gravel. This soil was slightly moist, firm, plastic, and had a blocky structure. Beneath the concrete support pad, limestone bedrock was encountered at a depth ranging from 14 to 16 feet bgl. This limestone was a medium gray to bluish-gray, fine-grained crystalline limestone. The bedrock surface layer was only slightly weathered. During

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the excavation and removal of T-5, no hydrocarbon odors, free-phase hydrocarbon, or stained soil was observed.

Three soil samples (S-27 through S-29) were obtained from the tank excavation--one at each end and one from the center--at depths of approximately 16 feet bgl. These samples were analyzed for BTEX and TPH, and the results of the laboratory analyses are illustrated on Figure 9 and summarized on Table 2.

All samples had BTEX and TPH concentrations below the detection limits of the analysis method.

3.2.4 Tank T-6 Cleaning and Excavation Activities

On December 11, 1991, tank T-6 was cleaned, excavated, and removed. T-6 was a 30,000-gallon steel No. 6 fuel oil UST situated approximately 3 feet east of T-5 (approximately 13 feet east of Building 41), and is shown on Figure 9. At approximately 12 feet bgl was a 1-foot-thick reinforced concrete support pad. A cross-section and plan view illustrating T-6 with respect to the soil profile, and soil sample locations and results, are shown on Figures 9 and 10, respectively.

Backfilling of the T-6 excavation was completed on January 22, 1992, once the installation of the replacement 50,000-gallon No. 6 fuel oil UST was completed. The excavation was backfilled with 1-B stone, and covered with reinforced concrete and macadam.

3.2.5 Tank T-6 Characteristics

T-6 was lifted intact from the excavation and visually inspected. The tank surface was slightly to moderately pitted and moderately to severely corroded. The lower quarter of the outer surface of

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the tank was corroding into sheets of rusted metal, but no holes were observed. The associated piping showed only slight to moderate pitting and corrosion. No holes or indication of structural or corrosion-induced leakage was observed on T-6 or its associated piping.

3.2.6 Tank T-6 Soil Characteristics

The soil profile exposed by the excavation consisted of a reinforced concrete and/or macadam surface layer approximately 0.7 and 0.2 feet thick, respectively, underlain by approximately 1 foot of crushed stone. Beneath the crushed stone to a depth of approximately 12 feet was a grayish-brown to orangish-brown silty clay with minor sand and gravel. This soil was slightly moist, firm, plastic, and had a blocky structure. At a depth ranging from approximately 13 to 14 feet bgl, limestone bedrock was encountered. This bedrock was a medium to bluish-gray fine-grained crystalline limestone. The bedrock surface layer was slightly weathered.

During the excavation of T-6, no hydrocarbon odors, free-phase hydrocarbon, or stained soil was observed.

Three soil samples (S-33, S-35, and S-36) were obtained from the tank excavation--2 from each end and 1 from the center from approximately 14 feet bgl. All three samples were analyzed for BTEX and TPH, and the results of the laboratory analyses are illustrated on Figure 9 and summarized on Table 2. BTEX concentrations were below the detection limits of the analysis method for all three samples. Samples S-33 and S-35 had a TPH concentration below the detection limit of the analysis method. However, sample S-36 had a TPH concentration of 240 mg/kg.

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3.2.7 Tank T-7 Cleaning and Closure Activities

Tank T-7 was a 20,000-gallon steel No. 6 fuel oil UST, situated 3 feet west of T-5 and partially beneath Building 41, shown on Figure 8. T-7 was cleaned, emptied, and purged, on January 13, 1992 and filled with an inert mixture of sand and cement on January 17, 1992. Because of the risk to the overlying buildings and the proximity to adjacent aboveground chemical storage tanks, T-7 was closed in place following all pertinent DER guidelines. A cross section and plan view illustrating T-7 with respect to the soil profile and soil sample locations and results is shown on Figures 9 and 10.

Backfilling of the eastern portion of the T-7 excavation was completed on January 22, 1992, once the installation of the replacement 50,000-gallon No. 6 fuel oil UST was completed. The excavation was backfilled with 1-B stone and covered with reinforced concrete and macadam.

3.2.8 Tank T-7 Characteristics

The top and eastern half of T-7 was visually inspected. The surface of the tank was slightly to moderately pitted and corroded, and the piping showed only slight to moderate pitting and corrosion. No indication of structural or corrosion-induced leakage was observed on the top or side of T-7 or on its associated piping.

3.2.9 Tank T-7 Soil Characteristics

During excavation of T-5 and T-6, the eastern portion of T-7 was uncovered. The soil profile exposed by the excavation consisted of a reinforced concrete and/or macadam surface layer approxi-

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mately 0.7 and 0.2 feet thick, respectively, underlain by approximately 1 foot of crushed stone. Beneath the crushed stone was approximately 11 to 12 feet of grayish-brown to orangish-brown silty clay with minor sand and gravel, which was slightly moist, firm, slightly plastic, and had a blocky structure. During the excavation of soil adjacent to T-7, no hydrocarbon odors, free-phase hydrocarbon, or stained soil was observed.

Three soil samples (S-30 through S-32) were obtained from the base of T-7--two from each end and one from the center. All three samples were obtained from soil between the tank and the concrete support pad, and were analyzed for BTEX and TPH. The results of the laboratory analyses are illustrated on Figure 9 and summarized on Table 2. All three samples had BTEX and TPH concentrations below the detection limits of the analysis methods.

3.3 OWS Activities

3.3.1 Excavation, Inspection, and Closure Activities

On December 10, 1991, a 1,000-gallon concrete OWS was emptied, cleaned, and purged, by Remtech Environmental. It was filled with an inert mixture of sand and cement on January 17, 1992. The OWS was situated adjacent to the southeast corner of Building 41, shown on Figure 9.

The top two to three inches of the OWS was broken off so that the entire area could be resurfaced to grade.

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3.3.2 OWS Characteristics

Two small holes were observed in the side of the OWS. These holes were created during excavation of T-5 and T-6 by the track-hoe bucket striking the concrete. No leakage occurred as a result of these holes, since the OWS was empty.

3.3.3 OWS Soil Characteristics

The southern portion of the OWS was exposed during the excavations of T-5 and T-6. The profile exposed during the excavation consisted of a macadam surface layer approximately 0.16 feet thick, which was underlain by a 1-foot layer of crushed stone. Beneath the crushed stone is approximately eight feet of grayish-brown to orangish-brown silty clay with minor sand and gravel. This soil was moist, firm, plastic, and had a blocky structure. During the excavation of soil adjacent to the OWS, no hydrocarbon odors, free-phase hydrocarbon, or hydrocarbon-stained soil was observed.

One soil sample (S-34) was obtained from beneath the exposed portion of the OWS from a depth of approximately 9 feet bgl (Figure 9). Sample S-34 was analyzed for BTEX and TPH, and the results of the laboratory analysis are illustrated on Figures 9 and 10 and summarized on Table 2. The BTEX and TPH concentrations were below the detection limits of the analysis method.

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4.0 SUMMARY AND CONCLUSIONS

4.1 Area 1

Based on field observations and confirmatory soil samples, it appears that no release has occurred from Tanks T-1, T-2, T-3, and T-4. The top, bottom, sides, and ends of the four removed uncoated steel tanks and their associated piping were intact. No free-phase hydrocarbons were detected in the excavations.

Tanks T-2 and T-3 showed no indication of leakage; however, hydrocarbons were found in surrounding soils. Soil samples obtained from T-2 and T-3 had TPH concentrations ranging from 66 to 110 mg/kg and 96 to 220 mg/kg, respectively; one sample from each excavation had a detectable BTEX concentration, 0.102 mg/kg xylene from S-6 (T-2) and 0.9 mg/kg xylenes from S-10 (T-3). However, no free-phase hydrocarbon was observed in the excavations, and PID measurements were at background levels in the T-2 excavation and were less than 20 ppm in the T-3 excavation.

As a result of excavation for installation of replacement tanks in the vicinity of the former T-2 and T-3 locations, soils which had a gasoline hydrocarbon odor were detected. After excavation and segregation of these soils, confirmatory soil samples were obtained and all samples had BTEX and TPH concentrations below the detection limit. The cause of these gasoline-impacted soils is probably surface spillage.

Tank T-4 showed signs of leakage from a gate valve, and surrounding soils indicated some hydrocarbon impact. No holes were observed in T-4 or its associated piping. However, stains visible on T-4 indicated leakage from product gate valves above

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T-4. Soil samples obtained from the excavation of T-4 had TPH concentrations ranging from not detected to 170 mg/kg, and total BTEX concentrations ranging from 0.3 to 802 mg/kg. Benzene was detected in one of the seven samples.

Further excavation to the west of T-4 uncovered soil which contained hydrocarbon odors from a depth of approximately 12 feet to 22 feet bgl. These soils were excavated and segregated on plastic. Confirmatory soil sampling reported no BTEX or TPH detections.

Due to surface and subsurface cultural features, some hydrocarbon-impacted soil remains at the T-4 location. Continued excavation at this location was infeasible due to the presence of concrete roadways, buried utility lines, fire mains, and steam and electric vaults. Samples taken at the limit of excavation (samples S-24, S-25, and S-26) were analyzed for BTEX and TPH concentrations. TPH concentrations were below the method detection limit for S-24, S-25, and S-26, after correction for the method blank concentration. Benzene concentration in S-24 was 37.8 mg/kg; in S-25, it was 191.1 mg/kg; and in S-26, it was 0.49 mg/kg. These concentrations exceed the Level C soil criteria promulgated in the recent DER Soil Contamination Guidance and Policy (1991).

Due to the cultural subsurface and surface features, continued excavating at this site is not feasible. Excavation in more accessible areas downgradient of the T-4 tank location found hydrocarbon-impacted soils were present to an approximate depth of 22 feet. These impacted soils were removed by excavation. The maximum excavation depth immediately east of the former T-4 location varied from 12 to 16 feet. Potentially, 6 to 10 feet of hydrocarbon-impacted soil remains at this excavation site. There

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is limited potential for migration of the hydrocarbon due to the absorbtive nature of the silty clay.

PVC pipes were set in the excavation prior to backfilling to facilitate future remediation, if necessary.

4.2 Area 2

Soil sampling and field observations indicate no leakage has occurred from the uncoated steel tanks T-6, T-7, T-8, and concrete OWS, and associated piping.

Tank T-6 showed no indication of leakage. No holes were observed in T-6 or its associated piping. Soil samples obtained from T-6 had no detectable BTEX concentrations. Only 1 sample had a measurable TPH concentration, which was a 240 mg/kg.

1164R1

5.0 RECOMMENDATIONS

Some hydrocarbon-impacted soil remains at the T-4 location (Area 1). The benzene concentrations in the analyzed soil exceed the Level C soil criteria of 0.4 mg/kg. These detections require a site-specific feasibility study and remediation plan as defined in the DER Soil Contamination Guidance and Policy document (1991). Harley-Davidson should prepare a site-specific feasibility study for the former tank T-4 location.

No further action is necessary for the T-1, T-2, T-3, T-5, T-6, T-7, and OWS sites.

Approximately 1,200 tons of hydrocarbon-impacted soil from the T-4 site has been stockpiled on plastic at the Harley-Davidson site. Various soil remedial options should be evaluated to provide a cost-effective method of disposal. These options should include thermal destruction, sanitary landfill disposal, and on-site bioremediation of soils.

APPENDIX A

Amended Registration of Storage Tanks Form

REGISTRATION OF STORAGE TANKS

STATE USE ONLY DATE RECEIVED: _____
AMOUNT RECEIVED: _____

IN ACCORDANCE WITH SECTIONS 303 AND 503 OF THE STORAGE TANK AND SPILL PREVENTION ACT, OWNERS OF REGULATED STORAGE TANKS ARE REQUIRED TO REGISTER THEIR TANKS WITH THE DEPARTMENT AND TO PAY A REGISTRATION FEE.

INSTRUCTIONS

Please type or print in ink all items except "Signature" in Section V. This form is to be completed for each FACILITY which has regulated storage tanks. If there are more than 10 underground or aboveground tanks, photocopy the reverse side of this form, and staple continuation sheets to this form.

- Section I.** Owner Information - Name, business mailing address and phone number of OWNER of the storage tank(s) at the facility. Please include county and Federal Identification Number, if none include your Social Security Number.
- Section II.** Type of Owner - Mark the appropriate box.
- Section III.** Facility Information - Name and physical location (not P.O. Box) of FACILITY. Please include county and township in which FACILITY is located. Include the Facility Identification No. if known.
- Section IV.** Type of Facility - Mark the appropriate box, if applicable.
- Section V.** Description of Storage Tanks - This section is for recording information about each regulated storage tank at the facility. Information for aboveground tanks is to be recorded in Part A. Information for underground tanks is to be recorded in Part B.

1. Tank Registration Number - The registration numbers to be recorded for underground tanks are "001", "002", "003", etc. The registration numbers to be recorded for aboveground tanks are "001A", "002A", "003A", etc. The "A" has already been printed on the form for your convenience.
2. Status - Indicate whether the tank is currently in use, temporarily out of use, or permanently out of use. Permanently out of use means properly closed in place with an inert solid material. Do not include tanks which have been removed.
3. Date of Installation - Specify the month and year the tank was completely installed. For instance, "0190", for January, 1990. If unknown, write "0000".
4. Capacity - Specify the total design or maximum capacity of the tank in GALLONS. If unknown, write "unknown".
5. Substance Currently or Last Stored - Indicate the substance(s), currently or last stored. If a hazardous substance, please indicate CERCLA Name and CAS Number. If Other is indicated, please specify.
6. Tank Has Been Issued Fire Safety Approval or Permit - Indicate whether the tank has been approved or permitted by the Pennsylvania State Police, Fire Marshal Division; or local agency under their jurisdiction for fire safety.
7. Registration Fee - Determine registration fee due PER TANK as indicated below. A registration fee is NOT required for tanks permanently out of use.
 - A. Aboveground tanks
 1. Up to and including 5,000 gallons - \$50 per tank
 2. 5,001 to and including 50,000 gallons - \$125 per tank
 3. Greater than 50,000 gallons - \$300 per tank
 - B. Underground Tanks - \$50 per tank

Record the total registration fee due for all aboveground tanks in the space provided (A). Record the total registration fee due for all underground tanks in the space provided (B). Record the total registration fee due for all aboveground and underground tanks in the space provided (A + B). Submit a check or money order, for the total registration fee due, made payable to: Dept. of Environmental Resources.

- Section VI.** Certification - This section is to be completed by the OWNER. Please type or print the name and official title of the OWNER. The OWNER must also sign and record the date the application was examined.
- Section VII.** Nameplate Information - Complete this section for each aboveground tank greater than 5,000 gallon capacity. Use the same Tank Registration Number as identified in Section VI.

PLEASE SEND COMPLETED ORIGINAL FORM AND CHECK TO: PA Department of Environmental Resources
Bureau of Water Quality Management
Registration of Storage Tanks
(and the appropriate address below, depending on where your FACILITY is located)

1875 New Hope Street Norristown, PA 19401 Counties Berks, Bucks, Chester, Delaware, Lehigh, Montgomery, Northampton, Philadelphia.	90 East Union Street - 2nd Floor Wilkes-Barre, PA 18701 Counties Carbon, Lackawanna, Luzerne, Monroe, Pike, Schuylkill, Susquehanna, Wayne, Wyoming.	One Ararat Blvd. Harrisburg, PA 17110 Counties Adams, Bedford, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York	200 Pine Street Williamsport, PA 17701 Counties Bradford, Cameron, Centre, Clinton, Clearfield, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union	Highland Bldg. - 8th Floor 121 South Highland Mall Pittsburgh, PA 15206 Counties Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland	1012 Water Street Meadville, PA 16335 Counties Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, Warren
---	--	--	---	---	--

I. OWNER INFORMATION

Owner Name Harley-Davidson, Inc.
Tax Identification No. _____
Mailing Address 1425 Eden Road

City York State PA Zip 17402
County York Phone No. (717) 852-6749

III. FACILITY INFORMATION

Facility Name Harley-Davidson, Inc.
Facility Identification No. 67-00823
Street Address (P.O. Box not acceptable) 1425 Eden Road

City York State PA Zip 17402
County York Township Springettsbury

II. TYPE OF OWNER (Mark only one)

- Federal Government Corporate
 State Government Private
 Local Government

IV. TYPE OF FACILITY (Mark only one, if applicable)

- Farm N/A
 Municipal
 Residential

VII. NAMEPLATE INFORMATION (Complete for each aboveground tank greater than 5,000 gallon capacity)

Tank Registration No.				
Appendix (e.g.M)				
Edition (e.g. 2nd)				
Revision (mo./yr.)				
Year completed				
Nominal Diameter (ft. in.)				
Nominal Height (ft. in.)				
Nominal Capacity (Barrels)				
Design Liquid Level (ft. in.)				
Design Specific Gravity				
Design Pressure (Atmospheric)				
Maximum Operating Temperature (°F)				
Partial Stress Relief				
Manufacturer's Serial No.				
Purchaser's Tank No.				
Fabricated By				
Erected By				
Shell Course				
Material Specification No.				
Shell Course				
Material Specification No.				
Shell Course				
Material Specification No.				

APPENDIX B

Laboratory Reports of Soil Sample Analysis



Science Applications International Corporation
An Employee-Owned Company

September 16, 1998

Mr. James Flesher
Pennsylvania Department of Environmental Protection
Southcentral Region - Field Operations
Water Quality Management Program
One Ararat Boulevard
Harrisburg, PA 17110

Re: DEP Facility No. 67-00823
UST Registration No. 006
UST T-4 - Harley-Davidson Motor Company York Facility
SAIC Project 01-1408-05-7736-000

Dear Mr. Flesher:

In the fall of 1991, Harley-Davidson Motor Company (Harley-Davidson) removed or closed in-place seven underground storage tanks (USTs) at the Harley-Davidson facility located in York, Pennsylvania. One of the seven tanks (UST T-4) became the subject of a feasibility study (FS) report submitted to you in February 1993. After some additional communication, the Pennsylvania Department of Environmental Protection (DEP) concurred with Science Applications International Corporation's (SAIC's) recommendations contained in the FS. Since that time, Harley-Davidson has been implementing a vacuum extraction system to attempt to remove volatile gasoline components from soils that could not be excavated because of proximity to structures and overhead and subsurface utilities.

The soil gas extraction system was operated from October 1996 through the end of September 1997. The system was deactivated for a six-month period between November 1996 through June 1997, during the winter months. Figure 1 is a graph of soil vapor extraction untreated off-gas readings from the vapor extraction system that shows, over a two-month period, concentrations of volatile organic compounds (VOCs) peaked quickly and then declined.

In December 1997, confirmatory soil samples were collected from three locations shown on Figure 2. Six samples were collected and analyzed for components of gasoline. The results of the laboratory reports for these samples are included in Attachment A. A summary table is included as Table 1.

As can be seen on Table 1, a number of parameters including benzene, cumene, toluene, and naphthalene exceed DEP soil action guidelines.

It is apparent that the soil gas extraction system, as constructed and operated, will not be effective in remediating the soils underlying the UST T-4 area to levels less than the DEP action guidelines. Because of the soil composition (residual limestone silty clay) and the limited access due to underground and overhead utilities and structures, further remediation will be extremely difficult and expensive. Because Harley-Davidson is currently in the middle of a site-wide remedial investigation/feasibility study (RI/FS) to deal with soil and groundwater contamination on a site-wide basis, Harley-Davidson wishes to cease remedial operations at UST T-4, pending the outcome of the RI/FS. Harley-Davidson currently operates a groundwater extraction system that prevents off-site migration of groundwater downgradient from UST T-4. For that reason, off-site migration of contaminants resulting from past releases at the former UST T-4 will not occur. As the RI/FS for the site-wide groundwater concerns proceeds, UST T-4 will be considered as one of several possible groundwater contaminant sources to be dealt with on a site-wide basis.

Harley-Davidson continues to be committed to protecting the environment. In this specific case, there appears to be no advantage to continuing the vapor extraction at UST T-4. Harley-Davidson would appreciate the DEP's concurrence in discontinuing the vapor extraction at UST T-4.

Very truly yours,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION



Stephen M. Snyder, P.G.
Project Director/Hydrogeologist

SMS:co

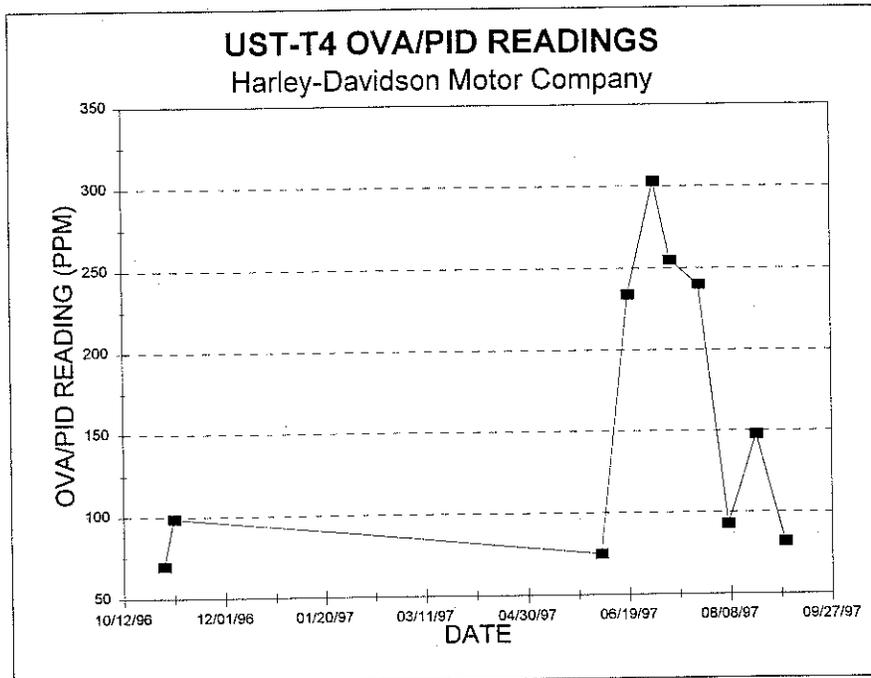
Attachments

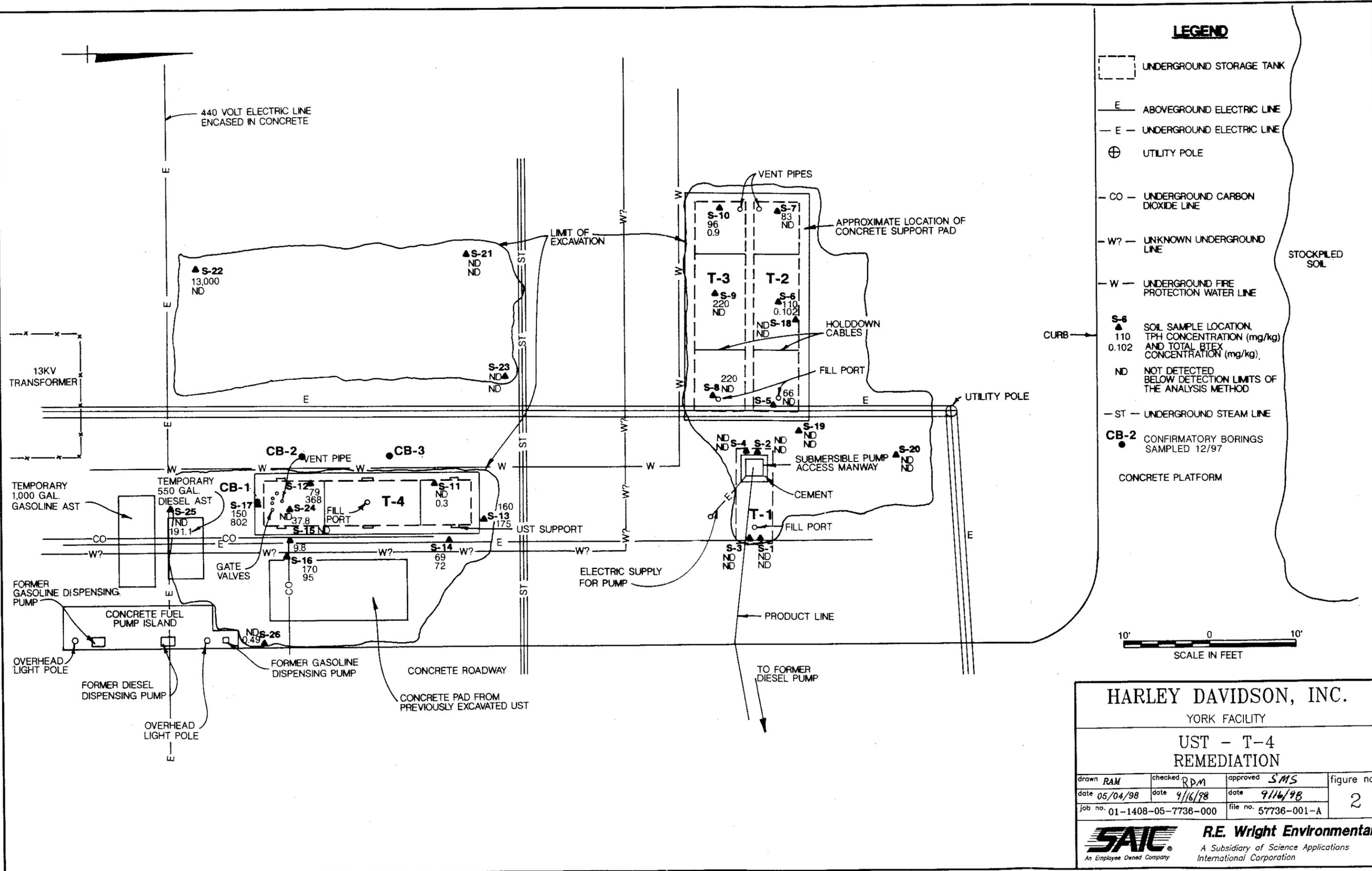
cc: Gary Seyler
Ralph Golia

FIGURE 1

UST-T4 SOIL VAPOR EXTRACTION UNTREATED OFF-GAS READINGS HARLEY-DAVIDSON MOTOR COMPANY

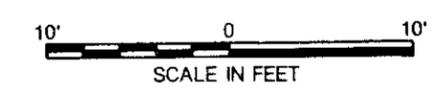
MEASUREMENT DATE	PID READINGS (PPM)
11/01/96	70
11/06/96	99
06/05/97	75
06/19/97	234
07/02/97	303
07/10/97	255
07/24/97	240
08/07/97	93
08/21/97	148
09/04/97	82





LEGEND

- UNDERGROUND STORAGE TANK
- ABOVEGROUND ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- UTILITY POLE
- UNDERGROUND CARBON DIOXIDE LINE
- UNKNOWN UNDERGROUND LINE
- UNDERGROUND FIRE PROTECTION WATER LINE
- SOIL SAMPLE LOCATION, TPH CONCENTRATION (mg/kg) AND TOTAL BTEX CONCENTRATION (mg/kg),
- ND NOT DETECTED BELOW DETECTION LIMITS OF THE ANALYSIS METHOD
- UNDERGROUND STEAM LINE
- CONFIRMATORY BORINGS SAMPLED 12/97
- CONCRETE PLATFORM



HARLEY DAVIDSON, INC.

YORK FACILITY

**UST - T-4
REMEDATION**

drawn RAM	checked RPM	approved SMS	figure no.
date 05/04/98	date 9/16/98	date 9/16/98	2
job no. 01-1408-05-7736-000		file no. 57736-001-A	

SAIC **R.E. Wright Environmental**
 An Employee Owned Company A Subsidiary of Science Applications International Corporation

TABLE 1

**ANALYTICAL RESULTS OF UST-T4 (BUILDING 45) SOIL SAMPLES
HARLEY - DAVIDSON MOTOR COMPANY
RE WRIGHT PROJECT 7736
(CONCENTRATIONS REPORTED ON A DRY WEIGHT BASIS)**

Sample ID		CB-01(16-17)	CB-01(22-23')	CB-01(22-23')(dup)	CB-02(11-12')	CB-02(21-22')	CB-03(10-11')	CB-03(20-21')	PADEP APRIL 1996 ACTION	
Lab ID		10260401	10260402	10260402	10260403	10260404	10260405	10260406		
Sample Date		12/04/97	12/04/97	12/04/97	12/04/97	12/04/97	12/04/97	12/04/97		
Parameter	Units									
BENZENE	ug/kg	310	3,200	2,400	N.D.@2900	17,000	N.D.@600	16,000	800	500
1,2-DICHLOROETHANE	ug/kg	N.D.@60	N.D.@1100	N.D.@1100	N.D.@2900	N.D.@610	N.D.@600	N.D.@2800	500	
ETHYLBENZENE	ug/kg	710	24,000	22,000	28,000	34,000	7,500	47,000	70,000	70,000
TOLUENE	ug/kg	1,700	29,000	26,000	16,000	72,000	7,600	120,000	100,000	100,000
TOTAL XYLENES	ug/kg	4,300	91,000	81,000	160,000	120,000	45,000	240,000	1,000,000	1,000,000
MTBE	ug/kg	N.D.@600	N.D.@10000	N.D.@10000	N.D.@5700	N.D.@6100	N.D.@6000	N.D.@5600	2,000	2,000
ISOPROPYLBENZENE (CUMENE)	ug/kg	290	7,100	78,000	11,000	7,000	2,700	17,000	10,000	2,500,000
NAPHTHALENE	ug/kg	470	13,000	12,000	15,000	11,000	4,900	24,000	8,000	25,000
1,2-DIBROMOETHANE	ug/kg	N.D.@60	N.D.@1100	N.D.@1100	N.D.@2900	N.D.@610	N.D.@600	N.D.@2800	70	
BENZO(a)ANTHRACENE	ug/kg	N.D.@420	N.D.@380	NA	N.D.@400	N.D.@430	N.D.@420	N.D.@390	8,000	
BENZO(a)PYRENE	ug/kg	N.D.@420	N.D.@380	NA	N.D.@400	N.D.@430	N.D.@420	N.D.@390	800	
LEAD(TOTAL)	ug/kg	39,000	8,700	NA	9,900	17,000	11,000	5,300	600,000	600,000/500,000
TOTAL SOLIDS	%	83	91	NA	87	82	84	89	NA	

NOTES:

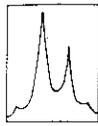
ND=Not Detected

NA=Not Analyzed

Shaded values indicate concentrations above PADEP Action Level.

ATTACHMENT A

Laboratory Analysis Reports



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 1
Sample # 102604-1

ATTN: Mr. Roger Myers
REWI/HARLEY DAVIDSON
3240 SCHOOLHOUSE ROAD
MIDDLETOWN PA 17057

December 22, 1997

LAB ANALYSIS REPORT

Job Name	: Harley Davidson	Customer PO#	: 01-1408-05-7663-000
Job Number	: 7736-000-408	Date Sampled	: 12/04/97 10:10 AM
Location	: CB-01 (16-17')	Date Received	: 12/04/97
Sample State	: Soil	Date Approved	: 12/22/97
Collector	: RDM	Discard Date	: 12/28/97
		Grab	

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	83	%	1	3540B

Leaded/Aviation/Jet Fuel

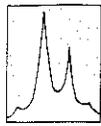
GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

Benzene	260	ug/kg	50	8021A
1,2-Dibromoethane	N.D.	ug/kg	50	8021A
1,2-Dichloroethane	N.D.	ug/kg	50	8021A
Ethylbenzene	590	ug/kg	50	8021A
Isopropylbenzene	240	ug/kg	50	8021A
Methyl-t-butyl Ether	N.D.	ug/kg	500	8021A
Naphthalene	390	ug/kg	200	8021A
Toluene	1400	ug/kg	50	8021A
Xylenes, total	3600	ug/kg	200	8021A

Benzene	310	ug/kg	Dry Weight
1,2-Dibromoethane	< 60	ug/kg	Dry Weight
1,2-Dichloroethane	< 60	ug/kg	Dry Weight
Ethylbenzene	710	ug/kg	Dry Weight

**** Continued ****



ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 102604-1

December 22, 1997

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
Isopropylbenzene	290	ug/kg	Dry Weight	
Methyl-t-butyl Ether	< 600	ug/kg	Dry Weight	
Naphthalene	470	ug/kg	Dry Weight	
Toluene	1700	ug/kg	Dry Weight	
Xylenes, total	4300	ug/kg	Dry Weight	

GAS CHROMATOGRAPH MASS SPEC.

BASE NEUTRAL COMPOUNDS

Benzo(a)anthracene	N.D.	ug/kg	350	8270B
Benzo(a)pyrene	N.D.	ug/kg	350	8270B
Benzo(a)anthracene	< 420	ug/kg	Dry Weight	
Benzo(a)pyrene	< 420	ug/kg	Dry Weight	

METALS

TOTAL METALS BY ICP

Lead	32	mg/kg	0.49	6010A
Lead	39	mg/kg	Dry Weight	

N.D. - Not Detected

A methanol extraction and dilution were performed on the sample during the volatile organics analysis due to the amount of analyte present. The detection limits were raised accordingly.

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****



Page # 3
Sample # 102604-1

December 22, 1997

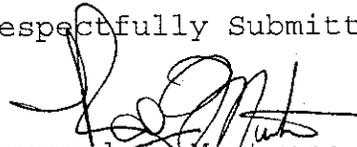
QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT		
GAS CHROMATOGRAPH ANALYSES			
HALOGENATED VOLATILE ORGANICS			
2-Bromo-1-Chloropropane	97	% Recovery	Surrogate
Fluorobenzene	99	% Recovery	Surrogate

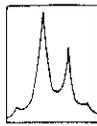
GAS CHROMATOGRAPH MASS SPEC.			
BASE NEUTRAL COMPOUNDS			
2-Fluorobiphenyl	94	% Recovery	Surrogate
Nitrobenzene-d5	76	% Recovery	Surrogate
Terphenyl-d14	100	% Recovery	Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS	
			DATE	TIME
Total Solids	See Chain of Custody	SLP	12/05/97	17:10
HALOGENATED VOLATILE ORGANICS	See Chain of Custody	CPK	12/05/97	16:37
BASE NEUTRAL COMPOUNDS	See Chain of Custody	TTR	12/13/97	22:21
3550A Ultrasonic Extraction		JEK	12/12/97	
TOTAL METALS BY ICP	See Chain of Custody	BAS	12/16/97	12:44
Soil Digestion on Total Metals		PAG	12/12/97	

Respectfully Submitted,



Raymond J. Martrano
Laboratory Manager



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 1
Sample # 102604-2

ATTN: Mr. Roger Myers
REWI/HARLEY DAVIDSON
3240 SCHOOLHOUSE ROAD
MIDDLETOWN PA 17057

December 22, 1997

LAB ANALYSIS REPORT

Job Name	: Harley Davidson	Customer PO#	: 01-1408-05-7663-000
Job Number	: 7736-000-408	Date Sampled	: 12/04/97 10:30 AM
Location	: CB-01 (22-23')	Date Received	: 12/04/97
Sample State	: Soil	Date Approved	: 12/22/97
Collector	: RDM	Discard Date	: 12/28/97
		Grab	

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	91	%	1	3540B

Leaded/Aviation/Jet Fuel

GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

Benzene	2900	ug/kg	1000	8021A
1,2-Dibromoethane	N.D.	ug/kg	1000	8021A
1,2-Dichloroethane	N.D.	ug/kg	1000	8021A
Ethylbenzene	22000	ug/kg	1000	8021A
Isopropylbenzene	6500	ug/kg	1000	8021A
Methyl-t-butyl Ether	N.D.	ug/kg	10000	8021A
Naphthalene	12000	ug/kg	4000	8021A
Toluene	26000	ug/kg	1000	8021A
Xylenes, total	83000	ug/kg	4000	8021A

Benzene	3200	ug/kg	Dry Weight
1,2-Dibromoethane	< 1100	ug/kg	Dry Weight
1,2-Dichloroethane	< 1100	ug/kg	Dry Weight
Ethylbenzene	24000	ug/kg	Dry Weight

**** Continued ****



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 102604-2

December 22, 1997

TEST/PARAMETER	RESULT	UNITS	DETECTION	
			LIMIT	METHOD
Isopropylbenzene	7100	ug/kg	Dry Weight	
Methyl-t-butyl Ether	<10000	ug/kg	Dry Weight	
Naphthalene	13000	ug/kg	Dry Weight	
Toluene	29000	ug/kg	Dry Weight	
Xylenes, total	91000	ug/kg	Dry Weight	

GAS CHROMATOGRAPH MASS SPEC.

BASE NEUTRAL COMPOUNDS

Benzo(a)anthracene	N.D.	ug/kg	350	8270B
Benzo(a)pyrene	N.D.	ug/kg	350	8270B
Benzo(a)anthracene	< 380	ug/kg	Dry Weight	
Benzo(a)pyrene	< 380	ug/kg	Dry Weight	

METALS

TOTAL METALS BY ICP

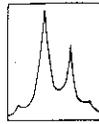
Lead	7.9	mg/kg	0.50	6010A
Lead	8.7	mg/kg	Dry Weight	

N.D. - Not Detected

A methanol extraction and dilution were performed on the sample during the volatile organics analysis due to the amount of analyte present. The detection limits were raised accordingly.

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****



ENVIRONMENTAL TESTING LABORATORIES

Page # 3
Sample # 102604-2

December 22, 1997

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT		
GAS CHROMATOGRAPH ANALYSES			
HALOGENATED VOLATILE ORGANICS			
Benzene	2400	ug/kg	Duplicate
1,2-Dibromoethane	N.D.	ug/kg	Duplicate
1,2-Dichloroethane	N.D.	ug/kg	Duplicate
Ethylbenzene	22000	ug/kg	Duplicate
Isopropylbenzene	7800	ug/kg	Duplicate
Methyl-t-butyl Ether	N.D.	ug/kg	Duplicate
Naphthalene	12000	ug/kg	Duplicate
Toluene	26000	ug/kg	Duplicate
Xylenes, total	81000	ug/kg	Duplicate
2-Bromo-1-Chloropropane	98	% Recovery	Surrogate
2-Bromo-1-Chloropropane	98	% Recovery	Surrogate
Fluorobenzene	97	% Recovery	Surrogate
Fluorobenzene	98	% Recovery	Surrogate

GAS CHROMATOGRAPH MASS SPEC.

BASE NEUTRAL COMPOUNDS

2-Fluorobiphenyl	94	% Recovery	Surrogate
Nitrobenzene-d5	76	% Recovery	Surrogate
Terphenyl-d14	94	% Recovery	Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS	
			DATE	TIME
Total Solids	See Chain of Custody	SLP	12/05/97	17:10
HALOGENATED VOLATILE ORGANICS	See Chain of Custody	CPK	12/05/97	17:16
BASE NEUTRAL COMPOUNDS	See Chain of Custody	TTR	12/13/97	23:02

**** Continued ****



Wright Laboratory

SERVICES INC.

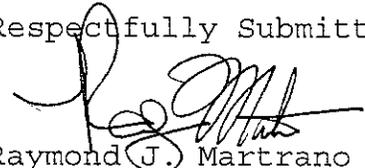
ENVIRONMENTAL TESTING LABORATORIES

Page # 4
Sample # 102604-2

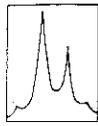
December 22, 1997

<u>TEST/PARAMETER</u>	<u>PRESERVATIVE</u>	<u>TECH</u>	<u>ANALYSIS</u>	
			<u>DATE</u>	<u>TIME</u>
3550A Ultrasonic Extraction		JEK	12/12/97	
TOTAL METALS BY ICP	See Chain of Custody	BAS	12/16/97	12:44
Soil Digestion on Total Metals		PAG	12/12/97	

Respectfully Submitted,



Raymond J. Martrano
Laboratory Manager



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 1
Sample # 102604-3

ATTN: Mr. Roger Myers
REWI/HARLEY DAVIDSON
3240 SCHOOLHOUSE ROAD
MIDDLETOWN PA 17057

December 22, 1997

LAB ANALYSIS REPORT

Job Name	: Harley Davidson	Customer PO#	: 01-1408-05-7663-000
Job Number	: 7736-000-408	Date Sampled	: 12/04/97 11:40 AM
Location	: CB-02 (11-12')	Date Received	: 12/04/97
Sample State	: Soil	Date Approved	: 12/22/97
Collector	: RDM	Discard Date	: 12/28/97
	Grab		

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	87	%	1	3540B

Leaded/Aviation/Jet Fuel

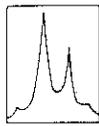
GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

Benzene	N.D.	ug/kg	2500	8021A
1,2-Dibromoethane	N.D.	ug/kg	2500	8021A
1,2-Dichloroethane	N.D.	ug/kg	2500	8021A
Ethylbenzene	24000	ug/kg	2500	8021A
Isopropylbenzene	10000	ug/kg	2500	8021A
Methyl-t-butyl Ether	N.D.	ug/kg	25000	8021A
Naphthalene	13000	ug/kg	10000	8021A
Toluene	14000	ug/kg	2500	8021A
Xylenes, total	140000	ug/kg	10000	8021A

Benzene	< 2900	ug/kg	Dry Weight
1,2-Dibromoethane	< 2900	ug/kg	Dry Weight
1,2-Dichloroethane	< 2900	ug/kg	Dry Weight
Ethylbenzene	28000	ug/kg	Dry Weight

**** Continued ****



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 102604-3

December 22, 1997

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
Isopropylbenzene	11000	ug/kg	Dry Weight	
Methyl-t-butyl Ether	< 5700	ug/kg	Dry Weight	
Naphthalene	15000	ug/kg	Dry Weight	
Toluene	16000	ug/kg	Dry Weight	
Xylenes, total	160000	ug/kg	Dry Weight	

GAS CHROMATOGRAPH MASS SPEC.

BASE NEUTRAL COMPOUNDS

Benzo(a)anthracene	N.D.	ug/kg	350	8270B
Benzo(a)pyrene	N.D.	ug/kg	350	8270B
Benzo(a)anthracene	< 400	ug/kg	Dry Weight	
Benzo(a)pyrene	< 400	ug/kg	Dry Weight	

METALS

TOTAL METALS BY ICP

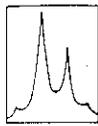
Lead	8.6	mg/kg	0.50	6010A
Lead	9.9	mg/kg	Dry Weight	

N.D. - Not Detected

A methanol extraction and dilution were performed on the sample during the volatile organics analysis due to the amount of analyte present. The detection limits were raised accordingly.

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 3
Sample # 102604-3

December 22, 1997

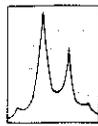
QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT		
GAS CHROMATOGRAPH ANALYSES			
HALOGENATED VOLATILE ORGANICS			
2-Bromo-1-Chloropropane	99	% Recovery	Surrogate
Fluorobenzene	97	% Recovery	Surrogate
GAS CHROMATOGRAPH MASS SPEC.			
BASE NEUTRAL COMPOUNDS			
2-Fluorobiphenyl	106	% Recovery	Surrogate
Nitrobenzene-d5	82	% Recovery	Surrogate
Terphenyl-d14	112	% Recovery	Surrogate
WATER QUALITY			
Total Solids	86	%	Duplicate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS	
			DATE	TIME
Total Solids	See Chain of Custody	SLP	12/05/97	17:10
HALOGENATED VOLATILE ORGANICS	See Chain of Custody	CPK	12/05/97	15:50
BASE NEUTRAL COMPOUNDS	See Chain of Custody	TTR	12/13/97	23:42
3550A Ultrasonic Extraction		JEK	12/12/97	
TOTAL METALS BY ICP	See Chain of Custody	BAS	12/16/97	12:44
Soil Digestion on Total Metals		PAG	12/12/97	

Respectfully Submitted,


Raymond J. Martrano
Laboratory Manager



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 1
Sample # 102604-4

ATTN: Mr. Roger Myers
REWI/HARLEY DAVIDSON
3240 SCHOOLHOUSE ROAD
MIDDLETOWN PA 17057

December 22, 1997

LAB ANALYSIS REPORT

Job Name	: Harley Davidson	Customer PO#	: 01-1408-05-7663-000
Job Number	: 7736-000-408	Date Sampled	: 12/04/97 12:20 PM
Location	: CB-02 (21-22')	Date Received	: 12/04/97
Sample State	: Soil	Date Approved	: 12/22/97
Collector	: RDM	Discard Date	: 12/29/97
		Grab	

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	82	%	1	3540B

Leaded/Aviation/Jet Fuel

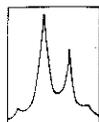
GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

Benzene	14000	ug/kg	500	8021A
1,2-Dibromoethane	N.D.	ug/kg	500	8021A
1,2-Dichloroethane	N.D.	ug/kg	500	8021A
Ethylbenzene	28000	ug/kg	2500	8021A
Isopropylbenzene	5700	ug/kg	500	8021A
Methyl-t-butyl Ether	N.D.	ug/kg	5000	8021A
Naphthalene	8700	ug/kg	10000	8021A
Toluene	59000	ug/kg	2500	8021A
Xylenes, total	96000	ug/kg	10000	8021A

Benzene	17000	ug/kg	Dry Weight
1,2-Dibromoethane	< 610	ug/kg	Dry Weight
1,2-Dichloroethane	< 610	ug/kg	Dry Weight
Ethylbenzene	34000	ug/kg	Dry Weight

**** Continued ****



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 102604-4

December 22, 1997

TEST/PARAMETER	RESULT	UNITS	DETECTION	
			LIMIT	METHOD
Isopropylbenzene	7000	ug/kg	Dry Weight	
Methyl-t-butyl Ether	< 6100	ug/kg	Dry Weight	
Naphthalene	11000	ug/kg	Dry Weight	
Toluene	72000	ug/kg	Dry Weight	
Xylenes, total	120000	ug/kg	Dry Weight	

GAS CHROMATOGRAPH MASS SPEC.

BASE NEUTRAL COMPOUNDS

Benzo(a)anthracene	N.D.	ug/kg	350	8270B
Benzo(a)pyrene	N.D.	ug/kg	350	8270B
Benzo(a)anthracene	< 430	ug/kg	Dry Weight	
Benzo(a)pyrene	< 430	ug/kg	Dry Weight	

METALS

TOTAL METALS BY ICP

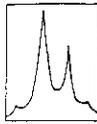
Lead	14	mg/kg	0.50	6010A
Lead	17	mg/kg	Dry Weight	

N.D. - Not Detected

A methanol extraction and dilution were performed on the sample during the volatile organics analysis due to the amount of analyte present. The detection limits were raised accordingly.

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****



ENVIRONMENTAL TESTING LABORATORIES

Page # 3
Sample # 102604-4

December 22, 1997

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT
---------------	--------

GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

2-Bromo-1-Chloropropane	98	% Recovery	Surrogate
2-Bromo-1-Chloropropane	98	% Recovery	Surrogate
Fluorobenzene	98	% Recovery	Surrogate
Fluorobenzene	98	% Recovery	Surrogate

GAS CHROMATOGRAPH MASS SPEC.

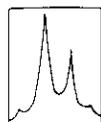
BASE NEUTRAL COMPOUNDS

2-Fluorobiphenyl	94	% Recovery	Surrogate
Nitrobenzene-d5	76	% Recovery	Surrogate
Terphenyl-d14	118	% Recovery	Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS	
			DATE	TIME
Total Solids	See Chain of Custody	SLP	12/05/97	17:10
HALOGENATED VOLATILE ORGANICS	See Chain of Custody	CPK	12/05/97	11:39
BASE NEUTRAL COMPOUNDS	See Chain of Custody	TTR	12/14/97	00:22
3550A Ultrasonic Extraction		JEK	12/12/97	
TOTAL METALS BY ICP	See Chain of Custody	BAS	12/16/97	12:44
Soil Digestion on Total Metals		PAG	12/12/97	

Respectfully Submitted,

Raymond J. Martrano
Laboratory Manager



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 1
Sample # 102604-5

ATTN: Mr. Roger Myers
REWI/HARLEY DAVIDSON
3240 SCHOOLHOUSE ROAD
MIDDLETOWN PA 17057

December 22, 1997

LAB ANALYSIS REPORT

Job Name	: Harley Davidson	Customer PO#	: 01-1408-05-7663-000
Job Number	: 7736-000-408	Date Sampled	: 12/04/97 02:00 PM
Location	: CB-03 (10-11')	Date Received	: 12/04/97
Sample State	: Soil	Date Approved	: 12/22/97
Collector	: RDM	Discard Date	: 12/29/97
		Grab	

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	84	%	1	3540B

Leaded/Aviation/Jet Fuel

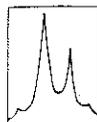
GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

Benzene	N.D.	ug/kg	500	8021A
1,2-Dibromoethane	N.D.	ug/kg	500	8021A
1,2-Dichloroethane	N.D.	ug/kg	500	8021A
Ethylbenzene	6300	ug/kg	500	8021A
Isopropylbenzene	2300	ug/kg	500	8021A
Methyl-t-butyl Ether	N.D.	ug/kg	5000	8021A
Naphthalene	4100	ug/kg	2000	8021A
Toluene	6400	ug/kg	500	8021A
Xylenes, total	38000	ug/kg	2000	8021A

Benzene	< 600	ug/kg	Dry Weight
1,2-Dibromoethane	< 600	ug/kg	Dry Weight
1,2-Dichloroethane	< 600	ug/kg	Dry Weight
Ethylbenzene	7500	ug/kg	Dry Weight

**** Continued ****



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 102604-5

December 22, 1997

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
Isopropylbenzene	2700	ug/kg	Dry Weight	
Methyl-t-butyl Ether	< 6000	ug/kg	Dry Weight	
Naphthalene	4900	ug/kg	Dry Weight	
Toluene	7600	ug/kg	Dry Weight	
Xylenes, total	45000	ug/kg	Dry Weight	

GAS CHROMATOGRAPH MASS SPEC.

BASE NEUTRAL COMPOUNDS

Benzo(a) anthracene	N.D.	ug/kg	350	8270B
Benzo(a) pyrene	N.D.	ug/kg	350	8270B
Benzo(a) anthracene	< 420	ug/kg	Dry Weight	
Benzo(a) pyrene	< 420	ug/kg	Dry Weight	

METALS

TOTAL METALS BY ICP

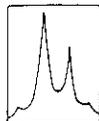
Lead	9.1	mg/kg	0.50	6010A
Lead	11	mg/kg	Dry Weight	

N.D. - Not Detected

A methanol extraction and dilution were performed on the sample during the volatile organics analysis due to the amount of analyte present. The detection limits were raised accordingly.

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****



ENVIRONMENTAL TESTING LABORATORIES

Page # 3
Sample # 102604-5

December 22, 1997

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT
---------------	--------

GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

2-Bromo-1-Chloropropane	97	% Recovery	Surrogate
Fluorobenzene	99	% Recovery	Surrogate

GAS CHROMATOGRAPH MASS SPEC.

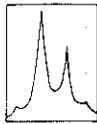
BASE NEUTRAL COMPOUNDS

2-Fluorobiphenyl	88	% Recovery	Surrogate
Nitrobenzene-d5	65	% Recovery	Surrogate
Terphenyl-d14	118	% Recovery	Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS	
			DATE	TIME
Total Solids	See Chain of Custody	SLP	12/05/97	17:10
HALOGENATED VOLATILE ORGANICS	See Chain of Custody	CPK	12/05/97	18:33
BASE NEUTRAL COMPOUNDS	See Chain of Custody	TTR	12/14/97	01:03
3550A Ultrasonic Extraction		JEK	12/12/97	
TOTAL METALS BY ICP	See Chain of Custody	BAS	12/16/97	12:44
Soil Digestion on Total Metals		PAG	12/12/97	

Respectfully Submitted,

Raymond J. Martrano
Laboratory Manager



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 1
Sample # 102604-6

ATTN: Mr. Roger Myers
REWI/HARLEY DAVIDSON
3240 SCHOOLHOUSE ROAD
MIDDLETOWN PA 17057

December 22, 1997

LAB ANALYSIS REPORT

Job Name	: Harley Davidson	Customer PO#	: 01-1408-05-7663-000
Job Number	: 7736-000-408	Date Sampled	: 12/04/97 02:30 PM
Location	: CB-03 (20-21')	Date Received	: 12/04/97
Sample State	: Soil	Date Approved	: 12/22/97
Collector	: RDM	Discard Date	: 12/29/97
		Grab	

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	89	%	1	3540B

Leaded/Aviation/Jet Fuel

GAS CHROMATOGRAPH ANALYSES

HALOGENATED VOLATILE ORGANICS

Benzene	14000	ug/kg	2500	8021A
1,2-Dibromoethane	N.D.	ug/kg	2500	8021A
1,2-Dichloroethane	N.D.	ug/kg	2500	8021A
Ethylbenzene	42000	ug/kg	2500	8021A
Isopropylbenzene	15000	ug/kg	2500	8021A
Methyl-t-butyl Ether	N.D.	ug/kg	25000	8021A
Naphthalene	21000	ug/kg	10000	8021A
Toluene	110000	ug/kg	2500	8021A
Xylenes, total	210000	ug/kg	10000	8021A

Benzene	16000	ug/kg	Dry Weight
1,2-Dibromoethane	< 2800	ug/kg	Dry Weight
1,2-Dichloroethane	< 2800	ug/kg	Dry Weight
Ethylbenzene	47000	ug/kg	Dry Weight

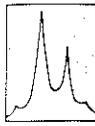
**** Continued ****

34 Dogwood Lane • Middletown, PA 17057

Philadelphia • (610) 640-1323

(717) 944-5541 • FAX (717) 944-1430

Maryland • (410) 244-8889



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 102604-6

December 22, 1997

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
Isopropylbenzene	17000	ug/kg	Dry Weight	
Methyl-t-butyl Ether	< 5600	ug/kg	Dry Weight	
Naphthalene	24000	ug/kg	Dry Weight	
Toluene	120000	ug/kg	Dry Weight	
Xylenes, total	240000	ug/kg	Dry Weight	

GAS CHROMATOGRAPH MASS SPEC.

BASE NEUTRAL COMPOUNDS

Benzo(a)anthracene	N.D.	ug/kg	350	8270B
Benzo(a)pyrene	N.D.	ug/kg	350	8270B
Benzo(a)anthracene	< 390	ug/kg	Dry Weight	
Benzo(a)pyrene	< 390	ug/kg	Dry Weight	

METALS

TOTAL METALS BY ICP

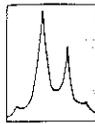
Lead	4.7	mg/kg	0.50	6010A
Lead	5.3	mg/kg	Dry Weight	

N.D. - Not Detected

A methanol extraction and dilution were performed on the sample during the volatile organics analysis due to the amount of analyte present. The detection limits were raised accordingly.

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****



Wright Laboratory SERVICES INC.

ENVIRONMENTAL TESTING LABORATORIES

Page # 3
Sample # 102604-6

December 22, 1997

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT		
GAS CHROMATOGRAPH ANALYSES			
HALOGENATED VOLATILE ORGANICS			
2-Bromo-1-Chloropropane	95	% Recovery	Surrogate
Fluorobenzene	97	% Recovery	Surrogate
GAS CHROMATOGRAPH MASS SPEC.			
BASE NEUTRAL COMPOUNDS			
2-Fluorobiphenyl	88	% Recovery	Surrogate
Nitrobenzene-d5	76	% Recovery	Surrogate
Terphenyl-d14	76	% Recovery	Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS	
			DATE	TIME
Total Solids	See Chain of Custody	SLP	12/05/97	17:10
HALOGENATED VOLATILE ORGANICS	See Chain of Custody	CPK	12/05/97	19:12
BASE NEUTRAL COMPOUNDS	See Chain of Custody	TTR	12/14/97	01:43
3550A Ultrasonic Extraction		JEK	12/12/97	
TOTAL METALS BY ICP	See Chain of Custody	BAS	12/16/97	12:44
Soil Digestion on Total Metals		PAG	12/12/97	

Respectfully Submitted,

Raymond J. Martrano
Laboratory Manager



DAMES & MOORE

A DAMES & MOORE GROUP COMPANY

December 27, 1999

RECEIVED
JAN 03 2000
SAIC

2325 Maryland Road
Willow Grove, Pennsylvania 19090
215 657 5000 Tel
215 657 5454 Fax

Commonwealth of Pennsylvania
Department of Environmental Protection
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110

Attn: Mr. Eric Rooney

Re: UST T-4
Harley-Davidson York Facility

Dear Mr. Rooney:

The purpose of this letter is to confirm our conversation on December 1, 1999 regarding UST T-4 at the Harley-Davidson Facility in York, Pennsylvania. As discussed, the PADEP has agreed with the UST T-4 closure request previously submitted to the PADEP in September 1998. As stated in the closure request, Harley-Davidson plans to address the UST T-4 as part of the ongoing Site-Wide RI/FS. We presently anticipate the completion of the Site-Wide RI report during the fourth quarter of 2000.

Please call me at 215-830-2005 if you have questions.

Sincerely,

Ralph T. Golia
Project Coordinator

cc: Gary Seyler: Harley-Davidson Motor Company
Steven Peterson: USACE
Steven Snyder: SAIC
Peter Randazzo: Langan Engineering

APPENDIX C

Closure Report: Tanks 009 and 010



January 4, 2011

The Pennsylvania Department of Environmental Protection
Southcentral Regional Office
Storage Tank Section
909 Elmerton Avenue
Harrisburg, PA 17110

Re: UST Closure Report
Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
PADEP Facility I.D. No. 67-00823
SAIC Project 4501020217-2000-100

Dear Storage Tank Coordinator:

On behalf of Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson), Science Applications International Corporation (SAIC) is submitting the attached Underground Storage Tank (UST) Closure Report to the Pennsylvania Department of Environmental Protection (PADEP) to document the removal of two underground storage tanks (USTs) located at Building 45 at the York Vehicle Operations facility. The USTs consisted of one 10,000-gallon unleaded gasoline (Tank I.D. 009) and one 1,000-gallon diesel fuel (Tank I.D. 010). The USTs were removed by YCP, Inc. (YCP) on behalf of Harley-Davidson.

CLOSURE SUMMARY

A release from Tanks 009 and 010 was not apparent during their removal on July 13 and 14, 2010, based upon field inspection of the UST excavation (soil discoloration, odors, sheen, etc.) and photoionization detector (PID) screening. Additionally, observations of the USTs, product piping, product dispensers, spill containment buckets, etc., did not show any signs of structural failure (i.e., cracks, loose connections, product leakage, etc.). All soil that was excavated during the UST removals was placed back into the excavation.

Eight confirmatory soil samples were collected from the UST excavation by YCP following the removal of the USTs. The sample locations are illustrated on Figure 3 in the UST Closure Report. Additionally, two water samples were collected by YCP from underneath Tank 009 at a depth of approximately 11 feet below grade (fbg). No water was present underneath Tank 010. The water that was sampled from underneath Tank 009 was from precipitation (i.e., rain and surface water runoff into the excavation) that occurred concurrent with the UST removals.

On July 29, 2010, the analytical report for the confirmatory soil and water samples was received by YCP. The analytical results indicated the presence of regulated substances in the soil samples from underneath the product piping and the dispenser for Tank 009 and the excavation water samples (see Tables 1 and 2 in the UST Closure Report).

On November 11, 2010, SAIC completed three soil borings (SB-001, SB-002, and SB-003) to assess the soil quality conditions underneath Tank 009 using a direct-push (i.e., Geoprobe[®]) rig. The sampling was completed to supplement the environmental assessment activities conducted by YCP during the removal of Tank 009 in July 2010.

One soil sample was collected from below the bottom of Tank 009 (approximately 11 fbg) from each of the three borings at depth intervals of approximately 12.5 to 13.0 fbg (SB-001), 16.9 to 17.4 fbg (SB-002), and 16.9 to 17.4 fbg (SB-003). The soil samples were submitted for laboratory analysis of the PADEP unleaded gasoline UST parameters using United States Environmental Protection Agency (EPA) Method 8260. As indicated on the laboratory analysis report for the samples (Attachment C in the UST Closure Report), no concentrations of PADEP unleaded gasoline UST parameters were detected in the soil samples.

USTIF CLAIM

Harley-Davidson filed a claim with the Pennsylvania Underground Storage Tank Indemnification Fund (USTIF) upon discovering the UST release (USTIF Claim Number 2010-0106[M]). An information package to support the claim was provided by Harley-Davidson to ICF International on December 17, 2010. Harley-Davidson is awaiting a response from ICF regarding claim reimbursement eligibility.

PLANNED FUTURE ACTIVITIES

Harley-Davidson is preparing to address the UST release in accordance with the Storage Tank Spill Prevention Act (Act 32 of 1989) and implementing regulations in Pennsylvania Code, Chapter 245, Subchapter D (Corrective Action Process for Owners and Operators of Storage Tanks and Storage Tank Facilities and Other Responsible Parties). Specifically, a site characterization will be performed to address the release.

SAIC appreciates the assistance PADEP has provided on this project. Please feel free to contact the undersigned if you have any questions regarding this submittal at 717-901-8839.

Sincerely yours,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION



Christopher D. O'Neil, P.G.
Project Manager

CDO:pr

Attachments

cc: Sharon R. Fisher (Harley-Davidson)
Robert E. Scott (YCP, Inc.)
Bethany Smith (ICF International)



APPENDIX D

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

UNDERGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM

67 - 00823

Facility I.D.

Harley-Davidson Motor Company Operations, Inc.- York Vehicle Operations

Facility Name

Springettsbury Township

Municipality

York

County

8/25/2010

Date Prepared

Robert E. Scott

Name of Person Submitting Report
(Please Print)

YCP, Inc.

Company Name
(If Applicable)

Project Manager

Title

Closure Method (Check all that apply):

- Removal
Closure-In-Place
Change-In-Service

Site Assessment Results (Check all that apply):

- No Obvious Contamination - Sample Results Meet Standards/Levels
No Obvious Contamination - Sample Results Do Not Meet Standards/Levels
Obvious, Localized Contamination - Sample Results Meet Standards/Levels
Obvious, Localized Contamination - Sample Results Do Not Meet Standards/Levels
Obvious, Extensive Contamination

DATE OF TANK CLOSURE (Month/Day/Year)		- -	- -	- -	- -
Tank Registration Number					
Estimated Total Capacity (Gallons)					
Substance(s) Stored Throughout Operating Life of Tank (Check All That Apply)	a. Petroleum				
	Unleaded Gasoline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Leaded Gasoline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Aviation Gasoline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Kerosene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Jet Fuel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Diesel Fuel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fuel Oil No. 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fuel Oil No. 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fuel Oil No. 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fuel Oil No. 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Fuel Oil No. 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	New Motor Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Used Motor Oil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other, Please Specify				
NOTE: If Hazardous Substance Block is Checked, Attach Material Safety Data Sheets (MSDS)	b. Hazardous Substance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Name of Principal CERCLA Substance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<u>AND</u>				
	Chemical Abstract Service (CAS) No.				
	c. Unknown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Closure Method (Check Only One)	a. Removal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Closure-in-Place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. Change-In-Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Partial System Closure (Yes or No)					

Yes N/A

11. Briefly describe the storage tank facility and the nature of the operations which were conducted at the facility (both historical and present) **including use of tanks:** _____
 Harley-Davidson manufactures heavyweight motorcycles for public use. Tanks 009 and 010 were used to fuel on-site maintenance vehicles.

- 12. A site location and sampling map of the site, drawn to scale, is attached. See page 12 of 12.
- 13. Original, color photographs of the closure process are attached (i.e., inside of excavation/piping runs, pit water, tanks showing condition). See Attachment A.
- 14. An amended "Storage Tanks Registration/Permitting Application Form" was submitted to the DEP, Bureau of Waste Management, Division of Storage Tanks, P.O. Box 8762, Harrisburg, PA 17105-8762.
Date: 12-06-2010
- 15. If a reportable release was confirmed, the appropriate regional office of DEP was notified by the owner or operator.
Date: 08-18-2010 Office: Southcentral Region

Yes N/A

16. If tanks were cleaned on-site:
- a. Briefly describe the disposition of usable product: Usable product was removed from the tanks and disposed of by Harley-Davidson (Attachment B).
 - b. Briefly describe the disposal of unusable product, sludges, sediments, and wastewater generated during cleaning. Provide the name and permit number of the processing, treatment, storage or disposal facility. (Attach documentation of proper disposal):
Unusable product and sludge that were generated during the cleaning of the tanks were disposed of by Harley-Davidson at Clean Harbors of Baltimore, Inc. (USEPA ID No. MDD980555189) (Attachment B).
 - c. If tank contents were determined/deemed to be hazardous waste, provide:
 - (1) Generator ID Number: _____
 - (2) Licensed Hazardous Waste Transporter Name and ID Number: _____
17. If tanks were removed from the site for cleaning:
- a. Provide the name and permit number of the processing, treatment, storage or disposal facility performing the tank cleaning: _____
 - b. If tank contents were determined/deemed to be hazardous waste, provide:
 - (1) Generator ID Number: _____
 - (2) Licensed Hazardous Waste Transporter Name and ID Number: _____
18. Briefly describe the disposition of tanks/piping (Attach documentation of proper disposal):
Tanks 009 and 010 were of double-wall steel construction, and the product piping was double-wall fiberglass-reinforced plastic (FRP). Tanks and associated product piping were disposed of off-site by YCP, Inc. (Attachment B).
19. If contaminated soil is excavated:
- a. Briefly describe the disposition and amount 0 (tons) of contaminated soil. Provide the name and permit number of the processing, treatment, storage or disposal facility. (Attach documentation of proper disposal):
A release from Tanks 009 and 010 was not apparent during their removal based upon field inspection of the UST excavation (soil discoloration, odors, sheen, etc.) and photoionization detector (PID) screening. Additionally, observations of the USTs, product piping, product dispensers, spill containment buckets, etc., did not show any signs of structural failure (i.e., cracks, loose connections, product leakage, etc.). Thus, the soil that was excavated to remove the USTs was reused to backfill the excavation (i.e., no contaminated soil was generated for disposal).
 - b. If contaminated soil is determined/deemed to be hazardous waste, provide:
 - (1) Generator ID Number: _____
 - (2) Licensed Hazardous Waste Transporter Name and ID Number: _____

Yes N/A

20. Briefly describe the disposition of and amount ~40 (tons) of uncontaminated soil (attach analyses):

See description for 19 a. on Page 4 of 12.

I, Sharon R. Fisher, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904
(Print Name)

(relating to unsworn falsification to authorities) that I am the owner of the above referenced storage tank(s) and that the information provided by me in this closure report (Section I) is true, accurate and complete to the best of my knowledge and belief.

Sharon R. Fisher

Signature of Tank Owner

12/28/2010

Date

Harley-Davidson Motor Company Operations, Inc.

Company Name

(If Applicable)

Environmental Manager

Title

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

**UNDERGROUND STORAGE TANK SYSTEM
CLOSURE REPORT FORM**

SECTION II. Tank Handling Information

Facility ID Number 67 - 00823

Yes N/A

- 1. Briefly describe the excavation and initial on-site staging of uncontaminated/contaminated soil:
Area was excavated to 5' depth to uncover tank tops. The lines were already free of product. Tanks were removed. All excavated material was 1B stone and was reused to backfill the area.
- 2. Briefly describe the method of piping system closure and the closure of the piping systems including the quantity and condition of the piping:
The piping was double-wall fiberglass and was observed to be in sound structural condition. All piping was removed and scrapped (Attachment B).
- 3. Briefly describe the condition of the tanks and any problems encountered during tank removal:
Both tanks were observed to be in sound structural condition; no problems were encountered during the tank removals.
- 4. Briefly describe the method used to purge the tanks of and monitor for explosive vapors:
A Venturi device was used to devaporize the tanks. An LEL meter was used to measure and confirm that vapors were at acceptable levels.

- 5. If tanks were cleaned on-site:
 - a. Briefly describe the tank cleaning process: Tanks were venturied, cut open, and vacuumed out. The interior surface of the tanks was squeegeed clean by YCP, Inc. All fluid and sludge were removed from the tanks during the cleaning process.

- b. If subcontracted, name and address of company that performed the tank cleaning:

- 6. If tanks were closed-in-place, briefly describe the tank fill material: _____

- 7. If contamination was suspected or observed, the "Notification of Contamination" form was submitted.
A release from Tank 009 was documented based upon the soil sample analytical results. A Notification of Contamination form was submitted to the PADEP by YCP, Inc.

SECTION II. (continued)

I, Steven Hartman, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904
(Print Name)

(relating to unsworn falsification to authorities) that I am the certified installer who performed the tank handling activities associated with the closure of the above referenced storage tank(s) and that the information provided by me in this closure report (Section I) is true, accurate and complete to the best of my knowledge and belief.



Signature of Certified Installer

11 / 18 / 2010
Date

2214
Installer Certification Number

1640
Company Certification Number

YCP, Inc.
Company Name

1550 Oak Lane
Street

Dover, PA 17315
City/Town, State, Zip

717 - 308 - 2060
Phone

UNDERGROUND STORAGE TANK CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 009 (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 67 - 00823

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A: if NOT encountered).

Bedrock N/A feet below land surface Water 11 feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND

1). Was obvious contamination observed while excavating?

NO -----> Conduct confirmatory sampling -----> See end of this section for options on submission and maintenance of closure records -----> Do not complete item C.2. below.

YES-----> Report release to DEP within 2 hours -----> Describe contamination observed and likely source(s) tank, piping, dispenser, spills, overfills):

There was no obvious contamination observed while excavating. Soil sample results, though, indicated a release from the product piping/dispenser. The release was reported to the PADEP upon receipt of the soil sample results by YCP, Inc. Water was encountered underneath the tank. This was not groundwater, but surface water that entered the excavation during a precipitation event that occurred during the tank removal.

-----> Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

YES -----> Remove or remediate contaminated soil -----> Conduct confirmatory sampling-----> See end of this section for options on submission and maintenance of closure records -----> Call Indemnification Fund (717-787-0763).

NO-----> Continue interim remedial actions -----> See end of this section for options on submission and maintenance of closure records -----> Call Indemnification Fund (717-787-0763).

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

NO -----> Conduct confirmatory sampling -----> See end of this section for options on submission and maintenance of closure records.

YES-----> Report release to DEP within 2 hours -----> Describe contamination observed and likely source(s) tank, piping, dispenser, spills, overfills):

Continue with corrective action -----> See end of this section for options on submission and maintenance of closure records -----> Call Indemnification Fund (717-787-0763).

UNDERGROUND STORAGE TANK CLOSURE REPORT FORM

SECTION III. Site Assessment Information

Tank Registration # 010 (complete one sheet for EACH tank system and attach ALL laboratory sheets pertaining to that system)

Facility ID Number 67 - 00823

A. Provide depth of *BEDROCK* and *WATER* IF encountered during excavation or soil boring (write "N/A: if NOT encountered).

Bedrock N/A feet below land surface Water N/A feet below land surface

B. Provide Length of *PIPING* IF piping was closed-in-place (write "N/A" if NOT closed-in-place).

Length of piping N/A feet

C. TANK SYSTEM REMOVED FROM THE GROUND

1). Was obvious contamination observed while excavating?

NO -----> Conduct confirmatory sampling -----> See end of this section for options on submission and maintenance of closure records -----> Do not complete item C.2. below.

YES-----> Report release to DEP within 2 hours -----> Describe contamination observed and likely source(s) tank, piping, dispenser, spills, overfills):

-----> Complete item C.2. below.

2). Was contamination localized (within three feet of the tank system in every direction with no obvious water contamination)?

YES -----> Remove or remediate contaminated soil -----> Conduct confirmatory sampling-----> See end of this section for options on submission and maintenance of closure records -----> Call Indemnification Fund (717-787-0763).

NO-----> Continue interim remedial actions -----> See end of this section for options on submission and maintenance of closure records -----> Call Indemnification Fund (717-787-0763).

D. TANK SYSTEM CLOSED-IN-PLACE OR CHANGED-IN-SERVICE

Was obvious contamination observed during sampling, boring or assessing water depths?

NO -----> Conduct confirmatory sampling -----> See end of this section for options on submission and maintenance of closure records.

YES-----> Report release to DEP within 2 hours -----> Describe contamination observed and likely source(s) tank, piping, dispenser, spills, overfills):

Continue with corrective action -----> See end of this section for options on submission and maintenance of closure records -----> Call Indemnification Fund (717-787-0763).

E. If the answer to C.1. is "no", the answer to C.2. is "yes" or the answer to D. is "no", confirmatory samples are required. Use the sample/analysis information sheet on page 10 of 11 to provide the information on confirmatory sampling and complete the diagram on Page 11 of 11.

Options for Submission and Maintenance of Closure Site Assessment Records

Records of the site assessment must be maintained for at least three years after completion of permanent closure or change-in-service in one of the following ways:

- (a) By the owners and operators who took the UST system out of service;
- (b) By the current owners and operators of the UST system site; or
- (c) By mailing these records to the implementing agency if they cannot be maintained at the closed facility.

At least one option must be chosen. If option (c) is chosen, the closure report form should be sent to the DEP regional office responsible for the county in which the tank is located.

Where the results of the site assessment indicate that obvious, localized soil contamination was encountered and the analytical results of the confirmatory sampling show levels below the statewide standard/action levels, this closure report form (Sections I, II, and III) or some other acceptable site characterization report must be received by the Department within 180 days of verbally reporting the release.

Where the results of the site assessment indicate that no obvious contamination or obvious, localized contamination was encountered, but the analytical results of the confirmatory sampling show levels above the statewide standard/action levels, or where there is obvious, extensive contamination, Section 245.310(a)(8) of the CAP regulation requires that details of removal from service be included in the site characterization report. A copy of the completed closure report form should be submitted as part of the site characterization report to satisfy the requirements of Section 245.310(a)(8) of the CAP regulations.

I, Robert E. Scott, hereby certify, under penalty of law as provided in 18 Pa. C.S. §4904 (relating to unsworn falsification to authorities) that I am the person who performed the site assessment activities associated with the closure of the above referenced storage tank(s) and that the information provided by me in this closure report (Section III) is true, accurate and complete to the best of my knowledge and belief.



Signature of Person Performing Site Assessment

11 / 18 / 2010

Date

Project Manager

Title of Person Performing Site Assessment

YCP, Inc.

Name of Company Performing Site Assessment

717-308-2060

Telephone Number of Person Performing Site Assessment

Site Location and Sampling Map - Use this page or suitable facsimile to provide a large scale map of the site where tanks were closed. Scales between 1" = 10 and 1" = 100 feet frequently work out well. Include the following information as each applies to the site: facility name and I.D., county, township or borough, property boundaries or area of interest, buildings, roads and streets with names or route numbers, utilities, location and ID number of storage tanks removed including piping and dispensers, soil stockpile locations, excavations or other locations of product recovery, north arrow, approximate map scale and legend. Also show depth and location of samples with sample ID numbers cross-referenced to the same ID numbers shown on Page 10 of 11.

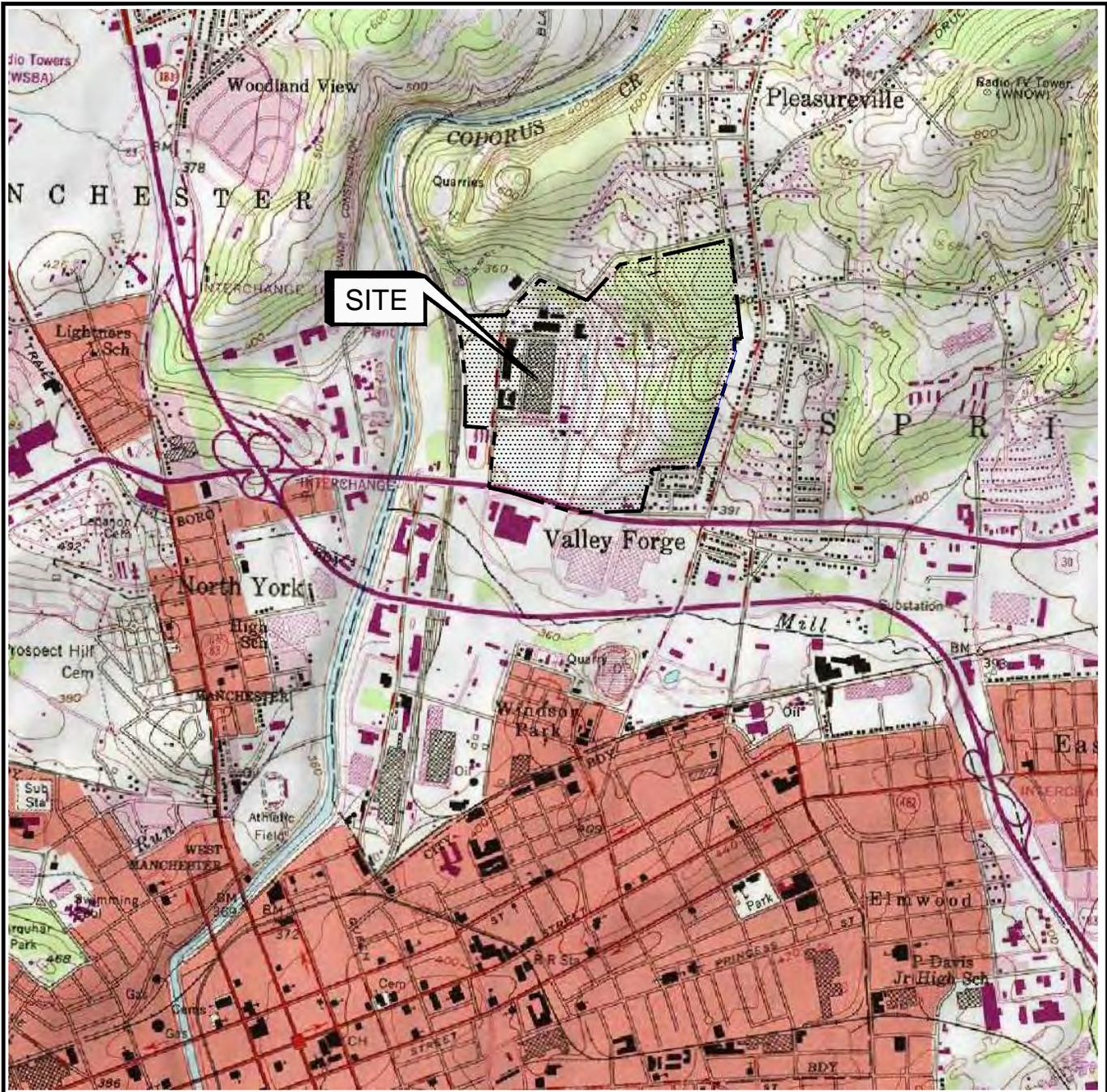
Facility Name and ID: Harley-Davidson Motor Company Operations, Inc.
York Vehicle Operations
PADEP Facility I.D. No. 67-00823

County: York

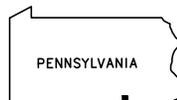
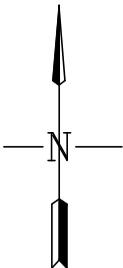
Township/Borough: Springettsbury Township

See Figures 1, 2, and 3 (attached).

FIGURES



NOTE: BASE MAP FROM THE YORK PA., USGS 7 1/2 MIN TOPOGRAPHIC QUADRANGLE (PR 1990).



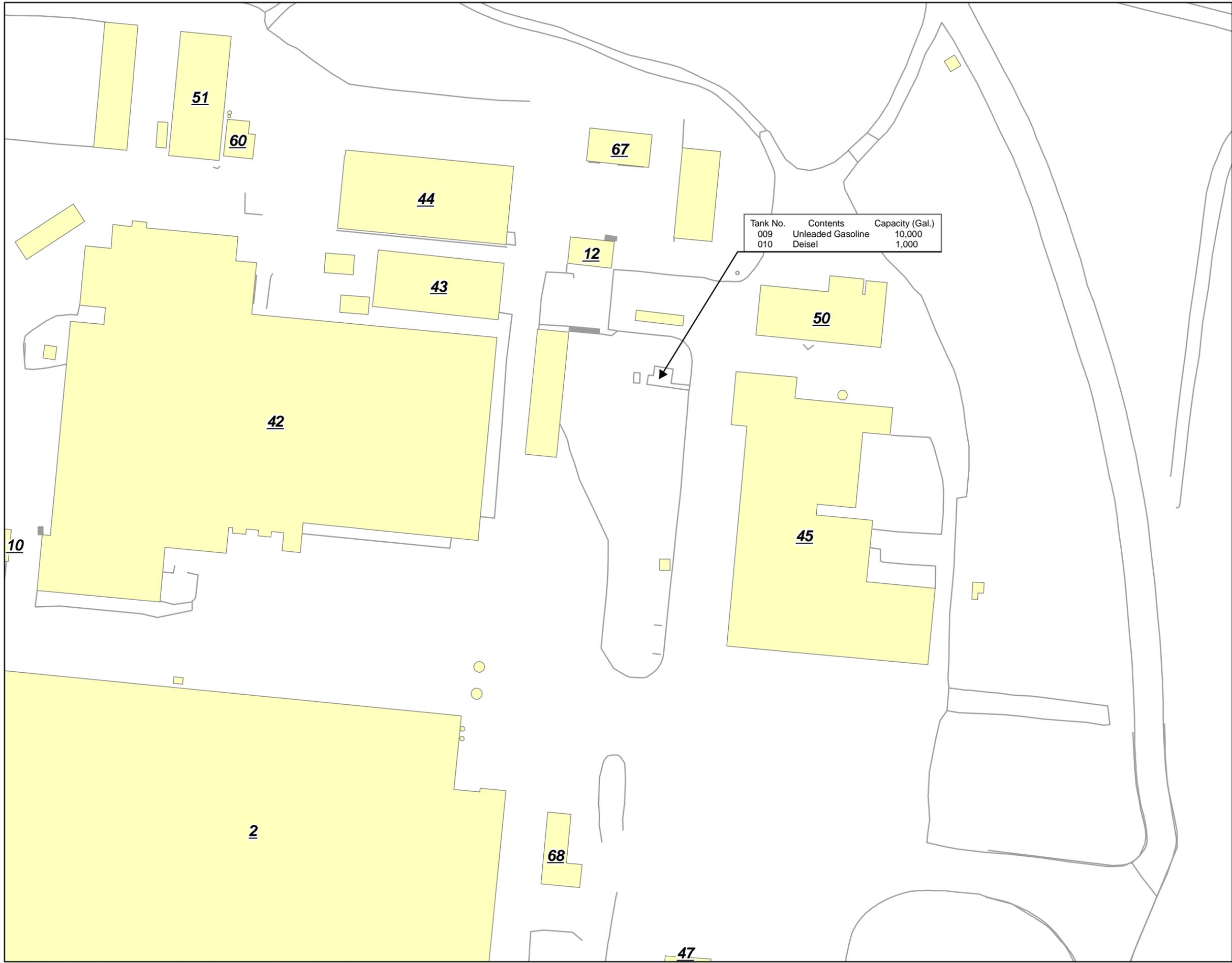
QUADRANGLE LOCATION

HARLEY-DAVIDSON MOTOR COMPANY OPERATIONS, INC.
 YORK VEHICLE OPERATIONS
 1425 EDEN ROAD, YORK PA 17402

SITE LOCATION MAP

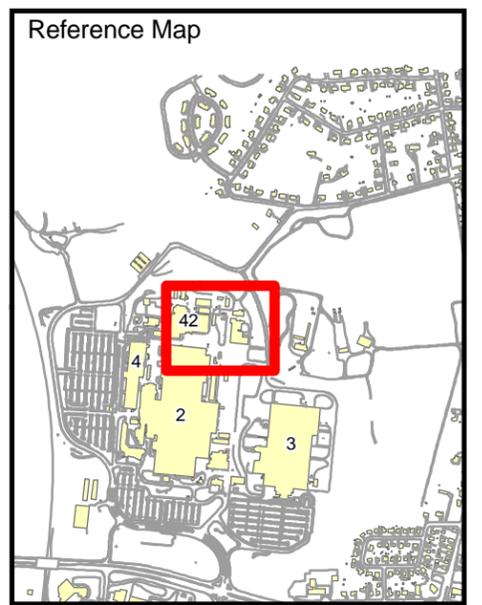
drawn RAM	checked	approved	figure no. 1
date 11/20/07	date	date	
job no. 01-1633-00-1501-000	file no. 1501-001.dwg		





Tank No.	Contents	Capacity (Gal.)
009	Unleaded Gasoline	10,000
010	Deisel	1,000

Legend
 Buildings
 Roads and Curbs



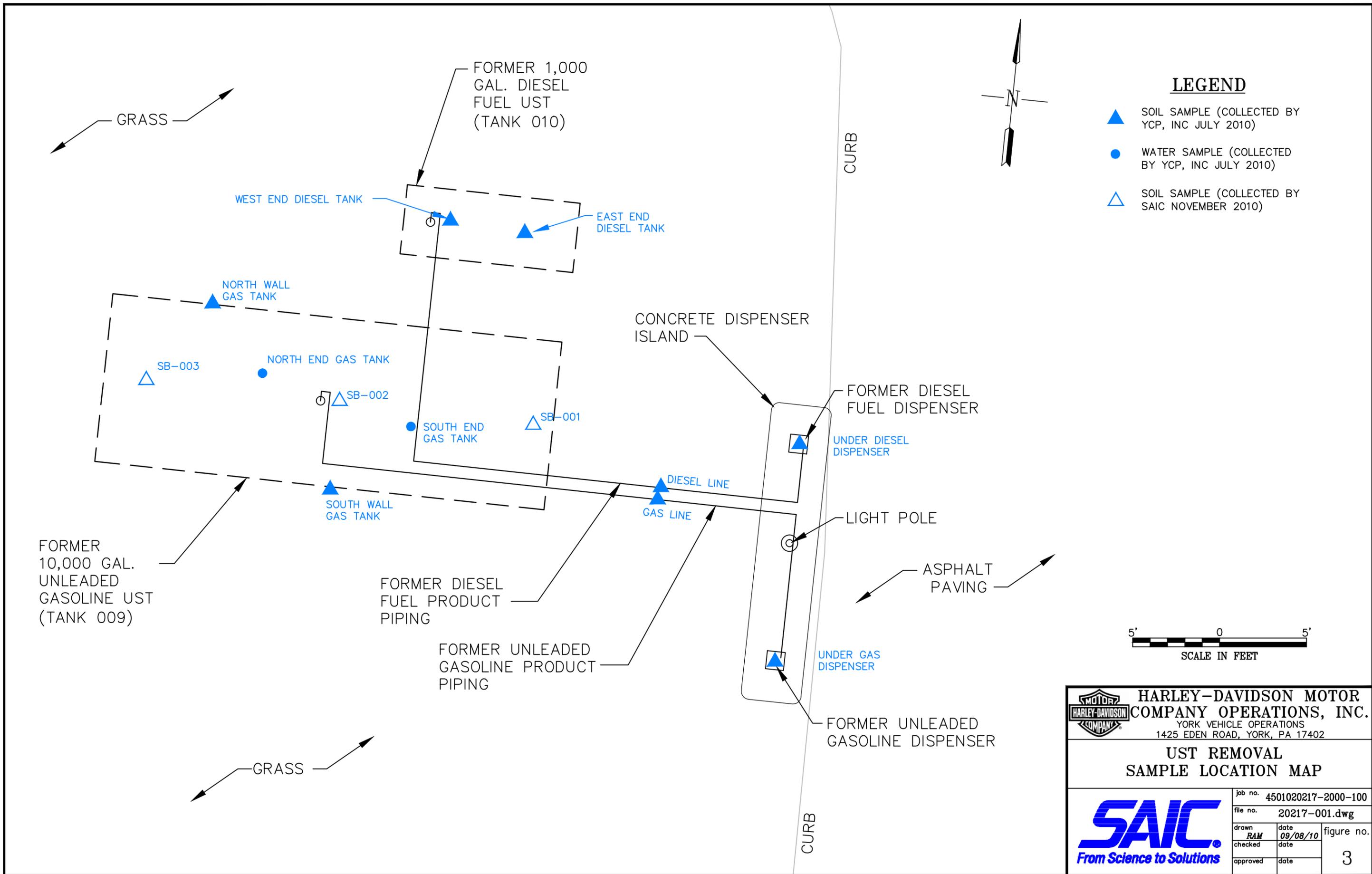
NOTE:
 1. Base data (Buildings, Building Boundaries, Roads and Curbs, and Contour Lines, from NuTec Survey conducted in 2006)



Harley-Davidson Motor Company Operations, Inc.
 1425 Eden Rd York, Pa 17402

UST Location Map

drawn	JEB	checked		approved		figure no.
date	12/03/2010	date		date		2
job no.	4501020217/2000/100	file no.		file no.	Inventory_20101203.mxd	
initials		date		revision		



GRASS

FORMER 1,000 GAL. DIESEL FUEL UST (TANK 010)

WEST END DIESEL TANK

EAST END DIESEL TANK

NORTH WALL GAS TANK

SB-003

NORTH END GAS TANK

SB-002

SOUTH END GAS TANK

SB-001

SOUTH WALL GAS TANK

CONCRETE DISPENSER ISLAND

FORMER DIESEL FUEL DISPENSER

UNDER DIESEL DISPENSER

DIESEL LINE

GAS LINE

LIGHT POLE

FORMER 10,000 GAL. UNLEADED GASOLINE UST (TANK 009)

FORMER DIESEL FUEL PRODUCT PIPING

FORMER UNLEADED GASOLINE PRODUCT PIPING

ASPHALT PAVING

5' 0 5'
SCALE IN FEET

GRASS

CURB

CURB

HARLEY-DAVIDSON MOTOR COMPANY OPERATIONS, INC.
 YORK VEHICLE OPERATIONS
 1425 EDEN ROAD, YORK, PA 17402

UST REMOVAL SAMPLE LOCATION MAP

SAIC
 From Science to Solutions

job no.	4501020217-2000-100		
file no.	20217-001.dwg		
drawn	RAM	date	09/08/10
checked		date	
approved		date	
figure no.	3		

TABLES

Table 1
Building 45 UST Closure Soil Sample Analytical Results
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 4501020014-6000-100

Sample ID	Approximate Sample Depth (feet below grade)	Sampled By	Date Sample Collected	Date Sample Analyzed	Analysis Method 8260/5035								
					Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl Tertiary Butyl Ether (MTBE)	Naphthalene	Isopropylbenzene (Cumene)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
East End Diesel Tank	8.0	YCP	7/13/2010	7/19/2010	< 0.058	< 0.058	< 0.058	NA	< 0.058	< 0.116	< 0.058	< 0.058	< 0.058
West End Diesel Tank	8.0	YCP	7/13/2010	7/19/2010	< 0.0573	< 0.0573	< 0.0573	NA	< 0.0573	< 0.115	< 0.0573	< 0.0573	< 0.0573
North Wall Gas Tank	11.5	YCP	7/13/2010	7/19/2010	< 0.0664	< 0.0664	< 0.0664	< 0.199	< 0.0664	< 0.133	< 0.0664	< 0.0664	< 0.0664
South Wall Gas Tank	11.5	YCP	7/13/2010	7/19/2010	< 0.0584	< 0.0584	< 0.0584	< 0.175	< 0.0584	< 0.117	< 0.0584	< 0.0584	< 0.0584
Under Gas Dispenser	3.5	YCP	7/14/2010	7/19/2010	< 0.270	12.5	27.3	223	< 0.270	43.7	33.4	417	127
Gas Line	4.5	YCP	7/14/2010	7/22/2010	< 0.0486	< 0.0486	< 0.0486	< 0.146	< 0.0486	< 0.0972	< 0.0486	0.0522	0.0505
Under Diesel Dispenser	3.5	YCP	7/14/2010	7/22/2010	< 0.0543	< 0.0543	< 0.0543	NA	< 0.0543	< 0.109	< 0.0543	< 0.0543	< 0.0543
Diesel Line	4.5	YCP	7/14/2010	7/22/2010	< 0.0528	< 0.0528	< 0.0528	NA	< 0.0528	0.24	< 0.0528	0.316	0.0965
HD-B45T-SB-001	12.5/13.0	SAIC	11/12/2010	11/16/2010	< 0.0515	< 0.0515	< 0.0515	< 0.155	< 0.0515	< 0.103	< 0.0515	< 0.0515	< 0.0515
HD-B45T-SB-002	16.9/17.4	SAIC	11/12/2010	11/16/2010	< 0.0445	< 0.0445	< 0.0445	< 0.134	< 0.0445	< 0.089	< 0.0445	< 0.0445	< 0.0445
HD-B45T-SB-003	16.9/17.4	SAIC	11/12/2010	11/16/2010	< 0.0471	< 0.0471	< 0.0471	< 0.141	< 0.0471	< 0.0942	< 0.0471	< 0.0471	< 0.0471
PADEP Residential Soil-to-Groundwater MSCs					0.5	100	70	1,000	2	25	780	9	2.8
PADEP Residential Direct Contact MSCs (0 - 15 feet)					41	7,600	10,000	8,000	620	4,400	7,300	110	110
PADEP Default Volatilization to Indoor Air Screen Screening Values					0.37	76	5.7	55	51	64	360+	20	4.6

Notes:

All results reported in milligrams per kilogram (mg/kg)

PADEP - Pennsylvania Department of Environmental Protection

MSCs - Medium Specific Concentrations

SAIC - Science Applications International Corporation.

YCP - YCP, Inc.

NA - Sample not analyzed for this compound

+ - Soil Saturation Concentration (Csat) - concentrations above Csat may suggest the need to investigate the potential presence of non-aqueous phase liquid

Results that are bold/shaded exceed PADEP MSC

Table 2
Building 45 UST Closure Water Sample Analytical Results
Harley-Davidson Motor Company Operations, Inc.
1425 Eden Road, York, York County, Pennsylvania
PADEP Facility ID No. 67-00823
SAIC Project Number 4501020014-6000-100

Sample ID	Sample Depth (feet below grade)	Sampled By	Date Sample Collected	Date Sample Analyzed	Analysis Method 8260B								
					Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl Tertiary Butyl Ether (MTBE)	Naphthalene	Isopropylbenzene (Cumene)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
North End Gas Tank	11.0	YCP	7/13/2010	7/20/2010	92.8	252	13	115	<1.0	<2.0	<1.0	2.7	4.6
South End Gas Tank	11.0	YCP	7/13/2010	7/20/2010	91.4	273	12.4	113	<1.0	<2.0	<1.0	2.6	4.8
PADEP Residential Groundwater MSCs					5	1,000	700	10,000	20	100	1,100	16	16
PADEP Default Residential Volatilization to Indoor Air Screen Screening Values					3,500	490,000	27,000	130,000	380,000	25,000	NOC	8,600	7,200

Notes:
All results reported in micrograms per liter (µg/L)
PADEP - Pennsylvania Department of Environmental Protection
MSCs - Medium Specific Concentrations
NOC - Not of concern, value above constituent water solubility
YCP - YCP, Inc.
Results that are bold/shaded exceed PADEP MSC

ATTACHMENT A

Photographs



Tank 009 (10,000-gallon unleaded gasoline) during the removal activities.

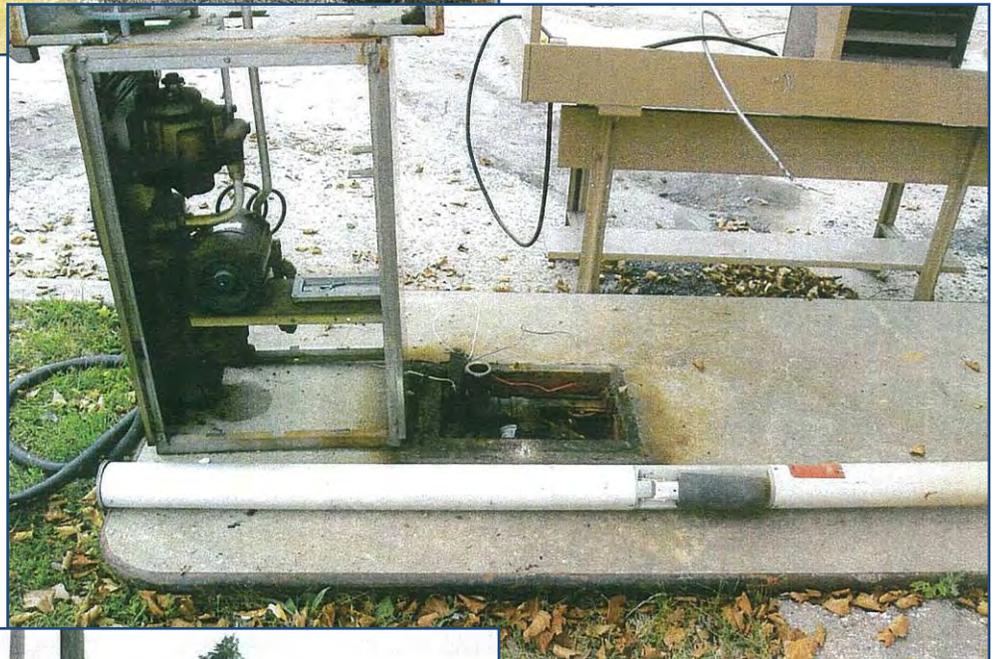


Tank 010 (1,000-gallon diesel fuel) following removal.



Tank 009 (10,000-gallon unleaded gasoline) excavation following removal of the UST. Note water at the base of the UST excavation.

07/13/2010 01:43 PM



Product dispenser for Tank 009 during the removal activities.



Area where Tanks 009 and 010 were located following backfilling activities.

07/14/2010 11:37 AM

ATTACHMENT B

Waste Disposal Documentation

TRAILER 3120

Received
7/29/10

D42900705

50 PPW 6/4/2010

Form Approved, OMB No. 2050-0039

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number PA0001643891	2. Page 1 of 1	3. Emergency Response Phone (800) 482 3718	4. Manifest Tracking Number 000041239 MWI				
5. Generator's Name and Mailing Address Hickory Environmental Waste Co. Inc. 1425 Eden Road York PA 17402 Generator's Phone: (717) 440-1177				Generator's Site Address (if different than mailing address) SAME					
6. Transporter 1 Company Name Clean Harbors Environmental Services Inc				U.S. EPA ID Number MAD039322250					
7. Transporter 2 Company Name				U.S. EPA ID Number					
8. Designated Facility Name and Site Address Clean Harbors of Baltimore Inc 1950 Russell Street Baltimore MD 21230 Facility's Phone: (410) 244-8200				U.S. EPA ID Number MDD96055189					
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes			
		No.	Type						
1	170 UN1203 WASTE GASOLINE, 3 PG H/D0011	001	TT	11200	P	D001	D01R		
2									
3									
4									
14. Special Handling Instructions and Additional Information 1 CHARGE 305 EPC# 120									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offoror's Printed/Typed Name Brenda M Barber				Signature Brenda M Barber		Month Day Year 07/17/10			
16. International Shipments		<input type="checkbox"/> Import to U.S.		<input type="checkbox"/> Export from U.S.		Port of entry/exit:		Date leaving U.S.:	
17. Transporter Acknowledgment of Receipt of Materials		Transporter 1 Printed/Typed Name LESTER O UNIER		Signature Lester O Unier		Month Day Year 07/17/10			
18. Discrepancy		18a. Discrepancy Indication Space		Manifest Reference Number:		U.S. EPA ID Number			
		<input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
18b. Alternate Facility (or Generator)		Facility's Name:		Facility's Phone:		Month Day Year			
18c. Signature of Alternate Facility (or Generator)						Month Day Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. 11111		2.		3.		4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/typed Name James Williams				Signature		Month Day Year 07/17/10			

GENERATOR

INTL

TRANSPORTER

DESIGNATED FACILITY

Clean Harbors

ENVIRONMENTAL SERVICES®
STRAIGHT BILL OF LADING

Check One:

Non-Hazardous Material

Hazardous Material

DATE <u>7/19/10</u>		VEHICLE NUMBER: <u>487</u>	
FROM: Shipper <u>Harley Davidson</u>		TO: Consignee <u>Clean Harbors Env. Services, Inc.</u>	
Street <u>7111</u>		Street <u>2858 Route 322</u>	
City <u>NY</u> State <u>NY</u>		City <u>Bridgeport</u> State <u>NJ</u>	
Zip Code	US EPA ID Number	Zip Code <u>08014</u>	US EPA ID Number <u>NJ RJ 000066985</u>
Name of Carrier: Clean Harbors Environmental Services, Inc.			
			US EPA ID Number <u>MAID039322250</u>
US DOT Description: ID Number, Proper Shipping Description, Hazard Class, Packing Group <u>None, Non-Hazardous, Non-DOT Regulated Material, None, N/A</u> <u>Used Oil</u>			
Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:	
<u>2600</u>	<u>Gal.</u>	1-800-483-3718	
WASTE OIL ANALYSIS: (ACTUAL)		BATCH # _____	
ARSENIC _____ PPM.	LEAD _____ PPM.	BTU's/LB. _____	
CADMIUM _____ PPM.	PCB'S _____ PPM.	BTU's/GAL. _____	
CHROMIUM _____ PPM.	TOTAL HALOGENS <u>100</u> PPM.	FLASH POINT _____ °F	
N.D. = NOT DETECTED	SPECIFIC GRAVITY _____	SULFUR _____	
WASTE OIL SPECIFICATION: (LIMITS)			
ARSENIC 5.0 PPM. MAX.	LEAD 100 PPM. MAX.		
CADMIUM 2.0 PPM. MAX.	PCB'S N.D. PPM. MAX.		
CHROMIUM 10.0 PPM. MAX.	TOTAL HALOGENS 1,000 PPM. MAX.	FLASH POINT <u>>100</u> °F	
Generator & Shipper Signature	Consignee Signature	Transporter's Signature	
<u>Bonnie Barber</u>		<u>[Signature]</u>	
GENERATOR CERTIFICATION: I hereby certify that I have personally examined and am familiar with the information submitted in this and all attached documents. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. To the best of my knowledge and ability, all known and suspected hazards have been disclosed, and I state the material has not been mixed with PCB's or hazardous waste as defined in 40CFR.261.			
SHIPPER CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked, labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.			

Clean Harbors

ENVIRONMENTAL SERVICES®

STRAIGHT BILL OF LADING

Check One:

Non-Hazardous Material

Hazardous Material

DATE <u>7 19 11 0</u>		VEHICLE NUMBER: <u>L118</u>	
FROM: Shipper <u>HARLEY DAVIDSON</u>		TO: Consignee <u>Clean Harbors Env. Services, Inc.</u>	
Street <u>EDWART</u>		Street <u>2858 Route 322</u>	
City <u>WOKIC</u> State <u>PA</u>		City <u>Bridgeport</u> State <u>NJ</u>	
Zip Code	US EPA ID Number	Zip Code	US EPA ID Number
		<u>08014</u>	<u>NJ RJ 01010166985</u>

Name of Carrier:

▶ Clean Harbors Environmental Services, Inc.

US EPA ID Number MAID 039322250

US DOT Description: ID Number, Proper Shipping Description, Hazard Class, Packing Group

None, Non-Hazardous, Non-DOT Regulated Material, None, N/A
Used Oil

Total Quantity	Unit Wt/Vol	EMERGENCY NUMBER:
<u>1400</u>	<u>Gal.</u>	1-800-483-3718

WASTE OIL ANALYSIS: (ACTUAL) BATCH # _____

ARSENIC _____ PPM.	LEAD _____ PPM.	BTU's/LB. _____
CADMIUM _____ PPM.	PCB'S _____ PPM.	BTU's/GAL. _____
CHROMIUM _____ PPM.	TOTAL HALOGENS <u>100</u> PPM.	FLASH POINT _____ °F
N.D. = NOT DETECTED	SPECIFIC GRAVITY _____	SULFUR _____

WASTE OIL SPECIFICATION: (LIMITS)

ARSENIC 5.0 PPM. MAX.	LEAD 100 PPM. MAX.
CADMIUM 2.0 PPM. MAX.	PCB'S N.D. PPM. MAX.
CHROMIUM 10.0 PPM. MAX.	TOTAL HALOGENS 1,000 PPM. MAX.
	FLASH POINT >100 °F

Generator & Shipper Signature <u>Brenda M Barber</u>	Consignee Signature	Transporter's Signature <u>T Coen</u>
---	---------------------	--

GENERATOR CERTIFICATION: I hereby certify that I have personally examined and am familiar with the information submitted in this and all attached documents. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. To the best of my knowledge and ability, all known and suspected hazards have been disclosed, and I state the material has not been mixed with PCB's or hazardous waste as defined in 40CFR.261.

SHIPPER CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked, labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Building 45

36580

CONSOLIDATED SCRAP RESOURCES, INC.

717/843-0931
600 E. Princess Street
York, PA 17403

Non-Ferrous Facility
120 Hokes Mill Road
York, PA 17404

Date 7/14/10

Vendor YCP Code _____

OFFICE COPY

53980
37220
16760

lbs. Gross
lbs. Tare
lbs. Net

Commodity Description	
forching scrap	
COMM. CODE	1021

Cust. Ref. _____

Truck Customer

Harley

Receipt for disposal of
2 tanks + piping from
Harley-Davidson

ATTACHMENT C

Laboratory Analysis Reports



Certificate of Analysis

Project Name: Group 4 Petroleum	Workorder: 9855021
Purchase Order:	Workorder ID: Harley Davidson

Ms. Wendi Detter
YCP, Inc.
1550 Oak Road
P.O. Box 157
Dover, PA 17315

July 26, 2010

Dear Ms. Detter,

Enclosed are the analytical results for samples received by the laboratory on Wednesday, July 14, 2010

ALSI is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Denise Brooks (Project Coordinator) or Anna G Milliken (Laboratory Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALSI's NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

This laboratory report may not be reproduced, except in full, without the written approval of ALSI.

NOTE: ALSI has changed the report generation tool and while we have tried to retain the existing format, you will notice some changes in the laboratory report. Please feel free to contact ALSI in case you have any questions.

Analytical Laboratory Services, Inc.

CC: Mr. Robert Scott

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.


Anna G Milliken
Laboratory Manager



SAMPLE SUMMARY

Workorder 9855021 Harley Davidson

Discard Date: 08/09/2010

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9855021001	Composite all Groups	Solid	7/13/10 10:15	7/14/10 19:00	Customer
9855021002	West End Diesel Tank	Solid	7/13/10 10:19	7/14/10 19:00	Customer
9855021003	North Wall Gas Tank	Solid	7/13/10 15:15	7/14/10 19:00	Customer
9855021004	South Wall Gas Tank	Solid	7/13/10 15:25	7/14/10 19:00	Customer
9855021005	North End Gas Tank	Ground Water	7/13/10 15:05	7/14/10 19:00	Customer
9855021006	South End Gas Tank	Ground Water	7/13/10 15:07	7/14/10 19:00	Customer
9855021007	Under Gas Dispenser	Solid	7/14/10 08:30	7/14/10 19:00	Customer
9855021008	Gas Line	Solid	7/14/10 08:35	7/14/10 19:00	Customer
9855021009	Under Diesel Dispenser	Solid	7/14/10 09:00	7/14/10 19:00	Customer
9855021010	Diesel Line	Solid	7/14/10 09:10	7/14/10 19:00	Customer

Workorder Comments:

Notes

- Samples collected by ALSI personnel are done so in accordance with the procedures set forth in the ALSI Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.

Standard Acronyms/Flags

- J, B Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
- U Indicates that the analyte was Not Detected (ND)
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- RDL Reporting Detection Limit
- ND Not Detected - indicates that the analyte was Not Detected at the RDL
- Cntr Analysis was performed using this container
- RegLmt Regulatory Limit
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- %Rec Percent Recovery
- RPD Relative Percent Difference



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021001

Date Collected: 7/13/2010 10:15

Matrix: Solid

Sample ID: Composite all Groups

Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/kg	58.0	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
Ethylbenzene	ND		ug/kg	58.0	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
Isopropylbenzene	ND		ug/kg	58.0	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
Methyl t-Butyl Ether	ND		ug/kg	58.0	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
Naphthalene	ND		ug/kg	116	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
Toluene	ND		ug/kg	58.0	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
1,2,4-Trimethylbenzene	ND		ug/kg	58.0	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
1,3,5-Trimethylbenzene	ND		ug/kg	58.0	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	98.5		%	71-146	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
4-Bromofluorobenzene (S)	113		%	46-138	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
Dibromofluoromethane (S)	110		%	42-143	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
Toluene-d8 (S)	103		%	54-141	8260/5035	7/15/10	DD	7/19/10 19:16	DJB	B
WET CHEMISTRY										
Moisture	8.3		%	0.1	SM20-2540 G			7/16/10 01:35	LJF	A
Total Solids	91.7		%	0.1	SM20-2540 G			7/16/10 01:35	LJF	A

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021002

Date Collected: 7/13/2010 10:19

Matrix: Solid

Sample ID: West End Diesel Tank

Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	57.3	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
Ethylbenzene	ND		ug/kg	57.3	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
Isopropylbenzene	ND		ug/kg	57.3	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
Methyl t-Butyl Ether	ND		ug/kg	57.3	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
Naphthalene	ND		ug/kg	115	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
Toluene	ND		ug/kg	57.3	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
1,2,4-Trimethylbenzene	ND		ug/kg	57.3	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
1,3,5-Trimethylbenzene	ND		ug/kg	57.3	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	96.2		%	71-146	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
4-Bromofluorobenzene (S)	115		%	46-138	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
Dibromofluoromethane (S)	107		%	42-143	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
Toluene-d8 (S)	101		%	54-141	8260/5035	7/15/10 DD	7/19/10 19:43	DJB	B
WET CHEMISTRY									
Moisture	8.0		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	A
Total Solids	92.0		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	A

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021003

Date Collected: 7/13/2010 15:15

Matrix: Solid

Sample ID: North Wall Gas Tank

Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/kg	66.4	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Ethylbenzene	ND		ug/kg	66.4	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Isopropylbenzene	ND		ug/kg	66.4	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Methyl t-Butyl Ether	ND		ug/kg	66.4	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Naphthalene	ND		ug/kg	133	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Toluene	ND		ug/kg	66.4	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Total Xylenes	ND		ug/kg	199	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
1,2,4-Trimethylbenzene	ND		ug/kg	66.4	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
1,3,5-Trimethylbenzene	ND		ug/kg	66.4	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	91.7		%	71-146	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
4-Bromofluorobenzene (S)	110		%	46-138	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Dibromofluoromethane (S)	100		%	42-143	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
Toluene-d8 (S)	98.5		%	54-141	8260/5035	7/15/10	DD	7/19/10 20:09	DJB	A
WET CHEMISTRY										
Moisture	13.3		%	0.1	SM20-2540 G			7/16/10 01:35	LJF	B
Total Solids	86.7		%	0.1	SM20-2540 G			7/16/10 01:35	LJF	B

Sample Comments:

Anna G Milliken

Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021004

Date Collected: 7/13/2010 15:25

Matrix: Solid

Sample ID: South Wall Gas Tank

Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	58.4	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Ethylbenzene	ND		ug/kg	58.4	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Isopropylbenzene	ND		ug/kg	58.4	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Methyl t-Butyl Ether	ND		ug/kg	58.4	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Naphthalene	ND		ug/kg	117	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Toluene	ND		ug/kg	58.4	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Total Xylenes	ND		ug/kg	175	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
1,2,4-Trimethylbenzene	ND		ug/kg	58.4	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
1,3,5-Trimethylbenzene	ND		ug/kg	58.4	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	92.3		%	71-146	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
4-Bromofluorobenzene (S)	111		%	46-138	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Dibromofluoromethane (S)	99.4		%	42-143	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
Toluene-d8 (S)	102		%	54-141	8260/5035	7/15/10 DD	7/19/10 20:36	DJB	A
WET CHEMISTRY									
Moisture	14.2		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	B
Total Solids	85.8		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	B

Sample Comments:

Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021005 Date Collected: 7/13/2010 15:05 Matrix: Ground Water
Sample ID: North End Gas Tank Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	92.8		ug/L	1.0	SW846 8260B		7/20/10 20:09	DJB	A
Ethylbenzene	13.0		ug/L	1.0	SW846 8260B		7/20/10 20:09	DJB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B		7/20/10 20:09	DJB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B		7/20/10 20:09	DJB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B		7/20/10 20:09	DJB	A
Toluene	252		ug/L	5.0	SW846 8260B		7/23/10 14:37	MES	B
Total Xylenes	115		ug/L	3.0	SW846 8260B		7/20/10 20:09	DJB	A
1,2,4-Trimethylbenzene	2.7		ug/L	1.0	SW846 8260B		7/20/10 20:09	DJB	A
1,3,5-Trimethylbenzene	4.6		ug/L	1.0	SW846 8260B		7/20/10 20:09	DJB	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	100		%	62-133	SW846 8260B		7/20/10 20:09	DJB	A
4-Bromofluorobenzene (S)	88.3		%	79-114	SW846 8260B		7/20/10 20:09	DJB	A
Toluene-d8 (S)	116		%	76-127	SW846 8260B		7/20/10 20:09	DJB	A
Dibromofluoromethane (S)	101		%	78-116	SW846 8260B		7/20/10 20:09	DJB	A
1,2-Dichloroethane-d4 (S)	114		%	62-133	SW846 8260B		7/23/10 14:37	MES	B
4-Bromofluorobenzene (S)	89		%	79-114	SW846 8260B		7/23/10 14:37	MES	B
Dibromofluoromethane (S)	113		%	78-116	SW846 8260B		7/23/10 14:37	MES	B
Toluene-d8 (S)	109		%	76-127	SW846 8260B		7/23/10 14:37	MES	B

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021006

Date Collected: 7/13/2010 15:07

Matrix: Ground Water

Sample ID: South End Gas Tank

Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	91.4		ug/L	1.0	SW846 8260B		7/20/10 20:41	DJB	A
Ethylbenzene	12.4		ug/L	1.0	SW846 8260B		7/20/10 20:41	DJB	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B		7/20/10 20:41	DJB	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B		7/20/10 20:41	DJB	A
Naphthalene	ND		ug/L	2.0	SW846 8260B		7/20/10 20:41	DJB	A
Toluene	273		ug/L	5.0	SW846 8260B		7/23/10 15:10	MES	B
Total Xylenes	113		ug/L	3.0	SW846 8260B		7/20/10 20:41	DJB	A
1,2,4-Trimethylbenzene	2.6		ug/L	1.0	SW846 8260B		7/20/10 20:41	DJB	A
1,3,5-Trimethylbenzene	4.8		ug/L	1.0	SW846 8260B		7/20/10 20:41	DJB	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	101		%	62-133	SW846 8260B		7/20/10 20:41	DJB	A
4-Bromofluorobenzene (S)	91.4		%	79-114	SW846 8260B		7/20/10 20:41	DJB	A
Toluene-d8 (S)	112		%	76-127	SW846 8260B		7/20/10 20:41	DJB	A
Dibromofluoromethane (S)	102		%	78-116	SW846 8260B		7/20/10 20:41	DJB	A
1,2-Dichloroethane-d4 (S)	112		%	62-133	SW846 8260B		7/23/10 15:10	MES	B
4-Bromofluorobenzene (S)	91.7		%	79-114	SW846 8260B		7/23/10 15:10	MES	B
Toluene-d8 (S)	117		%	76-127	SW846 8260B		7/23/10 15:10	MES	B
Dibromofluoromethane (S)	109		%	78-116	SW846 8260B		7/23/10 15:10	MES	B

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021007

Date Collected: 7/14/2010 08:30

Matrix: Solid

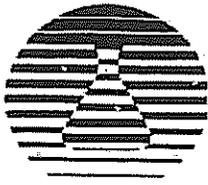
Sample ID: Under Gas Dispenser

Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	270	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Ethylbenzene	27300		ug/kg	270	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Isopropylbenzene	33400		ug/kg	270	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Methyl t-Butyl Ether	ND		ug/kg	270	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Naphthalene	43700		ug/kg	539	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Toluene	12500		ug/kg	270	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Total Xylenes	223000		ug/kg	8090	8260/5035	7/15/10 TMP	7/22/10 08:37	DD	A
1,2,4-Trimethylbenzene	417000		ug/kg	2700	8260/5035	7/15/10 TMP	7/22/10 08:37	DD	A
1,3,5-Trimethylbenzene	127000		ug/kg	2700	8260/5035	7/15/10 TMP	7/22/10 08:37	DD	A
Surrogate Recoveries									
	Results	Flag	Units	Limits	Method	Prepared By	Analyzed	By	Cntr
1,2-Dichloroethane-d4 (S)	97.2		%	71-146	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
4-Bromofluorobenzene (S)	112		%	46-138	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Toluene-d8 (S)	108		%	54-141	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
Dibromofluoromethane (S)	101		%	42-143	8260/5035	7/15/10 DD	7/19/10 21:03	DJB	A
1,2-Dichloroethane-d4 (S)	113		%	71-146	8260/5035	7/15/10 TMP	7/22/10 08:37	DD	A
4-Bromofluorobenzene (S)	1010	2	%	46-138	8260/5035	7/15/10 TMP	7/22/10 08:37	DD	A
Toluene-d8 (S)	114		%	54-141	8260/5035	7/15/10 TMP	7/22/10 08:37	DD	A
Dibromofluoromethane (S)	506	1	%	42-143	8260/5035	7/15/10 TMP	7/22/10 08:37	DD	A
WET CHEMISTRY									
Moisture	13.6		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	B
Total Solids	86.4		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	B

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021008 Date Collected: 7/14/2010 08:35 Matrix: Solid
Sample ID: Gas Line Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	48.6	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Ethylbenzene	ND		ug/kg	48.6	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Isopropylbenzene	ND		ug/kg	48.6	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Methyl t-Butyl Ether	ND		ug/kg	48.6	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Naphthalene	ND		ug/kg	97.2	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Toluene	ND		ug/kg	48.6	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Total Xylenes	ND		ug/kg	146	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
1,2,4-Trimethylbenzene	52.2		ug/kg	48.6	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
1,3,5-Trimethylbenzene	50.5		ug/kg	48.6	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	91.1		%	71-146	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
4-Bromofluorobenzene (S)	97.8		%	46-138	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Dibromofluoromethane (S)	101		%	42-143	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
Toluene-d8 (S)	100		%	54-141	8260/5035	7/15/10 DD	7/22/10 07:43	DD	A
WET CHEMISTRY									
Moisture	12.2		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	B
Total Solids	87.8		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	B

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021009 Date Collected: 7/14/2010 09:00 Matrix: Solid
Sample ID: Under Diesel Dispenser Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	54.3	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
Ethylbenzene	ND		ug/kg	54.3	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
Isopropylbenzene	ND		ug/kg	54.3	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
Methyl t-Butyl Ether	ND		ug/kg	54.3	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
Naphthalene	ND		ug/kg	109	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
Toluene	ND		ug/kg	54.3	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
1,2,4-Trimethylbenzene	ND		ug/kg	54.3	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
1,3,5-Trimethylbenzene	ND		ug/kg	54.3	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	89.5		%	71-146	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
4-Bromofluorobenzene (S)	89.1		%	46-138	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
Dibromofluoromethane (S)	95.8		%	42-143	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
Toluene-d8 (S)	98.4		%	54-141	8260/5035	7/15/10 DD	7/22/10 08:10	DD	B
WET CHEMISTRY									
Moisture	16.1		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	A
Total Solids	83.9		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	A

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder 9855021 Harley Davidson

Lab ID: 9855021010 Date Collected: 7/14/2010 09:10 Matrix: Solid
Sample ID: Diesel Line Date Received: 7/14/2010 19:00

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	52.8	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
Ethylbenzene	ND		ug/kg	52.8	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
Isopropylbenzene	ND		ug/kg	52.8	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
Methyl t-Butyl Ether	ND		ug/kg	52.8	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
Naphthalene	240		ug/kg	106	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
Toluene	ND		ug/kg	52.8	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
1,2,4-Trimethylbenzene	316		ug/kg	52.8	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
1,3,5-Trimethylbenzene	96.5		ug/kg	52.8	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	88.1		%	71-146	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
4-Bromofluorobenzene (S)	96.8		%	46-138	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
Dibromofluoromethane (S)	95.7		%	42-143	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
Toluene-d8 (S)	95.3		%	54-141	8260/5035	7/15/10 DD	7/22/10 09:04	DD	B
WET CHEMISTRY									
Moisture	18.7		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	A
Total Solids	81.3		%	0.1	SM20-2540 G		7/16/10 01:35	LJF	A

Sample Comments:

Anna G Milliken
Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS QUALIFIERS\FLAGS

Workorder 9855021 Harley Davidson

PARAMETER QUALIFIERS\FLAGS

- [1] The surrogate Dibromofluoromethane for method 8260/5035 was outside of control limits. The % Recovery was reported as 506 and the control limits were 42 to 143. This result was reported at a dilution of 2500.
- [2] The surrogate 4-Bromofluorobenzene for method 8260/5035 was outside of control limits. The % Recovery was reported as 1010 and the control limits were 46 to 138. This result was reported at a dilution of 2500.



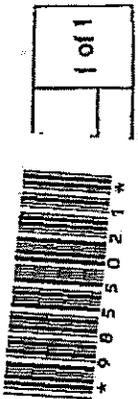
ANALYTICAL LABORATORY SERVICES, INC.

www.analyticallab.com

NELAP Accredited PA 22-293 NJ PA010



34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430



CHAIN OF CUSTODY REQUEST FOR ANALYSIS ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/ SAMPLER. INSTRUCTIONS ON THE BACK.

Analytical Laboratory Services, Inc. YORK DIVISION

Client Name: **YCP, Inc.**
 Address: **1550 Oak Lane Dover, PA 17315**
 Contact: **Stephanie Scott**
 Phone: **717-506-2000**
 Project Name: **Harley - Davidson**
 Bill To: **YCP, Inc.**

TAT: Normal-Standard TAT is 10-12 business days.
 Rush-Subject to ALSI approval and surcharges.

Date Required: Y N
 Email? Y N
 Fax? Y N

Approved By: **ssco@ycpinc.net**

Sample Description/Location	Sample Date	Time	Enter Number of Containers Per Sample or Field Results Below	ANALYSIS/METHOD REQUESTED
1 Eastern Diesel Tank #10	10/15/10	10:15	1	Diesel
2 Western Diesel Tank #	10/19	6:50	1	Unleaded Gasoline
3 North Hill Gas Tank	10/15	6:50	1	
4 South Hill Gas Tank	10/15	6:50	1	
5 North end Gas Tank	10/15	6:50	1	
6 Southern Gas Tank	10/15	6:50	3	Water
7 Water Gas Dispenser	10/15	6:50	3	bottles
8 Gas Line	10/15	6:50	1	
9 Western Diesel Dispenser	10/15	6:50	1	
10 Diesel Line	10/15	6:50	1	

Project Comments: **Sampled by Steven Hartman + Raymond Knauth**

Received By (initials/date/time): **Stephanie Scott 7/14/10 11:36**
 Reviewed By (initials/date/time): **Raymond Knauth 7/14/10 17:21**

Deliverables: Standard ICP-like USACE
 Reportable to PADEP? Yes No

State Samples Collected In: NY NJ PA NC

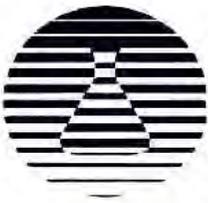
ALS Field Services: Pickup Labor Composite Sampling Rental Equipment Other

Ship. Carrier: UPS / FedEx / DHL / Other

Tracking #: **9506 71410**

Sampler/OC Comments: **No labels on vials - label on bags vials read in. Both like labels as above - GWT. No bag to identify. Number from GWT is 7-1590 (containing 3) from the area PA 7/14/10**

Receipt Information (completed by Receiving Lab):
 Cooler Temp: **7**
 Therm. ID: **101328244**
 Custody Seals Present?
 Received on lot?
 COC Labels Agree?
 Cont. in Good Cond.?
 Correct Containers?
 Correct Sample Volumes?
 Correct Preservation?



Certificate of Analysis

Project Name:	SOIL- PADEP UST LIST FOR	Workorder:	9875851
Purchase Order:		Workorder ID:	Blg 45 Gasoline UST Removal

Ms. Sharon Fisher
Harley-Davidson Motor Company
Environmental Engineering
1425 Eden Road
York, PA 17402

November 23, 2010

Dear Ms. Fisher,

Enclosed are the analytical results for samples received by the laboratory on Friday, November 12, 2010

ALSI is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Susan Baer (Project Coordinator) or Anna G Milliken (Laboratory Manager) at (717) 944-5541.

Please visit us at www.analyticallab.com for a listing of ALSI's NELAP accreditations and Scope of Work, as well as other links to Water Quality documentation on the internet.

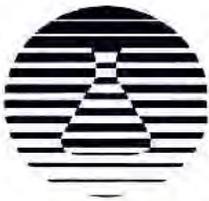
This laboratory report may not be reproduced, except in full, without the written approval of ALSI.

NOTE: ALSI has changed the report generation tool and while we have tried to retain the existing format, you will notice some changes in the laboratory report. Please feel free to contact ALSI in case you have any questions.

Analytical Laboratory Services, Inc.

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.


Anna G Milliken
Laboratory Manager



SAMPLE SUMMARY

Workorder: 9875851 Blg 45 Gasoline UST Removal

Discard Date: 12/07/2010

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
9875851001	HD-B45T-SB-001-12.5/13-0	Solid	11/12/10 08:45	11/12/10 11:50	Emily Wade
9875851002	HD-B45T-SB-002-16.9/17.4-0	Solid	11/12/10 09:40	11/12/10 11:50	Emily Wade
9875851003	HD-B45T-SB-003-16.9/17.4-0	Solid	11/12/10 09:45	11/12/10 11:50	Emily Wade
9875851004	Trip Blank 1	Ground Water	11/12/10 11:50	11/12/10 11:50	Emily Wade

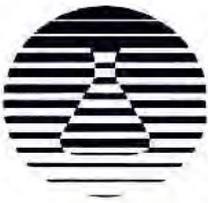
Workorder Comments:

Notes

- Samples collected by ALSI personnel are done so in accordance with the procedures set forth in the ALSI Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.

Standard Acronyms/Flags

- J, B Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
- U Indicates that the analyte was Not Detected (ND)
- N Indicates presumptive evidence of the presence of a compound
- MDL Method Detection Limit
- PQL Practical Quantitation Limit
- RDL Reporting Detection Limit
- ND Not Detected - indicates that the analyte was Not Detected at the RDL
- Cntr Analysis was performed using this container
- RegLmt Regulatory Limit
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- %Rec Percent Recovery
- RPD Relative Percent Difference



ANALYTICAL RESULTS

Workorder: 9875851 Blg 45 Gasoline UST Removal

Lab ID: **9875851001**

Date Collected: 11/12/2010 08:45

Matrix: Solid

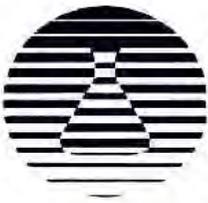
Sample ID: **HD-B45T-SB-001-12.5/13-0**

Date Received: 11/12/2010 11:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/kg	51.5	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Ethylbenzene	ND		ug/kg	51.5	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Isopropylbenzene	ND		ug/kg	51.5	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Methyl t-Butyl Ether	ND		ug/kg	51.5	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Naphthalene	ND		ug/kg	103	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Toluene	ND		ug/kg	51.5	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Total Xylenes	ND		ug/kg	155	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
1,2,4-Trimethylbenzene	ND		ug/kg	51.5	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
1,3,5-Trimethylbenzene	ND		ug/kg	51.5	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	87.4		%	71-146	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
4-Bromofluorobenzene (S)	95		%	46-138	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Dibromofluoromethane (S)	90.3		%	42-143	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
Toluene-d8 (S)	96		%	54-141	8260/5035	11/12/10	MES	11/16/10 12:03	MES	A
WET CHEMISTRY										
Moisture	19.5		%	0.1	SM20-2540 G			11/13/10 10:30	KAK	C
Total Solids	80.5		%	0.1	SM20-2540 G			11/13/10 10:30	KAK	C

Sample Comments:

Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

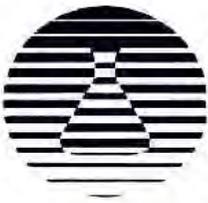
Workorder: 9875851 Blg 45 Gasoline UST Removal

Lab ID: **9875851002** Date Collected: 11/12/2010 09:40 Matrix: Solid
Sample ID: **HD-B45T-SB-002-16.9/17.4-0** Date Received: 11/12/2010 11:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/kg	44.5	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Ethylbenzene	ND		ug/kg	44.5	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Isopropylbenzene	ND		ug/kg	44.5	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Methyl t-Butyl Ether	ND		ug/kg	44.5	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Naphthalene	ND		ug/kg	89.0	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Toluene	ND		ug/kg	44.5	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Total Xylenes	ND		ug/kg	134	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
1,2,4-Trimethylbenzene	ND		ug/kg	44.5	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
1,3,5-Trimethylbenzene	ND		ug/kg	44.5	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	106		%	71-146	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
4-Bromofluorobenzene (S)	110		%	46-138	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Dibromofluoromethane (S)	112		%	42-143	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
Toluene-d8 (S)	118		%	54-141	8260/5035	11/12/10	MES	11/16/10 12:30	MES	A
WET CHEMISTRY										
Moisture	15.4		%	0.1	SM20-2540 G			11/13/10 10:30	KAK	C
Total Solids	84.6		%	0.1	SM20-2540 G			11/13/10 10:30	KAK	C

Sample Comments:

Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

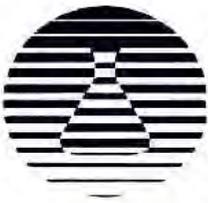
Workorder: 9875851 Blg 45 Gasoline UST Removal

Lab ID: **9875851003** Date Collected: 11/12/2010 09:45 Matrix: Solid
Sample ID: **HD-B45T-SB-003-16.9/17.4-0** Date Received: 11/12/2010 11:50

Parameters	Results	Flag	Units	RDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS										
Benzene	ND		ug/kg	47.1	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Ethylbenzene	ND		ug/kg	47.1	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Isopropylbenzene	ND		ug/kg	47.1	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Methyl t-Butyl Ether	ND		ug/kg	47.1	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Naphthalene	ND		ug/kg	94.2	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Toluene	ND		ug/kg	47.1	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Total Xylenes	ND		ug/kg	141	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
1,2,4-Trimethylbenzene	ND		ug/kg	47.1	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
1,3,5-Trimethylbenzene	ND		ug/kg	47.1	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared</i>	<i>By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	92.8		%	71-146	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
4-Bromofluorobenzene (S)	99.1		%	46-138	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Dibromofluoromethane (S)	103		%	42-143	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
Toluene-d8 (S)	94.6		%	54-141	8260/5035	11/12/10	MES	11/16/10 12:58	MES	A
WET CHEMISTRY										
Moisture	16.3		%	0.1	SM20-2540 G			11/13/10 10:30	KAK	C
Total Solids	83.7		%	0.1	SM20-2540 G			11/13/10 10:30	KAK	C

Sample Comments:

Anna G Milliken
Laboratory Manager



ANALYTICAL RESULTS

Workorder: 9875851 Blg 45 Gasoline UST Removal

Lab ID: **9875851004**
Sample ID: **Trip Blank 1**

Date Collected: 11/12/2010 11:50
Date Received: 11/12/2010 11:50

Matrix: Ground Water

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/L	1.0	SW846 8260B		11/22/10 18:44	TMP	A
Ethylbenzene	ND		ug/L	1.0	SW846 8260B		11/22/10 18:44	TMP	A
Isopropylbenzene	ND		ug/L	1.0	SW846 8260B		11/22/10 18:44	TMP	A
Methyl t-Butyl Ether	ND		ug/L	1.0	SW846 8260B		11/22/10 18:44	TMP	A
Naphthalene	ND		ug/L	2.0	SW846 8260B		11/22/10 18:44	TMP	A
Toluene	ND		ug/L	1.0	SW846 8260B		11/22/10 18:44	TMP	A
Total Xylenes	ND		ug/L	3.0	SW846 8260B		11/22/10 18:44	TMP	A
1,2,4-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B		11/22/10 18:44	TMP	A
1,3,5-Trimethylbenzene	ND		ug/L	1.0	SW846 8260B		11/22/10 18:44	TMP	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	94.8		%	62-133	SW846 8260B		11/22/10 18:44	TMP	A
4-Bromofluorobenzene (S)	93.4		%	79-114	SW846 8260B		11/22/10 18:44	TMP	A
Dibromofluoromethane (S)	89.1		%	78-116	SW846 8260B		11/22/10 18:44	TMP	A
Toluene-d8 (S)	96.2		%	76-127	SW846 8260B		11/22/10 18:44	TMP	A

Sample Comments:

Anna G Milliken
Laboratory Manager

APPENDIX D

Soil Boring Logs



LOG OF BORING HD-B45T-SB-001

(Page 1 of 1)

Former York Naval Ordnance Plant
 Building 45 UST Soil Borings
 1425 Eden Road, York, PA

Driller : SAIC
 Logged By : Emily Wade
 Drilling Method : Geoprobe 54-DT
 Drilling Diameter : 2"

Drilling Started : 11/12/2010
 Drilling Completed : 11/12/2010

SAIC/Benham Project #
 4501020014 / 6000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	Geoprobe rod has solid drive point to push downward through the gravel fill material of the UST to 8' BGS. No Recovery					0	
4						4	Soil samples collected for laboratory analysis from 12.5' - 13.0' BGS.. Soil samples analyzed by Analytical Laboratory Services, Inc. Soil Boring backfilled to grade with cuttings and hole plug. BGS-below ground surface.
8	No recovery.		0.0/4.0'			8	
12	GP - GRAVEL from UST bedding, wet CL, silty clay, 10YR 4/4, dark yellowish brown, medium plasticity, medium density CL, silty clay, 10YR 4/6, dark yellowish brown, low plasticity, medium density		1.9/4.0'	0.0 0.0 0.0	HD-B45T-SB-001-12.5/13.0-0	12	
16	LS, Limestone Fragments, angular Refusal at 15.9' BGS					16	
20						20	



LOG OF BORING HD-B45T-SB-002

(Page 1 of 1)

Former York Naval Ordnance Plant
 Building 45 UST Soil Borings
 1425 Eden Road, York, PA

Driller : SAIC
 Logged By : Emily Wade
 Drilling Method : Geoprobe 54-DT
 Drilling Diameter : 2"

Drilling Started : 11/12/2010
 Drilling Completed : 11/12/2010

SAIC/Benham Project #
 4501020014 / 6000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	Geoprobe rod has solid drive point to push downward through the gravel fill material of the UST to 8' BGS. No Recovery					0	Soil samples collected for laboratory analysis from 16.9' - 17.4' BGS.. Soil samples analyzed by Analytical Laboratory Services, Inc. Soil Boring backfilled to grade with cuttings and hole plug.
4						4	BGS-below ground surface.
8	GW - GRAVEL from UST bedding			0.0		8	
	GW - GRAVEL from UST bedding, wet No Recovery		1.1'/4.0'	0.0			
12	GW - GRAVEL from UST bedding, wet			0.0		12	
	No Recovery		1.4'/4.0'	0.0			
16	GW - GRAVEL from UST bedding, wet			0.0		16	
	SC, sandy clay, 10YR 5/6, yellowish brown, moist, less than 7% angular quartzite gravel		1.7'/4.0'	0.0	HD-B45T-SB-002-16.9/17.4-0		
	SC, sandy clay, 10YR 5/4, yellowish brown, semi dense, low plasticity			0.0			
20	End of Boring 20' BGS.					20	



LOG OF BORING HD-B45T-SB-003

(Page 1 of 1)

Former York Naval Ordnance Plant
 Building 45 UST Soil Borings
 1425 Eden Road, York, PA

Driller : SAIC
 Logged By : Emily Wade
 Drilling Method : Geoprobe 54-DT
 Drilling Diameter : 2"

Drilling Started : 11/12/2010
 Drilling Completed : 11/12/2010

SAIC/Benham Project #
 4501020014 / 6000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	Geoprobe rod has solid drive point to push downward through the gravel fill material of the UST to 8' BGS. No Recovery					0	
4						4	Soil samples collected for laboratory analysis from 16.9' - 17.4' BGS.. Soil samples analyzed by Analytical Laboratory Services, Inc. Soil Boring backfilled to grade with cuttings and hole plug.
8	No Recovery		0.7'/4.0'	0.0		8	BGS-below ground surface.
12	GW - GRAVEL from UST bedding, wet No Recovery		0.4'/4.0'	0.0		12	
16	GW - GRAVEL from UST bedding, wet CL, silty clay, 2.5YR 6/1, gray, medium plasticity, semi dense, less than 10% angular quartzite fragments, damp CL, silty clay, 2.5YR 6/2, light brownish gray, medium plasticity, semi dense. No Recovery	 	1.7'/4.0'	0.0 0.0 0.0	HD-B45T-SB-003-16.9/17.4-0	16	
20	End of Boring 20' BGS.					20	



LOG OF BORING HD-B45T-SB-004

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Former York Naval Ordnance Plant
Building 45 UST Soil Borings
1425 Eden Road, York, PA

Driller : SAIC
Logged By : Matthew J. Logan
Drilling Method : Geoprobe 6620 DT
Drilling Diameter : 2"

Drilling Started : 05/04/2011
Drilling Completed : 05/04/2011

SAIC Project #
2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	ML - SANDY SILT WITH GRAVEL, brownish yellow (10YR 6/8), very soft, moist, fine grained sand, fine grained, angular gravel. No Recovery.		1.2'/4.0'	0.0 0.0		0	Soil samples collected for laboratory analysis from 10.0'-10.5' and 15.0'-15.5' BGS. Soil samples analyzed by Test America Pittsburgh.
4	ML - SANDY SILT WITH GRAVEL, brownish yellow (10YR 6/8), very soft, moist, fine grained sand, fine grained, angular gravel. FILL, limestone sub-base and asphalt. SANDY CLAY, yellowish brown (10YR 5/6), softy, moist, limestone rock fragments throughout. No Recovery.		2.7'/4.0'	0.0 0.0 0.0		4	Soil Boring backfilled to grade with cuttings and hole plug. BGS-below ground surface.
8	SANDY CLAY, yellowish brown (10YR 5/6), softy, moist, limestone rock fragments throughout. ML - SILT WITH SAND, olive yellow (2.5Y 6/6), moist, firm.		4.0'/4.0'	0.0 0.0	HD-B45T-SB-004-10.0/10.5-0	8	
12	ML - SILT WITH SAND, yellowish brown (10YR 5/8), moist, firm. GM - SILTY GRAVEL WITH SAND, brownish yellow (10YR 6/6), very soft, wet.		4.0'/4.0'	0.0 0.0		12	
16	ML - SILT WITH SAND, yellowish brown (10YR 5/6), soft, moist, quartz gravel. SM - SILTY SAND WITH GRAVEL, olive yellow (2.5Y 6/6), very soft, wet. No Recovery.		4.0'/4.0'	0.0 0.0 0.0	HD-B45T-SB-004-15.0/15.5-0	16	
20	END OF BORING AT 20' BGS.					20	



LOG OF BORING HD-B45T-SB-005

(Page 1 of 1)

Former York Naval Ordnance Plant
Building 45 UST Soil Borings
1425 Eden Road, York, PA

Driller : SAIC
Logged By : Matthew J. Logan
Drilling Method : Geoprobe 6620 DT
Drilling Diameter : 2"

Drilling Started : 05/04/2011
Drilling Completed : 05/04/2011

SAIC Project #
2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	SM - SILTY SAND WITH GRAVEL, yellowish brown (10YR 4/4), soft, moist, medium grained, angular limestone gravel.			0.0		0	Soil samples collected for laboratory analysis from 11.1'-11.6', 12.0'-12.5' and 15.2'-15.7' BGS. Soil samples analyzed by Test America Pittsburgh. Soil Boring backfilled to grade with cuttings and hole plug. BGS-below ground surface.
	SM - SILTY SAND, yellowish brown (10YR 5/8), soft, moist.		2.5/4.0'	0.0			
	No Recovery.			0.0			
4	FILL, limestone gravel.			0.0		4	
	ML - SILT, brownish yellow, (10YR 6/6), firm, moist.		4.0/4.0'	0.0			
				0.0			
8	ML - SILT WITH GRAVEL, yellowish brown (10YR 5/6), soft, moist, coarse, angular gravel.			0.0		8	
	ML - SILT WITH SAND, brownish yellow (10YR 6/8), firm, moist.		3.6/4.0'	112			
				109	HD-B45T-SB-005-11.1/11.6-0		
	No Recovery.			1,160			
12	ML - SILT, brownish yellow (10YR 6/6) soft, moist.			5.0		12	
					HD-B45T-SB-005-12.0/12.5-0		
	LS - Limestone fragments.		3.7/3.7'	122			
	ML - SILT WITH SAND, yellowish brown (10YR 6/8), hard, moist.			17.5	HD-B45T-SB-005-15.2/15.7-0		
				11.2			
16	REFUSAL AT 15.7' BGS.					16	
20						20	



LOG OF BORING HD-B45T-SB-006

(Page 1 of 1)

Former York Naval Ordnance Plant
Building 45 UST Soil Borings
1425 Eden Road, York, PA

Driller : SAIC
Logged By : Matthew J. Logan
Drilling Method : Geoprobe 6620 DT
Drilling Diameter : 2"

Drilling Started : 05/04/2011
Drilling Completed : 05/04/2011

SAIC Project #
2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	ML - SILT, brown (10YR 5/3), moist, soft.					0	
	FILL, limestone gravel, asphalt, red brick fragments.		3.4'/4.0'	0.0			Soil samples collected for laboratory analysis from 7.0'-7.5' and 12.0'-12.5' BGS.
	ML - SILT WITH SAND, brownish yellow (10YR 6/8), moist, soft.			0.0			Soil samples analyzed by Test America Pittsburgh.
4	No Recovery.			0.0		4	Soil Boring backfilled to grade with cuttings and hole plug.
	ML - SILT WITH SAND, brownish yellow (10YR 6/8), moist, soft.			0.0			BGS-below ground surface.
	ML - SILT, light yellowish brown (2.5Y 6/4), moist, firm.		4.0'/4.0'	0.0			
				0.0	HD-B45T-SB-006-7.0/7.5-0		
8	ML - SILT WITH SAND, light gray (2.5Y 7/1), loose, moist, fine grained sand.			0.0		8	
	SILT - yellow (10YR 7/8), hard, moist, limestone fragments.		4.0'/4.0'	0.0			
	ML - SILT WITH SAND, light gray (2.5Y 7/1), firm, moist, fine grained sand.			0.0			
12	ML - SILT WITH GRAVEL, yellowish brown (10YR 5/4), fine grained, angular gravel, wet.			0.0		12	
	ML - SILT WITH SAND, light gray (10YR 7/2), firm, moist, quartzite fragments.		3.1'/4.0'	0.0			
	No Recovery.			0.5			
16	END OF BORING AT 16.0' BGS.			1.8		16	
20						20	



LOG OF BORING HD-B45T-SB-007

(Page 1 of 1)

Former York Naval Ordnance Plant
Building 45 UST Soil Borings
1425 Eden Road, York, PA

Driller : SAIC
Logged By : Matthew J. Logan
Drilling Method : Geoprobe 6620 DT
Drilling Diameter : 2"

Drilling Started : 05/04/2011
Drilling Completed : 05/04/2011

SAIC Project #
2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	ML - SILT, yellowish brown (10YR 5/4), moist, very soft, tree roots.			0.0		0	<p>Soil samples collected for laboratory analysis from 7.0'-7.5' and 11.5'-12.0' BGS.</p> <p>Soil samples analyzed by Test America Pittsburgh.</p> <p>Soil Boring backfilled to grade with cuttings and hole plug.</p> <p>BGS-below ground surface.</p>
	ML - SILT WITH SAND, brownish yellow (10YR 6/6), moist, very soft.		3.2'/4.0'	0.0			
	No Recovery.			0.0			
4	ML - SILT WITH SAND, brownish yellow (10YR 6/6), moist, very soft.			0.0		4	
	LIMESTONE FRAGMENTS.			0.0			
	ML - SILT, light olive brown (2.5Y 5/4), moist, hard.		3.2'/4.0'	0.0			
	ML - SANDY SILT WITH GRAVEL, brownish yellow (10YR 6/8), moist, soft, quartz gravel.			0.0	HD-B45T-SB-007-7.0/7.5-0		
8	No Recovery.			0.0		8	
	ML - SANDY SILT, brownish yellow (10YR 6/8), moist, very soft.			0.0			
	ML - SANDY SILT WITH GRAVEL, light olive brown (2.5Y 5/6), moist, firm, quartz gravel.		4.0'/4.0'	0.0			
	ML - SILT WITH GRAVEL, olive yellow (2.5Y 6/6), very soft, wet.			0.0	HD-B45T-SB-007-11.5/12.0-0	12	
	GP - GRAVEL WITH SAND, quartz gravel with medium grained, angular sand, wet.		3.6'/4.0'	0.0			
	No Recovery.			0.0			
16	END OF BORING AT 16' BGS.			0.0		16	
20						20	



LOG OF BORING HD-B45T-SB-008

(Page 1 of 1)

Former York Naval Ordnance Plant
Building 45 UST Soil Borings
1425 Eden Road, York, PA

Driller : SAIC
Logged By : Matthew J. Logan
Drilling Method : Geoprobe 6620 DT
Drilling Diameter : 2"

Drilling Started : 05/04/2011
Drilling Completed : 05/04/2011

SAIC Project #
2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	GP - GRAVEL, medium grained, angular gravel, wet.			6.9		0	Soil samples collected for laboratory analysis from 5.5'-6.0' and 10.3'-10.8' BGS. Soil samples analyzed by Test America Pittsburgh. Soil Boring backfilled to grade with cuttings and hole plug. BGS-below ground surface.
	SP - SAND, gray (2.5Y 5/1), loose, moist, fine grained sand.			435			
	No Recovery.		1.9'/4.0'				
4	ML - SILT WITH quartz gravel, brownish yellow (10YR 6/6), firm, dry.			737		4	
			3.4'/4.0'	511	HD-B45T-SB-008-5.5/6.0-0		
				1,054			
	No Recovery.			256			
				245			
8	ML - SILT WITH quartz gravel, brownish yellow (10YR 6/6), firm, dry.			110		8	
			2.8'/4.0'	128			
	CL - CLAY, yellow (10YR 7/8), firm, dry.			27.0	HD-B45T-SB-008-10.3/10.8-0		
	No Recovery.			15.7			
12	END OF BORING AT 12.0' BGS. WATER TABLE.					12	
16						16	



LOG OF BORING HD-B45T-SB-009

(Page 1 of 1)

Former York Naval Ordnance Plant
Building 45 UST Soil Borings
1425 Eden Road, York, PA

Driller : SAIC
Logged By : Matthew J. Logan
Drilling Method : Geoprobe 6620 DT
Drilling Diameter : 2"

Drilling Started : 05/04/2011
Drilling Completed : 05/04/2011

SAIC Project #
2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES		
0	SM - SILTY SAND, very dark grayish brown, (10YR 3/2), moist, loose, trace organic material.		3.1'/4.0'	9.8	HD-B45T-SB-009-7.5/8.0-0	0	<p>Soil samples collected for laboratory analysis from 7.5'-8.0' and 15.3'-15.8' BGS.</p> <p>Soil samples analyzed by Test America Pittsburgh.</p> <p>Soil Boring backfilled to grade with cuttings and hole plug.</p> <p>BGS-below ground surface.</p>		
	ML - SILT WITH SAND, brownish yellow (10YR 6/8), moist, very soft silt, loose sand.			1.8					
	No Recovery.			1.2					
4	ML - SILT, olive yellow (2.5Y 6/6), moist, very soft.		4.0'/4.0'	5.1		HD-B45T-SB-009-7.5/8.0-0		4	
	ML - SILT, light olive brown (2.5Y 5/6), moist, firm.			4.2					
	ML - SILT, light olive brown (2.5Y 5/6), moist, firm.			0.9					
8	ML - SILT, brownish yellow (10YR 6/6), moist, firm.		4.0'/4.0'	0.8				HD-B45T-SB-009-7.5/8.0-0	8
	ML - SILT, brownish yellow (10YR 6/6), moist, firm.			0.5					
	ML - SILT, brownish yellow (10YR 6/6), moist, firm.			0.6					
	SM - SILTY SAND WITH GRAVEL, brownish yellow (10YR 6/6), moist, firm, fine grained sand, fine to medium grained, angular gravel.		4.0'/4.0'	1.3					HD-B45T-SB-009-7.5/8.0-0
	SM - SILTY SAND WITH GRAVEL, brownish yellow (10YR 6/6), moist, firm, fine grained sand, fine to medium grained, angular gravel.			0.3					
	SM - SILTY SAND WITH GRAVEL, brownish yellow (10YR 6/6), moist, firm, fine grained sand, fine to medium grained, angular gravel.			0.5					
12	ML - SILT WITH SAND AND GRAVEL, brownish yellow (10YR 6/6), moist, firm, fine grained sand, fine grained, angular gravel.		3.4'/3.8'	0.2	HD-B45T-SB-009-15.3/15.8-0		12		
	ML - SILT WITH SAND AND GRAVEL, brownish yellow (10YR 6/6), moist, firm, fine grained sand, fine grained, angular gravel.			0.5					
	ML - SILT WITH SAND AND GRAVEL, brownish yellow (10YR 6/6), moist, firm, fine grained sand, fine grained, angular gravel.			0.1					
	No Recovery.		3.4'/3.8'	0.6		HD-B45T-SB-009-15.3/15.8-0			
	No Recovery.			0.1					
16	REFUSAL AT 15.8' BGS.							16	



LOG OF BORING HD-B45T-SB-010

(Page 1 of 1)

Former York Naval Ordnance Plant
Building 45 UST Soil Borings
1425 Eden Road, York, PA

Driller : SAIC
Logged By : Matthew J. Logan
Drilling Method : Geoprobe 6620 DT
Drilling Diameter : 2"

Drilling Started : 05/04/2011
Drilling Completed : 05/04/2011

SAIC Project #
2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	ML - SILT, yellowish brown, (10YR 5/4), moist, very soft.			0.2		0	<p>Soil samples collected for laboratory analysis from 7.5'-8.0' and 15.0'-15.5' BGS.</p> <p>Soil samples analyzed by Test America Pittsburgh.</p> <p>Soil Boring backfilled to grade with cuttings and hole plug.</p> <p>BGS-below ground surface.</p>
	CL - SANDY CLAY, yellowish brown (10YR 5/8), moist, firm, low plasticity.		3.3'/4.0'	0.2			
	No Recovery.			0.1			
4	CL - CLAY, yellowish brown (10YR 5/8), moist, soft, medium plasticity.			0.2		4	
				0.1			
	ML - SANDY SILT WITH GRAVEL, light olive brown (2.5Y 5/6), moist, firm, fine grained, angular gravel.		4.0'/4.0'	0.3			
				0.3	HD-B45T-SB-010-7.5/8.0-0		
8	SP - SAND, gray (2.5Y 6/1), moist, loose, fine grained.			0.2		8	
				0.1			
	ML - SANDY SILT WITH GRAVEL, olive yellow (2.5Y 6/6), moist, soft, fine grained, angular gravel.		4.0'/4.0'	0.2			
				0.4			
12	CL - CLAY, reddish yellow (7.5YR 6/8), moist, soft, medium plasticity.			0.1		12	
				0.1			
	ML - SILT WITH SAND, olive yellow (2.5Y 6/8), moist, soft, fine grained sand.		3.5'/3.5'	0.1			
				0.1	HD-B45T-SB-010-15.0/15.5-0		
				0.2			
16	REFUSAL AT 15.5' BGS.					16	



LOG OF BORING HD-B45T-SB-011

(Page 1 of 1)

Former York Naval Ordnance Plant
 Building 45 UST Soil Borings
 1425 Eden Road, York, PA

Driller : SAIC
 Logged By : Matthew J. Logan
 Drilling Method : Geoprobe 6620 DT
 Drilling Diameter : 2"

Drilling Started : 05/04/2011
 Drilling Completed : 05/04/2011

SAIC Project #
 2603100044 / 2000 / 100

Depth in Feet	DESCRIPTION	GRAPHIC	RECOVERY ft/ft	PID Bkgd=0.0PPM	SOIL SAMPLE	Depth in Feet	NOTES
0	ML - SILT, brownish yellow (10YR 6/6), moist, firm.		2.4'/4.0'	0.0		0	Soil samples collected for laboratory analysis from 5.5'-6.0' and 9.3'-9.8' BGS. Soil samples analyzed by Test America Pittsburgh. Soil Boring backfilled to grade with cuttings and hole plug. BGS-below ground surface.
	GM - SILTY GRAVEL, olive yellow (2.5Y 6/8), moist, loose, medium grained, angular gravel. No Recovery.			0.1			
				0.3			
4	GM - SILTY GRAVEL, olive yellow (2.5Y 6/8), moist, loose, medium grained, angular gravel.		3.1'/4.0'	0.1	HD-B45T-SB-011-5.5/6.0-0	4	
	ML - SILT WITH SAND, olive yellow (2.5Y 6/6), moist, hard. No Recovery.			0.0			
8	ML - SILT WITH SAND, reddish yellow (7.5YR 6/8), wet, very soft.			0.0	HD-B45T-SB-011-9.3/9.8-0	8	
	No Recovery.		1.8'/4.0'	0.0			
12	END OF BORING AT 12' BGS.					12	
16						16	

APPENDIX E

USTIF Eligibility Letter - November 23, 2011



November 23, 2011

VIA CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Sharon Fisher, Environmental Manager
Harley Davidson Motor Company
1425 Eden Road
York, PA 17402

RE: Claimant : Harley Davidson Motor Co.
Loss Location : Harley Davidson Motor Co. Operations
1425 Eden Road
York, PA 17402
USTIF Claim Number : 2010-0106(M)
Reported Date of Discovery : July 29, 2010

Dear Ms. Fisher:

We have completed our investigation for the Pennsylvania Underground Storage Tank Indemnification Fund. We have determined that your claim is eligible for funding of corrective action costs, subject to a deductible of \$5,000.00. Please be advised that USTIF's determination of eligibility and any subsequent payment(s) related to your claim is subject to a complete reservation of rights. If during the remediation of your claim, the criteria governing the determination of the eligibility of your claim are modified by change(s) in the statute, regulations or by operation of law, the Fund reserves the right to reevaluate, rescind or modify its determination of the eligibility of your claim. Nothing done in the review or payment of your claim shall be deemed a waiver of any right of USTIF to decline coverage for the release or to refuse to indemnify Harley Davidson Motor Company for any corrective action cost nor shall it be used as evidence for coverage under the Storage Tank and Spill Prevention Act in the event of a change in the law in this or future claim(s). USTIF reserves the right to withdraw from the payment of this claim without further notice if it is subsequently determined that this claim or request for payment of corrective action costs is not eligible under the Storage Tank and Spill Prevention Act and the regulations controlling USTIF. USTIF similarly reserves the right to seek a declaration of its rights in any appropriate administrative proceeding or in any court of competent jurisdiction. Waiving none, but on the contrary reserving to USTIF all of its rights and defenses under the Storage Tank and Spill Prevention Act and at law.

Before we can consider recommending any invoice for payment, we will need a Site Characterization Work Plan and associated cost estimate ("Work Plan") from your consultant. The Work Plan must be in writing and follow the instructions as outlined in USTIF Bulletin #6 located on the Fund's website. Invoices for work performed as part of an approved remedial action plan will not be considered for payment until the above mentioned Work Plan is received by ICF International ("ICF"). Please forward your consultant's Work Plan and all original invoices for corrective action costs to ICF at the address listed on this letterhead. Be sure to identify the invoices with Harley Davidson Motor Opr, and Fund Claim Number 2010-106. Reasonable and necessary corrective action costs that exceed your \$5,000.00 deductible will be reimbursed by the Fund subject to your limit of liability. All original invoices are required to determine if and when the deductible is reached. The Fund strongly suggests that you obtain competitive bids to ensure that the work to be done is both necessary and reasonable with respect to cost.

Ms. Sharon Fisher,
Environmental Manager
November 23, 2011
Page 2

Invoices must be fully documented with time sheets for personnel and equipment, brief statements of work done, purchase receipts or other cost documentation for expendable supplies, subcontractor invoices and for laboratory analyses, if any, a list of tests performed with costs and results. Each invoice should include a beginning and end date for the covered time period. In addition, rate schedules of and contracts with corrective action providers must be supplied. You must also indicate with your submittals that the enclosed invoices are satisfactory for deductible credit or payment by the Fund.

Underground storage tank owners/operators and consulting companies receiving payments directly from USTIF are required to have a vendor number. A vendor number may be obtained by completing the online Non-Procurement Vendor Registration Form accessed through the Non-Procurement Registration Form link at <http://www.vendorregistration.state.pa.us> and faxing a completed IRS W9 form. A link to the W9 form and faxing instructions are included in the registration form. Questions about the vendor registration process should be directed to the Vendor Data Management Unit (VDMU) at 717-346-2676 or 1-877-435-7363. Upon assignment of a vendor number, VDMU will contact the individual indicated on your vendor registration form with the assigned vendor number. If you do not have access to the internet, please contact VDMU for instructions.

We look forward to working with you to bring this incident to a satisfactory conclusion. We strongly suggest you provide a copy of this letter to your consultant so they understand the aforementioned procedures. This will eliminate any unnecessary delays in the processing of your claim. If you have any questions, please contact me at the address or phone number indicated on the letterhead.

Respectfully,



Bethany Smith
Claims Investigator

cc: Marion MacDonald
PAUSTIF
PADEP Southcentral Regional Office
Robin Yerger
Facility #67-00823



4000 Vine Street
Middletown, PA 17057

CERTIFIED MAILTM



7008 3230 0000 5419 3940



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17402

U.S. POSTAGE
PAID
HARRISBURG, PA
NOV 23 11
AMOUNT

\$5.59
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Ms. Sharon Fisher, Environmental Manager
Harley Davidson Motor Company
1425 Eden Road
York, PA 17402

1740231559 0098



APPENDIX F

Soil Sample Analytical Reports

ANALYTICAL REPORT

PROJECT NO. SAIC HD

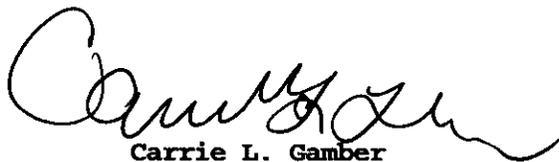
SAIC Harley Davidson

Lot #: C1E050472

Rodney Myers

SAIC
6310 Allentown Blvd
Harrisburg, PA 17112

TESTAMERICA LABORATORIES, INC.



Carrie L. Gamber
Project Manager

May 23, 2011

Analytical Report Cover Page	1
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There are 588 pages in this document.



NELAC REPORTING:

At the time of analysis the laboratory was in compliance with the current NELAC standards and held accreditation for all analyses performed unless noted by a qualifier. The labs accreditation numbers are listed below. The format and contents of the report meets all applicable NELAC standards except as noted in the narrative and shall not be reproduced except in full, without the written approval of the laboratory. The table below presents a summary of the certifications held by TestAmerica Pittsburgh. Our primary accreditation authority for the Non-potable water and Solid & Hazardous waste programs is Pennsylvania DEP. A more detailed parameter list is available upon request. Please ask your project manager for this information when required.

Certifying State/Program	Certificate #	Program Types	TestAmerica
DoD ELAP	ADE-1442	WW HW	X
US Dept of Agriculture Arkansas	(#P330-10-00139) (#88-0690)	Foreign Soil Import Permit	X
California – NELAC	04224CA	WW HW	X X
Connecticut	(#PH-0688)	WW HW	X X
Florida – NELAC	(#E871008)	WW HW	X X
Illinois – NELAC	(#002602)	WW HW	X X
Kansas – NELAC	(#E-10350)	WW HW	X X
Louisiana – NELAC	(#04041)	WW HW	X X
New Hampshire – NELAC	(#203011)	WW --	X --
New Jersey – NELAC	(PA-005)	WW HW	X X
New York – NELAC	(#11182)	WW HW	X X
North Carolina	(#434)	WW HW	X X
Pennsylvania - NELAC	(#02-00416)	WW HW	X X
South Carolina	(#89014002)	WW HW	X X
Utah – NELAC	(STLP)	WW HW	X X
West Virginia	(#142)	WW HW	X X
Wisconsin	998027800	WW HW	X X

The codes utilized for program types are described below:

- HW Hazardous Waste certification
- WW Non-potable Water and/or Wastewater certification
- X Laboratory has some form of certification under the specific program. Many states certify laboratories for specific parameters or tests within a category. The information in the table indicates the lab is certified in a general category of testing. Please contact the laboratory if parameter specific certification information is required.

Updated: 05/19/10 N:\Reporting\NELAC NARRATIVE Pittsburgh_Updated 051910.doc

CASE NARRATIVE

SAIC
Harley Davidson

Lot# C1E050472

Sample Receiving:

TestAmerica's Pittsburgh laboratory received samples for analysis on May 5, 2011. The cooler was received within the proper temperature range.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

GC/MS Volatiles:

Due to the concentration of target compounds detected, several samples were analyzed as medium level dilutions.

All non-CCC compounds that have >15% RSD were evaluated to see if a better curve could be drawn using a quadratic curve. All compounds <30% RSD will use an average response factor curve if no visible improvement is accomplished using a quadratic curve. A quadratic curve will be used for a compound where it is determined to be the "best-fit" evaluation.

Several continuing calibrations had the %D > 25%; however the compounds were within expected performance range.

General Chemistry:

There were no problems associated with the analysis.

METHODS SUMMARY

C1E050472

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Total Residue as Percent Solids	SM20 2540G	
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B
Volatile Organics by GC/MS	SW846 8260B	SW846 5035

References:

- SM20 "STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER", 20TH EDITION."
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C1E050472

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MHX0T	001	HD-B45T-SB-004-10.0/10.5-0	05/04/11	09:15
MHX0W	002	HD-B45T-SB-004-15.0/15.5-0	05/04/11	09:30
MHX00	003	HD-B45T-SB-005-11.1/11.6-0	05/04/11	10:20
MHX03	004	HD-B45T-SB-005-12.0/12.5-0	05/04/11	10:35
MHX04	005	HD-B45T-SB-005-15.2/15.7-0	05/04/11	10:45
MHX05	006	HD-B45T-SB-006-7.0/7.5-0	05/04/11	11:35
MHX07	007	HD-B45T-SB-006-12.0/12.5-0	05/04/11	11:45
MHX08	008	HD-B45T-SB-007-7.0/7.5-0	05/04/11	12:10
MHX09	009	HD-B45T-SB-007-11.5/12.0-0	05/04/11	12:20
MHX1C	010	HD-B45T-SB-008-5.5/6.0-0	05/04/11	12:50
MHX1F	011	HD-B45T-SB-008-10.3/10.8-0	05/04/11	12:55
MHX1G	012	HD-B45T-SB-009-7.5/8.0-0	05/04/11	13:55
MHX1H	013	HD-B45T-SB-009-15.3/15.8-0	05/04/11	14:00
MHX1K	014	HD-B45T-SB-010-7.5/8.0-0	05/04/11	14:30
MHX1L	015	HD-B45T-SB-010-15.0/15.5-0	05/04/11	14:40
MHX1M	016	HD-B45T-SB-011-5.5/6.0-0	05/04/11	15:10
MHX1P	017	HD-B45T-SB-011-9.3/9.8-0	05/04/11	15:20
MHX1Q	018	TRIP BLANK 1	05/04/11	15:30

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Pittsburgh
Cooler Receipt Form

Client: SAIC Project: _____ Quote: 67500
 Cooler Rec'd & Opened for Temp. Check on: 5-5-11
 Coolers Opened and Unpacked on: 5-5-11 By: [Signature]
 (Signature)
 TestAmerica Pittsburgh Lot Number: C1E050472

- | | Yes | No | NA |
|--|-------------------------------------|-------------------------------------|--------------------------|
| 1. Were custody seals on the outside of the cooler? _____
If YES, how many and where? Quantity <u>2</u> Location <u>F, B</u>
Were signatures and date correct? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Were custody papers included inside the cooler? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Were custody papers properly filled out (ink, signed, match labels)? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Was the sampler's name listed on the custody papers? _____ | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Did you sign the custody papers in the appropriate place? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Was shippers packing slip attached to this form? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Were packing materials used? _____
If YES, what type? <u>Bubble</u> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Were the samples received within the acceptable temperature range? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Was a temperature blank present inside the cooler? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Were the samples appropriately preserved? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Were all bottles sealed in separate plastic bags? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Did all bottles arrive in good condition (unbroken)? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Were all bottle labels complete (sample ID, preservatives, etc.)? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. Did all bottle labels and/or tags agree with custody papers? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Were correct bottles used for tests indicated? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Were all VOA vials checked for the presence of air bubbles? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Was a sufficient amount of sample sent in each bottle? _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Samples received by <u>(FEDEX)</u> UPS CLIENT DROP-OFF OTHER DHL US CARGO | | | |

Explain any discrepancies: _____

Level 2 Review

Was contacted on _____ by _____ to resolve discrepancies.

DATA SUMMARY PACKAGE

GC/MS VOLATILE SUMMARY

Science Applications International Corp

Client Sample ID: HD-B45T-SB-004-10.0/10.5-0

GC/MS Volatiles

Lot-Sample #....: C1E050472-001	Work Order #....: MHX0T1AA	Matrix.....: SOLID
Date Sampled....: 05/04/11	Date Received...: 05/05/11	MS Run #.....:
Prep Date.....: 05/09/11	Analysis Date...: 05/09/11	
Prep Batch #....: 1129148	Analysis Time...: 13:34	
Dilution Factor: 0.93	Initial Wgt/Vol: 5.39 g	Final Wgt/Vol...: 5 mL
% Moisture.....: 20	Analyst ID.....: 010099	Instrument ID...: HP3
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.8	ug/kg	0.79
Ethylbenzene	ND	5.8	ug/kg	0.75
Isopropylbenzene	ND	5.8	ug/kg	0.79
Methyl tert-butyl ether	ND	5.8	ug/kg	0.87
Naphthalene	ND	5.8	ug/kg	1.2
Toluene	ND	5.8	ug/kg	0.85
1,2,4-Trimethylbenzene	ND	5.8	ug/kg	0.76
1,3,5-Trimethylbenzene	ND	5.8	ug/kg	0.78
Xylenes (total)	ND	18	ug/kg	2.6

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	94	(52 - 124)
Toluene-d8	101	(72 - 127)
4-Bromofluorobenzene	97	(63 - 120)
Dibromofluoromethane	103	(68 - 121)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-004-15.0/15.5-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-002 Work Order #...: MHX0W1AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/09/11 Analysis Date...: 05/09/11
 Prep Batch #...: 1129148 Analysis Time...: 13:57
 Dilution Factor: 0.85 Initial Wgt/Vol: 5.87 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 23 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.5	ug/kg	0.74
Ethylbenzene	ND	5.5	ug/kg	0.71
Isopropylbenzene	ND	5.5	ug/kg	0.75
Methyl tert-butyl ether	ND	5.5	ug/kg	0.82
Naphthalene	ND	5.5	ug/kg	1.1
Toluene	ND	5.5	ug/kg	0.80
1,2,4-Trimethylbenzene	ND	5.5	ug/kg	0.72
1,3,5-Trimethylbenzene	ND	5.5	ug/kg	0.74
Xylenes (total)	ND	17	ug/kg	2.5

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	91	(52 - 124)
Toluene-d8	98	(72 - 127)
4-Bromofluorobenzene	94	(63 - 120)
Dibromofluoromethane	99	(68 - 121)

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-005-11.1/11.6-0

GC/MS Volatiles

Lot-Sample #....: C1E050472-003 Work Order #....: MHX001AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/18/11 Analysis Date...: 05/18/11
 Prep Batch #....: 1138240 Analysis Time...: 11:55
 Dilution Factor: 8.31 Initial Wgt/Vol: 6.02 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 17 Analyst ID.....: 034635 Instrument ID...: HP4
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	2500	ug/kg	490
Ethylbenzene	17000	2500	ug/kg	310
Isopropylbenzene	6800	2500	ug/kg	260
Methyl tert-butyl ether	ND	2500	ug/kg	510
Naphthalene	25000	2500	ug/kg	310
Toluene	28000	2500	ug/kg	420
1,2,4-Trimethylbenzene	120000	2500	ug/kg	260
1,3,5-Trimethylbenzene	30000	2500	ug/kg	300
Xylenes (total)	130000	7500	ug/kg	980

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	98	(52 - 124)
Toluene-d8	97	(72 - 127)
4-Bromofluorobenzene	106	(63 - 120)
Dibromofluoromethane	98	(68 - 121)

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-005-12.0/12.5-0

GC/MS Volatiles

Lot-Sample #....: C1E050472-004	Work Order #....: MHX031AA	Matrix.....: SOLID
Date Sampled...: 05/04/11	Date Received...: 05/05/11	MS Run #.....:
Prep Date.....: 05/18/11	Analysis Date...: 05/18/11	
Prep Batch #....: 1138240	Analysis Time...: 12:18	
Dilution Factor: 0.87	Initial Wgt/Vol: 5.72 g	Final Wgt/Vol...: 5 mL
% Moisture.....: 17	Analyst ID.....: 034635	Instrument ID...: HP4
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	260	ug/kg	52
Ethylbenzene	55 J	260	ug/kg	32
Isopropylbenzene	ND	260	ug/kg	28
Methyl tert-butyl ether	ND	260	ug/kg	54
Naphthalene	180 J	260	ug/kg	33
Toluene	97 J	260	ug/kg	44
1,2,4-Trimethylbenzene	450	260	ug/kg	27
1,3,5-Trimethylbenzene	130 J	260	ug/kg	31
Xylenes (total)	450 J	780	ug/kg	100

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	99	(52 - 124)
Toluene-d8	100	(72 - 127)
4-Bromofluorobenzene	105	(63 - 120)
Dibromofluoromethane	94	(68 - 121)

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-005-15.2/15.7-0

GC/MS Volatiles

Lot-Sample #... : C1E050472-005	Work Order #... : MHX041AA	Matrix..... : SOLID
Date Sampled... : 05/04/11	Date Received... : 05/05/11	MS Run #..... :
Prep Date..... : 05/18/11	Analysis Date... : 05/18/11	
Prep Batch #... : 1138240	Analysis Time... : 13:50	
Dilution Factor: 0.85	Initial Wgt/Vol: 5.9 g	Final Wgt/Vol...: 5 mL
% Moisture..... : 11	Analyst ID..... : 034635	Instrument ID...: HP4
	Method..... : SW846 8260B	

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	240	ug/kg	47
Ethylbenzene	190 J	240	ug/kg	30
Isopropylbenzene	91 J	240	ug/kg	25
Methyl tert-butyl ether	ND	240	ug/kg	49
Naphthalene	450	240	ug/kg	30
Toluene	290	240	ug/kg	40
1,2,4-Trimethylbenzene	1800	240	ug/kg	25
1,3,5-Trimethylbenzene	500	240	ug/kg	28
Xylenes (total)	1800	710	ug/kg	94

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
1,2-Dichloroethane-d4	99	(52 - 124)
Toluene-d8	99	(72 - 127)
4-Bromofluorobenzene	106	(63 - 120)
Dibromofluoromethane	98	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-006-7.0/7.5-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-006 Work Order #...: MHX051AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/09/11 Analysis Date...: 05/09/11
 Prep Batch #...: 1129148 Analysis Time...: 15:06
 Dilution Factor: 0.85 Initial Wgt/Vol: 5.91 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 16 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.0	ug/kg	0.68
Ethylbenzene	ND	5.0	ug/kg	0.65
Isopropylbenzene	ND	5.0	ug/kg	0.68
Methyl tert-butyl ether	ND	5.0	ug/kg	0.75
Naphthalene	ND	5.0	ug/kg	1.0
Toluene	ND	5.0	ug/kg	0.74
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	0.66
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	0.67
Xylenes (total)	ND	15	ug/kg	2.3

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	97	(52 - 124)
Toluene-d8	99	(72 - 127)
4-Bromofluorobenzene	95	(63 - 120)
Dibromofluoromethane	104	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-006-12.0/12.5-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-007 Work Order #...: MHX071AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/09/11 Analysis Date...: 05/09/11
 Prep Batch #...: 1129148 Analysis Time...: 15:28
 Dilution Factor: 0.83 Initial Wgt/Vol: 6.03 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 16 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	4.9	ug/kg	0.67
Ethylbenzene	3.5 J	4.9	ug/kg	0.63
Isopropylbenzene	0.94 J	4.9	ug/kg	0.67
Methyl tert-butyl ether	1.9 J	4.9	ug/kg	0.74
Naphthalene	ND	4.9	ug/kg	0.99
Toluene	3.0 J	4.9	ug/kg	0.72
1,2,4-Trimethylbenzene	5.9	4.9	ug/kg	0.64
1,3,5-Trimethylbenzene	1.6 J	4.9	ug/kg	0.66
Xylenes (total)	13 J	15	ug/kg	2.2

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	91	(52 - 124)
Toluene-d8	104	(72 - 127)
4-Bromofluorobenzene	98	(63 - 120)
Dibromofluoromethane	102	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-007-7.0/7.5-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-008 Work Order #...: MHX081AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/09/11 Analysis Date...: 05/09/11
 Prep Batch #...: 1129148 Analysis Time...: 15:51
 Dilution Factor: 0.93 Initial Wgt/Vol: 5.37 g Final Wgt/Vol...: 5 mL
 ‡ Moisture.....: 25 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	6.2	ug/kg	0.84
Ethylbenzene	ND	6.2	ug/kg	0.80
Isopropylbenzene	ND	6.2	ug/kg	0.84
Methyl tert-butyl ether	ND	6.2	ug/kg	0.93
Naphthalene	ND	6.2	ug/kg	1.2
Toluene	ND	6.2	ug/kg	0.91
1,2,4-Trimethylbenzene	ND	6.2	ug/kg	0.81
1,3,5-Trimethylbenzene	ND	6.2	ug/kg	0.83
Xylenes (total)	ND	19	ug/kg	2.8

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	100	(52 - 124)
Toluene-d8	98	(72 - 127)
4-Bromofluorobenzene	98	(63 - 120)
Dibromofluoromethane	106	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-007-11.5/12.0-0

GC/MS Volatiles

Lot-Sample #....: C1E050472-009	Work Order #....: MHX091AA	Matrix.....: SOLID
Date Sampled...: 05/04/11	Date Received...: 05/05/11	MS Run #.....:
Prep Date.....: 05/09/11	Analysis Date...: 05/09/11	
Prep Batch #....: 1129148	Analysis Time...: 16:14	
Dilution Factor: 0.96	Initial Wgt/Vol: 5.19 g	Final Wgt/Vol...: 5 mL
* Moisture.....: 19	Analyst ID.....: 010099	Instrument ID...: HP3
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.9	ug/kg	0.80
Ethylbenzene	ND	5.9	ug/kg	0.76
Isopropylbenzene	ND	5.9	ug/kg	0.80
Methyl tert-butyl ether	ND	5.9	ug/kg	0.88
Naphthalene	ND	5.9	ug/kg	1.2
Toluene	ND	5.9	ug/kg	0.86
1,2,4-Trimethylbenzene	ND	5.9	ug/kg	0.77
1,3,5-Trimethylbenzene	ND	5.9	ug/kg	0.79
Xylenes (total)	ND	18	ug/kg	2.6

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	94	(52 - 124)
Toluene-d8	104	(72 - 127)
4-Bromofluorobenzene	97	(63 - 120)
Dibromofluoromethane	104	(68 - 121)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-008-5.5/6.0-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-010	Work Order #...: MHX1C1AA	Matrix.....: SOLID
Date Sampled...: 05/04/11	Date Received...: 05/05/11	MS Run #.....:
Prep Date.....: 05/18/11	Analysis Date...: 05/18/11	
Prep Batch #...: 1138240	Analysis Time...: 13:04	
Dilution Factor: 9.71	Initial Wgt/Vol: 5.15 g	Final Wgt/Vol...: 5 mL
% Moisture.....: 15	Analyst ID.....: 034635	Instrument ID...: HP4
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	2800	ug/kg	560
Ethylbenzene	2500 J	2800	ug/kg	350
Isopropylbenzene	1100 J	2800	ug/kg	300
Methyl tert-butyl ether	ND	2800	ug/kg	580
Naphthalene	4800	2800	ug/kg	360
Toluene	3500	2800	ug/kg	480
1,2,4-Trimethylbenzene	22000	2800	ug/kg	290
1,3,5-Trimethylbenzene	6100	2800	ug/kg	340
Xylenes (total)	22000	8500	ug/kg	1100

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	100	(52 - 124)
Toluene-d8	99	(72 - 127)
4-Bromofluorobenzene	107	(63 - 120)
Dibromofluoromethane	99	(68 - 121)

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-008-10.3/10.8-0

GC/MS Volatiles

Lot-Sample #... : C1E050472-011	Work Order #... : MHX1F1AA	Matrix..... : SOLID
Date Sampled... : 05/04/11	Date Received... : 05/05/11	MS Run #..... :
Prep Date..... : 05/18/11	Analysis Date... : 05/18/11	
Prep Batch #... : 1138240	Analysis Time... : 13:27	
Dilution Factor: 8.66	Initial Wgt/Vol: 5.77 g	Final Wgt/Vol... : 5 mL
% Moisture..... : 17	Analyst ID..... : 034635	Instrument ID.. : HP4
	Method..... : SW846 8260B	

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Benzene	ND	2600	ug/kg	520
Ethylbenzene	1200 J	2600	ug/kg	320
Isopropylbenzene	620 J	2600	ug/kg	280
Methyl tert-butyl ether	ND	2600	ug/kg	530
Naphthalene	2700	2600	ug/kg	330
Toluene	1700 J	2600	ug/kg	440
1,2,4-Trimethylbenzene	11000	2600	ug/kg	270
1,3,5-Trimethylbenzene	3100	2600	ug/kg	310
Xylenes (total)	10000	7800	ug/kg	1000

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dichloroethane-d4	99	(52 - 124)
Toluene-d8	100	(72 - 127)
4-Bromofluorobenzene	106	(63 - 120)
Dibromofluoromethane	99	(68 - 121)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-009-7.5/8.0-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-012 Work Order #...: MHX1G1AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/09/11 Analysis Date...: 05/09/11
 Prep Batch #...: 1129148 Analysis Time...: 16:36
 Dilution Factor: 0.81 Initial Wgt/Vol: 6.17 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 15 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	4.7	ug/kg	0.64
Ethylbenzene	ND	4.7	ug/kg	0.61
Isopropylbenzene	ND	4.7	ug/kg	0.64
Methyl tert-butyl ether	ND	4.7	ug/kg	0.71
Naphthalene	ND	4.7	ug/kg	0.96
Toluene	ND	4.7	ug/kg	0.69
1,2,4-Trimethylbenzene	ND	4.7	ug/kg	0.62
1,3,5-Trimethylbenzene	ND	4.7	ug/kg	0.63
Xylenes (total)	ND	14	ug/kg	2.1

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	95	(52 - 124)
Toluene-d8	98	(72 - 127)
4-Bromofluorobenzene	97	(63 - 120)
Dibromofluoromethane	103	(68 - 121)

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-009-15.3/15.8-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-013	Work Order #...: MHX1H1AA	Matrix.....: SOLID
Date Sampled...: 05/04/11	Date Received...: 05/05/11	MS Run #.....:
Prep Date.....: 05/09/11	Analysis Date...: 05/09/11	
Prep Batch #...: 1129148	Analysis Time...: 14:20	
Dilution Factor: 0.88	Initial Wgt/Vol: 5.7 g	Final Wgt/Vol...: 5 mL
% Moisture.....: 14	Analyst ID.....: 010099	Instrument ID...: HP3
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.1	ug/kg	0.69
Ethylbenzene	ND	5.1	ug/kg	0.66
Isopropylbenzene	ND	5.1	ug/kg	0.70
Methyl tert-butyl ether	ND	5.1	ug/kg	0.77
Naphthalene	ND	5.1	ug/kg	1.0
Toluene	ND	5.1	ug/kg	0.75
1,2,4-Trimethylbenzene	ND	5.1	ug/kg	0.67
1,3,5-Trimethylbenzene	ND	5.1	ug/kg	0.68
Xylenes (total)	ND	15	ug/kg	2.3

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	96	(52 - 124)
Toluene-d8	95	(72 - 127)
4-Bromofluorobenzene	94	(63 - 120)
Dibromofluoromethane	100	(68 - 121)

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-010-7.5/8.0-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-014 Work Order #...: MHX1K1AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/09/11 Analysis Date...: 05/09/11
 Prep Batch #...: 1129148 Analysis Time...: 14:43
 Dilution Factor: 0.78 Initial Wgt/Vol: 6.38 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 13 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	4.5	ug/kg	0.61
Ethylbenzene	ND	4.5	ug/kg	0.58
Isopropylbenzene	ND	4.5	ug/kg	0.61
Methyl tert-butyl ether	ND	4.5	ug/kg	0.67
Naphthalene	ND	4.5	ug/kg	0.91
Toluene	ND	4.5	ug/kg	0.66
1,2,4-Trimethylbenzene	ND	4.5	ug/kg	0.58
1,3,5-Trimethylbenzene	ND	4.5	ug/kg	0.60
Xylenes (total)	ND	13	ug/kg	2.0

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	89	(52 - 124)
Toluene-d8	99	(72 - 127)
4-Bromofluorobenzene	94	(63 - 120)
Dibromofluoromethane	100	(68 - 121)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-010-15.0/15.5-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-015 Work Order #...: MHX1L1AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....: 1130018
 Prep Date.....: 05/10/11 Analysis Date...: 05/10/11
 Prep Batch #...: 1130046 Analysis Time...: 11:46
 Dilution Factor: 0.8 Initial Wgt/Vol: 6.28 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 16 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	3.9 J	4.8	ug/kg	0.65
Ethylbenzene	58	4.8	ug/kg	0.62
Isopropylbenzene	11	4.8	ug/kg	0.65
Methyl tert-butyl ether	ND	4.8	ug/kg	0.72
Naphthalene	55	4.8	ug/kg	0.96
Toluene	91	4.8	ug/kg	0.70
1,2,4-Trimethylbenzene	120	4.8	ug/kg	0.62
1,3,5-Trimethylbenzene	36	4.8	ug/kg	0.64
Xylenes (total)	370	14	ug/kg	2.1

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	93	(52 - 124)
Toluene-d8	98	(72 - 127)
4-Bromofluorobenzene	96	(63 - 120)
Dibromofluoromethane	100	(68 - 121)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-011-5.5/6.0-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-016 Work Order #...: MHX1M1AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....: 1130018
 Prep Date.....: 05/10/11 Analysis Date...: 05/10/11
 Prep Batch #...: 1130046 Analysis Time...: 14:47
 Dilution Factor: 0.94 Initial Wgt/Vol: 5.3 g Final Wgt/Vol...: 5 mL
 ‡ Moisture.....: 16 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.6	ug/kg	0.76
Ethylbenzene	ND	5.6	ug/kg	0.72
Isopropylbenzene	ND	5.6	ug/kg	0.76
Methyl tert-butyl ether	ND	5.6	ug/kg	0.84
Naphthalene	ND	5.6	ug/kg	1.1
Toluene	ND	5.6	ug/kg	0.82
1,2,4-Trimethylbenzene	ND	5.6	ug/kg	0.73
1,3,5-Trimethylbenzene	ND	5.6	ug/kg	0.75
Xylenes (total)	ND	17	ug/kg	2.5

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	90	(52 - 124)
Toluene-d8	99	(72 - 127)
4-Bromofluorobenzene	94	(63 - 120)
Dibromofluoromethane	101	(68 - 121)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: HD-B45T-SB-011-9.3/9.8-0

GC/MS Volatiles

Lot-Sample #...: C1E050472-017 Work Order #...: MHX1P1AA Matrix.....: SOLID
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....: 1130018
 Prep Date.....: 05/10/11 Analysis Date...: 05/10/11
 Prep Batch #...: 1130046 Analysis Time...: 12:31
 Dilution Factor: 0.89 Initial Wgt/Vol: 5.62 g Final Wgt/Vol...: 5 mL
 % Moisture.....: 21 Analyst ID.....: 010099 Instrument ID...: HP3
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	5.6	ug/kg	0.76
Ethylbenzene	ND	5.6	ug/kg	0.72
Isopropylbenzene	ND	5.6	ug/kg	0.76
Methyl tert-butyl ether	ND	5.6	ug/kg	0.84
Naphthalene	13	5.6	ug/kg	1.1
Toluene	ND	5.6	ug/kg	0.82
1,2,4-Trimethylbenzene	ND	5.6	ug/kg	0.73
1,3,5-Trimethylbenzene	ND	5.6	ug/kg	0.75
Xylenes (total)	ND	17	ug/kg	2.5

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	89	(52 - 124)
Toluene-d8	100	(72 - 127)
4-Bromofluorobenzene	95	(63 - 120)
Dibromofluoromethane	100	(68 - 121)

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

Science Applications International Corp

Client Sample ID: TRIP BLANK 1

GC/MS Volatiles

Lot-Sample #...: C1E050472-018 Work Order #...: MHX1Q1AA Matrix.....: WATER
 Date Sampled...: 05/04/11 Date Received...: 05/05/11 MS Run #.....:
 Prep Date.....: 05/17/11 Analysis Date...: 05/17/11
 Prep Batch #...: 1137267 Analysis Time...: 18:03
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Analyst ID.....: 034635 Instrument ID...: HP7
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Isopropylbenzene	ND	5.0	ug/L	0.53
Methyl tert-butyl ether	ND	5.0	ug/L	1.0
Naphthalene	ND	5.0	ug/L	0.47
Toluene	ND	5.0	ug/L	0.85
1,2,4-Trimethylbenzene	ND	5.0	ug/L	0.52
1,3,5-Trimethylbenzene	ND	5.0	ug/L	0.59
Xylenes (total)	ND	15	ug/L	2.0
Benzene	ND	5.0	ug/L	0.99
Ethylbenzene	ND	5.0	ug/L	0.62

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
1,2-Dichloroethane-d4	115	(62 - 123)
Toluene-d8	100	(80 - 120)
4-Bromofluorobenzene	91	(75 - 120)
Dibromofluoromethane	100	(80 - 120)

ANALYTICAL REPORT

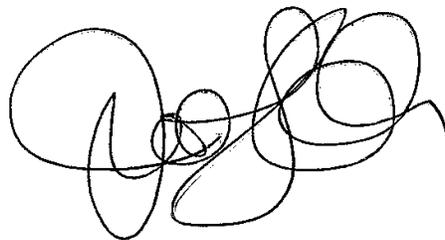
Job Number: 180-3113-1

Job Description: Harley Davidson

For:

Science Applications International Corp
6310 Allentown Boulevard
Harrisburg, PA 17112

Attention: Mr. Rodney Myers



Approved for release.
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08/25/2011

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CASE NARRATIVE

Client: Science Applications International Corp

Project: Harley Davidson

Report Number: 180-3113-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/18/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.8 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Due to the concentration of target compounds detected, sample HD-B45T-MW-118-11.0/12.0-0 (180-3113-1) was analyzed as a medium level soil. Elevated reporting limits (RLs) are provided.

PERCENT SOLIDS

No difficulties were encountered during the % solids analysis.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3113-1

SDG No.: _____

Instrument ID: HP7 Analysis Batch Number: 4164Lab Sample ID: IC 180-4164/2 Client Sample ID: _____Date Analyzed: 06/08/11 09:25 Lab File ID: 7060804.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.77	Peak Integrated Incorrectly	journetp	06/13/11 08:44

Lab Sample ID: ICIS 180-4164/3 Client Sample ID: _____Date Analyzed: 06/08/11 09:55 Lab File ID: 7060805.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.78	Peak Integrated Incorrectly	journetp	06/13/11 08:45

Lab Sample ID: IC 180-4164/4 Client Sample ID: _____Date Analyzed: 06/08/11 11:21 Lab File ID: 7060808.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.76	Peak Integrated Incorrectly	journetp	06/13/11 08:46

Lab Sample ID: IC 180-4164/5 Client Sample ID: _____Date Analyzed: 06/08/11 14:21 Lab File ID: 7060810.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.75	Peak Integrated Incorrectly	journetp	06/13/11 08:46

Lab Sample ID: IC 180-4164/6 Client Sample ID: _____Date Analyzed: 06/08/11 14:46 Lab File ID: 7060811.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.77	Peak Integrated Incorrectly	journetp	06/13/11 08:48

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3113-1

SDG No.: _____

Instrument ID: HP7 Analysis Batch Number: 4164

Lab Sample ID: IC 180-4164/7 Client Sample ID: _____

Date Analyzed: 06/08/11 15:12 Lab File ID: 7060812.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.79	Peak Integrated Incorrectly	journetp	06/13/11 08:47

Lab Sample ID: IC 180-4164/8 Client Sample ID: _____

Date Analyzed: 06/08/11 17:29 Lab File ID: 7060814.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.80	Peak Integrated Incorrectly	journetp	06/13/11 08:48

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3113-1

SDG No.: _____

Instrument ID: HP7 Analysis Batch Number: 11741Lab Sample ID: CCVIS 180-11741/2 Client Sample ID: _____Date Analyzed: 08/23/11 12:17 Lab File ID: 7082302N.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.74	Peak Integrated Incorrectly	journetp	08/23/11 12:56
Acetonitrile	4.05	Peak Integrated Incorrectly	journetp	08/23/11 12:59

SAMPLE SUMMARY

Client: Science Applications International Corp

Job Number: 180-3113-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
180-3113-1	HD-B45T-MW-118-11.0/12.0-0	Solid	08/15/2011 0930	08/18/2011 1000
180-3113-2	TRIP BLANK 1	Water	08/15/2011 0000	08/18/2011 1000

EXECUTIVE SUMMARY - Detections

Client: Science Applications International Corp

Job Number: 180-3113-1

Lab Sample ID	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
180-3113-1	HD-B45T-MW-118-11.0/12.0-0					
Toluene		460		320	ug/Kg	8260B
Ethylbenzene		430		320	ug/Kg	8260B
Xylenes, Total		1700		970	ug/Kg	8260B
Cumene		61	J	320	ug/Kg	8260B
1,2,4-Trimethylbenzene		580		320	ug/Kg	8260B
1,3,5-Trimethylbenzene		200	J	320	ug/Kg	8260B
Naphthalene		100	J	320	ug/Kg	8260B
Percent Moisture		22		0.10	%	Moisture
Percent Solids		78		0.10	%	Moisture

METHOD SUMMARY

Client: Science Applications International Corp

Job Number: 180-3113-1

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Volatile Organic Compounds (GC/MS) Purge and Trap	TAL PIT	SW846 8260B	SW846 5035
Percent Moisture	TAL PIT	EPA Moisture	
Matrix Water			
Volatile Organic Compounds (GC/MS) Purge and Trap	TAL PIT TAL PIT	SW846 8260B	SW846 5030B

Lab References:

TAL PIT = TestAmerica Pittsburgh

Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Science Applications International Corp

Job Number: 180-3113-1

Method	Analyst	Analyst ID
SW846 8260B	Journet, Patrick	PJ
EPA Moisture	Watson, Debbie	DW

Analytical Data

Client: Science Applications International Corp

Job Number: 180-3113-1

Client Sample ID: HD-B45T-MW-118-11.0/12.0-0

Lab Sample ID: 180-3113-1

Date Sampled: 08/15/2011 0930

Client Matrix: Solid

% Moisture: 22.4

Date Received: 08/18/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method: 8260B	Analysis Batch: 180-11442	Instrument ID: HP7
Prep Method: 5035	Prep Batch: 180-11421	Lab File ID: 7082117.D
Dilution: 1.0		Initial Weight/Volume: 5.64 g
Analysis Date: 08/21/2011 1754		Final Weight/Volume: 1.0 mL
Prep Date: 08/21/2011 1000		

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzene		320	U	64	320
Toluene		460		54	320
Ethylbenzene		430		40	320
Xylenes, Total		1700		130	970
Cumene		61	J	34	320
Methyl tert-butyl ether		320	U	66	320
1,2,4-Trimethylbenzene		580		33	320
1,3,5-Trimethylbenzene		200	J	38	320
Naphthalene		100	J	30	320

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		52 - 124
Toluene-d8 (Surr)	98		72 - 127
4-Bromofluorobenzene (Surr)	93		63 - 120
Dibromofluoromethane (Surr)	94		68 - 121

Client: Science Applications International Corp

Job Number: 180-3113-1

Client Sample ID: TRIP BLANK 1

Lab Sample ID: 180-3113-2

Date Sampled: 08/15/2011 0000

Client Matrix: Water

Date Received: 08/18/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-11741	Instrument ID:	HP7
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	7082324N.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	08/23/2011 2234			Final Weight/Volume:	5 mL
Prep Date:	08/23/2011 2234				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	95		62 - 123
Toluene-d8 (Surr)	103		80 - 120
4-Bromofluorobenzene (Surr)	97		75 - 120
Dibromofluoromethane (Surr)	104		80 - 120

Client: Science Applications International Corp

Job Number: 180-3113-1

General Chemistry

Client Sample ID: HD-B45T-MW-118-11.0/12.0-0

Lab Sample ID: 180-3113-1

Date Sampled: 08/15/2011 0930

Client Matrix: Solid

Date Received: 08/18/2011 1000

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Percent Moisture	22		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 180-11401	Analysis Date: 08/20/2011 1444					DryWt Corrected: N
Percent Solids	78		%	0.10	0.10	1.0	Moisture
	Analysis Batch: 180-11401	Analysis Date: 08/20/2011 1444					DryWt Corrected: N

Client: Science Applications International Corp

Job Number: 180-3113-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	DBFM %Rec	DCA %Rec	TOL %Rec	BFB %Rec
180-3113-1	HD-B45T-MW-118-11 .0/12.0-0	94	93	98	93
MB 180-11421/1-A		102	96	97	95
LCS 180-11421/2-A		92	89	98	91
LCSD 180-11421/5-A		94	91	99	93

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	68-121
DCA = 1,2-Dichloroethane-d4 (Surr)	52-124
TOL = Toluene-d8 (Surr)	72-127
BFB = 4-Bromofluorobenzene (Surr)	63-120

Client: Science Applications International Corp

Job Number: 180-3113-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	DCA %Rec	TOL %Rec	BFB %Rec
180-3113-2	TRIP BLANK 1	104	95	103	97
MB 180-11741/4		101	97	94	93
LCS 180-11741/7		95	91	100	92
180-2938-M-1 MS		92	87	94	88
180-2938-M-1 MSD		95	89	97	87

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	80-120
DCA = 1,2-Dichloroethane-d4 (Surr)	62-123
TOL = Toluene-d8 (Surr)	80-120
BFB = 4-Bromofluorobenzene (Surr)	75-120

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3113-1

Method Blank - Batch: 180-11421

**Method: 8260B
Preparation: 5035**

Lab Sample ID: MB 180-11421/1-A
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/21/2011 1310
 Prep Date: 08/21/2011 1000
 Leach Date: N/A

Analysis Batch: 180-11442
 Prep Batch: 180-11421
 Leach Batch: N/A
 Units: ug/Kg

Instrument ID: HP7
 Lab File ID: 7082106.D
 Initial Weight/Volume: 5 g
 Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Benzene	250	U	49	250
Toluene	250	U	42	250
Ethylbenzene	250	U	31	250
Xylenes, Total	750	U	98	750
Cumene	250	U	27	250
Methyl tert-butyl ether	250	U	51	250
1,2,4-Trimethylbenzene	250	U	26	250
1,3,5-Trimethylbenzene	250	U	30	250
Naphthalene	250	U	24	250

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	96	52 - 124
Toluene-d8 (Surr)	97	72 - 127
4-Bromofluorobenzene (Surr)	95	63 - 120
Dibromofluoromethane (Surr)	102	68 - 121

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3113-1

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 180-11421**

**Method: 8260B
Preparation: 5035**

LCS Lab Sample ID:	LCS 180-11421/2-A	Analysis Batch:	180-11442	Instrument ID:	HP7
Client Matrix:	Solid	Prep Batch:	180-11421	Lab File ID:	7082112.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	08/21/2011 1543	Units:	ug/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	08/21/2011 1000				5 mL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 180-11421/5-A	Analysis Batch:	180-11442	Instrument ID:	HP7
Client Matrix:	Solid	Prep Batch:	180-11421	Lab File ID:	7082118.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	08/21/2011 1821	Units:	ug/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	08/21/2011 1053				5 mL
Leach Date:	N/A				

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Benzene	97	102	77 - 120	5	20		
Toluene	98	102	78 - 124	4	21		
Ethylbenzene	92	97	78 - 125	5	21		
Xylenes, Total	94	99	83 - 126	5	20		
Cumene	94	100	70 - 133	5	22		
Methyl tert-butyl ether	99	102	48 - 132	3	36		
1,2,4-Trimethylbenzene	94	101	80 - 121	7	20		
1,3,5-Trimethylbenzene	93	98	68 - 133	5	21		
Naphthalene	93	85	31 - 148	9	40		
Surrogate	LCS % Rec		LCSD % Rec		Acceptance Limits		
1,2-Dichloroethane-d4 (Surr)	89		91		52 - 124		
Toluene-d8 (Surr)	98		99		72 - 127		
4-Bromofluorobenzene (Surr)	91		93		63 - 120		
Dibromofluoromethane (Surr)	92		94		68 - 121		

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3113-1

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 180-11421**

**Method: 8260B
Preparation: 5035**

LCS Lab Sample ID: LCS 180-11421/2-A Units: ug/Kg
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/21/2011 1543
 Prep Date: 08/21/2011 1000
 Leach Date: N/A

LCSD Lab Sample ID: LCSD 180-11421/5-A
 Client Matrix: Solid
 Dilution: 1.0
 Analysis Date: 08/21/2011 1821
 Prep Date: 08/21/2011 1053
 Leach Date: N/A

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Benzene	2000	2000	1940	2050
Toluene	2000	2000	1960	2040
Ethylbenzene	2000	2000	1840	1940
Xylenes, Total	6000	6000	5610	5920
Cumene	2000	2000	1890	1990
Methyl tert-butyl ether	2000	2000	1990	2040
1,2,4-Trimethylbenzene	2000	2000	1890	2020
1,3,5-Trimethylbenzene	2000	2000	1870	1970
Naphthalene	2000	2000	1850	1700

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3113-1

Method Blank - Batch: 180-11741

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: MB 180-11741/4	Analysis Batch: 180-11741	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7082305N.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 08/23/2011 1356	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 08/23/2011 1356		
Leach Date: N/A		

Analyte	Result	Qual	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97	62 - 123
Toluene-d8 (Surr)	94	80 - 120
4-Bromofluorobenzene (Surr)	93	75 - 120
Dibromofluoromethane (Surr)	101	80 - 120

Lab Control Sample - Batch: 180-11741

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: LCS 180-11741/7	Analysis Batch: 180-11741	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7082308N.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 08/23/2011 1516	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 08/23/2011 1516		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	40.0	42.0	105	80 - 120	
Toluene	40.0	42.0	105	80 - 124	
Ethylbenzene	40.0	39.3	98	79 - 124	
Xylenes, Total	120	119	99	81 - 121	
Cumene	40.0	40.9	102	73 - 130	
Methyl tert-butyl ether	40.0	40.0	100	53 - 122	
1,2,4-Trimethylbenzene	40.0	40.7	102	71 - 132	
1,3,5-Trimethylbenzene	40.0	39.8	100	75 - 135	
Naphthalene	40.0	39.8	100	10 - 144	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	91	62 - 123
Toluene-d8 (Surr)	100	80 - 120
4-Bromofluorobenzene (Surr)	92	75 - 120
Dibromofluoromethane (Surr)	95	80 - 120

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3113-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-11741**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 180-2938-M-1 MS	Analysis Batch: 180-11741	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7082309N.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 08/23/2011 1543		Final Weight/Volume: 5 mL
Prep Date: 08/23/2011 1543		5 mL
Leach Date: N/A		

MSD Lab Sample ID: 180-2938-M-1 MSD	Analysis Batch: 180-11741	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7082310N.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 08/23/2011 1610		Final Weight/Volume: 5 mL
Prep Date: 08/23/2011 1610		5 mL
Leach Date: N/A		

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Benzene	104	104	80 - 120	0	20		
Toluene	97	97	80 - 124	0	20		
Ethylbenzene	97	96	79 - 124	1	25		
Xylenes, Total	98	98	81 - 121	0	20		
Cumene	98	101	73 - 130	3	20		
Methyl tert-butyl ether	99	101	53 - 122	2	20		
1,2,4-Trimethylbenzene	98	101	71 - 132	3	35		
1,3,5-Trimethylbenzene	96	101	75 - 135	4	20		
Naphthalene	104	114	10 - 144	9	35		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		87	89			62 - 123	
Toluene-d8 (Surr)		94	97			80 - 120	
4-Bromofluorobenzene (Surr)		88	87			75 - 120	
Dibromofluoromethane (Surr)		92	95			80 - 120	

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3113-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-11741**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 180-2938-M-1 MS Units: ug/L
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 08/23/2011 1543
 Prep Date: 08/23/2011 1543
 Leach Date: N/A

MSD Lab Sample ID: 180-2938-M-1 MSD
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 08/23/2011 1610
 Prep Date: 08/23/2011 1610
 Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Benzene	5.0 U	40.0	40.0	41.7	41.5
Toluene	7.6	40.0	40.0	46.4	46.3
Ethylbenzene	5.0 U	40.0	40.0	38.7	38.3
Xylenes, Total	15 U	120	120	117	117
Cumene	5.0 U	40.0	40.0	39.2	40.4
Methyl tert-butyl ether	5.0 U	40.0	40.0	39.8	40.5
1,2,4-Trimethylbenzene	5.0 U	40.0	40.0	39.3	40.4
1,3,5-Trimethylbenzene	5.0 U	40.0	40.0	38.5	40.2
Naphthalene	5.0 U	40.0	40.0	41.7	45.7

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3113-1

Duplicate - Batch: 180-11401

**Method: Moisture
Preparation: N/A**

Lab Sample ID:	180-3171-A-5 DU	Analysis Batch:	180-11401	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	08/20/2011 1444	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	63	63	1	20	
Percent Solids	37	37	2	20	

DATA REPORTING QUALIFIERS

Client: Science Applications International Corp

Job Number: 180-3113-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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FedEx Priority Overnight 5 FedEx Standard Overnight 6
Next business morning. Friday, Monday, Saturday delivery NOT available. Saturday delivery NOT available.
FedEx 2Day 20 FedEx Express Saver
Second business day. Thursday, Saturday delivery NOT available.
Third business day. Saturday delivery NOT available.
unless SATURDAY Delivery is selected.

4b Express Freight Service ** To most locations. Packages over 150 lbs.
FedEx 1 Day Freight FedEx 3 Day Freight
Next business day. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. Third business day. Saturday delivery NOT available.
FedEx 2 Day Freight FedEx 3 Day Freight
Second business day. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected. Third business day. Saturday delivery NOT available.
5 Packaging * Declared value limit \$500. FedEx Box 4 FedEx Tube 1 Other
Envelope* 2 FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Surety Pak.

6 Special Handling and Delivery Signature Options
3 SATURDAY DELIVERY
No Signature Required 10 Direct Signature 34
Package may be delivered to recipient's address. Signature required for delivery. See options.
Does this shipment contain dangerous goods?
 No 4 Yes Shipper's Declaration 6 Dry Ice
Dry Ice, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.
Sender Acct. No. in Section 1 Recipients 3 Third Party 4 Credit Card 5 Cash/Check
1 Sender Acct. No. in Section 1 Recipients 3 Third Party 4 Credit Card 5 Cash/Check
Total Packages 30 Total Weight 50 lbs.
Credit Card Auth.



8709 1952 2926

554

Shipping and Receiving Documents

Login Sample Receipt Checklist

Client: Science Applications International Corp

Job Number: 180-3113-1

Login Number: 3113
List Number: 1
Creator: Gamber, Tom

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 200-6620-1

SDG Number: 200-6620

Job Description: Harley Davidson - Building 45

For:

Science Applications International Corp
6310 Allentown Boulevard
Harrisburg, PA 17112

Attention: Christopher D. O'Neil



Approved for release.
Kathryn A Kelly
Project Manager I
9/9/2011 11:50 AM

Kathryn A Kelly
Project Manager I
kathryn.kelly@testamericainc.com
09/09/2011

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

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CASE NARRATIVE

Client: Science Applications International Corp

Project: Harley Davidson - Building 45

Report Number: 200-6620-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/19/2011; the samples arrived in good condition.

GRAIN SIZE

Samples HD-B45T-MW-118-17.0/19.0-0 and HD-B45T-MW-121-33.0/34.7-0 were analyzed for grain size in accordance with D422 grain size. The samples were analyzed on 08/30/2011.

No difficulties were encountered during the grain size analyses.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples HD-B45T-MW-118-17.0/19.0-0 and HD-B45T-MW-121-33.0/34.7-0 were analyzed for total organic carbon in accordance with Lloyd Kahn Method. The samples were analyzed on 08/23/2011.

The laboratory did analyze each sample in duplicate, and the results of the two individual determinations were averaged in deriving a final result for a particular sample. In those instances when the two values yielded a relative percent difference greater than 40 percent, as was the case in the analysis of samples HD-B45T-MW-121-33.0/34.7-0, the laboratory did provide for additional determinations, and applied the "Dixon" outlier test to the total population of determinations. The results of that assessment are provided informationally in this submittal.

No difficulties were encountered during the TOC analyses.

All quality control parameters were within the acceptance limits.

DENSITY OF SOIL IN PLACE BY THE DRIVE CYLINDER METHOD

Samples HD-B45T-MW-118-17.0/19.0-0 and HD-B45T-MW-121-33.0/34.7-0 were analyzed for Density of Soil in Place by the Drive Cylinder Method in accordance with D_2937. The samples were analyzed on 08/30/2011.

No difficulties were encountered during the density analyses.

All quality control parameters were within the acceptance limits.

SPECIFIC GRAVITY

Samples HD-B45T-MW-118-17.0/19.0-0 and HD-B45T-MW-121-33.0/34.7-0 were analyzed for specific gravity in accordance with D854. The samples were analyzed on 08/30/2011.

No difficulties were encountered during the specific gravity analyses.

All quality control parameters were within the acceptance limits.

POROSITY

Samples HD-B45T-MW-118-17.0/19.0-0 and HD-B45T-MW-121-33.0/34.7-0 were analyzed for porosity in accordance with Porosity. The samples were analyzed on 08/30/2011.

No difficulties were encountered during the porosity analyses.

All quality control parameters were within the acceptance limits.

SAMPLE SUMMARY

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-6620-1	HD-B45T-MW-118-17.0/19.0-0	Solid	08/15/2011 0920	08/19/2011 1020
200-6620-2	HD-B45T-MW-121-33.0/34.7-0	Solid	08/17/2011 1445	08/19/2011 1020

EXECUTIVE SUMMARY - Detections

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Lab Sample ID	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
200-6620-1	HD-B45T-MW-118-17.0/19.0-0					
Total Organic Carbon		1410		1000	mg/Kg	Lloyd Kahn
Percent Solids		81.0		0.25	%	Moisture
In Place Density		1.77			g/cc	D2937
Sieve Size 3 inch - Percent Finer		100.0			% Passing	D422
Gravel		11.6			%	D422
Hydrometer Reading 1 - Particle Size		28.9			um	D422
Sieve Size 2 inch - Percent Finer		100.0			% Passing	D422
Sand		27.7			%	D422
Hydrometer Reading 2 - Particle Size		19.0			um	D422
Sieve Size 1.5 inch - Percent Finer		100.0			% Passing	D422
Coarse Sand		2.5			%	D422
Hydrometer Reading 3 - Particle Size		11.5			um	D422
Sieve Size 1 inch - Percent Finer		100.0			% Passing	D422
Medium Sand		5.1			%	D422
Hydrometer Reading 4 - Particle Size		8.1			um	D422
Sieve Size 0.75 inch - Percent Finer		100.0			% Passing	D422
Fine Sand		20.1			%	D422
Hydrometer Reading 5 - Particle Size		6.0			um	D422
Sieve Size 0.375 inch - Percent Finer		94.0			% Passing	D422
Silt		35.9			%	D422
Hydrometer Reading 6 - Particle Size		3.0			um	D422
Sieve Size #4 - Percent Finer		88.4			% Passing	D422
Clay		24.8			%	D422
Hydrometer Reading 7 - Particle Size		1.3			um	D422
Sieve Size #10 - Percent Finer		85.9			% Passing	D422
Sieve Size #20 - Percent Finer		83.7			% Passing	D422
Sieve Size #40 - Percent Finer		80.8			% Passing	D422
Sieve Size #60 - Percent Finer		78.4			% Passing	D422
Sieve Size #80 - Percent Finer		75.2			% Passing	D422
Sieve Size #100 - Percent Finer		73.7			% Passing	D422
Sieve Size #200 - Percent Finer		60.7			% Passing	D422
Hydrometer Reading 1 - Percent Finer		47.3			% Passing	D422
Hydrometer Reading 2 - Percent Finer		41.2			% Passing	D422
Hydrometer Reading 3 - Percent Finer		34.0			% Passing	D422
Hydrometer Reading 4 - Percent Finer		28.9			% Passing	D422
Hydrometer Reading 5 - Percent Finer		24.8			% Passing	D422
Hydrometer Reading 6 - Percent Finer		17.6			% Passing	D422
Hydrometer Reading 7 - Percent Finer		13.5			% Passing	D422
Specific Gravity at 20 deg Celsius		2.69			NONE	D854
Porosity		34.1			%	LAB-BUR
Void Ratio		0.5			NONE	LAB-BUR

EXECUTIVE SUMMARY - Detections

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Lab Sample ID	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
200-6620-2	HD-B45T-MW-121-33.0/34.7-0					
Total Organic Carbon		1850		1000	mg/Kg	Lloyd Kahn
Percent Solids		83.5		0.25	%	Moisture
In Place Density		1.94			g/cc	D2937
Sieve Size 3 inch - Percent Finer		100.0			% Passing	D422
Gravel		29.2			%	D422
Hydrometer Reading 1 - Particle Size		29.0			um	D422
Sieve Size 2 inch - Percent Finer		100.0			% Passing	D422
Sand		40.5			%	D422
Hydrometer Reading 2 - Particle Size		19.0			um	D422
Sieve Size 1.5 inch - Percent Finer		100.0			% Passing	D422
Coarse Sand		11.4			%	D422
Hydrometer Reading 3 - Particle Size		11.4			um	D422
Sieve Size 1 inch - Percent Finer		100.0			% Passing	D422
Medium Sand		14.1			%	D422
Hydrometer Reading 4 - Particle Size		8.2			um	D422
Sieve Size 0.75 inch - Percent Finer		100.0			% Passing	D422
Fine Sand		15.0			%	D422
Hydrometer Reading 5 - Particle Size		5.8			um	D422
Sieve Size 0.375 inch - Percent Finer		86.1			% Passing	D422
Silt		16.1			%	D422
Hydrometer Reading 6 - Particle Size		3.0			um	D422
Sieve Size #4 - Percent Finer		70.8			% Passing	D422
Clay		14.2			%	D422
Hydrometer Reading 7 - Particle Size		1.3			um	D422
Sieve Size #10 - Percent Finer		59.4			% Passing	D422
Sieve Size #20 - Percent Finer		52.1			% Passing	D422
Sieve Size #40 - Percent Finer		45.3			% Passing	D422
Sieve Size #60 - Percent Finer		40.6			% Passing	D422
Sieve Size #80 - Percent Finer		36.8			% Passing	D422
Sieve Size #100 - Percent Finer		35.3			% Passing	D422
Sieve Size #200 - Percent Finer		30.3			% Passing	D422
Hydrometer Reading 1 - Percent Finer		23.6			% Passing	D422
Hydrometer Reading 2 - Percent Finer		21.0			% Passing	D422
Hydrometer Reading 3 - Percent Finer		17.9			% Passing	D422
Hydrometer Reading 4 - Percent Finer		16.3			% Passing	D422
Hydrometer Reading 5 - Percent Finer		14.2			% Passing	D422
Hydrometer Reading 6 - Percent Finer		11.1			% Passing	D422
Hydrometer Reading 7 - Percent Finer		9.0			% Passing	D422
Specific Gravity at 20 deg Celsius		2.70			NONE	D854
Porosity		28.2			%	LAB-BUR
Void Ratio		0.4			NONE	LAB-BUR

METHOD SUMMARY

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Organic Carbon, Total (TOC)	TAL BUR	EPA Lloyd Kahn	
Percent Moisture	TAL BUR	EPA Moisture	
Density of Soil in Place by the Drive-Cylinder Method	TAL BUR	ASTM D2937	
Grain Size	TAL BUR	ASTM D422	
Specific Gravity of Soils	TAL BUR	ASTM D854	
Porosity	TAL BUR	ASTM LAB-BUR	

Lab References:

TAL BUR = TestAmerica Burlington

Method References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

METHOD / ANALYST SUMMARY

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Method	Analyst	Analyst ID
EPA Lloyd Kahn	Tam, Michelle N	MNT
EPA Moisture	Nelson, Andrea J	AJN
ASTM D2937	Peterson, Mark A	MAP
ASTM D422	Peterson, Mark A	MAP
ASTM D854	Peterson, Mark A	MAP
ASTM LAB-BUR	Peterson, Mark A	MAP

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

General Chemistry

Client Sample ID: HD-B45T-MW-118-17.0/19.0-0

Lab Sample ID: 200-6620-1
Client Matrix: Solid

Date Sampled: 08/15/2011 0920
Date Received: 08/19/2011 1020

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Total Organic Carbon	1410		mg/Kg	1000	1000	1.0	Lloyd Kahn
	Analysis Batch: 200-24039		Analysis Date: 08/23/2011 0228				DryWt Corrected: N
Percent Solids	81.0		%	0.25	0.25	1.0	Moisture
	Analysis Batch: 200-23977		Analysis Date: 08/22/2011 1351				DryWt Corrected: N

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

General Chemistry

Client Sample ID: HD-B45T-MW-121-33.0/34.7-0

Lab Sample ID: 200-6620-2
Client Matrix: Solid

Date Sampled: 08/17/2011 1445
Date Received: 08/19/2011 1020

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Total Organic Carbon	1850		mg/Kg	1000	1000	1.0	Lloyd Kahn
	Analysis Batch: 200-24039		Analysis Date: 08/23/2011 0242				DryWt Corrected: N
Percent Solids	83.5		%	0.25	0.25	1.0	Moisture
	Analysis Batch: 200-23977		Analysis Date: 08/22/2011 1351				DryWt Corrected: N

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-118-17.0/19.0-0

Lab Sample ID: 200-6620-1

Date Sampled: 08/15/2011 0920

Client Matrix: Solid

Date Received: 08/19/2011 1020

D2937 Density of Soil in Place by the Drive-Cylinder Method

Analysis Method:	D2937	Analysis Batch:	200-24458	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	08/30/2011 1806			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (g/cc)	Qualifier	NONE	NONE
In Place Density		1.77			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-121-33.0/34.7-0

Lab Sample ID: 200-6620-2

Date Sampled: 08/17/2011 1445

Client Matrix: Solid

Date Received: 08/19/2011 1020

D2937 Density of Soil in Place by the Drive-Cylinder Method

Analysis Method:	D2937	Analysis Batch:	200-24458	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	08/30/2011 1806			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (g/cc)	Qualifier	NONE	NONE
In Place Density		1.94			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-118-17.0/19.0-0

Lab Sample ID: 200-6620-1

Date Sampled: 08/15/2011 0920

Client Matrix: Solid

Date Received: 08/19/2011 1020

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-24695	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	200-6620-A-1.txt
Dilution:	1.0			Initial Weight/Volume:	91.09 g
Analysis Date:	08/30/2011 1830			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (% Passing)	Qualifier	NONE	NONE
Sieve Size 3 inch - Percent Finer		100.0			
Sieve Size 2 inch - Percent Finer		100.0			
Sieve Size 1.5 inch - Percent Finer		100.0			
Sieve Size 1 inch - Percent Finer		100.0			
Sieve Size 0.75 inch - Percent Finer		100.0			
Sieve Size 0.375 inch - Percent Finer		94.0			
Sieve Size #4 - Percent Finer		88.4			
Sieve Size #10 - Percent Finer		85.9			
Sieve Size #20 - Percent Finer		83.7			
Sieve Size #40 - Percent Finer		80.8			
Sieve Size #60 - Percent Finer		78.4			
Sieve Size #80 - Percent Finer		75.2			
Sieve Size #100 - Percent Finer		73.7			
Sieve Size #200 - Percent Finer		60.7			
Hydrometer Reading 1 - Percent Finer		47.3			
Hydrometer Reading 2 - Percent Finer		41.2			
Hydrometer Reading 3 - Percent Finer		34.0			
Hydrometer Reading 4 - Percent Finer		28.9			
Hydrometer Reading 5 - Percent Finer		24.8			
Hydrometer Reading 6 - Percent Finer		17.6			
Hydrometer Reading 7 - Percent Finer		13.5			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-118-17.0/19.0-0

Lab Sample ID: 200-6620-1

Date Sampled: 08/15/2011 0920

Client Matrix: Solid

Date Received: 08/19/2011 1020

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-24695	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	200-6620-A-1.txt
Dilution:	1.0			Initial Weight/Volume:	91.09 g
Analysis Date:	08/30/2011 1830			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE	NONE
Gravel		11.6			
Sand		27.7			
Coarse Sand		2.5			
Medium Sand		5.1			
Fine Sand		20.1			
Silt		35.9			
Clay		24.8			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-118-17.0/19.0-0

Lab Sample ID: 200-6620-1

Date Sampled: 08/15/2011 0920

Client Matrix: Solid

Date Received: 08/19/2011 1020

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-24695	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	200-6620-A-1.txt
Dilution:	1.0			Initial Weight/Volume:	91.09 g
Analysis Date:	08/30/2011 1830			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (um)	Qualifier	NONE	NONE
Hydrometer Reading 1 - Particle Size		28.9			
Hydrometer Reading 2 - Particle Size		19.0			
Hydrometer Reading 3 - Particle Size		11.5			
Hydrometer Reading 4 - Particle Size		8.1			
Hydrometer Reading 5 - Particle Size		6.0			
Hydrometer Reading 6 - Particle Size		3.0			
Hydrometer Reading 7 - Particle Size		1.3			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-121-33.0/34.7-0

Lab Sample ID: 200-6620-2

Date Sampled: 08/17/2011 1445

Client Matrix: Solid

Date Received: 08/19/2011 1020

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-24695	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	200-6620-A-2.txt
Dilution:	1.0			Initial Weight/Volume:	166.51 g
Analysis Date:	08/30/2011 1831			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (% Passing)	Qualifier	NONE	NONE
Sieve Size 3 inch - Percent Finer		100.0			
Sieve Size 2 inch - Percent Finer		100.0			
Sieve Size 1.5 inch - Percent Finer		100.0			
Sieve Size 1 inch - Percent Finer		100.0			
Sieve Size 0.75 inch - Percent Finer		100.0			
Sieve Size 0.375 inch - Percent Finer		86.1			
Sieve Size #4 - Percent Finer		70.8			
Sieve Size #10 - Percent Finer		59.4			
Sieve Size #20 - Percent Finer		52.1			
Sieve Size #40 - Percent Finer		45.3			
Sieve Size #60 - Percent Finer		40.6			
Sieve Size #80 - Percent Finer		36.8			
Sieve Size #100 - Percent Finer		35.3			
Sieve Size #200 - Percent Finer		30.3			
Hydrometer Reading 1 - Percent Finer		23.6			
Hydrometer Reading 2 - Percent Finer		21.0			
Hydrometer Reading 3 - Percent Finer		17.9			
Hydrometer Reading 4 - Percent Finer		16.3			
Hydrometer Reading 5 - Percent Finer		14.2			
Hydrometer Reading 6 - Percent Finer		11.1			
Hydrometer Reading 7 - Percent Finer		9.0			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-121-33.0/34.7-0

Lab Sample ID: 200-6620-2

Date Sampled: 08/17/2011 1445

Client Matrix: Solid

Date Received: 08/19/2011 1020

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-24695	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	200-6620-A-2.txt
Dilution:	1.0			Initial Weight/Volume:	166.51 g
Analysis Date:	08/30/2011 1831			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE	NONE
Gravel		29.2			
Sand		40.5			
Coarse Sand		11.4			
Medium Sand		14.1			
Fine Sand		15.0			
Silt		16.1			
Clay		14.2			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-121-33.0/34.7-0

Lab Sample ID: 200-6620-2

Date Sampled: 08/17/2011 1445

Client Matrix: Solid

Date Received: 08/19/2011 1020

D422 Grain Size

Analysis Method:	D422	Analysis Batch:	200-24695	Instrument ID:	D422_import
	N/A	Prep Batch:	N/A	Lab File ID:	200-6620-A-2.txt
Dilution:	1.0			Initial Weight/Volume:	166.51 g
Analysis Date:	08/30/2011 1831			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (um)	Qualifier	NONE	NONE
Hydrometer Reading 1 - Particle Size		29.0			
Hydrometer Reading 2 - Particle Size		19.0			
Hydrometer Reading 3 - Particle Size		11.4			
Hydrometer Reading 4 - Particle Size		8.2			
Hydrometer Reading 5 - Particle Size		5.8			
Hydrometer Reading 6 - Particle Size		3.0			
Hydrometer Reading 7 - Particle Size		1.3			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-118-17.0/19.0-0

Lab Sample ID: 200-6620-1
Client Matrix: Solid

Date Sampled: 08/15/2011 0920
Date Received: 08/19/2011 1020

D854 Specific Gravity of Soils

Analysis Method:	D854	Analysis Batch:	200-24456	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	08/30/2011 1803			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	NONE	NONE
Specific Gravity at 20 deg Celsius		2.69			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-121-33.0/34.7-0

Lab Sample ID: 200-6620-2
Client Matrix: Solid

Date Sampled: 08/17/2011 1445
Date Received: 08/19/2011 1020

D854 Specific Gravity of Soils

Analysis Method:	D854	Analysis Batch:	200-24456	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	08/30/2011 1803			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	NONE	NONE
Specific Gravity at 20 deg Celsius		2.70			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-118-17.0/19.0-0

Lab Sample ID: 200-6620-1

Date Sampled: 08/15/2011 0920

Client Matrix: Solid

Date Received: 08/19/2011 1020

LAB-BUR Porosity

Analysis Method:	LAB-BUR	Analysis Batch:	200-24457	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	08/30/2011 1805			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE	NONE
Porosity		34.1			

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	NONE	NONE
Void Ratio		0.5			

Analytical Data

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

Client Sample ID: HD-B45T-MW-121-33.0/34.7-0

Lab Sample ID: 200-6620-2
Client Matrix: Solid

Date Sampled: 08/17/2011 1445
Date Received: 08/19/2011 1020

LAB-BUR Porosity

Analysis Method:	LAB-BUR	Analysis Batch:	200-24457	Instrument ID:	NOEQUIP
	N/A	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Analysis Date:	08/30/2011 1805			Final Weight/Volume:	
Prep Date:	N/A				

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE	NONE
Porosity		28.2			

Analyte	DryWt Corrected: N	Result (NONE)	Qualifier	NONE	NONE
Void Ratio		0.4			

TestAmerica Burlington

Sediment Grain Size - D422

Client
 Client Sample ID HD-B45T-MW-118-17.0/
 Lab Sample ID 200-6620-A-1

Date Received 8/19/2011
 Start Date 08/30/2011 18:30
 End Date 09/02/2011 21:43

Dry Weight Determination

Tin Weight 3.79 g
 Wet Sample + Tin 236.55 g
 Dry Sample + Tin 201.97 g
 % Moisture 14.86 %

Non-soil material: plant
 Shape (> #10): subangular
 Hardness (> #10): hard

Date/Time in oven 08/30/2011 18:30
 Date/Time out of oven 08/31/2011 18:21

Sample Weights

	Tare (g)	Pan+Sample (g)	Samp (g)
Sample Weight (Wet)		91.09	91.09
Sample Weight (Oven Dried)			77.6

Hydrometer Data

Serial Number 705151
 Calib. Date (mm/dd/yyyy) 12/21/2010
 Low Temp (C) 17.0
 Reading at Low Temp 1.0040
 High Temp (C) 23.0
 Reading at High Temp 1.0030
 Hydrometer Cal Slope -0.000166667
 Hydrometer Cal Intercept 1.006833333
 Default Soil Gravity 2.6900

Sample Split (oven dried)

	Tare (g)	Pan+Sample (g)	Samp (g)
Sample >=#10			11
Sample <#10			66.6
% Passing #10			73.1

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000			0.00 g	100.0	Gravel	
3/8 inch	9500	447.50	452.16	4.66 g	94.0	Gravel	
#4	4750	488.26	492.64	4.38 g	88.4	Gravel	
#10	2000	462.92	464.89	1.97 g	85.9	Sand	Coarse
#20	850	390.55	392.25	1.70 g	83.7	Sand	Medium
#40	425	355.30	357.52	2.22 g	80.8	Sand	Medium
#60	250	335.57	337.46	1.89 g	78.4	Sand	Fine
#80	180	312.90	315.39	2.49 g	75.2	Sand	Fine
#100	150	331.34	332.49	1.15 g	73.7	Sand	Fine
#200	75	320.77	330.82	10.05 g	60.7	Sand	Fine
				0.00 g	60.7		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g) 77.6

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size		Classification	Sub Class
				(Micron)	% Finer		
2	2	1.0265	20.5	28.9	47.3	Silt	
5	5	1.0235	20.5	19	41.2	Silt	
15	15	1.0200	20.5	11.5	34	Silt	
30	32	1.0175	20.5	8.1	28.9	Silt	
60	60	1.0155	20.5	6	24.8	Silt	
250	259	1.0120	20.5	3	17.6	Clay	
1440	1406	1.0100	20.5	1.3	13.5	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client
 Client Sample ID HD-B45T-MW-121-33.0/
 Lab Sample ID 200-6620-A-2

Date Received 8/19/2011
 Start Date 08/30/2011 18:31
 End Date 09/02/2011 21:57

Dry Weight Determination

Tin Weight 3.83 g
 Wet Sample + Tin 287.41 g
 Dry Sample + Tin 262.19 g
 % Moisture 8.89 %

Non-soil material: plant
 Shape (> #10): subangular
 Hardness (> #10): hard

Date/Time in oven 08/30/2011 19:02
 Date/Time out of oven 08/31/2011 18:22

Sample Weights

	Tare (g)	Pan+Sample (g)	Samp (g)
Sample Weight (Wet)		166.51	166.51
Sample Weight (Oven Dried)			152

Hydrometer Data

Serial Number 705151
 Calib. Date (mm/dd/yyyy) 12/21/2010
 Low Temp (C) 17.0
 Reading at Low Temp 1.0040
 High Temp (C) 23.0
 Reading at High Temp 1.0030
 Hydrometer Cal Slope -0.000166667
 Hydrometer Cal Intercept 1.006833333
 Default Soil Gravity 2.7000

Sample Split (oven dried)

	Tare (g)	Pan+Sample (g)	Samp (g)
Sample >=#10			61.6
Sample <#10			90.4
% Passing #10			54.3

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000			0.00 g	100.0	Gravel	
3/8 inch	9500	447.50	468.60	21.10 g	86.1	Gravel	
#4	4750	488.26	511.51	23.25 g	70.8	Gravel	
#10	2000	462.92	480.21	17.29 g	59.4	Sand	Coarse
#20	850	390.55	401.71	11.16 g	52.1	Sand	Medium
#40	425	355.30	365.61	10.31 g	45.3	Sand	Medium
#60	250	335.57	342.77	7.20 g	40.6	Sand	Fine
#80	180	312.90	318.67	5.77 g	36.8	Sand	Fine
#100	150	331.34	333.58	2.24 g	35.3	Sand	Fine
#200	75	320.77	328.34	7.57 g	30.3	Sand	Fine
				0.00 g	30.3		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g) 152

Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size		Classification	Sub Class
				(Micron)	% Finer		
2	2	1.0260	20.5	29	23.6	Silt	
5	5	1.0235	20.5	19	21	Silt	
15	15	1.0205	20.5	11.4	17.9	Silt	
30	30	1.0190	20.5	8.2	16.3	Silt	
60	63	1.0170	20.5	5.8	14.2	Silt	
250	253	1.0140	20.5	3	11.1	Clay	
1440	1400	1.0120	20.5	1.3	8.97	Clay	

Quality Control Results

Client: Science Applications International Corp

Job Number: 200-6620-1
Sdg Number: 200-6620

Method Blank - Batch: 200-24039

**Method: Lloyd Kahn
Preparation: N/A**

Lab Sample ID:	MB 200-24039/3	Analysis Batch:	200-24039	Instrument ID:	WCCH1
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	082211C003
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	08/22/2011 2257	Units:	mg/Kg	Final Weight/Volume:	1.0 g
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL	RL
Total Organic Carbon	1000	U	1000	1000

Lab Control Sample - Batch: 200-24039

**Method: Lloyd Kahn
Preparation: N/A**

Lab Sample ID:	LCS 200-24039/4	Analysis Batch:	200-24039	Instrument ID:	WCCH1
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	082211C005
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 g
Analysis Date:	08/22/2011 2311	Units:	mg/Kg	Final Weight/Volume:	1.0 g
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	12600	12320	98	75 - 125	

DATA REPORTING QUALIFIERS

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

Lab Section	Qualifier	Description
General Chemistry	U	Indicates the analyte was analyzed for but not detected.

Quality Control Results

Client: Science Applications International Corp

Job Number: 200-6620-1

Sdg Number: 200-6620

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:200-23977					
200-6620-1	HD-B45T-MW-118-17.0/19.0-0	T	Solid	Moisture	
200-6620-2	HD-B45T-MW-121-33.0/34.7-0	T	Solid	Moisture	
Analysis Batch:200-24039					
LCS 200-24039/4	Lab Control Sample	T	Solid	Lloyd Kahn	
MB 200-24039/3	Method Blank	T	Solid	Lloyd Kahn	
200-6620-1	HD-B45T-MW-118-17.0/19.0-0	T	Solid	Lloyd Kahn	
200-6620-2	HD-B45T-MW-121-33.0/34.7-0	T	Solid	Lloyd Kahn	
Report Basis					
T = Total					
Geotechnical					
Analysis Batch:200-24456					
200-6620-1	HD-B45T-MW-118-17.0/19.0-0	T	Solid	D854	
200-6620-2	HD-B45T-MW-121-33.0/34.7-0	T	Solid	D854	
Analysis Batch:200-24457					
200-6620-1	HD-B45T-MW-118-17.0/19.0-0	T	Solid	LAB-BUR	
200-6620-2	HD-B45T-MW-121-33.0/34.7-0	T	Solid	LAB-BUR	
Analysis Batch:200-24458					
200-6620-1	HD-B45T-MW-118-17.0/19.0-0	T	Solid	D2937	
200-6620-2	HD-B45T-MW-121-33.0/34.7-0	T	Solid	D2937	
Analysis Batch:200-24695					
200-6620-1	HD-B45T-MW-118-17.0/19.0-0	T	Solid	D422	
200-6620-2	HD-B45T-MW-121-33.0/34.7-0	T	Solid	D422	

Report Basis

T = Total

Quality Control Results

Client: Science Applications International Corp

Job Number: 200-6620-1
SDG: 200-6620

Laboratory Chronicle

Lab ID: 200-6620-1

Client ID: HD-B45T-MW-118-17.0/19.0-0

Sample Date/Time: 08/15/2011 09:20 Received Date/Time: 08/19/2011 10:20

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:Lloyd Kahn	200-6620-A-1		200-24039		08/23/2011 02:28	1	TAL BUR	MNT
A:Moisture	200-6620-A-1		200-23977		08/22/2011 13:51	1	TAL BUR	AJN
A:D2937	200-6620-A-1		200-24458		08/30/2011 18:06	1	TAL BUR	MAP
A:D422	200-6620-A-1		200-24695		08/30/2011 18:30	1	TAL BUR	MAP
A:D854	200-6620-A-1		200-24456		08/30/2011 18:03	1	TAL BUR	MAP
A:LAB-BUR	200-6620-A-1		200-24457		08/30/2011 18:05	1	TAL BUR	MAP

Lab ID: 200-6620-2

Client ID: HD-B45T-MW-121-33.0/34.7-0

Sample Date/Time: 08/17/2011 14:45 Received Date/Time: 08/19/2011 10:20

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:Lloyd Kahn	200-6620-A-2		200-24039		08/23/2011 02:42	1	TAL BUR	MNT
A:Moisture	200-6620-A-2		200-23977		08/22/2011 13:51	1	TAL BUR	AJN
A:D2937	200-6620-A-2		200-24458		08/30/2011 18:06	1	TAL BUR	MAP
A:D422	200-6620-A-2		200-24695		08/30/2011 18:31	1	TAL BUR	MAP
A:D854	200-6620-A-2		200-24456		08/30/2011 18:03	1	TAL BUR	MAP
A:LAB-BUR	200-6620-A-2		200-24457		08/30/2011 18:05	1	TAL BUR	MAP

Lab ID: MB

Client ID: N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:Lloyd Kahn	MB 200-24039/3		200-24039		08/22/2011 22:57	1	TAL BUR	MNT

Lab ID: LCS

Client ID: N/A

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:Lloyd Kahn	LCS 200-24039/4		200-24039		08/22/2011 23:11	1	TAL BUR	MNT

Lab References:

TAL BUR = TestAmerica Burlington

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Burlington Job No.: 200-6620-1

SDG No.: 200-6620

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
WCLKCVs_00007	03/04/12		COSTECH, Lot NA		(Purchased Reagent)		Total Organic Carbon	0.7109 g/g
WCLKLCSs_00004	08/16/12		LECO, Lot 1013		(Purchased Reagent)		Total Organic Carbon	0.0126 g/g

Shipping and Receiving Documents

Login Sample Receipt Checklist

Client: Science Applications International Corp

Job Number: 200-6620-1

SDG Number: 200-6620

Login Number: 6620
List Number: 1
Creator: Keeton, Jamie

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	24.2, 24.2°C, IR GUN ID 96, CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

8709 1952 2915

0200

Form ID No.

FedEx Retrieval Copy

8709 1952 2904

0200

Form ID No.

FedEx Retrieval Copy

1 From
 Date: 8-18-11
 Sender's FedEx Account Number: [blank]
 Sender's Name: M. Moore J. Logan
 Phone: 717 731 0110
 Company: [blank]
 Address: 650 Mountain Blvd
 City: Haverhill State: VT ZIP: 17110
 Dept./Floor/Suite/Room: [blank]

2 Your Internal Billing Reference

3 To
 Recipient's Name: K. Anderson
 Phone: 802 640 1110
 Company: Burlington
 Address: 300 Commercial Blvd
 City: South Burlington State: VT ZIP: 05403
 HOLD Weekday: []
 HOLD Saturday: []



8709 1952 2904

4a Express Package Service * To most locations. Packages up to 150 lbs.

1 FedEx Priority Overnight Next business morning ** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

5 FedEx Standard Overnight Next business afternoon. Saturday Delivery NOT available.

6 FedEx First Overnight Earliest next business morning delivery to select locations. Saturday Delivery NOT available.

3 FedEx 2Day Second business day ** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

20 FedEx Express Saver Third business day. Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. Packages over 150 lbs.

7 FedEx 1Day Freight Next business day ** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

8 FedEx 2Day Freight Second business day ** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

83 FedEx 3Day Freight Third business day ** Saturday Delivery NOT available.

5 Packaging * Declared value limit \$500.

6 FedEx Envelope

2 FedEx Pak

3 FedEx Box 4

1 FedEx Tube

1 Other

6 Special Handling and Delivery Signature Options

3 SATURDAY DELIVERY

No Signature Required Package may be left without obtaining a signature for delivery.

10 Direct Signature Someone at recipient's address may sign for delivery. Fee applies.

34 Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?
 One box must be checked.

No 4 Yes As per attached Shipper's Declaration.

Yes Shipper's Declaration not required.

6 Dry Ice Dry Ice, 9 UN 1845

Cargo Aircraft Only

7 Payment Bill to:

1 Sender Acct. No. in Section 7 (when billed)

2 Recipient

3 Third Party

4 Credit Card

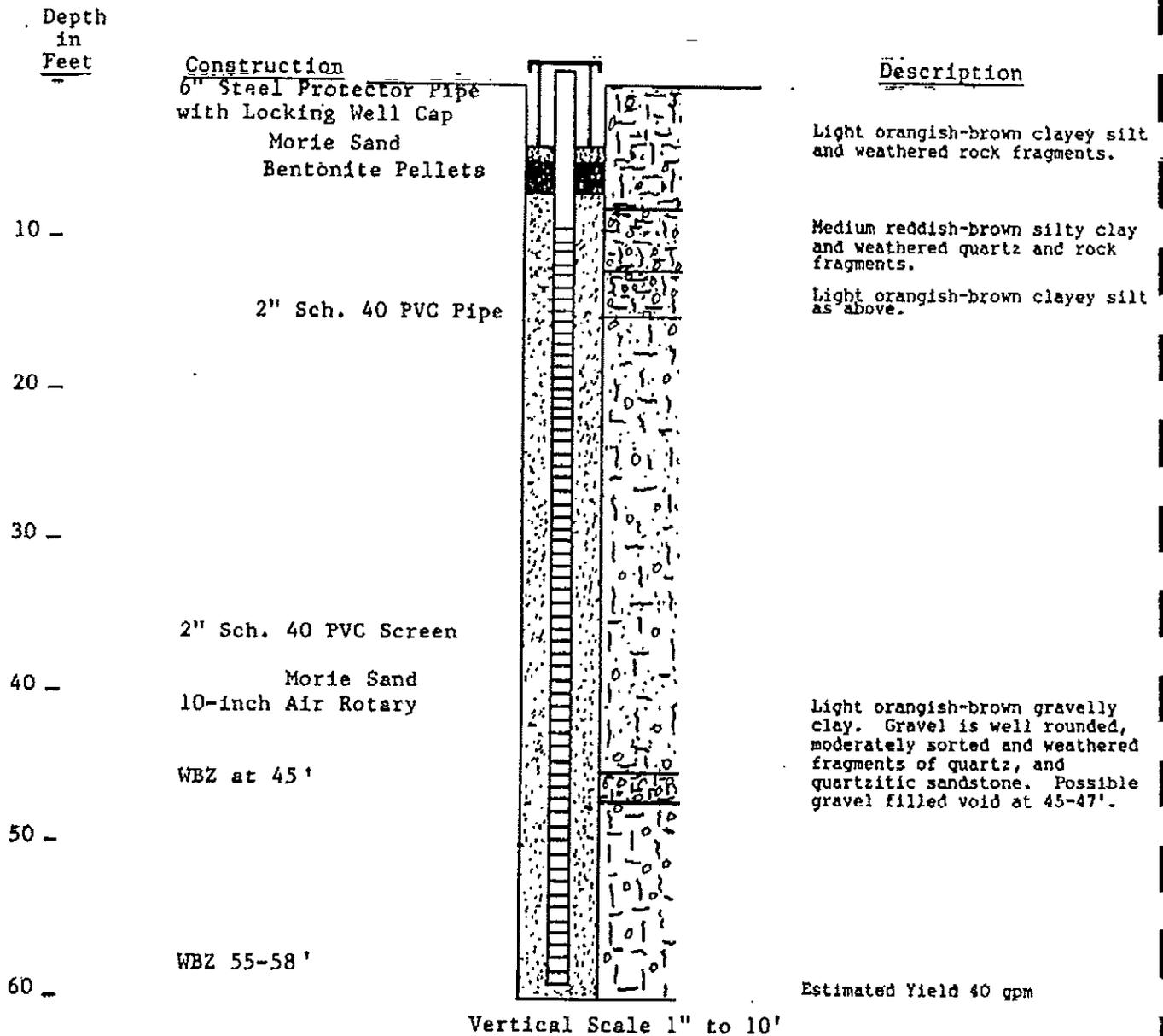
5 Cash/Check

Total Packages: [] Total Weight: [] lbs.

APPENDIX G

Historical Well Construction Logs

Harley - Davidson York, Inc.
 Geologic and Well Construction Log
 Well No. MW-26



Harley - Davidson York, Inc.

Geologic and Well Construction Log (Continued)

Well No. MW-26

Vertical Scale 1" to 10'

Total Depth: 60'
Depth to Competent Bedrock: ND
SWL (Date): 15.99 (5/21/87)
Screened Interval: 59-9
Hole Diameter: 10" to 60'
Monitoring Tube: 9 - +1
Elev., Ground Surface: 377.16

Well No.: MW-26
Driller: Eichelberger
Logged by: P. E. Nachlas
Drilling Began: 5/20/87
Drilling Completed: 5/20/87
Well Const. Completed: 5/20/87
Development Completed: 5/20/87
Elev., T. O. C.: 377.52 (PVC)

AIR-ROTARY DRILLING LOG			Boring No. MW-52	Piezometer No.		
Client: Harley-Davidson, Inc.			Location Drum Storage Area			
Project No: 91330	Phase 1	Task 1	Surface Elev.	Page 1 of 1		
Depth Feet	Overburden/Lithologic Description	VOA	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0	<u>Ground Surface</u>				0	T.O.C. Elev. 368.55
0-1.5'	MACADAM (0-1.5').					4" PVC riser pipe (+1-6.0')
1.5-2.0'	CRUSHED STONE (1.5-2.0').					Bentonite pellets. (3.0-4.0')
2.0-14.0'	SILTY CLAY, yellowish-brown, moist, firm (2.0-14.0').	5-6				
14.0-29.0'	SILTY CLAY, brown to grayish-brown (14.0-29.0').					#0 Morie sand (4.0-36.0')
29.0-32.0'	WEATHERED LIMESTONE (29.0-32.0').					4" PVC flush-joint 20-slot screen (6.0-36.0')
32.0-46.0'	CLAYEY SILT, brown (32.0-46.0'). Lots of limestone and rock fragments.					4" PVC bottom plug
	Total Depth: 46.0' (11/25/91)					Screen reset to 36.0' after sand bridge elevated pipe 3.0'
						#0 Morie sand (36.0-46.0')

Driller <u>Eichelberger (Books II)</u>	Blown/Boiled Yield <u>~ 2 gpm</u>	Bentonite Seal <u>3.0-4.0'</u>
Logged By <u>FMD/DJM</u>	Well Casing <u>4" Dia. To 6.0 Ft.</u>	Filter Pack Qty. <u>4.0-46.0'</u>
Drilling Started <u>11/22/91</u>	Casing Type <u>PVC Flush-joint Riser Pipe</u>	Filter Pack Type <u>#0 Morie Sand</u>
Drilling Completed <u>11/25/91</u>	Well Screen <u>4" Dia. 6.0' To 36.0'</u>	Static Water Level <u>7.22' MSL</u>
Well Construction <u>11/25/91</u>	Screen Type <u>PVC Flush-joint</u>	Date <u>11/25/91</u>
Well Developed <u>N/A</u>	Slot Size <u>20-slot</u>	Notes: _____
Water Bearing Zones <u>14.0', 43.0'</u>	Drilling Mud <u>N/A</u>	
	Grout Type <u>Quantity</u>	

SOIL BORING LOG				Boring No. MW-53	Piezometer No.			
Client: HARLEY-DAVIDSON				Location DRUM STORAGE AREA				
Project No: 91330		Phase	Task	Surface Elev.	Page 1 of 1			
Depth Feet	Blow Counts	Recovery/RQD	Overburden/Lithologic Description	VOA (ppm)	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0	Ground Surface						0	T.O.C. Elev. Flushmount 368.2 Driveover
0-2'			ASPHALT AND GRAVEL SUBBASE (0-2').					10" hollow-stem auger borehole (0-30').
2-26'			SILTY CLAY: orange-brown soft, with some rounded quartz fragments (2-26').	<1			10	4" PVC riser pipe (0.5-8').
26-30'			SILTY CLAY: Orange-brown with rounded quartz gravels (26-30').	<1			20	#1 Morie sand (5-30').
30'			SILTY CLAY: Orange-brown with rounded quartz gravels (26-30').	<1			30	Bentonite Pellets (4-5').
			LIMESTONE (30').	<1				Concrete (0-4').
			TOTAL DEPTH = 30'					4" PVC screen 20-slot (8-28').

Driller <u>Eichelbergers</u>	Blown/Bailed Yield <u>~ 1.1 gpm</u>	Bentonite Seal <u>Bentonite Pellets (4-5)</u>
Logged By <u>Tom Marx</u>	Well Casing <u>4" Dia. To 8 Ft.</u>	Filter Pack Qty. <u>5-30'</u>
Drilling Started <u>11/26/91</u>	Casing Type <u>PVC Riser Pipe</u>	Filter Pack Type <u>#1 Morie Sand</u>
Drilling Completed <u>11/26/91</u>	Well Screen <u>4" Dia. 8' To 28'</u>	Static Water Level <u>7.78' MSL</u>
Construction Completed <u>11/26/91</u>	Screen Type <u>PVC Flushmount</u>	Date <u>1/2/92</u>
Development Completed <u>N/A</u>	Slot Size <u>20 Slot</u>	Notes: _____
Water Bearing Zones <u>N/A</u>	Drilling Mud <u>N/A</u>	
	Grout Type <u>Concrete (0-4')</u>	

r.e. wright associates, inc.

Project Name					Harley Davidson		Project No.		1406701	
Boring Location					York, PA		Elevation and Datum			
Drilling Company					Eicheberger's		Date Started		Date Finished	
Drilling Equipment					CME-85		6/9/1998		6/10/98	
Size and Type of Bit					4-1/4" ID Hollow Stem Auger		Completion Depth		Rock Depth	
Casing					2 Inch PVC ---		67 ft.		Not Encountered	
Casing Hammer Weight					---		Drop		---	
Water Level							19.0 ft. at completion			
Sampler					2" OD Split Spoon		Driller		Bob Austin	
Sampler Hammer Weight					140 lb		Drop		30"	
Inspector							Lou Russo			
Depth (ft)	S	Type	Recov. (ft)	SPT* bl/6"	DESCRIPTION	13:00		REMARKS		
1	S1	SS	NA	NA	Grass/ topsoil Brown, fine to medium SILTY SAND; tr fine GRAVEL. Dry, medium dense.					
2										
3										
4										
5										
6	S2	SS	0.9	6	Brown SILT; tr fine to medium SAND; tr fine GRAVEL; (quartz). Dry, medium dense.	Odor present. PID = 0.5 - 0.6 ppm background 1 -2 ppm at borehole.				
7			10							
8			11							
9										
10										
11	S3	SS	0.5	6	Brown, SILT; tr fine to medium SAND; tr fine sub angular, GRAVEL. Dry, medium dense.					
12			6							
13			7							
14										
15										
16	S4	SS	1.8	4	Light brown, CLAYEY SILT; tr fine to coarse SAND. (dry/moist)	5 ppm				
17			4							
18			5							
19										
20										
21	S5	SS	2.0	4	Light brown, mottled orange, CLAYEY SILT; tr fine to coarse SAND; tr fine GRAVEL, subangular, limestone.	7 ppm		Borehole = 15 - 20 ppm		
			4							
			6							
								10 ppm		
								50 ppm		

*Standard Penetration Test N-Value

Project Name		Harley Davidson			Project No.		1406701	
Boring Location		York, PA			Date Started		6/9/1998	
Drilling Company		Eichelberger's			Date Finished		6/10/1998	
Depth (ft)	S	Type	Recov. (ft)	SPT* bl/6"	DESCRIPTION	REMARKS		
22	S5			6	(moist/dry)			
23								
24								
25								
26	S6	SS	2	6 7 8 9	Brown, CLAYEY SILT; tr to some fine to coarse SAND; tr fine GRAVEL, angular quartz.	2 ppm	Borehole = 20 ppm	
27						10 ppm	Gravelly zone = 25.5 to 26	
28						5 ppm		
29						7 ppm		
30								
31	S7	SS	0.5	6 8 10 12	Light brown/gray SILT; some CLAY; some fine to coarse SAND; tr fine subangular GRAVEL.	0.8 ppm	Top of bentonite at 31 ft.	
32					Loose to dense, moist.	Spoon wet.		
33								
34								
35								
36	S8	SS	2	7 8 9 11	Light brown CLAYEY SILT; tr to some fine to coarse SAND; tr fine, quartz, angular to subangular, GRAVEL.	3 ppm		
37					Dense, moist.	1.5 ppm		
38						2 ppm		
39						2 ppm	Top of sand pack at 35 ft.	
40								
41	S9	SS	1.1	5 6 5 6	Brown, CLAYEY SILT; tr fine SAND. moist	Top of screen.		
42						0.5 ppm background		

*Standard Penetration Test N-Value

Project Name		Harley Davidson			Project No.		1406701	
Boring Location		York, PA			Date Started		6/9/1998	
Drilling Company		Eichelberger's			Date Finished		6/10/1998	
Depth (ft)	S	Type	Recov. (ft)	SPT* bl/6"	DESCRIPTION	REMARKS		
43								
44								
45								
46	S10	SS	0.8	1	Light brown, CLAYEY SILT; tr fine to medium SAND; fine GRAVEL. Wet.		2-4 ppm	Quartz in nose piece.
47				1				
48				1				
49				2				
50								
51	S11	SS	2	3	Brown/gray CLAYEY SILT; tr fine to coarse SAND; tr fine GRAVEL. Wet		Very soft 50 to 51 ft. Dense 51 to 52 ft. 0.5 ppm	
52				4				
53				5				
54								
55								
56	S12	SS	1.3	3	Brown, CLAYEY SILT; tr to some fine to coarse SAND and fine GRAVEL. Wet		1-5 ppm	Pieces red gravel
57				6				
58	S13	SS	0.3	3	Brown, CLAYEY SILT; some fine to coarse SAND and fine GRAVEL.		STOP 16:00 6/9/98 Water started coming into hole very rapidly. Suspect that 55 - 57 ft sample released containing pressure to a higher "k" unit. @ 16:00 dtw=34 ft bgs @ 16:30 dtw= 24 ft. bgs @ 18:00 dtw = 21 ft. bgs Seemed stable Start 08:00 6/10/98 PID = 8-10 from borehole. S13, S14, S15, background PID readings = 0.5 ppm.	
59				3				
60				4				
61	S14	SS	1	3	Brown, CLAYEY SILT; some fine to coarse SAND and fine GRAVEL. quartz, rounded to subrounded.			
62				5				
63				5				

*Standard Penetration Test N-Value

WELL CONSTRUCTION SUMMARY

Well No. MW-83

PROJECT Harley Davidson		PROJECT NO. 1406701	
LOCATION York, PA		ELEVATION AND DATUM Flushmount = 364.82	
DRILLING AGENCY Eichelberger's		DATE STARTED 7/9/1998	DATE FINISHED 7/10/1998
DRILLING EQUIPMENT Ingersoll Rand T4W Air Rotary		DRILLER Carey Knaub	
SIZE AND TYPE OF BIT 6 & 8 inch Hammer Bit /10 inch Roller Bit		INSPECTOR Dave Wilson	
METHOD OF INSTALLATION Drilled with 8 inch hammer bit to 35 ft. Hole reamed 10 inch to 35 ft. Temporary 8 inch steel casing set to 35 ft. 6 inch hole advanced to 76 ft. Hole reamed 8 inch to 51 ft. Permanent 6 inch steel casing set to 51 ft. Pelletized Bentonite from 51 to 53 ft. Benseal grout to surface. Flushmount at surface.			
METHOD OF WELL DEVELOPMENT The well was developed for 30 minutes on 7/13/98 at 2.25 gpm till dry. A total of 68 gallons was removed by submersible pump. The well was developed again on 7/14/98 for 62 minutes at 0.25 gpm till dry. A total of 15.5 gallons was removed. Discharge was clear at the end.			
TYPE OF CASING Steel	DIAMETER 6 inch	TYPE OF BACKFILL MATERIAL Portland Cement/Granular Bentonite grout	
TYPE OF SCREEN Open rock hole.		TYPE OF SEAL MATERIAL Pelletized Bentonite/ Drive shoe.	
BOREHOLE DIAMETER 10 inch to 35 ft. 8 inch to 51 ft. 6 inch to 76 ft.		TYPE OF FILTER MATERIAL NA	
TOP OF CASING	ELEVATION	DEPTH	WELL DETAILS Steel Protective Cover
Flushmount	364.82		
TOP OF SEAL	ELEVATION	DEPTH	6 inch Steel Casing
NA			
TOP OF FILTER	ELEVATION	DEPTH	Portland Cement Grout
NA			
TOP OF SCREEN	ELEVATION	DEPTH	Bentonite
		6 inch open rock hole 51 to 76 ft.	
BOTTOM OF BORING	ELEVATION	DEPTH	Open Rock Hole in Limestone
		76 ft.	
SCREEN LENGTH			LIMESTONE
NA			
SLOT SIZE			51 ft.
NA			
GROUNDWATER ELEVATIONS			
ELEVATION	DATE		76.0
	7/13/98 DTW= 47.65 ft.bgs		
ELEVATION	DATE		
347.03	10/1/1999		
ELEVATION	DATE		
ELEVATION	DATE		

Project Name		Harley Davidson		Project No.		1406701	
Boring Location		York, PA		Elevation and Datum			
Drilling Company		Eichelberger's		Date Started		Date Finished	
Drilling Equipment		Ingersoll Rand T4W Air Rotary		7/9/1998		7/10/1998	
Size and Type of Bit		6 and 8 Inch Hammer Bit, 10 inch Roller Bit.		Completion Depth		Rock Depth	
Casing		6 inch steel		76 ft.		33 ft.	
Casing Hammer		Weight		Drop		Water Level	
Sampler		2 inch Split Spoon and Cuttings		Driller		Carey Knaub	
Sampler Hammer Weight		NA		Drop		NA	
				Inspector		Dave Wilson	

Depth (ft)	S	Type	Recov. (ft)	SPT* bl/6"	DESCRIPTION	REMARKS		
1		Cuttings	NA	NA	Blacktop, coarse limestone gravel, FILL.	8:31 PID = 0 ppm		
2								Brown, SILTY CLAY; coarse, angular, quartz GRAVEL.
3								
4								
5								
6	S1	SS	0.8	NA	CLAY and SILT; brown, firm; little medium, subangular, quartz GRAVEL.	8:49 PID = 0 ppm		
7								
8					CLAY and SILT, brown, firm; trace fine GRAVEL.	PID = 0 ppm		
9								
10								
11	S-2	SS	2.0	NA				
12								
13					CLAY and SILT; Dark gray/black, soft, moist; trace fine GRAVEL.	PID = 0 ppm Start of water?		
14								
15								
16	S-3	SS	2.0	NA				
17								
18					CLAY; Gray to black, wet, medium stiff; tr SILT; tr black angular GRAVEL.	9:16 Outside of split spoon is wet.		
19								
20								
21	S-4	SS	2.0	NA				

*Standard Penetration Test N-Value

Project Name		Harley Davidson			Project No.		1406701	
Boring Location		York PA			Date Started		7/9/1998	
Drilling Company		Eichelberger's			Date Finished		7/10/1998	
Depth (ft)	S	Type	Recov. (ft)	SPT* bl/6"	DESCRIPTION	REMARKS		
22	S-4	SS	2	NA		PID = 0 ppm		
23						Bit chatter at 23 ft. bgs.		
24								
25								
26	S-5	SS	0.54	NA		CLAY; Gray/black, wet, soft,; tr SILT; little angular black GRAVEL.		
27						PID = 0 ppm		
28								
29								
30								
31	S-6	SS		NA		CLAY and SILT; tr fine SAND; some coarse GRAVEL; saturated, very soft.		
32						Outside of split spoon is wet.		
33								
34						Top of rock		
35						Strong bit chatter at 33 ft. bgs. Hard.		
36						10:05 Temporary 8 inch steel casing set to 35 ft. bgs.		
37	S-7	cuttings	NA	NA		LIMESTONE; with calcite, dark gray, to light gray, hard, crystalline.		
38								
39								
40								
41								
42								

*Standard Penetration Test N-Value

Project Name		Harley Davidson			Project No.		1406701	
Boring Location		York PA			Date Started		7/9/1998	
Drilling Company		Eichelberger's			Date Finished		7/10/1998	
Depth (ft)	S	Type	Recov. (ft)	SPT* bl/6"	DESCRIPTION	REMARKS		
43	S-8	cuttings	NA	NA	LIMESTONE; light gray, crystalline, massive.			
44								
45								
46								
47								
48								
49								
50								
51								
52								
53	S-10	cuttings	NA	NA	LIMESTONE; dark gray, massive, calcite, graphite, slight weathering.			Weathered zone. Fe stains on cuttings.
54								
55								
56								
57								
58								
59								
60								
61								
62								
63	S-11	cuttings	NA	NA	LIMESTONE; hard dark gray, slight weathering, graphite.			Water bearing zone at 54 ft. bgs. ~3 to 5 gpm.
64								
65								
66								

*Standard Penetration Test N-Value

Project Name		Harley Davidson			Project No.		1406701	
Boring Location		York PA			Date Started		7/9/1998	
Drilling Company		Eichelberger's			Date Finished		7/10/1998	
Depth (ft)	S	Type	Recov. (ft)	SPT* bl/6"	DESCRIPTION	REMARKS		
64								
65								
66								
67						13:38		
68								
69								
70								
71								
72	S-12	cuttings	NA	NA	LIMESTONE; dark gray to light gray massive, calcite, graphite, slight weathering.			
73								
74								
75								
76								
77					TD = 76 ft.			
78								
79								
80								
81								
82								
83								
84								

*Standard Penetration Test N-Value

APPENDIX H

Well Construction Logs: MW-118 through MW-121



WELL CONSTRUCTION LOG OF MW-118

(Page 1 of 1)

Former York Naval Ordnance Plant
 Building 45 UST Release Characterization
 1425 Eden Road, York, PA

SAIC Project #2603100044/2000/100

Drilling Company : Eichelberger's Inc.
 Logged By : Matthew J. Logan
 Drilling Method : Hollow Stem Auger
 Drilling Bit Diameter : 6 1/4" O.D.
 Drilling Started : 8/15/2011

Drilling Completed : 8/15/2011
 Well Construction : 8/15/2011
 Well Development : 8/18/2011

Depth in Feet	Recovery	Blow Count	DESCRIPTION	USCS	GRAPHIC	PID (ppm) - bkgd = 0.0	Well Construction Information
0	NA		ML - Asphalt and sub-base followed by SILT, brownish yellow (10YR 6/6), dry.	ML	[ML Graphic]	0.0	<div style="text-align: center;">Well: MW-118 Elev.378.30:</div> <p style="text-align: center;">Well Construction Information</p> <p>WELL CONSTRUCTION</p> <p>Date Completed : 8/15/2011 Auger I.D. : 4 1/4" Drilling Method : Hollow Stem Auger Driller : Eichelberger's</p> <p>WELL CASING :</p> <p>Material : Sch 40 PVC Diameter : 2" From : 0' to 8.33' BPVC Joints : Flush Threaded</p> <p>WELL SCREEN :</p> <p>Material : Sch 40 PVC Diameter : 2" From : 8.33' to 23.33' BPVC Joints : Flush Threaded Opening : 0.010 slot</p> <p>ADDITIONAL CONSTRUCTION DETAILS</p> <p>#0 Morie Sand, 11-50 lb. bags Bentonite hole plug (3/8"), 3-50 lb. bag</p> <p>Flush Mount Surface Completion</p> <p>Soil Sample HD-B45T-MW-118-11.0/12.0-0 collected from 11.0' to 12.0' BGS. Sample analyzed for PA DEP Unleaded Gasoline Short List by TestAmerica Pittsburgh.</p> <p>Soil Sample HD-B45T-MW-118-17.0/19.0-0 collected from 17.0' to 19.0' BGS. Sample analyzed for porosity, specific gravity, density, particle size, total organic carbon and percent moisture by TestAmerica Burlington.</p> <p>Static water level collected on September 30, 2011. BGS-below ground surface BPVC-below top of PVC</p>
5	2.0'/2.0'	5 5 7 8	CL - CLAY, light yellowish brown (10YR 6/4), dry, soft, medium plasticity.	CL	[CL Graphic]	1.7	
			Auger 7'-10' to next sampling interval.			1.8	
			Auger 7'-10' to next sampling interval.			1.3	
10	1.8'/2.0'	4 5 10 9	CL - CLAY, yellow (10YR 7/8), dry, soft, low plasticity.	CL	[CL Graphic]	28.4	
			CL - CLAY with quartz fragments, yellow (10YR 7/8), dry, soft, low plasticity.	CL	[CL Graphic]	381	
			No recovery.			160	
			Auger 12'-15' to next sampling interval.			4.8	
15	2.0'/2.0'	2 3 3 4	CL - CLAY with limestone fragments, yellow (10YR 7/8), wet, soft, low plasticity.	CL	[CL Graphic]	50.3	
			Auger 17'-20' to next sampling interval.			11.0	
			Shelby Tube Sample 17.0' - 19.0' BGS.				
20	0.0'/2.0'	9 7 6 7	No recovery.				
			Auger 22'-23' to next sampling interval.			323	
25	2.0'/2.0'	3 6 7 8	CL - CLAY with limestone fragments, yellow (10YR 7/8), wet, soft, low plasticity.	CL	[CL Graphic]	10.8	
			End of boring at 25' BGS.			1.2	



WELL CONSTRUCTION LOG OF MW-119

(Page 1 of 1)

Former York Naval Ordnance Plant
 Building 45 UST Release Characterization
 1425 Eden Road, York, PA

Drilling Company : Eichelberger's Inc.
 Logged By : Matthew J. Logan
 Drilling Method : Hollow Stem Auger
 Drilling Bit Diameter : 6 1/4" O.D.
 Drilling Started : 8/16/2011

Drilling Completed : 8/16/2011
 Well Construction : 8/17/2011
 Well Development : 8/18/2011

SAIC Project #2603100044/2000/100

Depth in Feet	Recovery	Blow Count	DESCRIPTION	USCS	GRAPHIC	PID (ppm) - bkgd = 0.0	Well: MW-119 Elev.378.28:	Well Construction Information
0	NA		GP - GRAVEL with SAND, medium grained, angular gravel, fine grained sand, gray (2.5Y 5/1), loose, moist.	GP				
5	2.0'/2.0'	3 8 6 9	ML - SILT with quartz gravel, brownish yellow (10YR 6/6), dry, firm. Auger 7'-10' to next sampling interval.	ML		198 156 15.0	ADDITIONAL CONSTRUCTION DETAILS #0 Morie Sand, 12-50 lb. bags Bentonite Hole Plug (3/8"), 1-50 lb. bag Flush Mount Surface Completion BGS-below ground surface BPVC-below top of PVC No soil samples were collected for laboratory analysis. Static water level collected on September 30, 2011.	
10	2.0'/2.0'	3 6 6 8	CL - CLAY, yellow (10YR 7/8), dry, firm. CL - CLAY with quartz gravel, yellow (10YR 7/8), dry, moist, low plasticity. Auger 12'-15' to next sampling interval.	CL		104 132 115		
15	2.0'/2.0'	4 4 7 11	ML - SILT, pale yellow (5Y 7/3), moist, soft. GW - WELL GRADED QUARTZ GRAVEL, fine to coarse grained, angular with well graded sand, fine to coarse grained, angular, moist, dense. Auger 17'-20' to next sampling interval.	ML GW	 	3.2 8.3 109 1,574		
20	2.0'/2.0'	5 6 11 11	GW - WELL GRADED QUARTZ GRAVEL, fine to coarse grained, angular with well graded sand, fine to coarse grained, angular, moist, dense. Auger 22'-25' to next sampling interval.	GW		1,211 474		
25	2.0'/2.0'	5 9 11 14	GW - WELL GRADED QUARTZ GRAVEL, fine to coarse grained, angular with well graded sand, fine to coarse grained, angular, wet, dense. End of boring at 27' BGS.	GW		1,315 1,268		
30								



WELL CONSTRUCTION LOG OF MW-120

(Page 1 of 2)

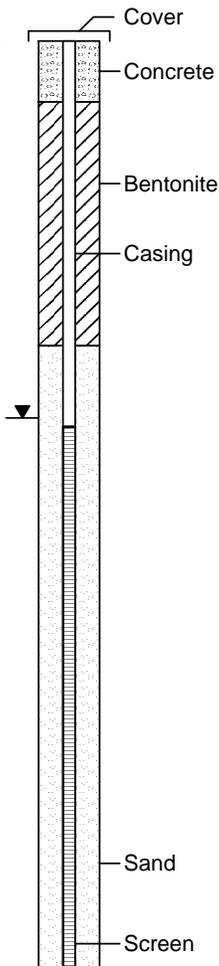
Former York Naval Ordnance Plant
 Building 45 UST Release Characterization
 1425 Eden Road, York, PA

Drilling Company : Eichelberger's Inc.
 Logged By : Matthew J. Logan
 Drilling Method : Hollow Stem Auger
 Drilling Bit Diameter : 6 1/4" O.D.
 Drilling Started : 8/16/2011

Drilling Completed : 8/16/2011
 Well Construction : 8/17/2011
 Well Development : 8/18/2011

SAIC Project #2603100044/2000/100

Depth in Feet	Recovery	Blow Count	DESCRIPTION	USCS	GRAPHIC	PID (ppm) - bkgd = 0.0	Well Construction Information
Well: MW-120 Elev. 378.73:							WELL CONSTRUCTION Date Completed : 8/17/2011 Auger I.D. : 4 1/4" Drilling Method : Hollow Stem Auger Driller : Eichelberger's WELL CASING : Material : Sch 40 PVC Diameter : 2" From : 0' to 6.33' BPVC Joints : Flush Threaded WELL SCREEN : Material : Sch 40 PVC Diameter : 2" From : 6.33' to 39.33' BPVC Joints : Flush Threaded Opening : 0.010 slot ADDITIONAL CONSTRUCTION DETAILS #0 Morie Sand, 21-50 lb. bags Bentonite Hole Plug (3/8"), 2-50 lb. bag Flush Mount Surface Completion BGS-below ground surface BPVC-below top of PVC No soil samples were collected for laboratory analysis. Static water level collected on September 30, 2011.
0	NA		ML - SILT, brownish yellow (10YR 6/6), dry, with well graded gravel, fine to coarse grained, angular.	ML		0.0	
5	2.0'/2.0'	5	ML - SILT, brownish yellow (10YR 6/6), dry, with well graded gravel, fine to coarse grained, angular.	ML		0.0	
		6				0.0	
		7				0.0	
		8	Auger 7'-10' to next sampling interval.			0.0	
10	2.0'/2.0'	2	ML - SILT, dark gray (5Y 6/1), with fine grained sand, moist, very soft.	ML		0.0	
		3				0.0	
		2				0.0	
		2	Auger 12'-15' to next sampling interval.			0.0	
15	2.0'/2.0'	2	ML - SILT, dark gray (5Y 6/1), with fine grained sand, moist, very soft.	ML		0.0	
		3				0.0	
		5	ML - SILT, gray (5Y 6/1), moist, firm.	ML		0.0	
		7				0.0	
			Auger 17'-20' to next sampling interval.			0.0	
20	2.0'/2.0'	4	ML - SILT, gray (5Y 6/1), moist, firm.	ML		0.0	
		7				0.0	
		6	SP - POORLY GRADED SAND WITH GRAVEL, fine grained sand, coarse grained, angular quartz gravel, moist, loose.	SP		0.0	
		12				0.0	





WELL CONSTRUCTION LOG OF MW-120

(Page 2 of 2)

Former York Naval Ordnance Plant
 Building 45 UST Release Characterization
 1425 Eden Road, York, PA

SAIC Project #2603100044/2000/100

Drilling Company : Eichelberger's Inc.
 Logged By : Matthew J. Logan
 Drilling Method : Hollow Stem Auger
 Drilling Bit Diameter : 6 1/4" O.D.
 Drilling Started : 8/16/2011

Drilling Completed : 8/16/2011
 Well Construction : 8/17/2011
 Well Development : 8/18/2011

Depth in Feet	Recovery	Blow Count	DESCRIPTION	USCS	GRAPHIC	PID (ppm) - bkgd = 0.0	Well: MW-120 Elev.378.73:	Well Construction Information
22			Auger 22'-25' to next sampling interval.				<p>Sand Screen</p> <p>Slip Cap</p>	WELL CONSTRUCTION Date Completed : 8/17/2011 Auger I.D. : 4 1/4" Drilling Method : Hollow Stem Auger Driller : Eichelberger's WELL CASING : Material : Sch 40 PVC Diameter : 2" From : 0' to 6.33' BPVC Joints : Flush Threaded WELL SCREEN : Material : Sch 40 PVC Diameter : 2" From : 6.33' to 39.33' BPVC Joints : Flush Threaded Opening : 0.010 slot ADDITIONAL CONSTRUCTION DETAILS #0 Morie Sand, 21-50 lb. bags Bentonite Hole Plug (3/8"), 2-50 lb. bag Flush Mount Surface Completion BGS-below ground surface BPVC-below top of PVC No soil samples were collected for laboratory analysis. Static water level collected on September 30, 2011.
2.0/2.0'	6		SP - POORLY GRADED SAND WITH GRAVEL, fine grained sand, coarse grained, angular quartz gravel, moist, loose.	SP		0.0		
	4							
	7		CL - CLAY, pale olive (5Y 6/4), moist, firm, medium plasticity.	CL		0.0		
27	10		Auger 27'-30' to next sampling interval.					
	2		CL - CLAY, pale olive (5Y 6/4), moist, firm, medium plasticity.	CL		0.0		
1.8/2.0'	3							
	4		CL - CLAY, pale olive (5Y 6/4), moist, firm, medium plasticity, with limestone fragments.	CL		0.0		
32	9		No recovery.					
2.0/2.0'	12		CL - CLAY, pale olive (5Y 6/4), moist, firm, medium plasticity, with limestone fragments.	CL		0.0		
	13							
	14		CL - CLAY, pale olive (5Y 6/4), moist, firm, medium plasticity, with limestone fragments.	CL		0.0		
2.0/2.0'	11							
	12		CL - CLAY, pale olive (5Y 6/4), moist, firm, medium plasticity, with limestone fragments.	CL		0.0		
	17							
37	17		SP - POORLY GRADED SAND, fine to medium grained, with coarse, angular quartz gravel, olive (5Y 5/3), moist, loose.	SP		0.0		
1.4/2.0'	3							
	4		GW - WELL GRADED GRAVEL WITH SAND, light gray (5Y 7/1), wet, fine to coarse grained angular gravel with fine to coarse grained sand.	GW		0.0		
2.0/2.0'	9							
	10		GW - WELL GRADED GRAVEL WITH SAND, light gray (5Y 7/1), wet, fine to coarse grained angular gravel with fine to coarse grained sand.	GW		0.0		
	7							
	10		No recovery.					
	8							
	8		CL - CLAY, light olive brown (2.5Y 5/6), moist, firm, with quartz gravel.	CL		0.0		
42			End of boring at 40' BGS.					



WELL CONSTRUCTION LOG OF MW-121

(Page 1 of 2)

Former York Naval Ordnance Plant
Building 45 UST Release Characterization
1425 Eden Road, York, PA

Drilling Company : Eichelberger's Inc.
Logged By : Matthew J. Logan
Drilling Method : Hollow Stem Auger
Drilling Bit Diameter : 6 1/4" O.D.
Drilling Started : 8/15/2011

Drilling Completed : 8/17/2011
Well Construction : 8/17/2011
Well Development : 8/18/2011

SAIC Project #2603100044/2000/100

Depth in Feet	Recovery	Blow Count	DESCRIPTION	USCS	GRAPHIC	PID (ppm) - bkgd = 0.0	Well Construction Information
0	NA		ML - SILT, brownish yellow (10YR 6/6), dry, with well graded gravel, fine to coarse grained, angular.	ML		0.0	<div style="text-align: center;">Well: MW-121 Elev.377.40:</div>
5	1.6'/2.0'	4 5 5 6	ML - SILT, brownish yellow (10YR 6/6), dry, soft, with quartz gravel.	ML		0.0	
			No recovery. Auger 7'-10' to next sampling interval.			0.0	
10	1.2'/2.0'	2 2 4 3	CL - CLAY, olive (5Y 4/4), moist, very soft, high plasticity.	CL		0.0	
			CLAY - olive yellow (2.5Y 6/6), wet at 11.2' BGS.	CL		0.0	
			Auger 12'-15' to next sampling interval.			0.0	
15	2.0'/2.0'	WH WH WH 2	CLAY - olive gray (5Y 5/2), wet, very soft, with well graded gravel, fine to coarse grained, angular.	CL		10.6	
			Auger 17'-20' to next sampling interval.			12.7	
20	2.0'/2.0'	4 5 8 9	CL - CLAY, brownish yellow (10YR 6/8), moist, soft, high plasticity.	CL		0.0	
						0.0	

WELL CONSTRUCTION

Date Completed : 8/17/2011
Auger I.D. : 4 1/4"
Drilling Method : Hollow Stem Auger
Driller : Eichelberger's

WELL CASING :

Material : Sch 40 PVC
Diameter : 2"
From : 0' to 7.23' BPVC
Joints : Flush Threaded

WELL SCREEN :

Material : Sch 40 PVC
Diameter : 2"
From : 7.23' to 35.23' BPVC
Joints : Flush Threaded
Opening : 0.010 slot

ADDITIONAL CONSTRUCTION DETAILS

#0 Morie Sand, 19-50 lb. bags

Bentonite Hole Plug (3/8"), 2-50 lb. bag

Flush Mount Surface Completion

BGS-below ground surface
BPVC-below top of PVC

WH-split spoon sampler was advance with the weight of the hammer alone, not driven.

Soil Sample
HD-B45T-MW-121-33.0/34.7-0 collected from 33.0' to 34.7' BGS. Sample analyzed for porosity, specific gravity, density, particle size, total organic carbon and percent moisture by TestAmerica Burlington.

Static water level collected on September 30, 2011.



WELL CONSTRUCTION LOG OF MW-121

(Page 2 of 2)

Former York Naval Ordnance Plant
 Building 45 UST Release Characterization
 1425 Eden Road, York, PA

Drilling Company : Eichelberger's Inc.
 Logged By : Matthew J. Logan
 Drilling Method : Hollow Stem Auger
 Drilling Bit Diameter : 6 1/4" O.D.
 Drilling Started : 8/15/2011

Drilling Completed : 8/17/2011
 Well Construction : 8/17/2011
 Well Development : 8/18/2011

SAIC Project #2603100044/2000/100

Depth in Feet	Recovery	Blow Count	DESCRIPTION	USCS	GRAPHIC	PID (ppm) - bkgd = 0.0	Well: MW-121 Elev.377.40:	Well Construction Information
22			Auger 22'-23' to next sampling interval.					WELL CONSTRUCTION Date Completed : 8/17/2011 Auger I.D. : 4 1/4" Drilling Method : Hollow Stem Auger Driller : Eichelberger's WELL CASING : Material : Sch 40 PVC Diameter : 2" From : 0' to 7.23' BPVC Joints : Flush Threaded WELL SCREEN : Material : Sch 40 PVC Diameter : 2" From : 7.23' to 35.23' BPVC Joints : Flush Threaded Opening : 0.010 slot ADDITIONAL CONSTRUCTION DETAILS #0 Morie Sand, 19-50 lb. bags Bentonite Hole Plug (3/8"), 2-50 lb. bag Flush Mount Surface Completion BGS-below ground surface BPVC-below top of PVC WH-split spoon sampler was advance with the weight of the hammer alone, not driven. Soil Sample HD-B45T-MW-121-33.0/34.7-0 collected from 33.0' to 34.7' BGS. Sample analyzed for porosity, specific gravity, density, particle size, total organic carbon and percent moisture by TestAmerica Burlington. Static water level collected on September 30, 2011.
1.0'/2.0'	2	5	CL - CLAY, brownish yellow (10YR 6/8), moist, soft, medium plasticity, with limestone fragments.	CL		0.0		
2.0'/2.0'	2	5	ML - SILT, yellow (2.5Y 7/8) mottled with light gray (5Y 7/1), moist, soft.	ML		0.0		
27						0.0		
2.0'/2.0'	2	6	ML - SILT, yellow (2.5Y 7/8) mottled with light gray (5Y 7/1), moist, soft.	ML		0.0		
2.0'/2.0'	2	7	ML - SILT, yellow (2.5Y 7/8) mottled with light gray (5Y 7/1), moist, soft.	ML		0.0		
2.0'/2.0'	2	7	ML - SILT, yellow (2.5Y 7/8) mottled with light gray (5Y 7/1), moist, soft.	ML		21.2		
2.0'/2.0'	2	10	ML - SILT, yellow (2.5Y 7/8) mottled with light gray (5Y 7/1), moist, soft.	ML		21.2		
2.0'/2.0'	2	12	ML - SILT, yellow (2.5Y 7/8) mottled with light gray (5Y 7/1), moist, soft.	ML		21.2		
2.0'/2.0'	2	13	ML - SILT, yellow (2.5Y 7/8) mottled with light gray (5Y 7/1), moist, soft, with limestone fragments.	ML		21.2		
1.0'/2.0'	6	3	CL - CLAY, yellow (10YR 7/8), moist, firm, low plasticity.	CL		4.7		
1.0'/2.0'	7	6	CL - CLAY, brownish yellow (10YR 6/8), moist, soft, with quartz fragments.	CL		11.0		
1.0'/2.0'	7	7	CL - CLAY, brownish yellow (10YR 6/8), moist, soft, with quartz fragments.	CL		11.0		
1.0'/2.0'	7	9	CL - CLAY, brownish yellow (10YR 6/8), moist, soft, with quartz fragments.	CL		11.0		
1.0'/2.0'	7	5	SP - WELL GRADED SAND, light gray (2.5Y 7/1), fine to coarse grained, angular, wet, very loose.	SP		17.0		
1.0'/2.0'	7	7	No recovery.	CL		11.1		
1.0'/2.0'	7	9	No recovery.	CL		11.1		
1.0'/2.0'	7	11	SP - WELL GRADED SAND, light gray (2.5Y 7/1), fine to coarse grained, angular, wet, very loose.	CL		10.9		
32			CL - CLAY, olive (2.5Y 6/8), wet, very soft.	CL				
32			CL - CLAY, yellowish brown (10YR 5/6), moist, firm.	CL				
32			Auger 33' - 35' BGS.					
37			Shelby Tube Sample 33' - 34.7' BGS.					
37								
42								

APPENDIX I

Groundwater Sampling Logs

GROUNDWATER SAMPLE LOG

Project Name: Harley-Davidson
 Project Number: 2603100044/2000/100
 Purged by: ML & _____
 Sampled by: ML & _____
 Checked by: _____ & _____

Well Identification: MW-118
 Project Location: York, PA
 Date: 8-25-11
 Date: 8-25-11
 Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft 6" I.D., K=1.469 gal/ft
2" I.D., K=0.163 gal/ft 8" I.D., K=2.61 gal/ft
 4" I.D., K=0.653 gal/ft 10" ID, K=4.08 gal/ft

1 Well Volume:
 Total Depth (23.50 ft) - Depth to Water (9.78 ft) = Height of water column (13.72 ft)
 Height of water column (13.72 ft) x K value (0.163 gal/ft) = 1 Well Volume (2.24 gal)

Purge Volume:
 1 Well Volume (_____ gallons) x 3 = 3 Well Volumes (_____ gallons)
 Purge Rate (_____ gpm) x (_____ min) = 1 Well Volume
 Purge Rate (_____ gpm) x (_____ min) = 3 Well Volumes

Time	Temp °C	pH	Cond mS/cm	Turbidity NTU	D.O. mg/l	ORP mv	Purged Quantity	Well Volume	Depth to Water	Purge Rate
10:31	20.3	5.45	1.05	0.5	1.24	334			11.05	0.33
10:36	20.3	5.07	0.95	0.5	1.10	351			11.05	0.33
10:41	20.0	5.07	1.04	0.5	1.43	351			11.05	0.33
10:46	20.0	5.07	1.00	0.5	1.33	351			11.05	0.33
10:51	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
10:56	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:01	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:06	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:11	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:16	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:21	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:26	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:31	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:36	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:41	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33
11:46	20.0	5.03	1.00	0.5	1.26	351			11.05	0.33

PURGE INFORMATION:

Time / Date Started: 10:31 | 8-25-11
 Time Purge End: 11:46
 Purge Method: Pump x Bailer _____
 Depth to Intake: ~ 22
 Pump Type and ID: Mini-Monsoon # 81084
 Purge Rate: 0.22 (gpm)
 Purged Volume: 16.5 (gal)
 Water Quality Meter: Horiba U-22# 15984
 How was yield measured? Calibrated cup / stopwatch
 Was well cavitating? Yes _____ No x
 Water containerized/Amount 16.5
 Grunfos controller set @ _____ (Hertz)

SAMPLING INFORMATION:

Time / Date Started: 11:46 | 8-25-11
 Sampled by: ML & _____
 Sample Method: Bailer _____ Other Pump
 Grab x Composite _____
 # of Bottles Collected: 3
 Bottle Preservatives: HCL
 Recovering WL: _____
 Duplicate Sampling: HD-MW-118-01-1
 Laboratory: _____
 COC Form: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

Hydrocarbon odor

GROUNDWATER SAMPLE LOG

Project Name: Harley-Davidson
 Project Number: 2603100044/2000/100
 Purged by: MJL & _____
 Sampled by: MJL & _____
 Checked by: _____ & _____

Well Identification: MW-118
 Project Location: Bldg 45 UST Area
 Date: 9.30.11
 Date: 9.30.11
 Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft 6" I.D., K=1.469 gal/ft
2" I.D., K=0.163 gal/ft 8" I.D., K=2.61 gal/ft
 4" I.D., K=0.653 gal/ft 10" ID, K=4.08 gal/ft

1 Well Volume:

Total Depth (23.50 ft) - Depth to Water (6.85 ft) = Height of water column (16.65 ft)
 Height of water column (16.65 ft) x K value (0.163 gal/ft) = 1 Well Volume (2.7 gal)

Purge Volume:

1 Well Volume (2.7 gallons) x 3 = 3 Well Volumes (8.1 gallons)
 Purge Rate (_____ gpm) x (_____ min) = 1 Well Volume
 Purge Rate (_____ gpm) x (_____ min) = 3 Well Volumes

Time	Temp °C	pH	Cond mS/cm	Turbidity NTU	D.O. mg/l	ORP mv	Purged Quantity	Well Volume	Depth to Water	Purge Rate
11:30	12.0	7.2	100	0.1	2.0	200			2.0	0.20
11:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
12:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
12:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
12:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
12:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
13:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
13:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
13:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
13:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
14:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
14:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
14:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
14:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
15:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
15:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
15:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
15:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
16:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
16:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
16:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
16:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
17:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
17:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
17:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
17:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
18:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
18:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
18:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
18:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
19:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
19:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
19:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
19:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
20:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
20:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
20:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
20:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
21:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
21:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
21:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
21:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
22:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
22:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
22:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
22:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
23:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10
23:15	12.0	7.2	100	0.1	2.0	200			2.0	0.10
23:30	12.0	7.2	100	0.1	2.0	200			2.0	0.10
23:45	12.0	7.2	100	0.1	2.0	200			2.0	0.10
24:00	12.0	7.2	100	0.1	2.0	200			2.0	0.10

PURGE INFORMATION:
 Time / Date Started: 1137 12/17 9:30-11
 Time Purge End: _____
 Purge Method: Pump Bailer _____
 Depth to Intake: ~21.5 (ft)
 Pump Type and ID: Mini Monsoon # 81093
 Purge Rate: 0.18 (gpm)
 Purged Volume: 7.2 (gal)
 Water Quality Meter: Horiba U-22# 82191
 How was yield measured? Calibrated cup/stopwatch
 Was well cavitated? Yes _____ No
 Water containerized/Amount 7.2
 Grunfos controller set @ NA (Hertz)

SAMPLING INFORMATION:
 Time / Date Started: 1217 9:30-11
 Sampled by: MJL & _____
 Sample Method: Bailer _____ Other Pump
 Grab Composite _____
 # of Bottles Collected: 3
 Bottle Preservatives: HCL
 Recovering WL: _____
 Duplicate Sampling: HO-MW-118-01-1 @ 1225
 Laboratory: _____
 COC Form: _____

ADDITIONAL INFORMATION: (i.e. weather conditions, problems encountered, maintenance required, unusual color/odor, etc.)

Hydrocarbon odor

GROUNDWATER SAMPLE LOG

Project Name: Harley-Davidson
 Project Number: 2603100044/2000/100
 Purged by: MJL &
 Sampled by: MJL &
 Checked by: &

Well Identification: MW-121
 Project Location: Bldg 45 UST Area
 Date: 9.30.11
 Date: 9.30.11
 Date: _____

WELL VOLUME CALCULATION:

Circle diameter and K used below: 1" I.D., K=0.041 gal/ft 6" I.D., K=1.469 gal/ft
2" I.D., K=0.163 gal/ft 8" I.D., K=2.61 gal/ft
 4" I.D., K=0.653 gal/ft 10" ID, K=4.08 gal/ft

1 Well Volume:

Total Depth (55.40 ft) - Depth to Water (12.33 ft) = Height of water column (23.07 ft)
 Height of water column (23.07 ft) x K value (0.163 gal/ft) = 1 Well Volume (3.8 gal)

Purge Volume:

1 Well Volume (3.8 gallons) x 3 = 3 Well Volumes (11.4 gallons)
 Purge Rate (_____ gpm) x (_____ min) = 1 Well Volume
 Purge Rate (_____ gpm) x (_____ min) = 3 Well Volume

Time	Temp °C	pH	Cond mS/cm	Turbidity NTU	D.O. mg/l	ORP mv	Purged Quantity	Well Volume	Depth to Water	Purge Rate
10:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.25
10:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.15
10:10	16.6	7.45	0.260	1.19	0.0	476			14.01	0.15
10:15	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:20	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:25	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:30	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:35	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:40	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:45	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:50	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
10:55	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:10	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:15	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:20	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:25	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:30	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:35	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:40	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:45	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:50	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
11:55	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:10	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:15	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:20	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:25	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:30	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:35	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:40	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:45	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:50	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
12:55	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:10	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:15	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:20	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:25	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:30	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:35	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:40	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:45	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:50	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
13:55	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:10	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:15	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:20	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:25	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:30	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:35	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:40	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:45	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:50	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
14:55	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:10	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:15	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:20	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:25	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:30	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:35	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:40	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:45	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:50	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
15:55	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:10	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:15	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:20	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:25	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:30	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:35	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:40	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:45	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:50	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
16:55	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
17:00	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
17:05	16.6	7.45	0.260	1.19	0.0	476			14.01	0.14
17:10	16.6	7.45	0.260							

APPENDIX J

Groundwater Sample Analytical Reports

ANALYTICAL REPORT

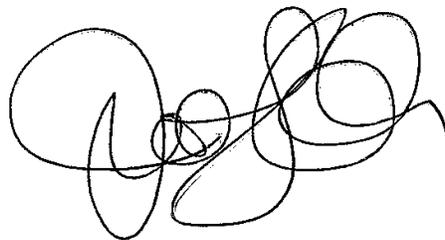
Job Number: 180-3445-1

Job Description: Harley Davidson

For:

Science Applications International Corp
6310 Allentown Boulevard
Harrisburg, PA 17112

Attention: Mr. Rodney Myers



Approved for release.
Jill L Colussy
Project Mgmt. Assistant
9/26/2011 9:48 AM

Designee for
Carrie L Gamber
Project Manager II
carrie.gamber@testamericainc.com
09/26/2011

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CASE NARRATIVE

Client: Science Applications International Corp

Project: Harley Davidson

Report Number: 180-3445-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/27/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.0 C. The laboratory signed the chain of custody on 08/29/2011.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Due to a power failure at the laboratory, several samples were analyzed outside of the holding time.

Due to the concentration of target compounds detected, samples HD-MW-121-01-0 (180-3445-1), HD-MW-121-01-0 (180-3445-1), HD-MW-118-01-0 (180-3445-3), HD-MW-118-01-1 (180-3445-4), and HD-MW-119-01-0 (180-3445-5) were analyzed at a dilution. The reporting limits have been adjusted accordingly.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3445-1

SDG No.: _____

Instrument ID: HP4 Analysis Batch Number: 7552

Lab Sample ID: IC 180-7552/2 Client Sample ID: _____

Date Analyzed: 07/15/11 10:33 Lab File ID: 4071504.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.99	Peak Integrated Incorrectly	journetp	07/15/11 13:34
2-Hexanone	10.51	Peak Identified Incorrectly	gordonk	07/27/11 05:20
4-Chlorotoluene	13.14	Peak Integrated Incorrectly	journetp	07/15/11 13:35

Lab Sample ID: IC 180-7552/3 Client Sample ID: _____

Date Analyzed: 07/15/11 11:01 Lab File ID: 4071505.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	3.03	Peak Integrated Incorrectly	journetp	07/15/11 13:40
2-Hexanone	10.51	Peak Integrated Incorrectly	gordonk	07/27/11 05:21
4-Chlorotoluene	13.14	Peak Integrated Incorrectly	journetp	07/15/11 13:31

Lab Sample ID: IC 180-7552/4 Client Sample ID: _____

Date Analyzed: 07/15/11 11:32 Lab File ID: 4071506.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.98	Peak Integrated Incorrectly	journetp	07/15/11 13:40
2-Hexanone	10.50	Peak Integrated Incorrectly	gordonk	07/27/11 05:22
4-Chlorotoluene	13.14	Peak Integrated Incorrectly	journetp	07/15/11 13:30

Lab Sample ID: IC 180-7552/6 Client Sample ID: _____

Date Analyzed: 07/15/11 12:20 Lab File ID: 4071508.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	3.02	Peak Integrated Incorrectly	journetp	07/15/11 13:28
2-Hexanone	10.50	Peak Integrated Incorrectly	gordonk	07/27/11 05:23
4-Chlorotoluene	13.13	Peak Integrated Incorrectly	journetp	07/17/11 10:14

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3445-1

SDG No.: _____

Instrument ID: HP4 Analysis Batch Number: 7552Lab Sample ID: IC 180-7552/7 Client Sample ID: _____Date Analyzed: 07/15/11 12:49 Lab File ID: 4071509.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Hexanone	10.50	Peak Identified Incorrectly	gordonk	07/27/11 05:23

Lab Sample ID: IC 180-7552/8 Client Sample ID: _____Date Analyzed: 07/15/11 13:29 Lab File ID: 4071510.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	3.02	Peak Integrated Incorrectly	journetp	07/15/11 14:16
2-Hexanone	10.50	Peak Integrated Incorrectly	gordonk	07/27/11 05:24

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3445-1

SDG No.: _____

Instrument ID: HP4 Analysis Batch Number: 13522

Lab Sample ID: CCVIS 180-13522/2 Client Sample ID: _____

Date Analyzed: 09/08/11 08:31 Lab File ID: 4090803.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.95	Peak Integrated Incorrectly	journetp	09/08/11 08:53

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3445-1

SDG No.: _____

Instrument ID: HP4 Analysis Batch Number: 13593

Lab Sample ID: CCVIS 180-13593/2 Client Sample ID: _____

Date Analyzed: 09/09/11 09:23 Lab File ID: 4090903.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.98	Peak Integrated Incorrectly	journetp	09/09/11 09:43

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3445-1

SDG No.: _____

Instrument ID: HP7 Analysis Batch Number: 4164

Lab Sample ID: IC 180-4164/2 Client Sample ID: _____

Date Analyzed: 06/08/11 09:25 Lab File ID: 7060804.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.77	Peak Integrated Incorrectly	journetp	06/13/11 08:44

Lab Sample ID: ICIS 180-4164/3 Client Sample ID: _____

Date Analyzed: 06/08/11 09:55 Lab File ID: 7060805.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.78	Peak Integrated Incorrectly	journetp	06/13/11 08:45

Lab Sample ID: IC 180-4164/4 Client Sample ID: _____

Date Analyzed: 06/08/11 11:21 Lab File ID: 7060808.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.76	Peak Integrated Incorrectly	journetp	06/13/11 08:46

Lab Sample ID: IC 180-4164/5 Client Sample ID: _____

Date Analyzed: 06/08/11 14:21 Lab File ID: 7060810.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.75	Peak Integrated Incorrectly	journetp	06/13/11 08:46

Lab Sample ID: IC 180-4164/6 Client Sample ID: _____

Date Analyzed: 06/08/11 14:46 Lab File ID: 7060811.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.77	Peak Integrated Incorrectly	journetp	06/13/11 08:48

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3445-1

SDG No.: _____

Instrument ID: HP7 Analysis Batch Number: 4164Lab Sample ID: IC 180-4164/7 Client Sample ID: _____Date Analyzed: 06/08/11 15:12 Lab File ID: 7060812.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.79	Peak Integrated Incorrectly	journetp	06/13/11 08:47

Lab Sample ID: IC 180-4164/8 Client Sample ID: _____Date Analyzed: 06/08/11 17:29 Lab File ID: 7060814.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.80	Peak Integrated Incorrectly	journetp	06/13/11 08:48

SAMPLE SUMMARY

Client: Science Applications International Corp

Job Number: 180-3445-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
180-3445-1	HD-MW-121-01-0	Water	08/25/2011 1003	08/27/2011 1000
180-3445-2	HD-MW-120-01-0	Water	08/25/2011 0901	08/27/2011 1000
180-3445-3	HD-MW-118-01-0	Water	08/25/2011 1146	08/27/2011 1000
180-3445-4	HD-MW-118-01-1	Water	08/25/2011 1146	08/27/2011 1000
180-3445-5	HD-MW-119-01-0	Water	08/25/2011 1325	08/27/2011 1000
180-3445-6	HD-B45T-QC-0/0-3	Water	08/25/2011 1300	08/27/2011 1000
180-3445-7	TRIP BLANK 1	Water	08/25/2011 1500	08/27/2011 1000

EXECUTIVE SUMMARY - Detections

Client: Science Applications International Corp

Job Number: 180-3445-1

Lab Sample ID	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
180-3445-1	HD-MW-121-01-0					
Benzene		390		50	ug/L	8260B
Toluene		1700	H	100	ug/L	8260B
Ethylbenzene		990		50	ug/L	8260B
Xylenes, Total		3600		150	ug/L	8260B
Cumene		120		50	ug/L	8260B
Methyl tert-butyl ether		45	J	50	ug/L	8260B
1,2,4-Trimethylbenzene		430		50	ug/L	8260B
1,3,5-Trimethylbenzene		120		50	ug/L	8260B
Naphthalene		26	J	50	ug/L	8260B
180-3445-2	HD-MW-120-01-0					
Benzene		2.2	J	5.0	ug/L	8260B
Toluene		0.94	J	5.0	ug/L	8260B
Methyl tert-butyl ether		14		5.0	ug/L	8260B
180-3445-3	HD-MW-118-01-0					
Benzene		120	H	50	ug/L	8260B
Toluene		560	H	50	ug/L	8260B
Ethylbenzene		630	H	50	ug/L	8260B
Xylenes, Total		1900	H	150	ug/L	8260B
Cumene		130	H	50	ug/L	8260B
1,2,4-Trimethylbenzene		460	H	50	ug/L	8260B
1,3,5-Trimethylbenzene		130	H	50	ug/L	8260B
Naphthalene		42	J H	50	ug/L	8260B
180-3445-4	HD-MW-118-01-1					
Benzene		110	H	50	ug/L	8260B
Toluene		410	H	50	ug/L	8260B
Ethylbenzene		380	H	50	ug/L	8260B
Xylenes, Total		1200	H	150	ug/L	8260B
Cumene		78	H	50	ug/L	8260B
1,2,4-Trimethylbenzene		260	H	50	ug/L	8260B
1,3,5-Trimethylbenzene		73	H	50	ug/L	8260B
Naphthalene		64	H	50	ug/L	8260B

EXECUTIVE SUMMARY - Detections

Client: Science Applications International Corp

Job Number: 180-3445-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
180-3445-5	HD-MW-119-01-0					
Benzene		6100	H	630	ug/L	8260B
Toluene		6300	H	630	ug/L	8260B
Ethylbenzene		510	J H	630	ug/L	8260B
Xylenes, Total		1900	H	1900	ug/L	8260B
1,2,4-Trimethylbenzene		170	J H	630	ug/L	8260B
Naphthalene		280	J H	630	ug/L	8260B
180-3445-6	HD-B45T-QC-0/0-3					
Naphthalene		1.5	J	5.0	ug/L	8260B
180-3445-7	TRIP BLANK 1					
Naphthalene		0.81	J	5.0	ug/L	8260B

METHOD SUMMARY

Client: Science Applications International Corp

Job Number: 180-3445-1

Description	Lab Location	Method	Preparation Method
Matrix Water			
Volatile Organic Compounds (GC/MS)	TAL PIT	SW846 8260B	
Purge and Trap	TAL PIT		SW846 5030B

Lab References:

TAL PIT = TestAmerica Pittsburgh

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Science Applications International Corp

Job Number: 180-3445-1

Method	Analyst	Analyst ID
SW846 8260B	Journet, Patrick	PJ
SW846 8260B	Zukowski, Mike	MZ

Analytical Data

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: HD-MW-121-01-0

Lab Sample ID: 180-3445-1

Date Sampled: 08/25/2011 1003

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-13522	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4090815.D
Dilution:	10			Initial Weight/Volume:	5 mL
Analysis Date:	09/08/2011 1607			Final Weight/Volume:	5 mL
Prep Date:	09/08/2011 1607				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	390		9.9	50
Toluene	3700	E	8.5	50
Ethylbenzene	990		6.2	50
Xylenes, Total	3600		20	150
Cumene	120		5.3	50
Methyl tert-butyl ether	45	J	10	50
1,2,4-Trimethylbenzene	430		5.2	50
1,3,5-Trimethylbenzene	120		5.9	50
Naphthalene	26	J	4.7	50

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	81		62 - 123
Toluene-d8 (Surr)	111		80 - 120
4-Bromofluorobenzene (Surr)	105		75 - 120
Dibromofluoromethane (Surr)	98		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: HD-MW-121-01-0

Lab Sample ID: 180-3445-1

Date Sampled: 08/25/2011 1003

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method: 8260B	Analysis Batch: 180-13593	Instrument ID: HP4
Prep Method: 5030B	Prep Batch: N/A	Lab File ID: 4090920.D
Dilution: 20		Initial Weight/Volume: 5 mL
Analysis Date: 09/09/2011 1720	Run Type: DL	Final Weight/Volume: 5 mL
Prep Date: 09/09/2011 1720		

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	230	H	20	100
Toluene	1700	H	17	100
Ethylbenzene	310	H	12	100
Xylenes, Total	1300	H	39	300
Cumene	32	J H	11	100
Methyl tert-butyl ether	34	J H	21	100
1,2,4-Trimethylbenzene	120	H	10	100
1,3,5-Trimethylbenzene	29	J H	12	100
Naphthalene	100	U H	9.4	100

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	79		62 - 123
Toluene-d8 (Surr)	110		80 - 120
4-Bromofluorobenzene (Surr)	105		75 - 120
Dibromofluoromethane (Surr)	99		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: HD-MW-120-01-0

Lab Sample ID: 180-3445-2

Date Sampled: 08/25/2011 0901

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-13262	Instrument ID:	HP7
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	7090712.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/07/2011 1430			Final Weight/Volume:	5 mL
Prep Date:	09/07/2011 1430				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	2.2	J	0.99	5.0
Toluene	0.94	J	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	14		1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99		62 - 123
Toluene-d8 (Surr)	103		80 - 120
4-Bromofluorobenzene (Surr)	102		75 - 120
Dibromofluoromethane (Surr)	96		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: HD-MW-118-01-0

Lab Sample ID: 180-3445-3

Date Sampled: 08/25/2011 1146

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-13593	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4090921.D
Dilution:	10			Initial Weight/Volume:	5 mL
Analysis Date:	09/09/2011 1744			Final Weight/Volume:	5 mL
Prep Date:	09/09/2011 1744				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	120	H	9.9	50
Toluene	560	H	8.5	50
Ethylbenzene	630	H	6.2	50
Xylenes, Total	1900	H	20	150
Cumene	130	H	5.3	50
Methyl tert-butyl ether	50	U H	10	50
1,2,4-Trimethylbenzene	460	H	5.2	50
1,3,5-Trimethylbenzene	130	H	5.9	50
Naphthalene	42	J H	4.7	50

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80		62 - 123
Toluene-d8 (Surr)	110		80 - 120
4-Bromofluorobenzene (Surr)	107		75 - 120
Dibromofluoromethane (Surr)	98		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: HD-MW-118-01-1

Lab Sample ID: 180-3445-4

Date Sampled: 08/25/2011 1146

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method: 8260B Analysis Batch: 180-13593 Instrument ID: HP4
Prep Method: 5030B Prep Batch: N/A Lab File ID: 4090922.D
Dilution: 10 Initial Weight/Volume: 5 mL
Analysis Date: 09/09/2011 1808 Final Weight/Volume: 5 mL
Prep Date: 09/09/2011 1808

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	110	H	9.9	50
Toluene	410	H	8.5	50
Ethylbenzene	380	H	6.2	50
Xylenes, Total	1200	H	20	150
Cumene	78	H	5.3	50
Methyl tert-butyl ether	50	U H	10	50
1,2,4-Trimethylbenzene	260	H	5.2	50
1,3,5-Trimethylbenzene	73	H	5.9	50
Naphthalene	64	H	4.7	50

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	81		62 - 123
Toluene-d8 (Surr)	110		80 - 120
4-Bromofluorobenzene (Surr)	105		75 - 120
Dibromofluoromethane (Surr)	97		80 - 120

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: HD-MW-119-01-0

Lab Sample ID: 180-3445-5

Date Sampled: 08/25/2011 1325

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-13593	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4090923.D
Dilution:	125			Initial Weight/Volume:	5 mL
Analysis Date:	09/09/2011 1831			Final Weight/Volume:	5 mL
Prep Date:	09/09/2011 1831				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	6100	H	120	630
Toluene	6300	H	110	630
Ethylbenzene	510	J H	78	630
Xylenes, Total	1900	H	250	1900
Cumene	630	U H	66	630
Methyl tert-butyl ether	630	U H	130	630
1,2,4-Trimethylbenzene	170	J H	65	630
1,3,5-Trimethylbenzene	630	U H	74	630
Naphthalene	280	J H	59	630

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80		62 - 123
Toluene-d8 (Surr)	107		80 - 120
4-Bromofluorobenzene (Surr)	104		75 - 120
Dibromofluoromethane (Surr)	97		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: HD-B45T-QC-0/0-3

Lab Sample ID: 180-3445-6

Date Sampled: 08/25/2011 1300

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-13262	Instrument ID:	HP7
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	7090716.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/07/2011 1659			Final Weight/Volume:	5 mL
Prep Date:	09/07/2011 1659				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	1.5	J	0.47	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 123
Toluene-d8 (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	96		75 - 120
Dibromofluoromethane (Surr)	104		80 - 120

Client: Science Applications International Corp

Job Number: 180-3445-1

Client Sample ID: TRIP BLANK 1

Lab Sample ID: 180-3445-7

Date Sampled: 08/25/2011 1500

Client Matrix: Water

Date Received: 08/27/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-13262	Instrument ID:	HP7
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	7090717.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	09/07/2011 1724			Final Weight/Volume:	5 mL
Prep Date:	09/07/2011 1724				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	0.81	J	0.47	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93		62 - 123
Toluene-d8 (Surr)	93		80 - 120
4-Bromofluorobenzene (Surr)	101		75 - 120
Dibromofluoromethane (Surr)	105		80 - 120

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	DCA %Rec	TOL %Rec	BFB %Rec
180-3445-1	HD-MW-121-01-0	98	81	111	105
180-3445-1 DL	HD-MW-121-01-0 DL	99	79	110	105
180-3445-2	HD-MW-120-01-0	96	99	103	102
180-3445-3	HD-MW-118-01-0	98	80	110	107
180-3445-4	HD-MW-118-01-1	97	81	110	105
180-3445-5	HD-MW-119-01-0	97	80	107	104
180-3445-6	HD-B45T-QC-0/0-3	104	97	100	96
180-3445-7	TRIP BLANK 1	105	93	93	101
MB 180-13262/5		94	94	87	85
MB 180-13522/4		87	75	101	96
MB 180-13593/5		98	83	110	104
LCS 180-13262/7		96	93	104	93
LCS 180-13522/6		99	84	105	98
LCS 180-13593/7		94	80	104	100
180-3445-2 MS	HD-MW-120-01-0 MS	102	101	87	98
180-3447-B-1 MS		95	86	109	103
180-3445-2 MSD	HD-MW-120-01-0 MSD	95	97	94	99
180-3447-B-1 MSD		97	84	110	102

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	80-120
DCA = 1,2-Dichloroethane-d4 (Surr)	62-123
TOL = Toluene-d8 (Surr)	80-120
BFB = 4-Bromofluorobenzene (Surr)	75-120

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

Method Blank - Batch: 180-13262

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: MB 180-13262/5	Analysis Batch: 180-13262	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7090711.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/07/2011 1405	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 09/07/2011 1405		
Leach Date: N/A		

Analyte	Result	Qual	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94	62 - 123
Toluene-d8 (Surr)	87	80 - 120
4-Bromofluorobenzene (Surr)	85	75 - 120
Dibromofluoromethane (Surr)	94	80 - 120

Lab Control Sample - Batch: 180-13262

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: LCS 180-13262/7	Analysis Batch: 180-13262	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7090713.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/07/2011 1504	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 09/07/2011 1504		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	40.0	38.2	95	80 - 120	
Toluene	40.0	43.9	110	80 - 124	
Ethylbenzene	40.0	38.5	96	79 - 124	
Xylenes, Total	120	125	104	81 - 121	
Cumene	40.0	41.9	105	73 - 130	
Methyl tert-butyl ether	40.0	38.6	96	53 - 122	
1,2,4-Trimethylbenzene	40.0	41.0	103	71 - 132	
1,3,5-Trimethylbenzene	40.0	40.9	102	75 - 135	
Naphthalene	40.0	40.6	101	10 - 144	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	93	62 - 123
Toluene-d8 (Surr)	104	80 - 120
4-Bromofluorobenzene (Surr)	93	75 - 120
Dibromofluoromethane (Surr)	96	80 - 120

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-13262**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 180-3445-2	Analysis Batch: 180-13262	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7090714.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/07/2011 1530		Final Weight/Volume: 5 mL
Prep Date: 09/07/2011 1530		5 mL
Leach Date: N/A		

MSD Lab Sample ID: 180-3445-2	Analysis Batch: 180-13262	Instrument ID: HP7
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 7090715.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/07/2011 1557		Final Weight/Volume: 5 mL
Prep Date: 09/07/2011 1557		5 mL
Leach Date: N/A		

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Benzene	109	103	80 - 120	5	20		
Toluene	94	100	80 - 124	6	20		
Ethylbenzene	103	104	79 - 124	0	25		
Xylenes, Total	102	104	81 - 121	2	20		
Cumene	105	104	73 - 130	1	20		
Methyl tert-butyl ether	96	88	53 - 122	6	20		
1,2,4-Trimethylbenzene	104	103	71 - 132	1	35		
1,3,5-Trimethylbenzene	103	100	75 - 135	3	20		
Naphthalene	112	126	10 - 144	12	35		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		101	97			62 - 123	
Toluene-d8 (Surr)		87	94			80 - 120	
4-Bromofluorobenzene (Surr)		98	99			75 - 120	
Dibromofluoromethane (Surr)		102	95			80 - 120	

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-13262**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 180-3445-2 Units: ug/L
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 09/07/2011 1530
 Prep Date: 09/07/2011 1530
 Leach Date: N/A

MSD Lab Sample ID: 180-3445-2
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 09/07/2011 1557
 Prep Date: 09/07/2011 1557
 Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Benzene	2.2 J	40.0	40.0	45.7	43.6
Toluene	0.94 J	40.0	40.0	38.6	40.9
Ethylbenzene	5.0 U	40.0	40.0	41.3	41.4
Xylenes, Total	15 U	120	120	122	125
Cumene	5.0 U	40.0	40.0	42.1	41.8
Methyl tert-butyl ether	14	40.0	40.0	52.7	49.5
1,2,4-Trimethylbenzene	5.0 U	40.0	40.0	41.6	41.1
1,3,5-Trimethylbenzene	5.0 U	40.0	40.0	41.1	40.0
Naphthalene	5.0 U	40.0	40.0	44.8	50.5

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

Method Blank - Batch: 180-13522

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: MB 180-13522/4	Analysis Batch: 180-13522	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4090807.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/08/2011 1240	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 09/08/2011 1240		
Leach Date: N/A		

Analyte	Result	Qual	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	75	62 - 123
Toluene-d8 (Surr)	101	80 - 120
4-Bromofluorobenzene (Surr)	96	75 - 120
Dibromofluoromethane (Surr)	87	80 - 120

Lab Control Sample - Batch: 180-13522

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: LCS 180-13522/6	Analysis Batch: 180-13522	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4090809.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/08/2011 1336	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 09/08/2011 1336		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	40.0	41.3	103	80 - 120	
Toluene	40.0	43.3	108	80 - 124	
Ethylbenzene	40.0	40.9	102	79 - 124	
Xylenes, Total	120	125	104	81 - 121	
Cumene	40.0	40.6	101	73 - 130	
Methyl tert-butyl ether	40.0	37.3	93	53 - 122	
1,2,4-Trimethylbenzene	40.0	41.0	102	71 - 132	
1,3,5-Trimethylbenzene	40.0	41.6	104	75 - 135	
Naphthalene	40.0	20.3	51	10 - 144	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	84	62 - 123
Toluene-d8 (Surr)	105	80 - 120
4-Bromofluorobenzene (Surr)	98	75 - 120
Dibromofluoromethane (Surr)	99	80 - 120

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

Method Blank - Batch: 180-13593

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: MB 180-13593/5	Analysis Batch: 180-13593	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4090907.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/09/2011 1144	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 09/09/2011 1144		
Leach Date: N/A		

Analyte	Result	Qual	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	83	62 - 123
Toluene-d8 (Surr)	110	80 - 120
4-Bromofluorobenzene (Surr)	104	75 - 120
Dibromofluoromethane (Surr)	98	80 - 120

Lab Control Sample - Batch: 180-13593

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: LCS 180-13593/7	Analysis Batch: 180-13593	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4090909.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/09/2011 1236	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 09/09/2011 1236		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	40.0	41.6	104	80 - 120	
Toluene	40.0	44.7	112	80 - 124	
Ethylbenzene	40.0	43.4	109	79 - 124	
Xylenes, Total	120	130	109	81 - 121	
Cumene	40.0	41.7	104	73 - 130	
Methyl tert-butyl ether	40.0	34.4	86	53 - 122	
1,2,4-Trimethylbenzene	40.0	43.1	108	71 - 132	
1,3,5-Trimethylbenzene	40.0	42.8	107	75 - 135	
Naphthalene	40.0	13.0	33	10 - 144	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80	62 - 123
Toluene-d8 (Surr)	104	80 - 120
4-Bromofluorobenzene (Surr)	100	75 - 120
Dibromofluoromethane (Surr)	94	80 - 120

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-13593**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 180-3447-B-1 MS	Analysis Batch: 180-13593	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4090910.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/09/2011 1300		Final Weight/Volume: 5 mL
Prep Date: 09/09/2011 1300		5 mL
Leach Date: N/A		

MSD Lab Sample ID: 180-3447-B-1 MSD	Analysis Batch: 180-13593	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4090911.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 09/09/2011 1323		Final Weight/Volume: 5 mL
Prep Date: 09/09/2011 1323		5 mL
Leach Date: N/A		

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Benzene	103	106	80 - 120	3	20		
Toluene	112	114	80 - 124	1	20		
Ethylbenzene	105	108	79 - 124	3	25		
Xylenes, Total	107	109	81 - 121	2	20		
Cumene	103	102	73 - 130	2	20		
Methyl tert-butyl ether	97	93	53 - 122	4	20		
1,2,4-Trimethylbenzene	102	105	71 - 132	3	35		
1,3,5-Trimethylbenzene	103	105	75 - 135	2	20		
Naphthalene	58	55	10 - 144	7	35		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
1,2-Dichloroethane-d4 (Surr)		86	84			62 - 123	
Toluene-d8 (Surr)		109	110			80 - 120	
4-Bromofluorobenzene (Surr)		103	102			75 - 120	
Dibromofluoromethane (Surr)		95	97			80 - 120	

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 180-13593**

**Method: 8260B
Preparation: 5030B**

MS Lab Sample ID: 180-3447-B-1 MS Units: ug/L
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 09/09/2011 1300
 Prep Date: 09/09/2011 1300
 Leach Date: N/A

MSD Lab Sample ID: 180-3447-B-1 MSD
 Client Matrix: Water
 Dilution: 1.0
 Analysis Date: 09/09/2011 1323
 Prep Date: 09/09/2011 1323
 Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Benzene	5.0 U	40.0	40.0	41.1	42.2
Toluene	5.0 U	40.0	40.0	44.9	45.5
Ethylbenzene	5.0 U	40.0	40.0	42.2	43.4
Xylenes, Total	15 U	120	120	129	131
Cumene	5.0 U	40.0	40.0	41.3	40.6
Methyl tert-butyl ether	5.0 U	40.0	40.0	38.7	37.2
1,2,4-Trimethylbenzene	5.0 U	40.0	40.0	40.7	42.0
1,3,5-Trimethylbenzene	5.0 U	40.0	40.0	41.1	42.0
Naphthalene	5.0 U	40.0	40.0	23.3	21.8

DATA REPORTING QUALIFIERS

Client: Science Applications International Corp

Job Number: 180-3445-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates the analyte was analyzed for but not detected.
	E	Result exceeded calibration range.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	H	Sample was prepped or analyzed beyond the specified holding time

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report		Method	Prep Batch
		Basis	Client Matrix		
GC/MS VOA					
Analysis Batch:180-13262					
LCS 180-13262/7	Lab Control Sample	T	Water	8260B	
MB 180-13262/5	Method Blank	T	Water	8260B	
180-3445-2	HD-MW-120-01-0	T	Water	8260B	
180-3445-2MS	Matrix Spike	T	Water	8260B	
180-3445-2MSD	Matrix Spike Duplicate	T	Water	8260B	
180-3445-6	HD-B45T-QC-0/0-3	T	Water	8260B	
180-3445-7	TRIP BLANK 1	T	Water	8260B	
Analysis Batch:180-13522					
LCS 180-13522/6	Lab Control Sample	T	Water	8260B	
MB 180-13522/4	Method Blank	T	Water	8260B	
180-3445-1	HD-MW-121-01-0	T	Water	8260B	
Analysis Batch:180-13593					
LCS 180-13593/7	Lab Control Sample	T	Water	8260B	
MB 180-13593/5	Method Blank	T	Water	8260B	
180-3445-1DL	HD-MW-121-01-0	T	Water	8260B	
180-3445-3	HD-MW-118-01-0	T	Water	8260B	
180-3445-4	HD-MW-118-01-1	T	Water	8260B	
180-3445-5	HD-MW-119-01-0	T	Water	8260B	
180-3447-B-1 MS	Matrix Spike	T	Water	8260B	
180-3447-B-1 MSD	Matrix Spike Duplicate	T	Water	8260B	

Report Basis

T = Total

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

Laboratory Chronicle

Lab ID: 180-3445-1

Client ID: HD-MW-121-01-0

Sample Date/Time: 08/25/2011 10:03

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	Analyzed				
P:5030B	180-3445-B-1		180-13522		09/08/2011	16:07	10	TAL PIT	PJ
A:8260B	180-3445-B-1		180-13522		09/08/2011	16:07	10	TAL PIT	PJ
P:5030B	180-3445-A-1	DL	180-13593		09/09/2011	17:20	20	TAL PIT	PJ
A:8260B	180-3445-A-1	DL	180-13593		09/09/2011	17:20	20	TAL PIT	PJ

Lab ID: 180-3445-2

Client ID: HD-MW-120-01-0

Sample Date/Time: 08/25/2011 09:01

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	Analyzed				
P:5030B	180-3445-B-2		180-13262		09/07/2011	14:30	1	TAL PIT	MZ
A:8260B	180-3445-B-2		180-13262		09/07/2011	14:30	1	TAL PIT	MZ

Lab ID: 180-3445-2 MS

Client ID: HD-MW-120-01-0

Sample Date/Time: 08/25/2011 09:01

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	Analyzed				
P:5030B	180-3445-C-2 MS		180-13262		09/07/2011	15:30	1	TAL PIT	MZ
A:8260B	180-3445-C-2 MS		180-13262		09/07/2011	15:30	1	TAL PIT	MZ

Lab ID: 180-3445-2 MSD

Client ID: HD-MW-120-01-0

Sample Date/Time: 08/25/2011 09:01

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	Analyzed				
P:5030B	180-3445-C-2 MSD		180-13262		09/07/2011	15:57	1	TAL PIT	MZ
A:8260B	180-3445-C-2 MSD		180-13262		09/07/2011	15:57	1	TAL PIT	MZ

Lab ID: 180-3445-3

Client ID: HD-MW-118-01-0

Sample Date/Time: 08/25/2011 11:46

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	Analyzed				
P:5030B	180-3445-B-3		180-13593		09/09/2011	17:44	10	TAL PIT	PJ
A:8260B	180-3445-B-3		180-13593		09/09/2011	17:44	10	TAL PIT	PJ

Lab ID: 180-3445-4

Client ID: HD-MW-118-01-1

Sample Date/Time: 08/25/2011 11:46

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	Analyzed				
P:5030B	180-3445-B-4		180-13593		09/09/2011	18:08	10	TAL PIT	PJ
A:8260B	180-3445-B-4		180-13593		09/09/2011	18:08	10	TAL PIT	PJ

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

Laboratory Chronicle

Lab ID: 180-3445-5

Client ID: HD-MW-119-01-0

Sample Date/Time: 08/25/2011 13:25

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:5030B	180-3445-B-5		180-13593		09/09/2011	18:31	125	TAL PIT	PJ
A:8260B	180-3445-B-5		180-13593		09/09/2011	18:31	125	TAL PIT	PJ

Lab ID: 180-3445-6

Client ID: HD-B45T-QC-0/0-3

Sample Date/Time: 08/25/2011 13:00

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:5030B	180-3445-B-6		180-13262		09/07/2011	16:59	1	TAL PIT	MZ
A:8260B	180-3445-B-6		180-13262		09/07/2011	16:59	1	TAL PIT	MZ

Lab ID: 180-3445-7

Client ID: TRIP BLANK 1

Sample Date/Time: 08/25/2011 15:00

Received Date/Time: 08/27/2011 10:00

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:5030B	180-3445-B-7		180-13262		09/07/2011	17:24	1	TAL PIT	MZ
A:8260B	180-3445-B-7		180-13262		09/07/2011	17:24	1	TAL PIT	MZ

Lab ID: MB

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:5030B	MB 180-13262/5		180-13262		09/07/2011	14:05	1	TAL PIT	MZ
A:8260B	MB 180-13262/5		180-13262		09/07/2011	14:05	1	TAL PIT	MZ
P:5030B	MB 180-13522/4		180-13522		09/08/2011	12:40	1	TAL PIT	PJ
A:8260B	MB 180-13522/4		180-13522		09/08/2011	12:40	1	TAL PIT	PJ
P:5030B	MB 180-13593/5		180-13593		09/09/2011	11:44	1	TAL PIT	PJ
A:8260B	MB 180-13593/5		180-13593		09/09/2011	11:44	1	TAL PIT	PJ

Lab ID: LCS

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:5030B	LCS 180-13262/7		180-13262		09/07/2011	15:04	1	TAL PIT	MZ
A:8260B	LCS 180-13262/7		180-13262		09/07/2011	15:04	1	TAL PIT	MZ
P:5030B	LCS 180-13522/6		180-13522		09/08/2011	13:36	1	TAL PIT	PJ
A:8260B	LCS 180-13522/6		180-13522		09/08/2011	13:36	1	TAL PIT	PJ
P:5030B	LCS 180-13593/7		180-13593		09/09/2011	12:36	1	TAL PIT	PJ
A:8260B	LCS 180-13593/7		180-13593		09/09/2011	12:36	1	TAL PIT	PJ

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-3445-1

Laboratory Chronicle

Lab ID: MS

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-3447-B-1 MS		180-13593		09/09/2011 13:00	1	TAL PIT	PJ
A:8260B	180-3447-B-1 MS		180-13593		09/09/2011 13:00	1	TAL PIT	PJ

Lab ID: MSD

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-3447-B-1 MSD		180-13593		09/09/2011 13:23	1	TAL PIT	PJ
A:8260B	180-3447-B-1 MSD		180-13593		09/09/2011 13:23	1	TAL PIT	PJ

Lab References:

TAL PIT = TestAmerica Pittsburgh

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
VOA8260B INT_00002	08/07/11	07/07/11	Methanol, Lot DD946	100 mL	VOA8260BINT_00030	1 mL	1,4-Dichlorobenzene-d4 Chlorobenzene-d5 Fluorobenzene (IS)	25 ug/mL 25 ug/mL 25 ug/mL
.VOA8260BINT_00030	07/31/13		Ultra, Lot CG-2361		(Purchased Reagent)		1,4-Dichlorobenzene-d4 Chlorobenzene-d5 Fluorobenzene (IS)	2500 ug/mL 2500 ug/mL 2500 ug/mL
VOA8260BINT_00041	06/30/11	05/13/11	Methanol, Lot DD471	100 mL	VOA8260BINT_00036	1 mL	1,4-Dichlorobenzene-d4 Chlorobenzene-d5 Fluorobenzene (IS)	25 ug/mL 25 ug/mL 25 ug/mL
.VOA8260BINT_00036	07/31/13		Ultra, Lot CG-2361		(Purchased Reagent)		1,4-Dichlorobenzene-d4 Chlorobenzene-d5 Fluorobenzene (IS)	2500 ug/mL 2500 ug/mL 2500 ug/mL
VOA8260BSURR_00033	06/30/11	05/31/11	Methanol, Lot DD971	100 mL	VOA8260BSURR_00022	1 mL	1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Toluene-d8 (Surr)	25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL
.VOA8260BSURR_00022	12/31/13		Ultra, Lot CG-3959		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Toluene-d8 (Surr)	2500 ug/mL 2500 ug/mL 2500 ug/mL 2500 ug/mL
VOA8260BSURR_00035	08/07/11	07/07/11	Methanol, Lot DD946	100 mL	VOA8260BSURR_00012	1 mL	1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Toluene-d8 (Surr)	25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL
.VOA8260BSURR_00012	12/31/13		Ultra, Lot CG-3959		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Toluene-d8 (Surr)	2500 ug/mL 2500 ug/mL 2500 ug/mL 2500 ug/mL
VOA8260BSURR_00057	09/25/11	08/25/11	Methanol, Lot dd946	100 mL	VOA8260BSURR_00055	1 mL	1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Toluene-d8 (Surr)	25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL
.VOA8260BSURR_00055	12/31/13		Ultra, Lot CG-3959		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr) Toluene-d8 (Surr)	2500 ug/mL 2500 ug/mL 2500 ug/mL 2500 ug/mL
VOA8260VOARes_00006	06/08/11	06/01/11	Methanol, Lot DD946	8 mL	VOAGASMIXRES_00006	1 mL	Bromomethane Chloroethane Chloromethane Dichlorodifluoromethane Trichlorofluoromethane Vinyl chloride	25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL
					VOARESTVOAST_00003	1 mL	1,1,2-Trichloro-1,2,2-trifluor oethane Cyclohexane Methyl acetate Methylcyclohexane Carbon disulfide	25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL 25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cumene	25 ug/mL
							Dibromomethane	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Ethylene Dibromide	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Methyl tert-butyl ether	25 ug/mL
.VOAGSMIXRES_00006	06/01/17		Restek, Lot A077345			(Purchased Reagent)	Bromomethane	200 ug/mL
							Chloroethane	200 ug/mL
							Chloromethane	200 ug/mL
							Dichlorodifluoromethane	200 ug/mL
							Trichlorofluoromethane	200 ug/mL
							Vinyl chloride	200 ug/mL
.VOARESTVOAST_00003	06/13/11	05/13/11	Methanol, Lot DD471	10 mL	VOABonusABS_00007	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	200 mL
							Cyclohexane	200 mL
							Methyl acetate	200 mL
							Methylcyclohexane	200 mL
					VOACS2Restek_00003	1 mL	Carbon disulfide	200 mL
					VOAKETONEREST_00006	0.4 mL	2-Butanone (MEK)	200 mL
							2-Hexanone	200 mL
							4-Methyl-2-pentanone (MIBK)	200 mL
							Acetone	200 mL
					VOAMEGAMIXRES_00009	1 mL	1,1,1,2-Tetrachloroethane	200 mL
							1,1,1-Trichloroethane	200 mL
							1,1,2,2-Tetrachloroethane	200 mL
							1,1,2-Trichloroethane	200 mL
							1,1-Dichloroethane	200 mL
							1,1-Dichloroethene	200 mL
							1,1-Dichloropropene	200 mL
							1,2,3-Trichlorobenzene	200 mL
							1,2,3-Trichloropropene	200 mL
							1,2,4-Trichlorobenzene	200 mL
							1,2,4-Trimethylbenzene	200 mL
							1,2-Dibromo-3-Chloropropane	200 mL
							1,2-Dichlorobenzene	200 mL
							1,2-Dichloroethane	200 mL
							1,2-Dichloropropane	200 mL
							1,3,5-Trimethylbenzene	200 mL
							1,3-Dichlorobenzene	200 mL
							1,3-Dichloropropane	200 mL
							1,4-Dichlorobenzene	200 mL
							2,2-Dichloropropane	200 mL
							2-Chlorotoluene	200 mL
							4-Chlorotoluene	200 mL
							4-Isopropyltoluene	200 mL
							Benzene	200 mL
							Bromobenzene	200 mL
							Bromoform	200 mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbon tetrachloride	200 mL
							Chlorobenzene	200 mL
							Chlorobromomethane	200 mL
							Chlorodibromomethane	200 mL
							Chloroform	200 mL
							cis-1,2-Dichloroethene	200 mL
							cis-1,3-Dichloropropene	200 mL
							Cumene	200 mL
							Dibromomethane	200 mL
							Dichlorobromomethane	200 mL
							Ethylbenzene	200 mL
							Ethylene Dibromide	200 mL
							Hexachlorobutadiene	200 mL
							m-Xylene & p-Xylene	400 mL
							Methylene Chloride	200 mL
							n-Butylbenzene	200 mL
							N-Propylbenzene	200 mL
							Naphthalene	200 mL
							o-Xylene	200 mL
							sec-Butylbenzene	200 mL
							Styrene	200 mL
							tert-Butylbenzene	200 mL
							Tetrachloroethene	200 mL
							Toluene	200 mL
							trans-1,2-Dichloroethene	200 mL
							trans-1,3-Dichloropropene	200 mL
							Trichloroethene	200 mL
					VOAMTBERES_00006	1 mL	Methyl tert-butyl ether	200 mL
..VOABonusABS_00007	04/18/16	Absolute Standards, Inc., Lot 041811			(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	2000 ug/mL
							Cyclohexane	2000 ug/mL
							Methyl acetate	2000 ug/mL
							Methylcyclohexane	2000 ug/mL
..VOACS2Restek_00003	10/01/14	Restek, Lot A070682			(Purchased Reagent)		Carbon disulfide	2000 ug/mL
..VOAKETONEREST_00006	11/01/13	Restek, Lot A076449			(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
..VOAMEGAMIXRES_00009	11/01/12	Restek, Lot A077842			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2000 ug/mL
							1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,1-Dichloropropene	2000 ug/mL
							1,2,3-Trichlorobenzene	2000 ug/mL
							1,2,3-Trichloropropane	2000 ug/mL
							1,2,4-Trichlorobenzene	2000 ug/mL
							1,2,4-Trimethylbenzene	2000 ug/mL
							1,2-Dibromo-3-Chloropropane	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..VOAMTBERES_00006	06/01/15		Restek, Lot A075320			(Purchased Reagent)	1,2-Dichlorobenzene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							1,3-Dichlorobenzene	2000 ug/mL
							1,3-Dichloropropane	2000 ug/mL
							1,4-Dichlorobenzene	2000 ug/mL
							2,2-Dichloropropane	2000 ug/mL
							2-Chlorotoluene	2000 ug/mL
							4-Chlorotoluene	2000 ug/mL
							4-Isopropyltoluene	2000 ug/mL
							Benzene	2000 ug/mL
							Bromobenzene	2000 ug/mL
							Bromoform	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chlorobromomethane	2000 ug/mL
							Chlorodibromomethane	2000 ug/mL
							Chloroform	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Cumene	2000 ug/mL
							Dibromomethane	2000 ug/mL
							Dichlorobromomethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Ethylene Dibromide	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							m-Xylene & p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							n-Butylbenzene	2000 ug/mL
							N-Propylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							o-Xylene	2000 ug/mL
sec-Butylbenzene	2000 ug/mL							
Styrene	2000 ug/mL							
tert-Butylbenzene	2000 ug/mL							
Tetrachloroethene	2000 ug/mL							
Toluene	2000 ug/mL							
trans-1,2-Dichloroethene	2000 ug/mL							
trans-1,3-Dichloropropene	2000 ug/mL							
Trichloroethene	2000 ug/mL							
Methyl tert-butyl ether	2000 ug/mL							
VOA8260VOARES_00010	07/18/11	07/11/11	Methanol, Lot DD946	8 mL	VOAGASMIXRES_00021	1 mL	Bromomethane	25 ug/mL
							Chloroethane	25 ug/mL
							Chloromethane	25 ug/mL
							Dichlorodifluoromethane	25 ug/mL
							Trichlorofluoromethane	25 ug/mL
							Vinyl chloride	25 ug/mL
					VOARESTVOAST_00006	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cyclohexane	25 ug/mL
							Methyl acetate	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Carbon disulfide	25 ug/mL
							2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cumene	25 ug/mL
							Dibromomethane	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Ethylene Dibromide	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
							trans-1,2-Dichloroethene	25 ug/mL
							trans-1,3-Dichloropropene	25 ug/mL
							Trichloroethene	25 ug/mL
							Methyl tert-butyl ether	25 ug/mL
.VOAGSMIXRES_00021	06/01/17		Restek, Lot A077345			(Purchased Reagent)	Bromomethane	200 ug/mL
							Chloroethane	200 ug/mL
							Chloromethane	200 ug/mL
							Dichlorodifluoromethane	200 ug/mL
							Trichlorofluoromethane	200 ug/mL
							Vinyl chloride	200 ug/mL
.VOARESTVOAST_00006	07/29/11	06/29/11	Methanol, Lot DD946	10 mL	VOABonusABS_00004	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	200 ug/mL
							Cyclohexane	200 ug/mL
							Methyl acetate	200 ug/mL
							Methylcyclohexane	200 ug/mL
					VOACS2Restek_00006	1 mL	Carbon disulfide	200 ug/mL
					VOAKETONEREST_00012	0.4 mL	2-Butanone (MEK)	200 ug/mL
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					VOAMEGAMIXRES_00006	1 mL	1,1,1,2-Tetrachloroethane	200 ug/mL
							1,1,1-Trichloroethane	200 ug/mL
							1,1,2,2-Tetrachloroethane	200 ug/mL
							1,1,2-Trichloroethane	200 ug/mL
							1,1-Dichloroethane	200 ug/mL
							1,1-Dichloroethene	200 ug/mL
							1,1-Dichloropropene	200 ug/mL
							1,2,3-Trichlorobenzene	200 ug/mL
							1,2,3-Trichloropropane	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2,4-Trimethylbenzene	200 ug/mL
							1,2-Dibromo-3-Chloropropane	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Dichloroethane	200 ug/mL
							1,2-Dichloropropane	200 ug/mL
							1,3,5-Trimethylbenzene	200 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dichloropropane	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							2,2-Dichloropropane	200 ug/mL
							2-Chlorotoluene	200 ug/mL
							4-Chlorotoluene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Isopropyltoluene	200 ug/mL
							Benzene	200 ug/mL
							Bromobenzene	200 ug/mL
							Bromoform	200 ug/mL
							Carbon tetrachloride	200 ug/mL
							Chlorobenzene	200 ug/mL
							Chlorobromomethane	200 ug/mL
							Chlorodibromomethane	200 ug/mL
							Chloroform	200 ug/mL
							cis-1,2-Dichloroethene	200 ug/mL
							cis-1,3-Dichloropropene	200 ug/mL
							Cumene	200 ug/mL
							Dibromomethane	200 ug/mL
							Dichlorobromomethane	200 ug/mL
							Ethylbenzene	200 ug/mL
							Ethylene Dibromide	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							m-Xylene & p-Xylene	400 ug/mL
							Methylene Chloride	200 ug/mL
							n-Butylbenzene	200 ug/mL
							N-Propylbenzene	200 ug/mL
							Naphthalene	200 ug/mL
							o-Xylene	200 ug/mL
							sec-Butylbenzene	200 ug/mL
							Styrene	200 ug/mL
							tert-Butylbenzene	200 ug/mL
							Tetrachloroethene	200 ug/mL
							Toluene	200 ug/mL
							trans-1,2-Dichloroethene	200 ug/mL
							trans-1,3-Dichloropropene	200 ug/mL
							Trichloroethene	200 ug/mL
..VOABonusABS_00004	04/18/16		Absolute Standards, Inc., Lot 041811		VOAMTBERES_00010	1 mL	Methyl tert-butyl ether	200 ug/mL
					(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	2000 ug/mL
							Cyclohexane	2000 ug/mL
							Methyl acetate	2000 ug/mL
							Methylcyclohexane	2000 ug/mL
..VOACS2Restek_00006	05/01/15		Restek, Lot A074745		(Purchased Reagent)		Carbon disulfide	2000 ug/mL
..VOAKETONEREST_00012	11/01/13		Restek, Lot A076449		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
..VOAMEGAMIXRES_00006	08/01/12		Restek, Lot A076311		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2000 ug/mL
							1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,1-Dichloropropene	2000 ug/mL
							1,2,3-Trichlorobenzene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,3-Trichloropropane	2000 ug/mL
							1,2,4-Trichlorobenzene	2000 ug/mL
							1,2,4-Trimethylbenzene	2000 ug/mL
							1,2-Dibromo-3-Chloropropane	2000 ug/mL
							1,2-Dichlorobenzene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropane	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							1,3-Dichlorobenzene	2000 ug/mL
							1,3-Dichloropropane	2000 ug/mL
							1,4-Dichlorobenzene	2000 ug/mL
							2,2-Dichloropropane	2000 ug/mL
							2-Chlorotoluene	2000 ug/mL
							4-Chlorotoluene	2000 ug/mL
							4-Isopropyltoluene	2000 ug/mL
							Benzene	2000 ug/mL
							Bromobenzene	2000 ug/mL
							Bromoform	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chlorobromomethane	2000 ug/mL
							Chlorodibromomethane	2000 ug/mL
							Chloroform	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL
							Cumene	2000 ug/mL
							Dibromomethane	2000 ug/mL
							Dichlorobromomethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Ethylene Dibromide	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							m-Xylene & p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
n-Butylbenzene	2000 ug/mL							
N-Propylbenzene	2000 ug/mL							
Naphthalene	2000 ug/mL							
o-Xylene	2000 ug/mL							
sec-Butylbenzene	2000 ug/mL							
Styrene	2000 ug/mL							
tert-Butylbenzene	2000 ug/mL							
Tetrachloroethene	2000 ug/mL							
Toluene	2000 ug/mL							
trans-1,2-Dichloroethene	2000 ug/mL							
trans-1,3-Dichloropropene	2000 ug/mL							
Trichloroethene	2000 ug/mL							
..VOAMTBRES_00010	10/01/15		Restek, Lot A077701		(Purchased Reagent)		Methyl tert-butyl ether	2000 ug/mL
VOACETOABS_00013	07/02/11	06/02/11	Methanol, Lot DD979	1 mL	VOAAcetoABS_00005	1 mL	Acetonitrile	1000 ug/mL
.VOAAcetoABS_00005	05/21/15		Absolute Standards, Inc., Lot 052110		(Purchased Reagent)		Acetonitrile	1000 ug/mL
VOAACETOACC_00011	07/23/11	06/23/11	Methanol, Lot DD946	1 mL	VOAAcetoACC_00004	1 mL	Acetonitrile	1000 ug/mL
.VOAAcetoACC_00004	08/04/20		AccuStandard, Lot 210081059		(Purchased Reagent)		Acetonitrile	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
VoaEEMixABS_00009	07/06/11	06/06/11	Methanol, Lot DD946	25 mL	VOAEEEMixABS_00006	0.125 mL	1,3,5-Trichlorobenzene	25 ug/mL
.VOAEEEMixABS_00006	01/02/12	Absolute Standards, Inc., Lot 010207			(Purchased Reagent)		1,3,5-Trichlorobenzene	5000 ug/mL
VOARESTEK25ug_00001	09/11/11	09/04/11	Methanol, Lot DD946	8 mL	VOA8260VOARES_00014	1 mL	1,2,4-Trimethylbenzene	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							Benzene	25 ug/mL
							Cumene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							Toluene	25 ug/mL
							Xylenes, Total	75 ug/mL
							Methyl tert-butyl ether	25 ug/mL
.VOA8260VOARES_00014	09/25/11	08/25/11	Methanol, Lot DD946	10 mL	VOAMEGAMIXRES_00005	1 mL	1,2,4-Trimethylbenzene	200 ug/mL
							1,3,5-Trimethylbenzene	200 ug/mL
							Benzene	200 ug/mL
							Cumene	200 ug/mL
							Ethylbenzene	200 ug/mL
							Naphthalene	200 ug/mL
							Toluene	200 ug/mL
							Xylenes, Total	600 ug/mL
					VOAMTBERES_00015	1 mL	Methyl tert-butyl ether	200 ug/mL
..VOAMEGAMIXRES_00005	05/01/12	Restek, Lot A074908			(Purchased Reagent)		1,2,4-Trimethylbenzene	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							Benzene	2000 ug/mL
							Cumene	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Toluene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
..VOAMTBERES_00015	03/01/18	Restek, Lot A080666			(Purchased Reagent)		Methyl tert-butyl ether	2000 ug/mL
VOAUltra5ug/m_00001	09/11/11	09/04/11	Methanol, Lot DD946	8 mL	VOA8260VOAULT_00011	1 mL	Methyl tert-butyl ether	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							Benzene	25 ug/mL
							Cumene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							Toluene	25 ug/mL
							Xylenes, Total	75 ug/mL
.VOA8260VOAULT_00011	09/25/11	08/25/11	Methanol, Lot DD946	10 mL	VOAMTBESupel_00005	1 mL	Methyl tert-butyl ether	200 ug/mL
					VOAVOCMIXULT_00010	1 mL	1,2,4-Trimethylbenzene	200 ug/mL
							1,3,5-Trimethylbenzene	200 ug/mL
							Benzene	200 ug/mL
							Cumene	200 ug/mL
							Ethylbenzene	200 ug/mL
							Naphthalene	200 ug/mL
							Toluene	200 ug/mL
							Xylenes, Total	600 ug/mL
..VOAMTBESupel_00005	11/01/12	Supelco, Lot LB7179			(Purchased Reagent)		Methyl tert-butyl ether	2000 ug/mL
..VOAVOCMIXULT_00010	12/31/13	Ultra, Lot CG-3928			(Purchased Reagent)		1,2,4-Trimethylbenzene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-3445-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3,5-Trimethylbenzene	2000 ug/mL
							Benzene	2000 ug/mL
							Cumene	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Toluene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
VoaW EEmixAbs_00001	08/07/11	07/07/11	Methanol, Lot DD946	25 mL	VOAEEMixABS_00012	0.125 mL	1,3,5-Trichlorobenzene	25 ug/mL
.VOAEEMixABS_00012	01/02/12		Absolute Standards, Inc., Lot 010207		(Purchased Reagent)		1,3,5-Trichlorobenzene	5000 ug/mL

Certification Summary

Client: Science Applications International Corp
 Project/Site: Harley Davidson

TestAmerica Job ID: 180-3445-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Pittsburgh	ACLASS	DoD ELAP		ADE-1422
TestAmerica Pittsburgh	Arkansas	State Program	6	88-0690
TestAmerica Pittsburgh	California	NELAC	9	4224CA
TestAmerica Pittsburgh	Connecticut	State Program	1	PH-0688
TestAmerica Pittsburgh	Florida	NELAC	4	E871008
TestAmerica Pittsburgh	Illinois	NELAC	5	002602
TestAmerica Pittsburgh	Kansas	NELAC	7	E-10350
TestAmerica Pittsburgh	Louisiana	NELAC	6	04041
TestAmerica Pittsburgh	New Hampshire	NELAC	1	203011
TestAmerica Pittsburgh	New Jersey	NELAC	2	PA005
TestAmerica Pittsburgh	New York	NELAC	2	11182
TestAmerica Pittsburgh	North Carolina	North Carolina DENR	4	434
TestAmerica Pittsburgh	Pennsylvania	NELAC	3	02-00416
TestAmerica Pittsburgh	Pennsylvania	State Program	3	02-416
TestAmerica Pittsburgh	South Carolina	State Program	4	89014002
TestAmerica Pittsburgh	USDA	USDA		P330-10-00139
TestAmerica Pittsburgh	USDA	USDA		P-Soil-01
TestAmerica Pittsburgh	Utah	NELAC	8	STLP
TestAmerica Pittsburgh	West Virginia	West Virginia DEP	3	142
TestAmerica Pittsburgh	Wisconsin	State Program	5	998027800

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Shipping and Receiving Documents



8709 1952 2937

0200

Form 10 No.

FedEx Retrieval

1 From **88611** Date
 Sender's FedEx Account Number
 Sender's Name **Matthew Logan** Phone **717 901 8100**
 Company **SAIC**
 Address **6310 Montross Blvd**
 City **Harrisburg** State **PA** ZIP **17110** Dept./Floor/Suite/Room

2 Your Internal Billing Reference

3 To Recipient's Name **Sample Receiving** Phone **410 963 7038**
 Company **Test America**
 Address **301 Alpha Drive**
 City **Harrisburg** State **PA** ZIP **17108** Dept./Floor/Suite/Room

4a Express Package Service *To meet locations.
 FedEx Priority Overnight **5** Next business afternoon.
 FedEx Standard Overnight **6** Next business day.
 FedEx 2Day **20** Second business day.
 FedEx Express Saver **34** Third business day.

4b Express Freight Service ** To meet locations.
 FedEx 1Day Freight **83** Next business day.
 FedEx 2Day Freight **83** Second business day.
 FedEx 3Day Freight **83** Third business day.

5 Packaging **2** FedEx Envelope **3** FedEx Box **4** FedEx Tube

6 Special Handling and Delivery Signature Options
 3 SATURDAY DELIVERY

7 Payment Bill to: Sender Recipient Credit Card Credit Card Auth.



8709 1952 2937

Login Sample Receipt Checklist

Client: Science Applications International Corp

Job Number: 180-3445-1

Login Number: 3445
List Number: 1
Creator: Oakley, Jason

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

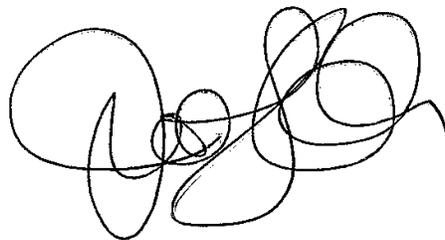
Job Number: 180-4524-1

Job Description: Harley Davidson

For:

Science Applications International Corp
6310 Allentown Boulevard
Harrisburg, PA 17112

Attention: Mr. Rodney Myers



Approved for release.
Jill L Colussy
Project Mgmt. Assistant
10/14/2011 2:33 PM

Designee for
Carrie L Gamber
Project Manager II
carrie.gamber@testamericainc.com
10/14/2011

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager or designee who has signed this report.

TestAmerica Laboratories, Inc.

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Tel (412) 963-7058 Fax (412) 963-2468 www.testamericainc.com

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CASE NARRATIVE

Client: Science Applications International Corp

Project: Harley Davidson

Report Number: 180-4524-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 10/01/2011; the samples arrived in good condition, properly preserved and on ice.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Due to the concentration of target compounds detected, samples HD-MW-121-01-0 (180-4524-1)[50X], HD-MW-118-01-0 (180-4524-3) [20X], HD-MW-118-01-1 (180-4524-4)[20X] and HD-MW-119-01-0 (180-4524-5)[100X] were analyzed at a dilution. The reporting limits have been adjusted accordingly.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-4524-1

SDG No.: _____

Instrument ID: HP4 Analysis Batch Number: 15869

Lab Sample ID: IC 180-15869/2 Client Sample ID: _____

Date Analyzed: 09/29/11 11:15 Lab File ID: 4092905.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	3.00	Peak Integrated Incorrectly	journetp	09/29/11 11:41

Lab Sample ID: IC 180-15869/3 Client Sample ID: _____

Date Analyzed: 09/29/11 11:41 Lab File ID: 4092906.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.98	Peak Integrated Incorrectly	journetp	09/29/11 12:10
4-Chlorotoluene	13.14	Wrong Isomer	journetp	09/29/11 12:05

Lab Sample ID: IC 180-15869/5 Client Sample ID: _____

Date Analyzed: 09/29/11 12:35 Lab File ID: 4092908.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	3.04	Peak Integrated Incorrectly	journetp	09/29/11 13:34
4-Chlorotoluene	13.14	Wrong Isomer	journetp	09/29/11 13:35

Lab Sample ID: IC 180-15869/6 Client Sample ID: _____

Date Analyzed: 09/29/11 13:02 Lab File ID: 4092909.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	3.02	Peak Integrated Incorrectly	journetp	09/29/11 13:35

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-4524-1

SDG No.: _____

Instrument ID: HP4 Analysis Batch Number: 15869Lab Sample ID: IC 180-15869/8 Client Sample ID: _____Date Analyzed: 09/29/11 14:44 Lab File ID: 4092912.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	3.01	Peak Integrated Incorrectly	journetp	09/29/11 15:09
Methylene Chloride	4.62	Peak Integrated Incorrectly	journetp	09/29/11 15:09
trans-1,2-Dichloroethene	5.04	Peak Integrated Incorrectly	journetp	09/29/11 15:09
Bromobenzene	12.83	Peak Integrated Incorrectly	journetp	09/29/11 15:10

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-4524-1

SDG No.: _____

Instrument ID: HP4 Analysis Batch Number: 17084Lab Sample ID: CCVIS 180-17084/3 Client Sample ID: _____Date Analyzed: 10/11/11 11:15 Lab File ID: 4101105.D GC Column: DB-624 ID: 0.18 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Trichlorofluoromethane	2.95	Peak Integrated Incorrectly	journetp	10/11/11 12:13

SAMPLE SUMMARY

Client: Science Applications International Corp

Job Number: 180-4524-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
180-4524-1	HD-MW-121-01-0	Water	09/30/2011 1010	10/01/2011 1000
180-4524-2	HD-MW-120-01-0	Water	09/30/2011 0916	10/01/2011 1000
180-4524-3	HD-MW-118-01-0	Water	09/30/2011 1217	10/01/2011 1000
180-4524-4	HD-MW-118-01-1	Water	09/30/2011 1225	10/01/2011 1000
180-4524-5	HD-MW-119-01-0	Water	09/30/2011 1259	10/01/2011 1000
180-4524-6	HD-B45T-QC-0/0-3	Water	09/30/2011 1315	10/01/2011 1000
180-4524-7	TRIP BLANK 1	Water	09/30/2011 1500	10/01/2011 1000

EXECUTIVE SUMMARY - Detections

Client: Science Applications International Corp

Job Number: 180-4524-1

Lab Sample ID	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
180-4524-1	HD-MW-121-01-0					
Benzene		430		250	ug/L	8260B
Toluene		4900		250	ug/L	8260B
Ethylbenzene		1000		250	ug/L	8260B
Xylenes, Total		3700		750	ug/L	8260B
Cumene		45	J	250	ug/L	8260B
Methyl tert-butyl ether		56	J	250	ug/L	8260B
1,2,4-Trimethylbenzene		330		250	ug/L	8260B
1,3,5-Trimethylbenzene		140	J	250	ug/L	8260B
180-4524-2	HD-MW-120-01-0					
Methyl tert-butyl ether		1.1	J	5.0	ug/L	8260B
180-4524-3	HD-MW-118-01-0					
Benzene		120		100	ug/L	8260B
Toluene		520		100	ug/L	8260B
Ethylbenzene		1000		100	ug/L	8260B
Xylenes, Total		2800		300	ug/L	8260B
Cumene		88	J	100	ug/L	8260B
1,2,4-Trimethylbenzene		790		100	ug/L	8260B
1,3,5-Trimethylbenzene		250		100	ug/L	8260B
Naphthalene		130		100	ug/L	8260B
180-4524-4	HD-MW-118-01-1					
Benzene		120		100	ug/L	8260B
Toluene		530		100	ug/L	8260B
Ethylbenzene		1000		100	ug/L	8260B
Xylenes, Total		2800		300	ug/L	8260B
Cumene		78	J	100	ug/L	8260B
1,2,4-Trimethylbenzene		750		100	ug/L	8260B
1,3,5-Trimethylbenzene		240		100	ug/L	8260B
Naphthalene		140		100	ug/L	8260B
180-4524-5	HD-MW-119-01-0					
Benzene		11000		500	ug/L	8260B
Toluene		18000		500	ug/L	8260B
Ethylbenzene		2600		500	ug/L	8260B
Xylenes, Total		10000		1500	ug/L	8260B
1,2,4-Trimethylbenzene		1300		500	ug/L	8260B
1,3,5-Trimethylbenzene		480	J	500	ug/L	8260B
Naphthalene		240	J	500	ug/L	8260B

METHOD SUMMARY

Client: Science Applications International Corp

Job Number: 180-4524-1

Description	Lab Location	Method	Preparation Method
Matrix Water			
Volatile Organic Compounds (GC/MS)	TAL PIT	SW846 8260B	
Purge and Trap	TAL PIT		SW846 5030B

Lab References:

TAL PIT = TestAmerica Pittsburgh

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Science Applications International Corp

Job Number: 180-4524-1

Method	Analyst	Analyst ID
SW846 8260B	Journet, Patrick	PJ

Client: Science Applications International Corp

Job Number: 180-4524-1

Client Sample ID: HD-MW-121-01-0

Lab Sample ID: 180-4524-1

Date Sampled: 09/30/2011 1010

Client Matrix: Water

Date Received: 10/01/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-17084	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4101125.D
Dilution:	50			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 1912			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 1912				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	430		49	250
Toluene	4900		42	250
Ethylbenzene	1000		31	250
Xylenes, Total	3700		98	750
Cumene	45	J	27	250
Methyl tert-butyl ether	56	J	51	250
1,2,4-Trimethylbenzene	330		26	250
1,3,5-Trimethylbenzene	140	J	30	250
Naphthalene	250	U	24	250

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	100		62 - 123
Toluene-d8 (Surr)	107		80 - 120
4-Bromofluorobenzene (Surr)	98		75 - 120
Dibromofluoromethane (Surr)	105		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-4524-1

Client Sample ID: HD-MW-120-01-0

Lab Sample ID: 180-4524-2

Date Sampled: 09/30/2011 0916

Client Matrix: Water

Date Received: 10/01/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-17084	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4101122.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 1800			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 1800				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	1.1	J	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98		62 - 123
Toluene-d8 (Surr)	109		80 - 120
4-Bromofluorobenzene (Surr)	102		75 - 120
Dibromofluoromethane (Surr)	104		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-4524-1

Client Sample ID: HD-MW-118-01-0

Lab Sample ID: 180-4524-3

Date Sampled: 09/30/2011 1217

Client Matrix: Water

Date Received: 10/01/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-17084	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4101126.D
Dilution:	20			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 1936			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 1936				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	120		20	100
Toluene	520		17	100
Ethylbenzene	1000		12	100
Xylenes, Total	2800		39	300
Cumene	88	J	11	100
Methyl tert-butyl ether	100	U	21	100
1,2,4-Trimethylbenzene	790		10	100
1,3,5-Trimethylbenzene	250		12	100
Naphthalene	130		9.4	100

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		62 - 123
Toluene-d8 (Surr)	104		80 - 120
4-Bromofluorobenzene (Surr)	106		75 - 120
Dibromofluoromethane (Surr)	105		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-4524-1

Client Sample ID: HD-MW-118-01-1

Lab Sample ID: 180-4524-4

Date Sampled: 09/30/2011 1225

Client Matrix: Water

Date Received: 10/01/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-17084	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4101127.D
Dilution:	20			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 2000			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 2000				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	120		20	100
Toluene	530		17	100
Ethylbenzene	1000		12	100
Xylenes, Total	2800		39	300
Cumene	78	J	11	100
Methyl tert-butyl ether	100	U	21	100
1,2,4-Trimethylbenzene	750		10	100
1,3,5-Trimethylbenzene	240		12	100
Naphthalene	140		9.4	100

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	104		62 - 123
Toluene-d8 (Surr)	107		80 - 120
4-Bromofluorobenzene (Surr)	100		75 - 120
Dibromofluoromethane (Surr)	107		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-4524-1

Client Sample ID: HD-MW-119-01-0

Lab Sample ID: 180-4524-5

Date Sampled: 09/30/2011 1259

Client Matrix: Water

Date Received: 10/01/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-17084	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4101128.D
Dilution:	100			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 2024			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 2024				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	11000		99	500
Toluene	18000		85	500
Ethylbenzene	2600		62	500
Xylenes, Total	10000		200	1500
Cumene	500	U	53	500
Methyl tert-butyl ether	500	U	100	500
1,2,4-Trimethylbenzene	1300		52	500
1,3,5-Trimethylbenzene	480	J	59	500
Naphthalene	240	J	47	500

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94		62 - 123
Toluene-d8 (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	106		75 - 120
Dibromofluoromethane (Surr)	103		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-4524-1

Client Sample ID: HD-B45T-QC-0/0-3

Lab Sample ID: 180-4524-6

Date Sampled: 09/30/2011 1315

Client Matrix: Water

Date Received: 10/01/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-17084	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4101123.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 1824			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 1824				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	102		62 - 123
Toluene-d8 (Surr)	108		80 - 120
4-Bromofluorobenzene (Surr)	106		75 - 120
Dibromofluoromethane (Surr)	108		80 - 120

Analytical Data

Client: Science Applications International Corp

Job Number: 180-4524-1

Client Sample ID: TRIP BLANK 1

Lab Sample ID: 180-4524-7

Date Sampled: 09/30/2011 1500

Client Matrix: Water

Date Received: 10/01/2011 1000

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	180-17084	Instrument ID:	HP4
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	4101124.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	10/11/2011 1848			Final Weight/Volume:	5 mL
Prep Date:	10/11/2011 1848				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	104		62 - 123
Toluene-d8 (Surr)	105		80 - 120
4-Bromofluorobenzene (Surr)	102		75 - 120
Dibromofluoromethane (Surr)	107		80 - 120

Client: Science Applications International Corp

Job Number: 180-4524-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DBFM %Rec	DCA %Rec	TOL %Rec	BFB %Rec
180-4524-1	HD-MW-121-01-0	105	100	107	98
180-4524-2	HD-MW-120-01-0	104	98	109	102
180-4524-3	HD-MW-118-01-0	105	97	104	106
180-4524-4	HD-MW-118-01-1	107	104	107	100
180-4524-5	HD-MW-119-01-0	103	94	98	106
180-4524-6	HD-B45T-QC-0/0-3	108	102	108	106
180-4524-7	TRIP BLANK 1	107	104	105	102
MB 180-17084/5		100	94	106	103
LCS 180-17084/6		101	99	103	106

Surrogate	Acceptance Limits
DBFM = Dibromofluoromethane (Surr)	80-120
DCA = 1,2-Dichloroethane-d4 (Surr)	62-123
TOL = Toluene-d8 (Surr)	80-120
BFB = 4-Bromofluorobenzene (Surr)	75-120

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-4524-1

Method Blank - Batch: 180-17084

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: MB 180-17084/5	Analysis Batch: 180-17084	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4101108.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 10/11/2011 1212	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 10/11/2011 1212		
Leach Date: N/A		

Analyte	Result	Qual	MDL	RL
Benzene	5.0	U	0.99	5.0
Toluene	5.0	U	0.85	5.0
Ethylbenzene	5.0	U	0.62	5.0
Xylenes, Total	15	U	2.0	15
Cumene	5.0	U	0.53	5.0
Methyl tert-butyl ether	5.0	U	1.0	5.0
1,2,4-Trimethylbenzene	5.0	U	0.52	5.0
1,3,5-Trimethylbenzene	5.0	U	0.59	5.0
Naphthalene	5.0	U	0.47	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	94	62 - 123
Toluene-d8 (Surr)	106	80 - 120
4-Bromofluorobenzene (Surr)	103	75 - 120
Dibromofluoromethane (Surr)	100	80 - 120

Lab Control Sample - Batch: 180-17084

**Method: 8260B
Preparation: 5030B**

Lab Sample ID: LCS 180-17084/6	Analysis Batch: 180-17084	Instrument ID: HP4
Client Matrix: Water	Prep Batch: N/A	Lab File ID: 4101110.D
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 5 mL
Analysis Date: 10/11/2011 1301	Units: ug/L	Final Weight/Volume: 5 mL
Prep Date: 10/11/2011 1301		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	40.0	41.2	103	80 - 120	
Toluene	40.0	40.7	102	80 - 124	
Ethylbenzene	40.0	40.1	100	79 - 124	
Xylenes, Total	120	126	105	81 - 121	
Cumene	40.0	41.3	103	73 - 130	
Methyl tert-butyl ether	40.0	41.1	103	53 - 122	
1,2,4-Trimethylbenzene	40.0	37.9	95	71 - 132	
1,3,5-Trimethylbenzene	40.0	38.6	96	75 - 135	
Naphthalene	40.0	34.0	85	10 - 144	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	99	62 - 123
Toluene-d8 (Surr)	103	80 - 120
4-Bromofluorobenzene (Surr)	106	75 - 120
Dibromofluoromethane (Surr)	101	80 - 120

DATA REPORTING QUALIFIERS

Client: Science Applications International Corp

Job Number: 180-4524-1

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-4524-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:180-17084					
LCS 180-17084/6	Lab Control Sample	T	Water	8260B	
MB 180-17084/5	Method Blank	T	Water	8260B	
180-4524-1	HD-MW-121-01-0	T	Water	8260B	
180-4524-2	HD-MW-120-01-0	T	Water	8260B	
180-4524-3	HD-MW-118-01-0	T	Water	8260B	
180-4524-4	HD-MW-118-01-1	T	Water	8260B	
180-4524-5	HD-MW-119-01-0	T	Water	8260B	
180-4524-6	HD-B45T-QC-0/0-3	T	Water	8260B	
180-4524-7	TRIP BLANK 1	T	Water	8260B	

Report Basis

T = Total

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-4524-1

Laboratory Chronicle

Lab ID: 180-4524-1

Client ID: HD-MW-121-01-0

Sample Date/Time: 09/30/2011 10:10

Received Date/Time: 10/01/2011 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-4524-A-1		180-17084		10/11/2011 19:12	50	TAL PIT	PJ
A:8260B	180-4524-A-1		180-17084		10/11/2011 19:12	50	TAL PIT	PJ

Lab ID: 180-4524-2

Client ID: HD-MW-120-01-0

Sample Date/Time: 09/30/2011 09:16

Received Date/Time: 10/01/2011 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-4524-A-2		180-17084		10/11/2011 18:00	1	TAL PIT	PJ
A:8260B	180-4524-A-2		180-17084		10/11/2011 18:00	1	TAL PIT	PJ

Lab ID: 180-4524-3

Client ID: HD-MW-118-01-0

Sample Date/Time: 09/30/2011 12:17

Received Date/Time: 10/01/2011 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-4524-A-3		180-17084		10/11/2011 19:36	20	TAL PIT	PJ
A:8260B	180-4524-A-3		180-17084		10/11/2011 19:36	20	TAL PIT	PJ

Lab ID: 180-4524-4

Client ID: HD-MW-118-01-1

Sample Date/Time: 09/30/2011 12:25

Received Date/Time: 10/01/2011 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-4524-C-4		180-17084		10/11/2011 20:00	20	TAL PIT	PJ
A:8260B	180-4524-C-4		180-17084		10/11/2011 20:00	20	TAL PIT	PJ

Lab ID: 180-4524-5

Client ID: HD-MW-119-01-0

Sample Date/Time: 09/30/2011 12:59

Received Date/Time: 10/01/2011 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-4524-C-5		180-17084		10/11/2011 20:24	100	TAL PIT	PJ
A:8260B	180-4524-C-5		180-17084		10/11/2011 20:24	100	TAL PIT	PJ

Lab ID: 180-4524-6

Client ID: HD-B45T-QC-0/0-3

Sample Date/Time: 09/30/2011 13:15

Received Date/Time: 10/01/2011 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-4524-C-6		180-17084		10/11/2011 18:24	1	TAL PIT	PJ
A:8260B	180-4524-C-6		180-17084		10/11/2011 18:24	1	TAL PIT	PJ

Quality Control Results

Client: Science Applications International Corp

Job Number: 180-4524-1

Laboratory Chronicle

Lab ID: 180-4524-7

Client ID: TRIP BLANK 1

Sample Date/Time: 09/30/2011 15:00

Received Date/Time: 10/01/2011 10:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	180-4524-A-7		180-17084		10/11/2011 18:48	1	TAL PIT	PJ
A:8260B	180-4524-A-7		180-17084		10/11/2011 18:48	1	TAL PIT	PJ

Lab ID: MB

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	MB 180-17084/5		180-17084		10/11/2011 12:12	1	TAL PIT	PJ
A:8260B	MB 180-17084/5		180-17084		10/11/2011 12:12	1	TAL PIT	PJ

Lab ID: LCS

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:5030B	LCS 180-17084/6		180-17084		10/11/2011 13:01	1	TAL PIT	PJ
A:8260B	LCS 180-17084/6		180-17084		10/11/2011 13:01	1	TAL PIT	PJ

Lab References:

TAL PIT = TestAmerica Pittsburgh

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-4524-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
VOA8260BINTER_00004	10/16/11	09/16/11	Methanol, Lot DD946	100 mL	VOA8260BINT_00052	1 mL	1,4-Dichlorobenzene-d4	25 ug/mL
							Chlorobenzene-d5	25 ug/mL
							Fluorobenzene (IS)	25 ug/mL
.VOA8260BINT_00052	07/31/13		Ultra, Lot CG-2361		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5	2500 ug/mL
							Fluorobenzene (IS)	2500 ug/mL
VOA8260BSURR_00058	10/16/11	09/16/11	Methanol, Lot DD946	100 mL	VOA8260BSURR_00047	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260BSURR_00047	12/31/13		Ultra, Lot CG-3959		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260BSURR_00059	11/06/11	10/06/11	Methanol, Lot DD946	100 mL	VOA8260BSURR_00049	1 mL	1,2-Dichloroethane-d4 (Surr)	25 ug/mL
							4-Bromofluorobenzene (Surr)	25 ug/mL
							Dibromofluoromethane (Surr)	25 ug/mL
							Toluene-d8 (Surr)	25 ug/mL
.VOA8260BSURR_00049	12/31/13		Ultra, Lot CG-3959		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
VOA8260VOARES_00019	10/03/11	09/26/11	Methanol, Lot DD946	8 mL	VOA8260VOARES_00018	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	25 ug/mL
							Cyclohexane	25 ug/mL
							Methyl acetate	25 ug/mL
							Methylcyclohexane	25 ug/mL
							Carbon disulfide	25 ug/mL
							2-Butanone (MEK)	25 ug/mL
							2-Hexanone	25 ug/mL
							4-Methyl-2-pentanone (MIBK)	25 ug/mL
							Acetone	25 ug/mL
							1,1,1,2-Tetrachloroethane	25 ug/mL
							1,1,1-Trichloroethane	25 ug/mL
							1,1,2,2-Tetrachloroethane	25 ug/mL
							1,1,2-Trichloroethane	25 ug/mL
							1,1-Dichloroethane	25 ug/mL
							1,1-Dichloroethene	25 ug/mL
							1,1-Dichloropropene	25 ug/mL
							1,2,3-Trichlorobenzene	25 ug/mL
							1,2,3-Trichloropropane	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,2-Dibromo-3-Chloropropane	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Dichloroethane	25 ug/mL
							1,2-Dichloropropane	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-4524-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichloropropane	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							2,2-Dichloropropane	25 ug/mL
							2-Chlorotoluene	25 ug/mL
							4-Chlorotoluene	25 ug/mL
							4-Isopropyltoluene	25 ug/mL
							Benzene	25 ug/mL
							Bromobenzene	25 ug/mL
							Bromoform	25 ug/mL
							Carbon tetrachloride	25 ug/mL
							Chlorobenzene	25 ug/mL
							Chlorobromomethane	25 ug/mL
							Chlorodibromomethane	25 ug/mL
							Chloroform	25 ug/mL
							cis-1,2-Dichloroethene	25 ug/mL
							cis-1,3-Dichloropropene	25 ug/mL
							Cumene	25 ug/mL
							Dibromomethane	25 ug/mL
							Dichlorobromomethane	25 ug/mL
							Ethylbenzene	25 ug/mL
							Ethylene Dibromide	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methylene Chloride	25 ug/mL
							n-Butylbenzene	25 ug/mL
							N-Propylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							o-Xylene	25 ug/mL
							sec-Butylbenzene	25 ug/mL
							Styrene	25 ug/mL
							tert-Butylbenzene	25 ug/mL
							Tetrachloroethene	25 ug/mL
							Toluene	25 ug/mL
trans-1,2-Dichloroethene	25 ug/mL							
trans-1,3-Dichloropropene	25 ug/mL							
Trichloroethene	25 ug/mL							
Methyl tert-butyl ether	25 ug/mL							
VOAGSMIXRES_00027		1 mL				Bromomethane	25 ug/mL	
						Chloroethane	25 ug/mL	
						Chloromethane	25 ug/mL	
						Dichlorodifluoromethane	25 ug/mL	
						Trichlorofluoromethane	25 ug/mL	
						Vinyl chloride	25 ug/mL	
.VOA8260VOARES_00018	10/21/11	09/21/11	Methanol, Lot DD46	10 mL	VOABonusABS_00008	1 mL	1,1,2-Trichloro-1,2,2-trifluoroethane	200 ug/mL
							Cyclohexane	200 ug/mL
							Methyl acetate	200 ug/mL
							Methylcyclohexane	200 ug/mL
					VOACS2Restek_00011	1 mL	Carbon disulfide	200 ug/mL
					VOA8260NEREST_00016	0.4 mL	2-Butanone (MEK)	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-4524-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
					VOAMEGAMIXRES_00008	1 mL	1,1,1,2-Tetrachloroethane	200 ug/mL
							1,1,1-Trichloroethane	200 ug/mL
							1,1,2,2-Tetrachloroethane	200 ug/mL
							1,1,2-Trichloroethane	200 ug/mL
							1,1-Dichloroethane	200 ug/mL
							1,1-Dichloroethene	200 ug/mL
							1,1-Dichloropropene	200 ug/mL
							1,2,3-Trichlorobenzene	200 ug/mL
							1,2,3-Trichloropropane	200 ug/mL
							1,2,4-Trichlorobenzene	200 ug/mL
							1,2,4-Trimethylbenzene	200 ug/mL
							1,2-Dibromo-3-Chloropropane	200 ug/mL
							1,2-Dichlorobenzene	200 ug/mL
							1,2-Dichloroethane	200 ug/mL
							1,2-Dichloropropane	200 ug/mL
							1,3,5-Trimethylbenzene	200 ug/mL
							1,3-Dichlorobenzene	200 ug/mL
							1,3-Dichloropropane	200 ug/mL
							1,4-Dichlorobenzene	200 ug/mL
							2,2-Dichloropropane	200 ug/mL
							2-Chlorotoluene	200 ug/mL
							4-Chlorotoluene	200 ug/mL
							4-Isopropyltoluene	200 ug/mL
							Benzene	200 ug/mL
							Bromobenzene	200 ug/mL
							Bromoform	200 ug/mL
							Carbon tetrachloride	200 ug/mL
							Chlorobenzene	200 ug/mL
							Chlorobromomethane	200 ug/mL
							Chlorodibromomethane	200 ug/mL
							Chloroform	200 ug/mL
							cis-1,2-Dichloroethene	200 ug/mL
							cis-1,3-Dichloropropene	200 ug/mL
							Cumene	200 ug/mL
							Dibromomethane	200 ug/mL
							Dichlorobromomethane	200 ug/mL
							Ethylbenzene	200 ug/mL
							Ethylene Dibromide	200 ug/mL
							Hexachlorobutadiene	200 ug/mL
							m-Xylene & p-Xylene	400 ug/mL
							Methylene Chloride	200 ug/mL
							n-Butylbenzene	200 ug/mL
							N-Propylbenzene	200 ug/mL
							Naphthalene	200 ug/mL
							o-Xylene	200 ug/mL
							sec-Butylbenzene	200 ug/mL
							Styrene	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-4524-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							tert-Butylbenzene	200 ug/mL
							Tetrachloroethene	200 ug/mL
							Toluene	200 ug/mL
							trans-1,2-Dichloroethene	200 ug/mL
							trans-1,3-Dichloropropene	200 ug/mL
							Trichloroethene	200 ug/mL
					VOAMTBERES 00012	1 mL	Methyl tert-butyl ether	200 ug/mL
..VOABonusABS_00008	04/18/16		Absolute Standards, Inc., Lot 041811		(Purchased Reagent)		1,1,2-Trichloro-1,2,2-trifluoroethane	2000 ug/mL
							Cyclohexane	2000 ug/mL
							Methyl acetate	2000 ug/mL
							Methylcyclohexane	2000 ug/mL
..VOACS2Restek 00011	05/01/15		Restek, Lot A074745		(Purchased Reagent)		Carbon disulfide	2000 ug/mL
..VOAKETONEREST_00016	04/01/14		Restek, Lot A079446		(Purchased Reagent)		2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
..VOAMEGAMIXRES_00008	11/01/12		Restek, Lot A077842		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2000 ug/mL
							1,1,1-Trichloroethane	2000 ug/mL
							1,1,2,2-Tetrachloroethane	2000 ug/mL
							1,1,2-Trichloroethane	2000 ug/mL
							1,1-Dichloroethane	2000 ug/mL
							1,1-Dichloroethene	2000 ug/mL
							1,1-Dichloropropene	2000 ug/mL
							1,2,3-Trichlorobenzene	2000 ug/mL
							1,2,3-Trichloropropene	2000 ug/mL
							1,2,4-Trichlorobenzene	2000 ug/mL
							1,2,4-Trimethylbenzene	2000 ug/mL
							1,2-Dibromo-3-Chloropropene	2000 ug/mL
							1,2-Dichlorobenzene	2000 ug/mL
							1,2-Dichloroethane	2000 ug/mL
							1,2-Dichloropropene	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							1,3-Dichlorobenzene	2000 ug/mL
							1,3-Dichloropropene	2000 ug/mL
							1,4-Dichlorobenzene	2000 ug/mL
							2,2-Dichloropropene	2000 ug/mL
							2-Chlorotoluene	2000 ug/mL
							4-Chlorotoluene	2000 ug/mL
							4-Isopropyltoluene	2000 ug/mL
							Benzene	2000 ug/mL
							Bromobenzene	2000 ug/mL
							Bromoform	2000 ug/mL
							Carbon tetrachloride	2000 ug/mL
							Chlorobenzene	2000 ug/mL
							Chlorobromomethane	2000 ug/mL
							Chlorodibromomethane	2000 ug/mL
							Chloroform	2000 ug/mL
							cis-1,2-Dichloroethene	2000 ug/mL
							cis-1,3-Dichloropropene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-4524-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cumene	2000 ug/mL
							Dibromomethane	2000 ug/mL
							Dichlorobromomethane	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Ethylene Dibromide	2000 ug/mL
							Hexachlorobutadiene	2000 ug/mL
							m-Xylene & p-Xylene	4000 ug/mL
							Methylene Chloride	2000 ug/mL
							n-Butylbenzene	2000 ug/mL
							N-Propylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							o-Xylene	2000 ug/mL
							sec-Butylbenzene	2000 ug/mL
							Styrene	2000 ug/mL
							tert-Butylbenzene	2000 ug/mL
							Tetrachloroethene	2000 ug/mL
							Toluene	2000 ug/mL
							trans-1,2-Dichloroethene	2000 ug/mL
							trans-1,3-Dichloropropene	2000 ug/mL
							Trichloroethene	2000 ug/mL
..VOAMTBERES_00012	03/01/18		Restek, Lot A080666			(Purchased Reagent)	Methyl tert-butyl ether	2000 ug/mL
..VOAGSMIXRES_00027	06/01/17		Restek, Lot A077345			(Purchased Reagent)	Bromomethane	200 ug/mL
							Chloroethane	200 ug/mL
							Chloromethane	200 ug/mL
							Dichlorodifluoromethane	200 ug/mL
							Trichlorofluoromethane	200 ug/mL
							Vinyl chloride	200 ug/mL
VOA8260VOARES_00020	10/11/11	10/04/11	Methanol, Lot DD946	8 mL	VOA8260VOARES_00018	1 mL	1,2,4-Trimethylbenzene	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							Benzene	25 ug/mL
							Cumene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							Toluene	25 ug/mL
							Xylenes, Total	75 ug/mL
							Methyl tert-butyl ether	25 ug/mL
..VOA8260VOARES_00018	10/21/11	09/21/11	Methanol, Lot DD46	10 mL	VOAMEGAMIXRES_00008	1 mL	1,2,4-Trimethylbenzene	200 ug/mL
							1,3,5-Trimethylbenzene	200 ug/mL
							Benzene	200 ug/mL
							Cumene	200 ug/mL
							Ethylbenzene	200 ug/mL
							Naphthalene	200 ug/mL
							Toluene	200 ug/mL
							Xylenes, Total	600 ug/mL
					VOAMTBERES_00012	1 mL	Methyl tert-butyl ether	200 ug/mL
..VOAMEGAMIXRES_00008	11/01/12		Restek, Lot A077842			(Purchased Reagent)	1,2,4-Trimethylbenzene	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							Benzene	2000 ug/mL
							Cumene	2000 ug/mL
							Ethylbenzene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-4524-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene	2000 ug/mL
							Toluene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
..VOAMTBES_00012	03/01/18		Restek, Lot A080666			(Purchased Reagent)	Methyl tert-butyl ether	2000 ug/mL
VOA8260VOAULT_00015	10/11/11	10/04/11	Methanol, Lot DD946	8 mL	VOA8260VOAULT_00013	1 mL	Methyl tert-butyl ether	25 ug/mL
							1,2,4-Trimethylbenzene	25 ug/mL
							1,3,5-Trimethylbenzene	25 ug/mL
							Benzene	25 ug/mL
							Cumene	25 ug/mL
							Ethylbenzene	25 ug/mL
							Naphthalene	25 ug/mL
							Toluene	25 ug/mL
							Xylenes, Total	75 ug/mL
.VOA8260VOAULT_00013	10/21/11	09/21/11	Methanol, Lot DD946	10 mL	VOAMTBESupel_00003	1 mL	Methyl tert-butyl ether	200 ug/mL
					VOAVOCMIXULT_00009	1 mL	1,2,4-Trimethylbenzene	200 ug/mL
							1,3,5-Trimethylbenzene	200 ug/mL
							Benzene	200 ug/mL
							Cumene	200 ug/mL
							Ethylbenzene	200 ug/mL
							Naphthalene	200 ug/mL
							Toluene	200 ug/mL
							Xylenes, Total	600 ug/mL
..VOAMTBESupel_00003	11/01/12		Supelco, Lot LB7179			(Purchased Reagent)	Methyl tert-butyl ether	2000 ug/mL
..VOAVOCMIXULT_00009	12/31/13		Ultra, Lot CG-3928			(Purchased Reagent)	1,2,4-Trimethylbenzene	2000 ug/mL
							1,3,5-Trimethylbenzene	2000 ug/mL
							Benzene	2000 ug/mL
							Cumene	2000 ug/mL
							Ethylbenzene	2000 ug/mL
							Naphthalene	2000 ug/mL
							Toluene	2000 ug/mL
							Xylenes, Total	6000 ug/mL
VOAAcetoABS_00009	05/02/16		Absolute Standards, Inc., Lot 050211			(Purchased Reagent)	Acetonitrile	1000 ug/mL
VoaW EEmixAbs_00002	10/09/11	09/09/11	Methanol, Lot DD946	25 mL	VOAEEMixABS_00010	0.125 mL	1,3,5-Trichlorobenzene	25 ug/mL
.VOAEEMixABS_00010	01/02/12		Absolute Standards, Inc., Lot 010207			(Purchased Reagent)	1,3,5-Trichlorobenzene	5000 ug/mL

Certification Summary

Client: Science Applications International Corp
 Project/Site: Harley Davidson

TestAmerica Job ID: 180-4524-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Pittsburgh	ACLASS	DoD ELAP		ADE-1422
TestAmerica Pittsburgh	Arkansas	State Program	6	88-0690
TestAmerica Pittsburgh	California	NELAC	9	4224CA
TestAmerica Pittsburgh	Connecticut	State Program	1	PH-0688
TestAmerica Pittsburgh	Florida	NELAC	4	E871008
TestAmerica Pittsburgh	Illinois	NELAC	5	002602
TestAmerica Pittsburgh	Kansas	NELAC	7	E-10350
TestAmerica Pittsburgh	Louisiana	NELAC	6	04041
TestAmerica Pittsburgh	New Hampshire	NELAC	1	203011
TestAmerica Pittsburgh	New Jersey	NELAC	2	PA005
TestAmerica Pittsburgh	New York	NELAC	2	11182
TestAmerica Pittsburgh	North Carolina	North Carolina DENR	4	434
TestAmerica Pittsburgh	Pennsylvania	NELAC	3	02-00416
TestAmerica Pittsburgh	Pennsylvania	State Program	3	02-416
TestAmerica Pittsburgh	South Carolina	State Program	4	89014002
TestAmerica Pittsburgh	USDA	USDA		P330-10-00139
TestAmerica Pittsburgh	USDA	USDA		P-Soil-01
TestAmerica Pittsburgh	Utah	NELAC	8	STLP
TestAmerica Pittsburgh	Virginia	NELAC	3	460189
TestAmerica Pittsburgh	West Virginia	West Virginia DEP	3	142
TestAmerica Pittsburgh	Wisconsin	State Program	5	998027800

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Shipping and Receiving Documents

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
HD-MW-121-01-0	180-4524-A-1	Voa Vial 40ml - Hydrochloric Acid	φ	_____	_____
HD-MW-121-01-0	180-4524-B-1	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-121-01-0	180-4524-C-1	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-120-01-0	180-4524-A-2	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-120-01-0	180-4524-B-2	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-120-01-0	180-4524-C-2	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-118-01-0	180-4524-A-3	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-118-01-0	180-4524-B-3	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-118-01-0	180-4524-C-3	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-118-01-1	180-4524-A-4	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-118-01-1	180-4524-B-4	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-118-01-1	180-4524-C-4	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-119-01-0	180-4524-A-5	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-119-01-0	180-4524-B-5	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-MW-119-01-0	180-4524-C-5	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-B45T-QC-0/0-3	180-4524-A-6	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-B45T-QC-0/0-3	180-4524-B-6	Voa Vial 40ml - Hydrochloric Acid		_____	_____
HD-B45T-QC-0/0-3	180-4524-C-6	Voa Vial 40ml - Hydrochloric Acid		_____	_____
TRIP BLANK 1	180-4524-A-7	Voa Vial 40ml - Hydrochloric Acid		_____	_____
TRIP BLANK 1	180-4524-B-7	Voa Vial 40ml - Hydrochloric Acid		_____	_____

Chain of Custody Record

Client Contact Science Applications International Corp. (SAIC) 6310 Allentown Blvd. Harrisburg, PA 17112 (717) 901-8100 Phone (717) 901-8102 FAX Project Name: Bldg 45 UST Gasoline Sampling Site: Harley-Davidson, York PA Quote # 18008180-0		Project Manager: Chris O'Neil Tel/Cell: 717-901-8839 / 717-557-1599 Calendar (C) or Work Days (W) Analysis Turnaround Time <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: Emily Wade Lab Contact: Carrie Gamber Date Submitted: 9/30/2011 Carrier:		COC No: TAP093020111 Job No. _____ Container No. _____ SDG No. _____	
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Unpreserved, 7= Na2S2O3, 2							
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							
Special Instructions/QC Requirements & Comments: CLP Like Deliverables, Project Specific Analyte Lists							
Relinquished by: Matthew J. Logan Relinquished by: <i>[Signature]</i> Relinquished by:							
Received by: Fed. Env Received by: <i>[Signature]</i> Received by:							
Date/Time: 9/30/2011 1800 Date/Time: Date/Time:							
Company: SAIC Company: Company:							
Date/Time: 10/11/11 1000 Date/Time: Date/Time:							
Company: TA Company: Company:							

FedEx Tracking Number: **876462249984**
 Shipper's records: **876462249984**
 Ex Tracking Number: **876462249984**
 Phone: **717 901-8100**
 State: **PA** ZIP: **17112-2739**
 Dept./Floor/Suite/Room
 Phone: **418 963 7058**
 State: **VA** ZIP: **22438**
 your shipping address: **DRIVE**
 Dept./Floor/Suite/Room
 Phone: **418 963 7058**
 State: **VA** ZIP: **22438**
 0440087540
 224-9984

fedex.com 1.800.GoFedEx 1.800.463.3339
 Packages up to 150 lbs.
 For packages over 150 lbs., see the box.
 FedEx Express Freight US, Right.

4 Express Package Service
 NOTE: Service order has changed. Please select carefully.
 * To most locations.

4-3 Business Days
 FedEx First Overnight
 Earliest next business morning delivery to select business addresses. Not available for residential addresses. Delivery will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Priority Overnight
 Next business morning. * Priority shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Standard Overnight
 Next business afternoon. * Saturday Delivery NOT available.

4-2 Business Days
 NEW FedEx 2Day A.M.
 Second business morning delivery to select business addresses. Saturday Delivery NOT available.

FedEx 2Day
 Second business morning. * Priority shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Express Saver
 Third business morning. * Saturday Delivery NOT available.

5 Packaging * Declared value limit \$500.
 FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options
 SATURDAY Delivery
 * NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

No Signature Required*
 Package may be left without obtaining a signature for delivery.

Direct Signature
 Someone at recipient's address may sign for delivery. Fee applies.

Indirect Signature
 If one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

Does this shipment contain dangerous goods?
 No Yes
 * One box must be checked.

Yes
 Shipper's Declaration required.

Yes
 Shipper's Declaration not required.

Dangerous goods (including hazardous materials) cannot be shipped in FedEx packaging unless they are properly labeled and packaged.

7 Payment Bill to:
 Sender Recipient Third Party Credit Card Cash/Check
 Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip. Acct. No.
 Total Packages Total Weight lbs.

*Your liability is limited to \$100 unless you declare a higher value. See the current FedEx Service Guide for details.



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Login Sample Receipt Checklist

Client: Science Applications International Corp

Job Number: 180-4524-1

Login Number: 4524
List Number: 1
Creator: Gamber, Tom

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX K

Investigation-Derived Waste (IDW) Disposal Documentation

