

June 28, 2012

Mr. John Oren Facilities Manager Southcentral Regional Office Waste Management Program 909 Elmerton Avenue Harrisburg, PA 17110 via FedEx and electronic

Re: Building 51 Closure Report

Harley-Davidson Motor Company (York Facility)

SAIC Project 2603100069/3000/100

Dear Mr. Oren:

SAIC Energy, Environment & Infrastructure, LLC (SAIC), on behalf of Harley-Davidson Motor Company (Harley-Davidson), is pleased to provide you with two copies of the enclosed Closure Report for the Harley-Davidson <90-day hazardous waste storage facility formerly located at Building 51. This report was extracted from another remediation report that was recently issued to the United States Environmental Protection Agency (EPA) and Pennsylvania Department of Environmental Protection (PADEP), Land Recycling program for the former York Naval Ordnance Plant (fYNOP) remedial investigation activities, entitled "Interim Removal and Closure Report, Building 4, Building 51 and Historic Wastewater Conveyance Areas."

The closure plan for Building 51 was approved by the Pennsylvania Department of Environmental Protection (PADEP) in 2006 when Harley-Davidson planned to move their <90-day hazardous waste storage facility to Building 57. That move never materialized, and the closure plans were placed on hold until 2010, when plans were made to move the <90-day hazardous waste storage facility to another location on the property (Building 70). PADEP returned for a site inspection of Building 51 on November 23, 2010. A letter issued by PADEP (Lisa Wilt) on December 2, 2010, acknowledged the site visit and confirmed the acceptance of the work plan modifications for the closure of Building 51. Building 51 was subsequently demolished by Harley-Davidson in May 2011. The enclosed report documents the demolition, pad removal, and soil investigation which followed the closure plan.

Please contact Sharon Fisher, Harley-Davidson Environmental Manager, at (717) 852-6544, or me at (717) 901-8836, if you have any further questions about the closure of this facility as discussed in the attached report.

Respectfully submitted,

SAIC Energy, Environment & Infrastructure, LLC

Rodney G. Myers Project Manager

Enclosures

cc: Sharon Fisher (Harley-Davidson) – w/ bound report copy

Lisa Wilt (PADEP) – electronic copy only Linda Houseal (PADEP) - electronic copy only Pam Trowbridge (PADEP) – w/ bound report copy

Hamid Rafiee (USACE, Baltimore District) - electronic copy only Ralph Golia (AMO Environmental Decisions) - electronic copy only Scott Gould (McNees, Wallace and Nurick, LLC) - electronic copy only

## **FINAL**

# BUILDING 51 CLOSURE REPORT FORMER LESS THAN 90-DAY HAZARDOUS WASTE STORAGE FACILITY FORMER YORK NAVAL ORDNANCE PLANT

SAIC Project 2603100069 / 3000 / 100

Prepared for:

## Harley-Davidson Motor Company Operations, Inc.

York Vehicle Operations 1425 Eden Road York, PA 17402

**June 2012** 



#### **FINAL**

### Building 51 Closure Report Former Less Than 90-Day Hazardous Waste Storage Facility Former York Naval Ordnance Plant

SAIC Project 2603100069 / 3000 / 100

#### Prepared for:

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

#### Prepared by:

SAIC Energy, Environment & Infrastructure, LLC 6310 Allentown Boulevard Harrisburg, PA 17112 (717) 901-8100

June 2012

Reviewed by:

Rodney G. Myers

Project Manager

Respectfully submitted:

Roger D. Myers, CHMM

Project Manager

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#### LIST OF ACRONYMS

EPA United States Environmental Protection Agency

fYNOP former York Naval Ordnance Plant

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

MSC medium specific concentrations

PADEP Pennsylvania Department of Environmental Protection

PADER Pennsylvania Department of Environmental Resources

PID photoionization detector

RCRA Resource Conservation Recovery Act

REWAI R.E. Wright Associates, Inc.

RFA RCRA Facility Assessment

RSL Regional Screening Level

SAIC Energy, Environment & Infrastructure, LLC

VOCs volatile organic compounds

WP Work Plan

#### 1.0 INTRODUCTION

This report details the closure activities surrounding Building 51, the former less than (<) 90-day hazardous waste storage facility, at the Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson) facility in York, Pennsylvania. This closure was conducted as part of the ongoing characterization and remediation of the former York Naval Ordnance Plant (fYNOP) being performed under the One Cleanup Program and was performed in accordance with the Pennsylvania Department of Environmental Protection (PADEP) -approved Closure Plan (SAIC Energy, Environment & Infrastructure, LLC [SAIC], 2006) and subsequent modifications agreed upon during 2010.

Harley-Davidson contracted SAIC to perform the closure activities. Background information is provided in Section 2.0 and Section 3.0. The former location of Building 51 is shown on **Figure 1,** while photographs of the building and closure activities are provided in **Appendix A.** 

#### 2.0 BACKGROUND

Building 51 was a former <90-day hazardous waste storage area located in the North Plant Area of the Harley-Davidson facility, as shown in **Figure 1**. The building was a former military-style metal Quonset hut, measuring approximately 100 feet (feet) by 40 feet, and had a bituminous concrete floor with an approximately 6-inch-perimeter berm.

A Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) was conducted by the Unites States Environmental Protection Agency (EPA) of the fYNOP facility in 1988. According to the RFA (Kearney, 1989), waste paint sludge was bulked in dumpsters located within Building 51 prior to off-site disposal. The paint sludge contained hexavalent chromium, in addition to other paint constituents. Other hazardous waste liquids from various plant processes, as well as paint and metal plating-related filters, were also handled and stored in this building until the facility was relocated to Building 70 in early 2011.

An investigation and RCRA closure of the former Drum Storage Area (including Building 51) occurred between 1990 and 1992 and included the collection and analysis of soil from one soil boring beneath the building. The closure document for the Drum Storage Area was issued to the Pennsylvania Department of Environmental Resources (PADER) (currently known as the PADEP) on July 24, 1992 (R. E. Wright Associates, Inc. [REWAI], 1992). The EPA identified a RCRA Part B closure letter for the Building 51 Storage Area, which was submitted to PADER on July 24, 1992, and requested that acknowledgment from PADER be forwarded to EPA.

Closure of Building 51 was subsequently discussed with PADEP in 2006. At that time, there were plans to relocate the <90-day hazardous waste storage operations from Building 51 to Building 57. Representatives from the PADEP Southcentral Region, Waste Management Program (Don Hagerich, Pam Trowbridge, Sheryl Martin, and Linda Houseal), visited the site on March 28, 2006. At the time of their visit, the PADEP reviewed and approved a closure plan for Building 51, as described in the report titled Final Building 51 Hazardous Waste Storage Area Closure Work Plan (WP) Scoping Document (SAIC, 2006). However, the plans to relocate the

<90-day hazardous waste storage operations in Building 51 to Building 57 never materialized for reasons unrelated to environmental conditions.

Three concrete pits at the southern end of Building 51 were investigated and filled in as part of a previous interim remedial action performed by SAIC in late 2008/early 2009. In addition, a new concrete entrance ramp was installed as part of this work. These interim remedial activities at Building 51 are discussed in a separate report titled Building 51 Pit Closure Report, Former York Naval Ordnance Plant (SAIC, 2009a), which was previously submitted to PADEP in 2009.

In early 2011, as part of the closure, Harley-Davidson relocated the <90-day hazardous waste storage operations in Building 51 to Building 70, located near Gate 1. Equipment needed for the current operations in Building 70 was transferred to the new location, and all remaining wastes were removed from the site or transferred to the new location. The demolition plans were reviewed during a site visit (July 9, 2010) by the PADEP Southcentral Regional office, Waste Management Program (Mark Houser and Lisa Wilt). A follow-up inspection was conducted by PADEP (Lisa Wilt, David Richard, and Lucas Swanger) on November 23, 2010, to inspect Building 51 before the building was demolished. PADEP (Lisa Wilt) issued a letter dated December 2, 2010, acknowledging the visit and confirmed acceptance of the work plan modifications that were discussed, including gravel backfilling following removal of the flooring and soil testing.

The above-grade structure of Building 51 was demolished by Harley-Davidson in May 2011. Only the building slab (see Photos 1 and 2, **Appendix A**) remained following demolition. The building footprint measured approximately 100 feet by 40 feet wide.

#### 3.0 BUILDING 51 CLOSURE ACTIVITIES

Closure activities began at the former Building 51 hazardous waste storage pad in August 2011. BrightFields Inc. of Wilmington, Delaware, performed the excavation and backfill activities, and EQ Environmental Inc. performed the waste transportation and disposal activities. Approximately one foot of bituminous concrete, concrete pads, and underlying gravel was removed and staged on, and covered with plastic (see Photos 3 and 4, **Appendix A**). The bituminous concrete, gravel, soil, and concrete were sampled for off-site disposal.

The soil below the bituminous concrete and concrete pads was scanned with a photoionization detector (PID) and visually inspected. No additional soil was removed since there were no elevated PID readings above background, and no staining or unusual odors were observed.

Systematic random soil sampling was conducted across the excavated building pad area at 12 locations (0 to 2 feet deep) for characterization purposes (see **Figure 2**). A series of 10-foot by 10-foot grids (100-square-foot areas) was established across the floor of the building (except for the south door area, which was sampled in 2009). Twelve of these grids were preselected for the collection of soil samples based on the PADEP random grid selection tool. Soil was collected using a two-inch-diameter bucket auger and placed into glassware for shipment to the laboratory (TestAmerica, Inc.).

Each soil sample was analyzed for priority pollutant volatile organic compounds (VOCs), priority pollutant metals, hexavalent chromium, and cyanide (total and free). A summary of the laboratory testing results and applicable regulatory medium specific concentrations (MSCs) is shown on **Table 1**. With the exception of two metals, there were no soil sample results above the PADEP Act 2 MSCs. Arsenic was found in concentrations above the EPA industrial soil Regional Screening Level (RSL) in several of the confirmation samples. The reported arsenic concentrations are considered to be within typical background levels for this site. In addition, hexavalent chromium was detected at concentrations greater than the EPA industrial soil RSL in two of the confirmation samples (B51H-CS-008 and -009), but hexavalent chromium was not

detected at concentrations greater than the PADEP direct contact or soil-to-groundwater MSCs in these samples.

Following confirmation results, the building pad was backfilled with stone to the original floor grade (see Photo 4, **Appendix A**). Subsequently, the former building area was covered with approximately six inches of additional topsoil and grass seed (see Photo 5, **Appendix A**).

#### 4.0 OFF-SITE WASTE DISPOSAL

All wastes that were generated during remedial activity work were characterized transported and disposed in accordance with PADEP requirements, including the PADEP-approved "Contained-In" Waste Determination for Environmental Media (SAIC, 2011b and 2011c). Harley-Davidson maintains records of proper transportation and disposal and will produce or file copies in accordance with applicable regulatory requirements. If PADEP requires additional information regarding disposal of remediation wastes, Harley-Davidson will make such records available upon request.

Waste facility processing was conducted to obtain facility approvals for each of the waste streams identified. Approximately 230 tons of nonhazardous debris (asphalt and gravel subbase) were generated and shipped off-site to Modern Landfill from the removal of the former hazardous waste storage pad/floor.

#### 5.0 SUMMARY OF REMAINING ENVIRONMENTAL CONDITIONS

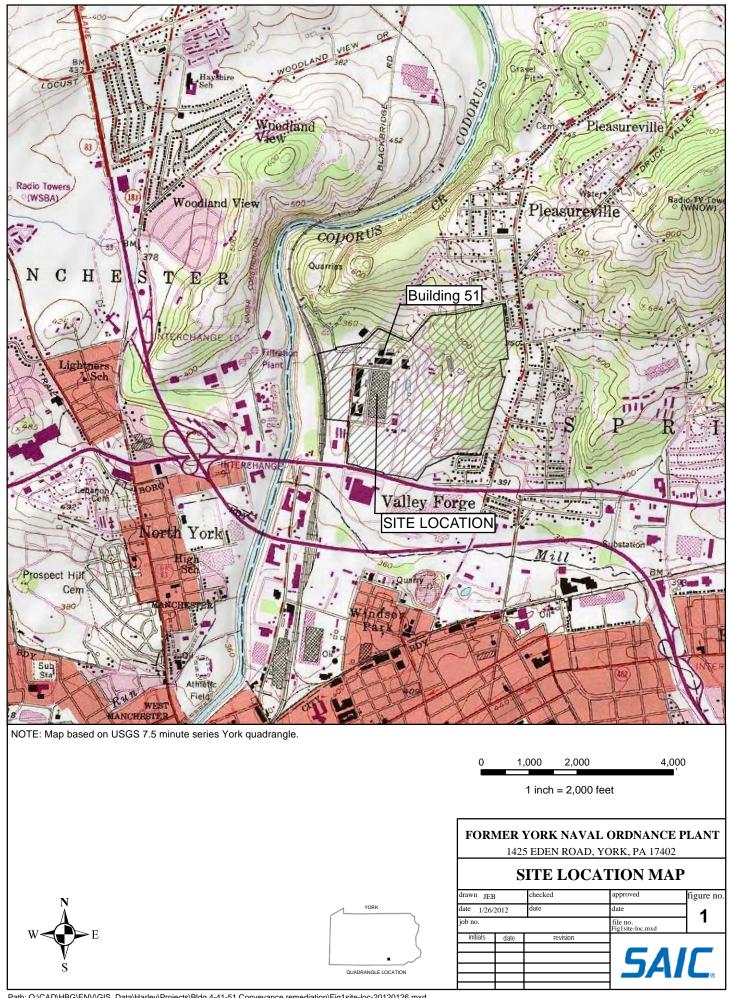
There are no known environmental impacts to soil or groundwater remaining from the removal and off-site disposal of the floor/subfloor at Building 51. The completed remedial work at Building 51 can be seen in **Appendix A** (Photo 5). The concentrations of regulated substances detected in the confirmation soil samples collected from beneath the excavation area were less than the PADEP Act 2 MSCs. Although arsenic was detected at concentrations greater than the EPA industrial soil RSL in several of the confirmation samples, it is considered within typical background levels for this site and is nonetheless in concentrations below the PADEP Act 2 MSCs. In addition, hexavalent chromium was detected at concentrations greater than the EPA industrial soil RSL in two of the confirmation samples (B51H-CS-008 and -009), but hexavalent chromium was not detected at concentrations greater than the PADEP direct contact or soil-to-groundwater MSCs in these samples. Further, the EPA RSLs constitute screening levels used to identify areas where further investigation may be warranted, and the soil investigation in the Building 51 footprint constitutes adequate further investigation that meets the applicable, required soil sampling regime established under Act 2.

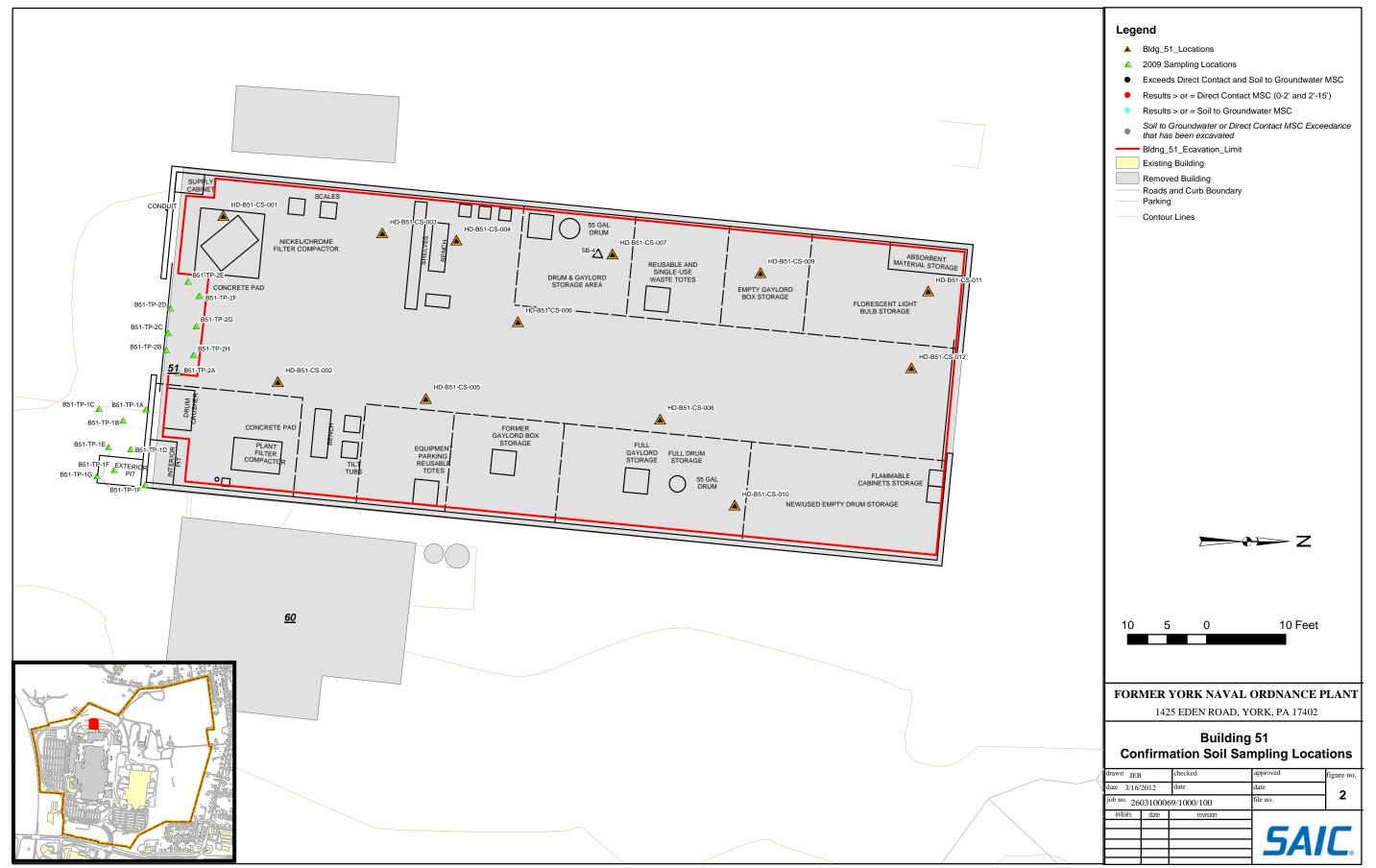
Clean, compacted stone backfill has been placed over the excavation area, and Harley-Davidson has installed additional topsoil (and seeded) over the backfill material.

#### 6.0 REFERENCES

- Harley-Davidson Motor Company Operations, Inc. (Harley-Davidson), 2011. Final, Restructuring Environmental Demolition Work Plan, March.
- Kearney, A. T., 1989. Phase II RCRA Facility Assessment of the Harley-Davidson York, Inc. Facility, York, Pennsylvania, USEPA ID No. PAD 001 643 691, USEPA Contract No. 68-01-7038, January.
- R. E. Wright Associates, Inc. (REWAI), 1992. Drum Storage Area Closure, July 24 letter to PADER.
- SAIC, 2006. Final Building 51 Hazardous Waste Storage Area Closure Work Plan (WP) Scoping Document, April.
- SAIC, 2009a. Building 51 Pit Closure Report, Former York Naval Ordnance Plant, December.
- SAIC, 2009b. Quality Assurance Project Plan for Environmental Investigations at the Former York Naval Ordnance Plant, December.
- SAIC, 2011a. Draft Final. Building 4 / Building 41 IWTP / Building 51 / Conveyance Lines, Soil Removal Work Plan Scoping Document. March.
- SAIC, 2011b. "Contained-In" Waste Determination for Environmental Media, Former York Naval Ordnance Plant Remedial Actions. June.
- SAIC, 2011c. Revised Addendum: "Contained-In" Waste Determination for Remediation Debris, Former York Naval Ordnance Plant Remedial Actions. Letter December 2.

# **FIGURES**





# **TABLES**

Table 1.
Soils Data Summary - Bldg 51 Remediation Area Confirmation Sampling
Former York Naval Ordnance Plant - York, PA

Location/ID	MSC	MSC	MSC	EPA RSL	B51H-CS-001	B51H-CS-002	B51H-CS-003	B51H-CS-004	B51H-CS-005	B51H-CS-006	B51H-CS-007	B51H-CS-008		B51H-CS-010	B51H-CS-011	B51H-CS-012	B51H-CS-012 Dup
Depth (ft.)	Soil to GW	Direct Contact		Industrial	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5	1 - 1.5
Sample Date	•	0 - 2 ft	2 - 15 ft	Soil	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011	8/24/2011
Parameter	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)													
Cyanide, Total & Available	NIA	NIA	I NIA	NIA.	0.011	0.5011	0.57.11	0.57.11	0.50.11	0.5411	0.5011	0.57.11	0.5011	0.5411	0.5011	0.57.11	0.50.11
Cyanide, Total	NA 200	NA 56000	NA 190000	NA 20000	0.6 U 0.048 U	0.56 U 0.045 U	0.57 U 0.046 U	0.57 U 0.046 U	0.58 U 0.046 U	0.54 U 0.043 U	0.56 U 0.045 U	0.57 U 0.069 U	0.56 U 0.044 U	0.54 U 0.043 U	0.56 U 0.044 U	0.57 U 0.045 U	0.56 U 0.045 U
Cyanide, Free  Hexavalent Chromium	200	36000	190000	20000	0.046 0	0.045 0	0.046 0	0.040 0	0.040 0	0.043 0	0.045 0	0.009 0	0.044 0	0.043 0	0.044 0	0.045 0	0.045 0
											0.25 J						
Mercury	100	0400	20000	0.0	0.000	1.2	0.200	0.0	0.00	0.400	0.40	0.2	7.7	1.2	0.000	0.000	0.200
Mercury	10	450	190000	43	0.039 U	0.059	0.015 J	0.019 J	0.015 J	0.035 U	0.02 J	0.018 J	0.025 J	0.015 J	0.02 J	0.03 J	0.032 J
Metal		.00	100000		0.000 0	0.000	0.0.00	0.0.00	0.0.00	0.000	0.02 0	0.0.00	0.0200	0.0.00	0.020	0.000	0.002 0
Antimony	27	1100	190000	410	0.16 J	0.1 J	0.044 J	0.076 J	0.082 J	0.023 J	0.044 J	0.036 J	0.1 J	0.1 J	0.14 J	0.12 J	0.11 J
Arsenic	29	53	190000	1.6	1.5	3	6.7	3.9	2.1	1.6	1.4	1.5	3.9	0.79	22	9.1	8.7
Barium	8200	190000	190000	190000	140 B	58 B	70 B	89 B	89 B	68 B	88 B	97 B	87 B	62 B	72 B	68 B	60 B
Beryllium	320	5600	190000	2000	0.54	0.41	0.71	0.59	0.48	0.4	0.39	0.52	0.38	0.29	0.72	0.52	0.54
Cadmium	38	1400	190000	800	0.074 J	0.052 J	0.065 J	0.11	0.095 J	0.051 J	0.061 J	0.053 J	0.08 J	0.039 J	0.091 J	0.081 J	0.059 J
Chromium (total)	190000	190000	190000	1500000	13 B	12 B	12 B	12 B	12 B	14 B	9.9 B	33 B	130 B	9.4 B	16 B	11 B	13 B
Copper	43000	100000	190000	41000	7.7	7.7	3.9	8	8	3.3	5	3.9	8.5	1.7	11	6.8	8.3
Lead	450	1000	190000	800	9.4	8.3	12	17	12	6.5	10	12	9.4	7.8	11	10	9.7
Nickel Selenium	650 26	56000 14000	190000 190000	20000 5100	9.1 0.7	4.1 0.4 J	4.9 0.77	8.9 0.47 J	13 0.54 J	8.6 0.28 J	13 0.37 J	9.8 0.4 J	18 0.4 J	2.5 0.23 J	6.3 0.45 J	3.4 0.48 J	3.8 0.41 J
Silver	84	14000	190000	5100	0.7 0.11 U	0.4 J 0.1 U	0.77 0.11 U	0.47 J 0.097 U	0.54 J 0.11 U	0.28 J 0.097 U	0.37 J 0.1 U	0.4 J 0.1 U	0.4 J 0.1 U	0.23 J 0.1 U	0.45 J 0.11 U	0.48 J 0.1 U	0.41 J 0.1 U
Thallium	14	200	190000	66	0.110	0.10	0.11	0.097 0	0.110	0.097 U	0.10	0.1 U	0.10	0.1 U 0.064 J	0.110	0.1 U	0.10 0.088 J
Vanadium	72000	20000	190000	72	15	16	14	15	18	6.7	12	7.5	15	5.5	14	16	14
Zinc	12000	190000	190000	310000	19 B	13 B	15 B	25 B	21 B	12 B	17 B	11 B	18 B	7.2	15 B	9.8 B	9.2 B
Volatile Organic Compound					-			-		1				Į.			-
1,1,1,2-Tetrachloroethane	18	300	340	9.3	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
1,1,1-Trichloroethane	20	10000	10000	38000	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
1,1,2,2-Tetrachloroethane	0.43	38	44	2.8	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
1,1,2-Trichloroethane	0.5	140	160	5.3	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
1,1-Dichloroethane	16	1400	1600	17	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
1,1-Dichloroethene	0.7	10000	10000	1100	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
1,2-Dibromoethane	0.005 0.5	3.7 86	4.3 98	0.17 2.2	0.0055 U 0.0055 U	0.0047 U 0.0047 U	0.0052 U 0.0052 U	0.005 U 0.005 U	0.0048 U 0.0048 U	0.0046 U 0.0046 U	0.0053 U 0.0053 U	0.0052 U 0.0052 U	0.005 U 0.005 U	0.0046 U 0.0046 U	0.0047 U 0.0047 U	0.0047 U 0.0047 U	0.0053 U 0.0053 U
1,2-Dichloroethane 1,2-Dichloropropane	0.5	220	260	4.7	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
1,4-Dioxane	3.2	290	330	17	1.1 U	0.0047 U	1.0 U	1.0 U	0.0048 U	0.93 U	1.1 U	1.0 U	1.0 U	0.0040 U	0.0047 U	0.94 U	1.1 U
2-Butanone	400	10000	10000	200000	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
2-Hexanone	4.4	400	460	1400	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
4-Methyl-2-Pentanone	820	10000	10000	53000	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Acetone	9200	10000	10000	630000	0.022 U	0.0076 U	0.010 U	0.010 U	0.019 U	0.019 U	0.014 J	0.011 J	0.012 J	0.019 U	0.019 U	0.019 U	0.021 U
Acrylonitrile	0.37	33	38	1.2	0.11 U	0.094 U	0.1 U	0.1 U	0.095 U	0.093 U	0.11 U	0.1 U	0.1 U	0.093 U	0.094 U	0.094 U	0.11 U
Benzene	0.5	290	330	5.4	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Bromochloromethane	9	10000	10000	680	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Bromodichloromethane	8	60	69	1.4	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Bromoform	8	2000	2300	220	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Bromomethane	1	400	460	32	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Carbon Disulfide Carbon Tetrachloride	620 0.5	10000 150	10000 170	3700 3	0.0055 U 0.0055 U	0.0047 U 0.0047 U	0.0052 U 0.0052 U	0.005 U 0.005 U	0.0048 U 0.0048 U	0.0046 U 0.0046 U	0.0053 U 0.0053 U	0.0052 U 0.0052 U	0.005 U 0.005 U	0.0046 U 0.0046 U	0.0047 U 0.0047 U	0.0047 U 0.0047 U	0.0053 U 0.0053 U
Chlorobenzene	10	4000	4600	1400	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U 0.0047 U	0.0047 U 0.0047 U	0.0053 U
Chlorodibromomethane	8	82	95	3.3	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Chloroethane	90	10000	10000	61000	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Chloroform	8	97	110	1.5	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Chloromethane	3	1200	1400	500	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
cis-1,2-Dichloroethene	7	10000	10000	2000	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
cis-1,3-Dichloropropene	2.6	560	640	8.3	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Ethylbenzene	70	10000	10000	27	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Methyl tert-butyl ether	2	8600	9900	220	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Methylene chloride	0.5	4700	5400	960	0.0015 J	0.0014 J	0.0013 J	0.00087 J	0.0013 J	0.0012 J	0.0014 J	0.0028 J	0.001 J	0.00095 J	0.0015 J	0.0012 J	0.0011 J
Styrene	24	10000	10000	36000	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Tetrachloroethene	0.5	1500	4400	110	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Toluene	100	10000	10000	45000	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
trans-1,2-Dichloroethene trans-1,3-Dichloropropene	10 2.6	4800 560	5500 640	690	0.0055 U	0.0047 U 0.0047 U	0.0052 U 0.0052 U	0.005 U	0.0048 U 0.0048 U	0.0046 U	0.0053 U	0.0052 U 0.0052 U	0.005 U 0.005 U	0.0046 U	0.0047 U	0.0047 U 0.0047 U	0.0053 U 0.0053 U
Trichloroethene	0.5	1300	1500	6.3 6.4	0.0055 U 0.0055 U	0.0047 U	0.0052 U	0.005 U 0.005 U	0.0048 U	0.0046 U 0.0046 U	0.0053 U 0.0053 U	0.0052 U	0.005 U	0.0046 U 0.0046 U	0.0047 U 0.0047 U	0.0047 U 0.0047 U	0.0053 U
Vinyl Chloride	0.3	110	580	1.7	0.0055 U	0.0047 U	0.0052 U	0.005 U	0.0048 U	0.0046 U	0.0053 U	0.0052 U	0.005 U	0.0046 U	0.0047 U	0.0047 U	0.0053 U
Xylenes (Total)	1000	8000	9100	2700	0.0033 U	0.0047 U	0.0032 U	0.005 U	0.0046 U	0.014 U	0.016 U	0.015 U	0.003 U	0.0040 U	0.014 U	0.014 U	0.016 U
,	. 500	5500	5100	00	0.0.00		0.0700	0.0100	3.5110		0.0100	0.0.00	0.0.00				0.0.00

Blank results = analyte not analyzed. U = Not detected. J = Organics; estimated. Inorganics; blank contamination. B = Organics; blank contamination. Inorganics; estimated. E = Inorganics: matrix interference. \* = excavated location.

# APPENDIX A Building 51 Closure Photographs



Photo 1: Building 51 (view looking west) during initial demolition (May 2011).



Photo 2: View looking north of demolition of former Building 51 (May 2011).



Photo 3: View looking north at Building 51 following demolition and removal of former hazardous waste storage pad and underlying gravel, and prior to confirmation sampling.



Photo 4: View looking north at backfilled excavation of former Building 51 area.



Photo 5: View looking west across restored area of former Building 51 (note walking path, gravel drive. and topsoil/seeded restorations).