Final

BUILDING 41 EAST PIPE TRENCH
INTERIM REMEDIATION REPORT
FORMER YORK NAVAL ORDNANCE PLANT

SAIC Project 166345.00.08232.6072.00

Prepared for:

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

December 2009

Science Applications International Corporation

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Interim Remediation Report
Former York Naval Ordnance Plant

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Prepared for:

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York, PA

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December 2009

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Respectfully submitted,

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1.0 INTRODUCTION AND BACKGROUND

This report summarizes interim remediation activities that were completed at the eastern and northern ends of Building 41 at the former York Naval Ordnance Plant (fYNOP) in York, Pennsylvania. The activities included the construction of a sump to remove a subsurface layer of black liquid, the excavation of a former pipe trench (i.e., the east pipe trench), and the excavation of a pipe vault (a remnant of the Old Waste Containment Area). All activities were conducted in accordance with the scope of work in Science Applications International Corporation (SAIC) proposal number 01-1633-71-2009-175, dated August 14, 2008. Photographs of the project are included in Appendix A.

Harley-Davidson entered into a Settlement Agreement with the Department of Defense and the Department of the Navy (as facilitated by the United States Army Corps of Engineers [USACE]) on January 24, 1995. That agreement established a cost sharing arrangement between Harley-Davidson, as the present site owner, and the United States, as the past owner, for costs incurred in response to environmental contamination at the facility. A Trust Fund was established to handle the cost sharing of those response actions. All environmental response actions must be completed in accordance with federal methods. This scope of work and proposal were approved by Harley-Davidson and the York Remediation Trust Fund on September 8, 2008.

Building 41 is located in the northwestern part of the fYNOP, north of Buildings 4 and 2 (see Figure 1). Building 41 is the designation given to the wastewater treatment plant (WWTP). Building 41 was constructed in 1968, and the WWTP began operating in 1969. A historical summary of Building 41, as depicted in photographs and drawings, is presented in Appendix B.

The plant has historically performed treatment of process water generated from fabrication, machining, plating, and painting operations. Wastes treated in the plant which have the potential to impact soil or groundwater have included process wastewaters such as spent acid and alkaline cleaners; wastewaters containing nickel, zinc, chromium, cyanides, and several constituents listed in the total toxics organics list. The WWTP has operated under National Pollutant Discharge Elimination System (NPDES) Permit No. 0007765, which was originally issued on

December 15, 1983. The types of treatment that were conducted in the WWTP included cyanide oxidation, equalization, chrome reduction, pH adjustment, chemical precipitation, flocculation, settling, neutralization, oxidation, and sludge processing (by filter press). The facility no longer performs cyanide oxidation. Most of the treatment processes still continue but have been upgraded over the years to improve the treatment efficiencies or to minimize environmental liabilities and meet regulatory reporting requirements. Treated wastewater effluent was originally discharged from the WWTP to Codorus Creek through Outfall 001, which consisted of treated process waste streams. In 1994, the effluent flow was redirected to the Springettsbury Township sanitary sewer.

In January 1989, a Phase II Resource Conservation and Recovery Act (RCRA) Facility Assessment report was prepared by A.T. Kearney, Inc. (Kearney) for the United States Environmental Protection Agency (EPA), Region III. In that report, two settling basins are identified as Settling Tank No. 1 (north basin, SWMU No. 36) and Settling Tank No. 2 (south basin, SWMU No. 37). These tanks operated in parallel as flocculation and settling tanks. They received wastewater from another flocculation tank (SWMU No. 35) via an open channel conduit. Sludge from the two tanks was pumped into a nearby sludge settling tank (SWMU No. 38) and then into a filter press (SWMU No. 39). Clarified discharge water from the two settling basins flowed over a weir and into a neutralization tank (SWMU No. 40) and then into an oxidation tank (SWMU No. 41) prior to gravity discharge to the east via an open channel. The Kearney report concludes that the potential for the contents of the tanks to be released to soil or groundwater was low because of biannual inspections and continuous monitoring of flows into and out of the two tanks. Although the potential for a release from the tanks was determined to be low, the report suggests that the integrity of the tanks should be verified and soil sampling should be conducted where the integrity of the tanks is questionable.

In 2007, Settling Tank No. 1 (north basin, SWMU No. 36) was emptied and inspected. The concrete floor of the settling basin was found to have cracked. The age of the observed cracks was indeterminate. Consequently, a subsurface investigation was planned and implemented. No compounds were detected at concentrations greater than applicable regulatory standards. Therefore, no additional characterization or remediation was considered to be necessary. The

findings of the closure activities conducted at the north settling basin were summarized and forwarded to the PADEP under separate cover in a report titled "Building 41 North Settling Basin Closure Report Former York Naval Ordnance Plant."

In early 2008, Settling Tank No. 2 (south basin, SWMU No. 37) was emptied and inspected. The concrete floor of the settling basin was found to have cracked. The age of the observed cracks was indeterminate. Consequently, a subsurface investigation was planned and implemented. During that investigation, a black liquid was encountered beneath Settling Tank No. 2 and several smaller basins to the east. The black liquid was sampled and found to contain elevated concentrations of cyanide; heavy metals (including cadmium, chromium, copper, nickel, lead, and zinc); and some organic compounds (including acetone, carbon disulfide, cis-1,2-dichloroethene (cis-1,2-DCE), ethylbenzene, vinyl chloride, bis(2-ethylhexyl)phthalate, and phenol). The source of the black liquid is not known. It may have come from historic spills from the wastewater tanks or from a historic release of solvent or fuels in the pipe trench leading from a former waste containment unit (currently referred to as the Old Waste Containment Area [OWCA]). The findings of the site investigation activities conducted at the south settling basin were summarized and forwarded to the PADEP under separate cover in a report titled "Building 41 South Settling Basin Site Investigation Report Former York Naval Ordnance Plant."

The OWCA consisted of a series of aboveground storage tanks (ASTs) within a concrete berm located near the northeast corner of Building 41. Based on information provided in the Kearney report, the storage tanks were installed at various times from the 1960's through the 1980's. The tanks were used to store various types of liquids, including acids, bases, solvents, fuels, and oils. The stored liquids contained substances such as 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, methylene chloride, toluene, ethylbenzene, benzene, various metals (e.g., cadmium, copper, lead, nickel, and zinc), and cyanides. The Kearney report indicates that there were spills or releases in or around the OWCA. The OWCA was remediated and closed in 1995.

The only remaining features in the area of the OWCA were a vault near the northeast corner of Building 41 and an underground 24-inch-diameter corrugated metal pipe (CMP) that connected

the vault to the northern end of the east pipe trench in Building 41. The CMP went under the north access road that abuts the WWTP Figure 2 shows the location of the east pipe trench, the CMP, and the vault. At one time, solvents and other wastes were piped via a one-inch black pipe from the OWCA through the vault, the CMP, and the pipe trench, into the basement of Building 10, where they were used to fuel boilers. A reported release of solvent from the OWCA pipeline occurred in 1988 and may have been the source of organic compounds, including the black liquid, in the east pipe trench and in the soils under the south and east settling basins. The Kearney report indicates that the 1988 release included 1,375 gallons of toluene from a pipeline leading from the OWCA to the boilers. Historic drawings indicate the east pipe trench had concrete walls and was underlain with gravel and soil (see Appendix B).

2.0 SUMMARY OF PROJECT ACTIVITIES

Utility Relocation: Electrical control panels and monitoring devices were removed from the east wall and relocated to the south wall of Building 41 during October 2008 in order to facilitate opening the east wall for remedial soil excavation and sump installation activities. Air, water, and steam pipes from within the east pipe trench also were relocated in order to install the new sump. An eye wash station and shower located within the work area were disconnected and reinstalled at a location adjacent to the sump.

Demolition: The wall panels along the east side of the building, the 24-inch-diameter CMP pipe outside the building, the exterior concrete vault, and concrete from the length of the east pipe trench inside the building were demolished and removed from the property during January 2009 in order to get equipment access into the east pipe trench. In addition, abandoned piping from within the east pipe trench was removed and disposed off-site.

Excavation: Soil beneath and around the removed concrete walls and slab of the exterior vault, as well as under the CMP outside the building, was excavated during December 2008 and January 2009. Soil and gravel beneath the entire length of the east pipe trench from the equalization (EQ) tank north to the CMP were also excavated in January 2009. The impacted soil and gravel, as well as other debris and piping, were sent off-site for disposal.

Soil Sampling: Confirmatory soil samples were collected from beneath the excavated areas within the pipe trench, the former vault, and the CMP located outside the building during December 2008 and January 2009.

Concrete Sump Pit Construction: A concrete sump that will be used to collect the aforementioned black liquid was constructed in February 2009. The construction of the sump included a stone bed beneath the sump pit, a manhole ladder, and a grated lid. Liquid encountered during the construction of the sump was pumped into a tote container and disposed off-site.

Interior Backfill and Concrete Floor Restoration: After confirmatory laboratory results for soil samples in the trench north of the sump were found to be below Act 2 MSCs, the trench was backfilled and compacted in lifts of no more than one foot each. A new concrete floor was installed north of the new sump, where the east pipe trench was formerly located on February 11, 2009. Concrete was also used to fill the void inside the building where the CMP had been located.

Driveway Restoration: To restore the north access road, the trench from which the CMP pipe was removed was backfilled, compacted, and covered with asphalt on February 18, 2009.

Vault Restoration: The location of the former vault north of the building was backfilled, and the fill was compacted. The grass area north of the building was restored to original grade and vegetated on February 17, 2009.

Well Installation: A monitoring well (MW-117) was installed along the east side of Building 41 on February 16, 2009, to establish groundwater quality on the upgradient side of the building. One groundwater sample was collected from this well on February 26, 2009, following well development activities.

3.0 REMOVAL OF VAULT AND 24-INCH CMP NORTHEAST OF BUILDING 41

The 24-inch-diameter CMP, which contained abandoned pipes, and the concrete vault were excavated and removed on December 23, 2008. The concrete vault was originally part of the Old Waste Containment area, which was closed in 2000. Historical reports during the operation of the Old Waste Containment area indicate that a release of solvent may have occurred from a fuel line which ran through this CMP and over to the boiler room in Building 10. The concrete vault was broken into four-foot or smaller pieces, and the pipes were cut into three- to four-foot sections before being placed into a roll-off container for off-site disposal. The excavation was approximately 4 feet deep where the 24-inch-diameter CMP was located and approximately 5 feet deep where the vault was located. See Appendix A for photographs of the removal activities.

Once the pipes and vault were removed, 4 confirmatory soil samples (designated B41N-TP-1A through B41N-TP-1D) were collected in the 24-inch-diameter CMP excavation, and 4 four confirmatory soil samples (designated B41N-TP-1E through B41N-TP-1H) were collected from the vault excavation (see Figure 2 for sample locations). For quality assurance/quality control (QA/QC) purposes, a duplicate soil sample was collected from location B41N-TP-1G. The soil samples were submitted to TestAmerica Laboratories, Inc. (TestAmerica) for analysis of priority pollutant volatile organic compounds (VOCs), priority pollutant semi-volatile organic compounds (SVOCs), total priority pollutant metals, hexavalent chromium, and total and free cyanide. Samples being analyzed for metals and SVOCs were collected on December 23, 2008, and the samples being analyzed for VOCs were collected on December 30, 2008. The excavations were temporarily fenced for safety purposes and remained open until the analytical results for the samples were received.

4.0 REMEDIATION OF PIPE TRENCH INSIDE BUILDING 41

The eastern pipe trench within Building 41 was a continuation of the 24-inch CMP that led from the Old Waste Containment Area. A portion of the pipe trench was underlain with gravel and soil, while other portions of the pipe trench were underlain with concrete. Visually impacted soils would be removed from the pipe trench prior to the collection of confirmatory samples. Before trench remediation could continue inside Building 41, the water line in the trench was redirected overhead to ensure continued water supply in the WWTP. The air line was capped, and a "T" was placed in the line to maintain all connections and use. Also, the control panel for the EQ tank was relocated from the eastern wall to the southern wall of Building 41 near the EQ tank. Work was performed inside Building 41 from January 20, 2009, through February 11, 2009.

Piping in the northern section of the east pipe trench was cut at the EQ tank and placed in a roll-off container for off-site disposal. After all pipes were removed, gravel, soil, and debris located in the trench were excavated using hand tools to approximately 6.5 feet below the top of concrete. While the total depth of the east pipe trench is approximately 6.5 feet, the presence of a concrete ledge allowed workers to remove impacted soils without confined space entry. The excavated materials were disposed off-site. Waste disposal documents are provided in Appendix E.

On January 21, 2009, confirmatory soil samples were collected at four locations (designated as B41-TR-1A through B41-TR-1D) inside the east pipe trench excavation (see Figure 2). At location B41-TR-1D, two samples were collected: one at 5 feet to 5.5 feet below concrete and a second at 6 feet to 6.5 feet below concrete. For QA/QC purposes, a duplicate sample was collected from location B41-TR-1D at 5 feet to 5.5 feet below concrete. The soil samples were submitted to TestAmerica for analysis of priority pollutant VOCs, priority pollutant SVOCs, total priority pollutant metals, hexavalent chromium, total cyanide, and free cyanide.

During the pipe removal activities, a four-inch-diameter Schedule 20 perforated polyvinyl chloride (PVC) pipe was uncovered, see Appendix A. This pipe is not documented in any drawings that were available for review and contained a white flaky substance. The white flaky

substance was sampled and tentatively identified as an alkaline agent that had come from historical spills of wastewater treatment chemicals into the pipe trench. The perforated pipe took a 90-degree turn to the east out of the trench. The pipe was found again while excavating for the installation of the sump. The section of pipe at the sump location was not perforated and ran north and south before taking a 90-degree turn to the west. The pipe was traced to the southern section of the east pipe trench, near the EQ tank. The section of the pipe near the EQ tank was also perforated (see Appendix A). The perforated pipe was removed from the northern section of the pipe trench during excavation activities and disposed. The perforated pipe in the southern section of the pipe trench was cut and directed into the new sump. The solid pipe connections going around the new sump were plugged with concrete.

5.0 SOIL SAMPLE RESULTS

Upon receipt of the laboratory analytical data package from TestAmerica, the results were tabulated and compared to Pennsylvania Department of Environmental Protection (DEP) nonresidential medium-specific concentrations (MSCs) for soils under direct contact and soil-to-groundwater pathways. Analytical data received from TestAmerica are handled in accordance with SAIC's Quality Assurance Project Plan (QAPP, July 2009). Laboratory data packages are verified at SAIC and evaluated for completeness, technical holding times, blanks, duplicates, laboratory control samples, matrix spike samples, surrogates, and calibration to standards. Electronic data deliverables from the laboratory are entered into the fYNOP data base which is stored in the ARC IMS system and checked for completeness against the chain-of-custody record. Electronic analytical data are stored on an SAIC server, as well as at the laboratory. Laboratory records are retained at TestAmerica for a period of five years after the report is issued.

Table 1 provides a summary of the analytical results of soil samples collected from the pipe vault and from under the 24-inch-diameter CMP at the northeast corner of Building 41. The results were compared to the MSCs. The concentration of nickel (942 milligrams per kilogram [mg/kg]) in soil sample B41N-TP-1E-4/4.5-0 was greater than the MSC for the soil-to-groundwater pathway of 650 milligrams per kilogram (mg/kg). Sample B41N-TP-1E-4/4.5-0 was collected from a green-colored layer of soil. The layer was approximately four inches thick and about four to five feet below grade. Soils at and near sample location B41N-TP-1E were subsequently excavated and disposed off-site. After the additional soils were excavated, a second soil sample was collected at location B41N-TP-1E on January 20, 2009. The second sample was analyzed for metals, and all concentrations were less than applicable MSCs. The concentration of nickel in the second sample was 109 mg/kg.

Five test pits were excavated along the north access road at the WWTP to delineate the extent of the green layer of soil. The green layer was identified in Pits 1, 2, and 3. The green layer was not identified in Pits 4 or 5. On February 4, 2009, soil samples were collected from the green layer in Pits 1, 2, and 3. The soil samples were analyzed for metals. The pit locations from

which samples were collected are labeled as B41N-TP-1J, B41N-TP-2A, and B41N-TP-3A on Figure 2. Analytical results for the pit samples are summarized on Table 1. All substances analyzed for were detected at concentrations less than applicable MSCs. Nickel was detected in the three samples at concentrations ranging from 19.4 mg/kg to 301 mg/kg; none of the pit samples had a concentration greater than the MSC of 650 mg/kg. The pits, vault, and the 24-inch-diameter CMP excavations were subsequently backfilled to grade.

The samples collected from the east pipe trench inside Building 41 (B41-TR-1A through 1D) are summarized on Table 2, and the sample locations are shown on Figure 2. None of the compounds analyzed for were detected at concentrations greater than the applicable MSCs.

6.0 SUMP INSTALLATION

A sump was installed as an interim remediation measure in a section of the east pipe trench in the vicinity of the EQ tank and east of the south settling basin. The sump was installed to collect the black liquid that was encountered during the investigation of the south settling basin. A section of siding was removed from the east side of Building 41 for a mini-excavator to access the sump area. Impacted soil was visible at approximately nine feet below the top of concrete, just below the basin (to the west) footer. The impacted soil was black, and black liquid seeped into the excavation. Approximately 200 gallons of liquid were removed with a sump pump during construction. The excavated soils and water were disposed off-site, and waste disposal documents are provided in Appendix E.

On February 2, 2009, soil samples were collected at seven locations designated as B41-TR-1E through B41-TR-1K from the bottom and the western side of the sump excavation. A duplicate sample was collected at location B41-TR-1K. The sample locations are shown on Figure 2. The soil samples were submitted to TestAmerica for analysis of VOCs, SVOCs, total metals, hexavalent chromium, and free and total cyanide.

The sump was constructed by placing crushed stone in the excavation, on top of which a six-inch-thick concrete floor was poured. A rebar cage, which was constructed to reinforce the concrete walls, was placed between the wood forms and the side of the sump before pouring concrete. The western wall of the sump under the basin (to the west) footer was not concreted to allow liquid to enter the sump. Crushed stone was placed under the footer. A ladder was installed on the southern wall of the sump for access. Figure 4 contains the as-built drawing of the sump. A sump pump was later installed in the sump pit and plumbed to a 55-gallon drum for containment of the liquids.

7.0 SOIL SAMPLE RESULTS FROM SUMP INSTALLATION AREA

Upon receipt of the laboratory analytical data package from TestAmerica, the results were tabulated and compared to MSCs for soils under direct contact and soil-to-groundwater pathways.

The analytical results for the soil samples collected from the sump excavation area are summarized and compared with the MSCs in Table 2. The concentration of PCE (0.640 mg/kg) detected in the sample collected from boring HD-B41-TR-1H-10.5/11 was greater than the MSC of 0.5 mg/kg. No other compounds exceeded the MSC in these sump samples. No additional excavation or sampling was performed to remove or bound the impacted soil from location B41-TR-1H because of stability concerns with the foundation of Building 41.

8.0 MONITORING WELL INSTALLATION

A monitoring well designated as MW-117 was installed to the east of Building 41 on February 13-16, 2009. The location of MW-117 is shown on Figure 3. The well was installed to investigate the groundwater conditions to the east of Building 41. A Geoprobe® was used to log the soil and to collect soil samples from three depth intervals before auguring to top of rock and installing MW-117. During soil boring advancement and well installation, the soil type, color, photoionization detector (PID) response, well construction information, and other relevant information were recorded on a soil boring log. Additionally, soil vapor photoionization detector (PID) responses were recorded as measured directly from soil cores contained in the acetate liner that was removed from the sampling device. Copies of the soil boring logs are included in Appendix C.

On February 13, 2009, soil samples were collected from depth intervals of 6 to 6.5 feet below grade (fbg), 12 to 12.5 fbg, and 19.5 to 20 fbg. The soil samples were submitted to TestAmerica for analysis of priority pollutant VOCs, priority pollutant SVOCs, total priority pollutant metals, hexavalent chromium, and total and free cyanide.

Groundwater from MW-117 was sampled on February 26, 2009, using a low-flow purge method. The sample log is provided in Appendix D. The groundwater sample was submitted to TestAmerica for analysis of VOCs, SVOCs, dissolved and total hexavalent chromium, dissolved and total metals, and free and total cyanide.

9.0 SOIL AND GROUNDWATER SAMPLE RESULTS FROM MW-116 AND MW-117

The analytical results for the soil samples are summarized and compared to MSCs for soils in Table 2. None of the compounds analyzed were detected at a concentration greater than the MSC.

The analytical results for the groundwater sample collected from MW-117 are summarized and compared with MSCs for used and non-used aquifers and maximum contaminant levels (MCLs) for drinking water in Table 3. A copy of the analytical results from TestAmerica are located at SAIC's Harrisburg, Pennsylvania, office. The detected concentrations for PCE (36 micrograms per liter (µg/L) and TCE (39 µg/L) in this groundwater sample were greater than the MSCs of 5µg/L (the MSC value is the same for both compounds).

Also provided in Table 3 are the analytical results for two groundwater samples collected previously from MW-116. MW-116 was installed to the west of Building 41 on April 14-17, 2008. The location of MW-116 is shown on Figure 3. MW-116 was installed to investigate the groundwater conditions to the west (and presumably downgradient) of Building 41. MW-116 was sampled on May 21, 2008, and September 3, 2008, as part of the Supplemental Remedial Investigation (RI) first and second rounds of groundwater sampling. The samples were submitted to TestAmerica for analysis of VOCs, SVOCs, dissolved and total hexavalent chromium, dissolved and total metals, and free and total cyanide. In both sampling events, the concentrations of 1,1-dichloroethene (1,1-DCE) (46 µg/L and 40 µg/L) exceeded the MSC of 7 µg/L; the concentrations of cis-1,2-dichloroethene (cis-1,2-DCE) (1,200 µg/L and 1,100 µg/L) exceeded the MSC of 70 µg/L; the concentrations of methylene chloride (140 µg/L and 50 µg/L) exceeded the MSC of 5 µg/L; the concentrations of PCE (310 µg/L and 201 µg/L) exceeded the MSC of 5 µg/L; the concentrations of TCE (570 µg/L and 1480 µg/L) exceeded the MSC of 5 µg/L; and the concentrations of vinyl chloride (37 µg/L and 27 µg/L) exceeded the MSC of 2 µg/L.

10.0 SUMMARY AND CONCLUSIONS

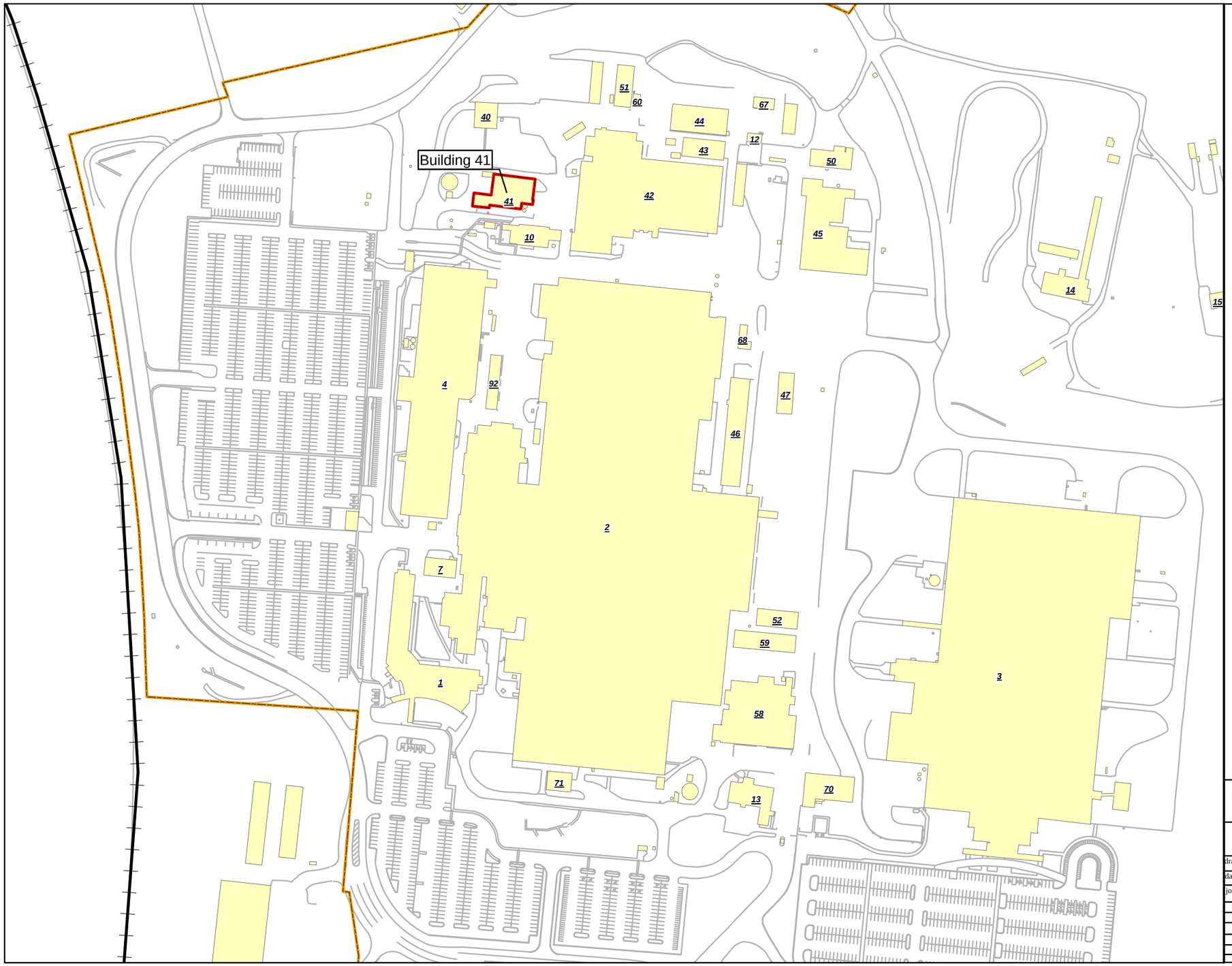
Interim remediation activities were completed at the northern end of Building 41, including the construction of a sump to remove a subsurface layer of black liquid, the excavation of a former pipe trench, and the excavation of a pipe vault. Soils and construction materials excavated during these activities were disposed off-site. The concentrations of substances detected in soil samples collected after the removal of the vault and in samples collected from the east pipe trench were demonstrated to be less than applicable MSCs. One soil sample collected during the construction of the sump contained PCE at a concentration of 0.640 mg/kg, which was greater than the MSC of 0.5 mg/kg for the soil-to-groundwater pathway. Additional soils could not be excavated at the sump location without jeopardizing the stability of the building foundation.

Monitoring well MW-117 was installed and sampled to characterize groundwater conditions adjacent to and upgradient of Building 41. PCE (36 µg/L) and TCE (39 µg/L) were detected at concentrations that exceed the MSCs of 5 µg/L (the MSC value is the same for both compounds). The concentrations detected in the water sample collected from MW-117 were less than the concentrations of compounds previously detected in MW-116, which is located hydraulically downgradient of Building 41. In addition, the concentrations of substances detected in soil samples collected during the installation of MW-117 were less than applicable MSCs for soils.

The analytical results for the black aqueous sample collected from the perched water zone during the remediation and closure of Settling Tank No. 2 (south basin) contained cyanide, antimony, arsenic, cadmium, chromium, lead, nickel, zinc, bis(2-ethylhexyl)phthalate), and vinyl chloride at concentrations greater than respective MSCs. Other compounds, including 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethene (1,2-DCE), PCE, and TCE were detected at concentrations less than applicable MSCs. Based on the results obtained, it is likely that the black liquid and compounds detected in the soil and groundwater samples collected during the activities discussed in this report may have come from a combination of sources, historical spills at the WWTP, and releases or spills from pipes from the OWCA.

Additional investigation and remediation activities that can be conducted at the present time are limited by the active wastewater treatment plant. Based on the results discussed in this report, additional investigation activities will be considered as part of the Site-Wide Feasibility Study process. If the status of the wastewater treatment plant changes to inactive in the future, closure activities will be more feasible and can then be recommended. Moreover, the effectiveness of the installed sump will be evaluated by ongoing monitoring of the water volume and water quality of the black liquid removed. In addition, wells MW-116 and MW-117 will be monitored routinely as part of the program established for the ongoing site-wide groundwater investigation.

FIGURES



N
W E
S

Legend

- Codorus Creek
- Railroad
- Buildings
- Harley-Davidson Property Boundary
- Roads and Curb Boundary

250 125 0 250 Feet

1 inch = 250 feet

FORMER YORK NAVAL ORDNANCE PLANT
1425 EDEN ROAD, YORK, PA 17402

SITE LOCATION MAP

drawn AGM	checked	approved	figure no. 1
date 5/4/09	date	date	
job no. 01-1633-00-1365-518		file no. Fig_1_Site_Area.mxd	

initials	date	revision

SAIC From Science to Solutions

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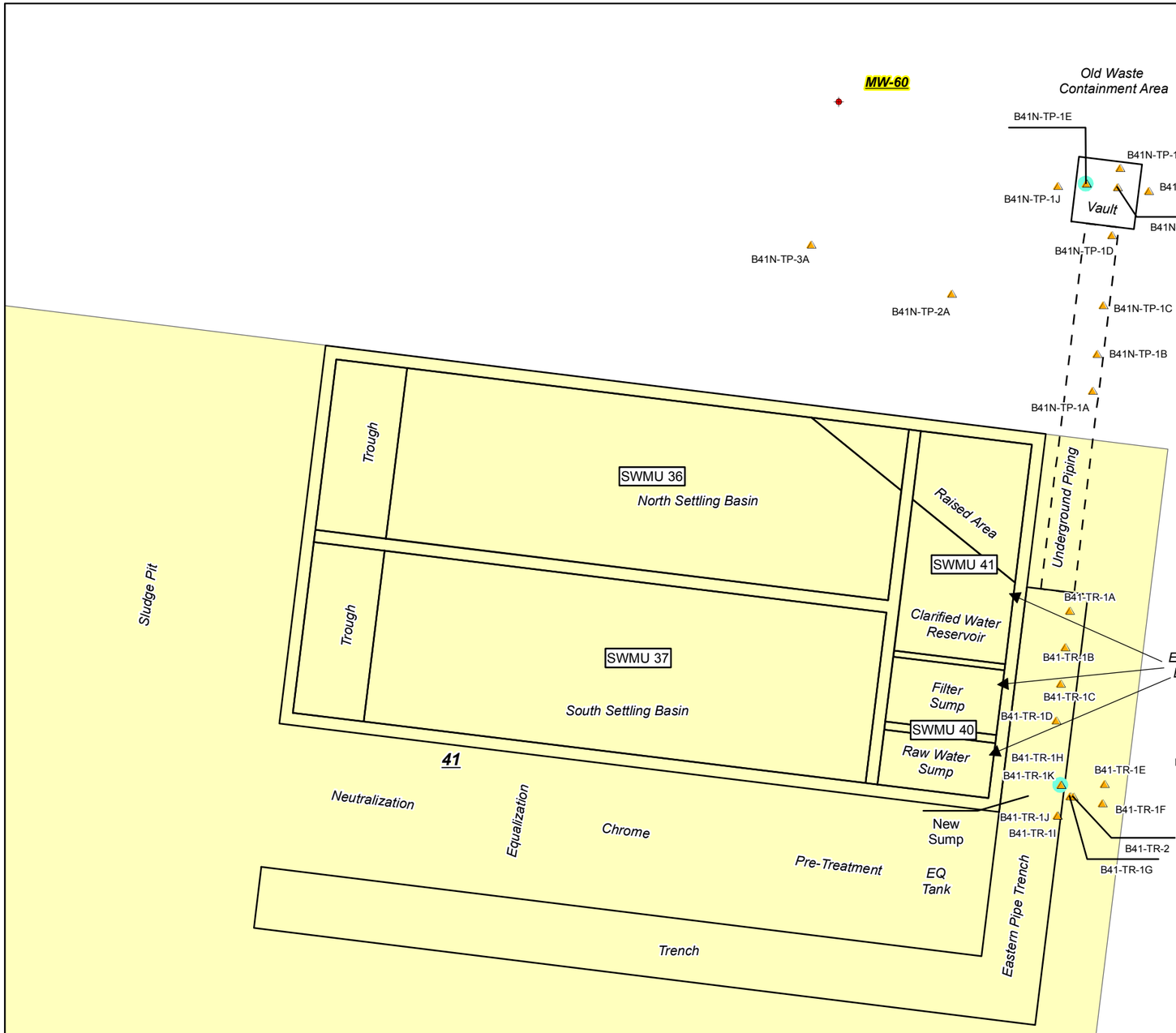

N
W E
S

Legend

- Soil Samples Prior to 1/1/2007
- Soil Samples Post 1/1/07
- Abandoned Wells
- Monitoring and Collection Wells
- Exceeds Direct Contact and Soil to Groundwater Screens
- Results >or = Direct Contact Standard (0-2' and 2'-15')
- Results > or = Soil to Groundwater
- Building 41 Feature Boundary
- Underground Piping
- Buildings

10 5 0 10 Feet

1 inch = 10 feet

FORMER YORK NAVAL ORDNANCE PLANT

1425 EDEN ROAD, YORK, PA 17402

Building 41 East Trench/Sump

drawn AGM	checked	approved	figure no. 2
date 5/4/09	date	date	
job no. 01-1633-00-1365-518		file no. Fig_2 SMP_LOCS.mxd	

initials	date	revision

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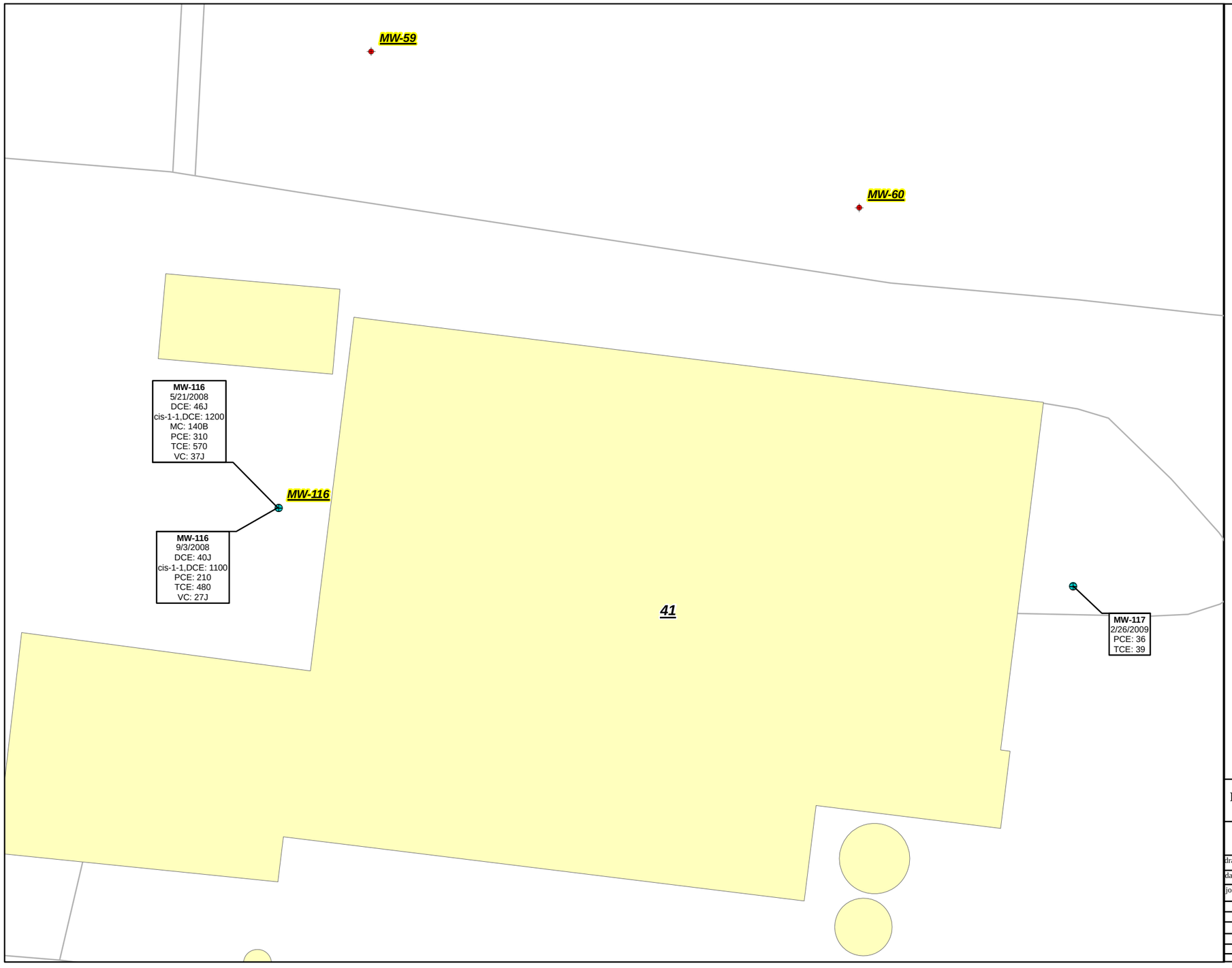

N
W E
S

Legend

- Abandoned Wells
- Monitoring and Collection Wells
- Buildings
- Roads and Curb Boundary

NOTE:
Results given are for exceedances of the Pa DEP MSC Used Aquifer TDS <2,500 Non Residential.

Location ID
Date
DCE: 1,1-Dichloroethene
cis-1-1,DCE: cis-1,2-Dichloroethene
MC: Methylene chloride
PCE: Tetrachloroethene
TCE: Trichloroethene
VC: Vinyl Chloride

7.5 3.75 0 7.5 15 Feet

1 inch = 15 feet

FORMER YORK NAVAL ORDNANCE PLANT
1425 EDEN ROAD, YORK, PA 17402

Building 41 Groundwater Chemistry Summary

drawn AGM	checked	approved	figure no. 3
date 5/4/09	date	date	
job no. 01-1633-00-5127-518		file no. Fig_3_MW_Results.mxd	

initials	date	revision

SAIC From Science to Solutions

K:\GIS_Data\Harley\Projects\B41_B45_B51_AOC Report\B41 Sump\Fig_3_MW_Results.mxd

TABLES

Table 1.
Soils Data Summary - Building 41 - North Access Road (B41N)
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41N-TP-1A 3 - 3.5 12/23/2008	B41N-TP-1A 3 - 3.5 12/30/2008	B41N-TP-1B 2.8 - 3 12/23/2008	B41N-TP-1B 2.8 - 3 12/30/2008	B41N-TP-1C 2.5 - 3 12/23/2008	B41N-TP-1C 2.5 - 3 12/30/2008	B41N-TP-1D 2.5 - 3 12/23/2008	B41N-TP-1D 2.5 - 3 12/30/2008	B41N-TP-1E 4 - 4.5 12/23/2008	B41N-TP-1E 4.5 - 5 12/30/2008
Cyanide, Free														
Cyanide, Free	200	56000	190000	20000	0.94		0.26 B		4.1		12.6		0.88	
Cyanide, Total														
Cyanide, Total	200	56000	190000		79.6		11.4		14.8		15		77.3	
Hexavalent Chromium														
Hexavalent Chromium	190	420	190000	200	0.29 B		0.75		0.29 B		1		0.46 U	
Mercury														
Mercury	10	840	190000	24	0.034 B		0.053		0.023 B		0.028 B		0.045	
Metal														
Antimony	27	1100	190000	410	0.39		0.2 B		0.39		0.28		0.54	
Arsenic	150	53	190000	1.6	5.4 Z		12.4 Z		5.2 Z		8.8 Z		9.1 Z	
Barium	8200	190000	190000	190000	47.3		52.2		72.5		70.1		91.5	
Beryllium	320	5600	190000	2000	0.57		0.68		0.47		0.74		0.8	
Cadmium	38	210	190000	800	3.8		0.73		5.1		3.9		9.5	
Chromium				1500000	66.8 J		31.9 J		68.7 J		46 J		162 J	
Copper	36000	100000	190000	41000	22.4 J		15.3 J		19.7 J		16.5 J		52.5 J	
Lead	450	1000	190000	800	25.3 J		19.1 J		48.3 J		32.5 J		40.9 J	
Nickel	650	56000	190000	20000	186		19.4		194		131		924 W	
Selenium	26	14000	190000	5100	0.99		0.44 B		0.49 B		0.6 B		0.5 B	
Silver	84	14000	190000	5100	0.014 B		0.13 U		0.062 B		0.029 B		0.12	
Thallium	14	200	190000	66	0.15		0.14		0.13		0.15		0.16	
Vanadium	72000	20000	190000	5200	19.7		34		19.6		24.1		30	
Zinc	12000	190000	190000	310000	6210 J		142 J		1940 J		714 J		230 J	
SVOC														
1,2,4-Trichlorobenzene	27	10000	10000	400	0.4 U		2.1 U		2 U		2 U		0.76 U	
1,2-Dichlorobenzene	60	10000	10000	10000	0.4 U		2.1 U		2 U		2 U		0.76 U	
1,3-Dichlorobenzene	61	10000	10000	3066	0.4 U		2.1 U		2 U		2 U		0.76 U	
1,4-Dichlorobenzene	10	3300	190000	13	0.4 U		2.1 U		2 U		2 U		0.76 U	
2,4,5-Trichlorophenol	6100	190000	190000	62000	0.4 U		2.1 U		2 U		2 U		0.76 U	
2,4,6-Trichlorophenol	8.9	840	190000	160	0.4 U		2.1 U		2 U		2 U		0.76 U	
2,4-Dichlorophenol	2	8400	190000	1800	0.4 U		2.1 U		2 U		2 U		0.76 U	
2,4-Dimethylphenol	200	10000	10000	12000	0.4 U		2.1 U		2 U		2 U		0.76 U	
2,4-Dinitrophenol	4.1	5600	190000	1200	2.1 U		11 U		10 U		10 U		3.9 U	
2,4-Dinitrotoluene	0.84	260	190000	2044	0.4 U		2.1 U		2 U		2 U		0.76 U	
2,6-Dinitrotoluene	10	2800	190000	620	0.4 U		2.1 U		2 U		2 U		0.76 U	
2-Chloronaphthalene	18000	190000	190000	82000	0.4 U		2.1 U		2 U		2 U		0.76 U	
2-Chlorophenol	4.4	920	1100	5100	0.4 U		2.1 U		2 U		2 U		0.76 U	
2-Methylnaphthalene	8000	10000	10000	4100	0.055 J		2.1 U		2 U		2 U		0.061 J	
2-Methylphenol	510	10000	10000	51100	0.4 U		2.1 U		2 U		2 U		0.76 U	
2-Nitroaniline	0.58	160	190000	1800	2.1 U		11 U		10 U		10 U		3.9 U	
2-Nitrophenol	82	22000	190000		0.4 U		2.1 U		2 U		2 U		0.76 U	
3,3'-Dichlorobenzidine	32	180	190000	6.35911	1.9 U		10 U		9.8 U		9.8 U		3.7 U	
3/4-Methylphenol				5100	0.4 U		2.1 U		2 U		2 U		0.76 U	
3-Nitroaniline	0.58	160	190000		2.1 U		11 U		10 U		10 U		3.9 U	
4,6-Dinitro-2-Methylphenol					2.1 U		11 U		10 U		10 U		3.9 U	
4-Bromophenyl phenyl ether					0.4 U		2.1 U		2 U		2 U		0.76 U	
4-Chloro-3-Methyl-Phenol	110	14000	190000		0.4 U		2.1 U		2 U		2 U		0.76 U	
4-Chloroaniline	52	11000	190000	4088	0.4 U		2.1 U		2 U		2 U		0.76 U	
4-Chlorodiphenyl Ether					0.4 U		2.1 U		2 U		2 U		0.76 U	
4-Nitroaniline	0.58	160	190000	86	2.1 U		11 U		10 U		10 U		3.9 U	
4-Nitrophenol	6	22000	190000		2.1 U		11 U		10 U		10 U		3.9 U	
Acenaphthene	4700	170000	190000	33000	0.4 U		2.1 U		2 U		2 U		0.76 U	
Acenaphthylene	6900	170000	190000		0.4 U		2.1 U		2 U		2 U		0.76 U	
Anthracene	350	190000	190000	170000	0.4 U		2.1 U		2 U		2 U		0.76 U	
Benzo (A) Anthracene	320	110	190000	2.1	0.026 J		2.1 U		2 U		2 U		0.76 U	
Benzo (a) Pyrene	46	11	190000	0.21	0.097 J		2.1 U		0.5 J Z		0.48 J Z		0.18 J	
Benzo (b) Fluoranthene	170	110	190000	2.1	0.1 J		0.58 J		0.49 J		0.48 J		0.19 J	
Benzo (g,h,i) Perylene	180	170000	190000		0.19 J		0.97 J		0.95 J		0.88 J		0.38 J	

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Benzo (k) Fluoranthene	**610**	**1100**	**190000**	**21**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Bis(2-Chloroethoxy) Methane				**1800**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Bis(2-Chloroethyl) Ether	**0.055**	**5**	**5.7**	**0.9**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Bis(2-Chloroisopropyl) Ether	**30**	**160**	**190**		0.4 U		2.1 U		2 U		2 U		0.76 U	
Bis(2-Ethylhexyl) Phthalate	**130**	**5700**	**10000**	**120**	**0.26 J**		**1.2 J**		**1.2 J**		2 U		1.4	
Butylbenzylphthalate	**10000**	**10000**	**10000**	**910**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Carbazole	**83**	**4000**	**190000**		0.4 U		2.1 U		2 U		2 U		**0.021 J**	
Chrysene	**230**	**11000**	**190000**	**210**	**0.026 J**		2.1 U		2 U		2 U		0.76 U	
Dibenzo (a,h) Anthracene	**160**	**11**	**190000**	**0.21**	0.4 U		**1.2 J Z**		2 U		2 U		0.76 U	
Dibenzofuran					**0.016 J**		2.1 U		2 U		2 U		0.76 U	
Diethylphthalate	**500**	**10000**	**10000**	**490000**	**0.037 J**		2.1 U		**0.25 J**		2 U		**0.16 J**	
Dimethylphthalate					0.4 U		2.1 U		2 U		2 U		0.76 U	
Di-n-Butylphthalate	**4100**	**10000**	**10000**		**0.12 J**		2.1 U		2 U		2 U		**0.22 J**	
Di-n-octylphthalate	**10000**	**10000**	**10000**		0.4 U		2.1 U		2 U		2 U		0.76 U	
Fluoranthene	**3200**	**110000**	**190000**	**22000**	**0.037 J**		**0.12 J**		**0.2 J**		**0.14 J**		**0.066 J**	
Fluorene	**3800**	**110000**	**190000**	**22000**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Hexachlorobenzene	**0.96**	**50**	**190000**	**1.1**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Hexachlorobutadiene	**1.2**	**560**	**10000**	**22**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Hexachlorocyclopentadiene	**91**	**10000**	**10000**	**3700**	1.9 U		10 U		9.8 U		9.8 U		3.7 U	
Hexachloroethane	**0.56**	**2800**	**190000**	**120**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Indeno (1,2,3-cd) Pyrene	**28000**	**110**	**190000**	**2.1**	**0.22 J**		**1.2 J**		**1.1 J**		**1.1 J**		**0.43 J**	
Isophorone	**10**	**10000**	**10000**	**1800**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Naphthalene	**25**	**56000**	**190000**	**20**	**0.044 J**		2.1 U		2 U		2 U		**0.17 J**	
Nitrobenzene	**5.1**	**1400**	**10000**	**22**	0.4 U		2.1 U		2 U		2 U		0.76 U	
N-Nitrosodi-N-Propylamine	**0.037**	**11**	**10000**	**0.25**	0.4 U		2.1 U		2 U		2 U		0.76 U	
N-Nitrosodiphenylamine	**83**	**16000**	**190000**	**350**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Pentachlorophenol	**5**	**660**	**190000**	**9**	1.9 U		10 U		9.8 U		9.8 U		3.7 U	
Phenanthrene	**10000**	**190000**	**190000**		**0.04 J**		**0.058 J**		**0.12 J**		2 U		**0.053 J**	
Phenol	**400**	**190000**	**190000**	**180000**	0.4 U		2.1 U		2 U		2 U		0.76 U	
Pyrene	**2200**	**84000**	**190000**	**17000**	**0.029 J**		**0.11 J**		**0.18 J**		**0.14 J**		**0.066 J**	
Total Solids														
Percent Solids						**82.40%**		**78.40%**		**81.40%**		**81.50%**		**86.30%**
VOC														
1,1,1,2-Tetrachloroethane	**18**	**3100**	**190000**	**9.8**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,1,1-Trichloroethane	**20**	**10000**	**10000**	**39000**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,1,2,2-Tetrachloroethane	**0.03**	**28**	**33**	**2.9**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,1,2-Trichloroethane	**0.5**	**100**	**120**	**5.5**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,1-Dichloroethane	**11**	**1000**	**1200**	**17**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,1-Dichloroethene	**0.7**	**33**	**38**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,2-Dibromoethane	**0.005**	**0.93**	**8.6**	**0.17**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,2-Dichloroethane	**0.5**	**63**	**73**	**2.2**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,2-Dichloropropane	**0.5**	**160**	**180**	**4.7**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
1,4-Dioxane	**2.4**	**210**	**240**	**160**		1 U		0.99 U		0.99 U		0.95 U		0.95 U
2-Butanone	**580**	**10000**	**10000**	**190000**		0.021 U		0.02 U		0.02 U		0.019 U		0.019 U
2-Hexanone						0.021 U		0.02 U		0.02 U		0.019 U		0.019 U
4-Methyl-2-Pentanone	**41**	**4300**	**4900**	**52000**		0.021 U		0.02 U		0.02 U		0.019 U		0.019 U
Acetone	**1000**	**10000**	**10000**	**610000**		0.021 U		0.02 U		0.02 U		0.019 U		0.019 U
Acrylonitrile	**0.27**	**24**	**28**	**1.2**		0.1 U		0.099 U		0.099 U		0.095 U		0.095 U
Benzene	**0.5**	**210**	**240**	**5.6**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Bromochloromethane	**9**	**10000**	**10000**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Bromodichloromethane	**10**	**45**	**51**	**1.4**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Bromoform	**10**	**1500**	**1700**	**220**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U

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Bromomethane	**1**	**270**	**300**	**35**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Carbon Disulfide	**410**	**10000**	**10000**	**3000**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Carbon Tetrachloride	**0.5**	**110**	**120**	**1.3**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Chlorobenzene	**10**	**10000**	**10000**	**1500**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Chlorodibromomethane	**10**	**61**	**70**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Chloroethane	**90**	**10000**	**10000**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Chloroform	**10**	**17**	**19**	**1.5**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Chloromethane	**0.3**	**920**	**1000**	**510**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
cis-1,2-Dichloroethene	**7**	**1900**	**2100**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
cis-1,3-Dichloropropene	**2.6**	**410**	**470**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Ethylbenzene	**70**	**10000**	**10000**	**29**		0.0052 U		**0.0011 J**		0.005 U		**0.0011 J**		0.0047 U
Methyl tert-butyl ether	**2**	**3200**	**3700**	**190**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Methylene chloride	**0.5**	**3500**	**4000**	**54**		**0.0011 J B**		0.005 U		0.005 U		**0.0013 J B**		0.0047 U
Styrene	**24**	**10000**	**10000**	**38000**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Tetrachloroethene	**0.5**	**1500**	**3300**	**2.7**		0.0052 U		0.005 U		0.005 U		**0.0043 J**		**0.0011 J**
Toluene	**100**	**10000**	**10000**	**46000**		0.0052 U		**0.0037 J**		0.005 U		**0.0019 J**		**0.0015 J**
trans-1,2-Dichloroethene	**10**	**3700**	**4300**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
trans-1,3-Dichloropropene	**2.6**	**410**	**470**			0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Trichloroethene	**0.5**	**970**	**1100**	**14**		0.0052 U		0.005 U		0.005 U		**0.0076**		0.0047 U
Vinyl Chloride	**0.2**	**53**	**220**	**1.7**		0.0052 U		0.005 U		0.005 U		0.0047 U		0.0047 U
Xylenes (Total)	**1000**	**10000**	**10000**	**2600**		0.016 U		**0.0066 J**		0.015 U		**0.0071 J**		0.014 U

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Cyanide, Free																
Cyanide, Free	200	56000	190000	20000		0.8		0.9	1			4.8		1.7	2.3	2.2
Cyanide, Total																
Cyanide, Total	200	56000	190000			3.7		28.5	7.1			0.61		174	80.6	77.9
Hexavalent Chromium																
Hexavalent Chromium	190	420	190000	200		0.47 U		0.47	0.22 B			0.35 B				
Mercury																
Mercury	10	840	190000	24	0.042 B J	0.047		0.023 B	0.052			0.022 B		0.0069 B J	0.012 B J	0.015 B J
Metal																
Antimony	27	1100	190000	410	0.21 B	0.23		0.18 B	0.33			0.17 B		0.3	0.16 B	0.12 B
Arsenic	150	53	190000	1.6	7.3 E Z	4.6 Z		4.3 Z	4.9 Z			6.7 Z		12 Z	10.8 Z	6.2 Z
Barium	8200	190000	190000	190000	62.4 J	87.3		74.5	92.1			69.8		46.6 J	51 J	55.8 J
Beryllium	320	5600	190000	2000	0.52	0.67		0.56	0.69			0.62		0.69	0.62	0.66
Cadmium	38	210	190000	800	1.1	2.1		2.9	1.2			2.1		1.3	0.3	0.16
Chromium				1500000	22.8 J	37 J		27 J	30.8 J			28.7 J		26.4 J	10.4 J	9.8 J
Copper	36000	100000	190000	41000	11.9 J E	17.4 J		12 J	14.9 J			15.6 J		10.2	12.6	10.6
Lead	450	1000	190000	800	11.2	30.1 J		20.1 J	33.1 J			21.3 J		18.7	10	9
Nickel	650	56000	190000	20000	109 E	103		88.5	47.7			67.5		274	301	183
Selenium	26	14000	190000	5100	0.27 B	0.57 B		0.42 B	0.53 B			0.59 B		0.33 B	0.41 B	0.41 B
Silver	84	14000	190000	5100	0.026 B	0.047 B		0.036 B	0.18			0.012 B		0.026 B	0.019 B	0.018 B
Thallium	14	200	190000	66	0.11 B	0.17		0.12	0.15			0.14		0.062 B J	0.09 B J	0.091 B J E
Vanadium	72000	20000	190000	5200	17.2	23.4		16.9	19.9			24.5		17.6 J	13.4 J	9.9 J E
Zinc	12000	190000	190000	310000	28.9 J E	247 J		40.2 J	96.2 J			800 J		10.7 J	13.2 J	16.4 J
SVOC																
1,2,4-Trichlorobenzene	27	10000	10000	400		0.77 U		0.78 U	0.77 U			0.4 U				
1,2-Dichlorobenzene	60	10000	10000	10000		0.77 U		0.78 U	0.77 U			0.4 U				
1,3-Dichlorobenzene	61	10000	10000	3066		0.77 U		0.78 U	0.77 U			0.4 U				
1,4-Dichlorobenzene	10	3300	190000	13		0.77 U		0.78 U	0.77 U			0.4 U				
2,4,5-Trichlorophenol	6100	190000	190000	62000		0.77 U		0.78 U	0.77 U			0.4 U				
2,4,6-Trichlorophenol	8.9	840	190000	160		0.77 U		0.78 U	0.77 U			0.4 U				
2,4-Dichlorophenol	2	8400	190000	1800		0.77 U		0.78 U	0.77 U			0.4 U				
2,4-Dimethylphenol	200	10000	10000	12000		0.77 U		0.78 U	0.77 U			0.4 U				
2,4-Dinitrophenol	4.1	5600	190000	1200		4 U		4 U	3.9 U			2.1 U				
2,4-Dinitrotoluene	0.84	260	190000	2044		0.77 U		0.78 U	0.77 U			0.4 U				
2,6-Dinitrotoluene	10	2800	190000	620		0.77 U		0.78 U	0.77 U			0.4 U				
2-Chloronaphthalene	18000	190000	190000	82000		0.77 U		0.78 U	0.77 U			0.4 U				
2-Chlorophenol	4.4	920	1100	5100		0.77 U		0.78 U	0.77 U			0.4 U				
2-Methylnaphthalene	8000	10000	10000	4100		0.77 U		0.78 U	0.77 U			0.034 J				
2-Methylphenol	510	10000	10000	51100		0.77 U		0.085 J	0.77 U			0.4 U				
2-Nitroaniline	0.58	160	190000	1800		4 U		4 U	3.9 U			2.1 U				
2-Nitrophenol	82	22000	190000			0.77 U		0.78 U	0.77 U			0.4 U				
3,3'-Dichlorobenzidine	32	180	190000	6.35911		3.8 U		3.8 U	3.7 U			1.9 U				
3/4-Methylphenol				5100		0.77 U		0.78 U	0.77 U			0.4 U				
3-Nitroaniline	0.58	160	190000			4 U		4 U	3.9 U			2.1 U				
4,6-Dinitro-2-Methylphenol						4 U		4 U	3.9 U			2.1 U				
4-Bromophenyl phenyl ether						0.77 U		0.78 U	0.77 U			0.4 U				
4-Chloro-3-Methyl-Phenol	110	14000	190000			0.77 U		0.78 U	0.77 U			0.4 U				
4-Chloroaniline	52	11000	190000	4088		0.77 U		0.78 U	0.77 U			0.4 U				
4-Chlorodiphenyl Ether						0.77 U		0.78 U	0.77 U			0.4 U				
4-Nitroaniline	0.58	160	190000	86		4 U		4 U	3.9 U			2.1 U				
4-Nitrophenol	6	22000	190000			4 U		4 U	3.9 U			2.1 U				
Acenaphthene	4700	170000	190000	33000		0.027 J		0.78 U	0.77 U			0.4 U				
Acenaphthylene	6900	170000	190000			0.77 U		0.78 U	0.77 U			0.4 U				
Anthracene	350	190000	190000	170000		0.067 J		0.78 U	0.77 U			0.4 U				
Benzo (A) Anthracene	320	110	190000	2.1		0.14 J		0.78 U	0.77 U			0.4 U				
Benzo (a) Pyrene	46	11	190000	0.21		0.26 J		0.2 J	0.19 J			0.1 J				
Benzo (b) Fluoranthene	170	110	190000	2.1		0.26 J		0.23 J	0.18 J			0.1 J				
Benzo (g,h,i) Perylene	180	170000	190000			0.42 J		0.4 J	0.37 J			0.19 J				

Table 1.
Soils Data Summary - Building 41 - North Access Road (B41N)
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41N-TP-1E 5.5 - 6 1/20/2009	B41N-TP-1F 4 - 4.5 12/23/2008	B41N-TP-1F 4.5 - 5 12/30/2008	B41N-TP-1G 4 - 4.5 12/23/2008	B41N-TP-1G 4 - 4.5 12/23/2008	B41N-TP-1G 4.5 - 5 12/30/2008	B41N-TP-1G 4.5 - 5 12/30/2008	B41N-TP-1H 4.5 - 5 12/23/2008	B41N-TP-1H 4.5 - 5 12/30/2008	B41N-TP-1J 4 - 4.5 2/4/2009	B41N-TP-2A 4 - 4.5 2/4/2009	B41N-TP-3A 4 - 4.5 2/4/2009
Benzo (k) Fluoranthene	610	1100	190000	21		0.77 U		0.78 U	0.77 U			0.4 U				
Bis(2-Chloroethoxy) Methane				1800		0.77 U		0.78 U	0.77 U			0.4 U				
Bis(2-Chloroethyl) Ether	0.055	5	5.7	0.9		0.77 U		0.78 U	0.77 U			0.4 U				
Bis(2-Chloroisopropyl) Ether	30	160	190			0.77 U		0.78 U	0.77 U			0.4 U				
Bis(2-Ethylhexyl) Phthalate	130	5700	10000	120		**0.48 J**		**0.4 J**	0.77 U			**0.25 J**				
Butylbenzylphthalate	10000	10000	10000	910		0.77 U		0.08 J	0.77 U			**0.052 J**				
Carbazole	83	4000	190000			**0.038 J**		0.78 U	0.77 U			0.4 U				
Chrysene	230	11000	190000	210		**0.12 J**		0.78 U	0.77 U			**0.028 J**				
Dibenzo (a,h) Anthracene	160	11	190000	0.21		**0.46 J Z**		0.78 U	0.77 U			0.4 U				
Dibenzofuran						0.77 U		0.78 U	0.77 U			0.4 U				
Diethylphthalate	500	10000	10000	490000		**0.058 J**		**0.097 J**	**0.37 J**			**0.063 J**				
Dimethylphthalate						0.77 U		0.78 U	0.77 U			0.4 U				
Di-n-Butylphthalate	4100	10000	10000			**0.22 J**		**0.22 J**	0.77 U			**0.12 J**				
Di-n-octylphthalate	10000	10000	10000			0.77 U		0.78 U	0.77 U			0.4 U				
Fluoranthene	3200	110000	190000	22000		**0.23 J**		**0.056 J**	**0.061 J**			**0.034 J**				
Fluorene	3800	110000	190000	22000		**0.03 J**		0.78 U	0.77 U			0.4 U				
Hexachlorobenzene	0.96	50	190000	1.1		0.77 U		0.78 U	0.77 U			0.4 U				
Hexachlorobutadiene	1.2	560	10000	22		0.77 U		0.78 U	0.77 U			0.4 U				
Hexachlorocyclopentadiene	91	10000	10000	3700		3.8 U		3.8 U	3.7 U			1.9 U				
Hexachloroethane	0.56	2800	190000	120		0.77 U		0.78 U	0.77 U			0.4 U				
Indeno (1,2,3-cd) Pyrene	28000	110	190000	2.1		**0.46 J**		**0.45 J**	**0.43 J**			**0.22 J**				
Isophorone	10	10000	10000	1800		0.77 U		0.78 U	0.77 U			0.4 U				
Naphthalene	25	56000	190000	20		**0.033 J**		0.78 U	0.77 U			**0.027 J**				
Nitrobenzene	5.1	1400	10000	22		0.77 U		0.78 U	0.77 U			0.4 U				
N-Nitrosodi-N-Propylamine	0.037	11	10000	0.25		0.77 U		0.78 U	0.77 U			0.4 U				
N-Nitrosodiphenylamine	83	16000	190000	350		0.77 U		0.78 U	0.77 U			0.4 U				
Pentachlorophenol	5	660	190000	9		3.8 U		3.8 U	3.7 U			1.9 U				
Phenanthrene	10000	190000	190000			**0.22 J**		**0.036 J**	**0.038 J**			**0.036 J**				
Phenol	400	190000	190000	180000		0.77 U		0.78 U	0.77 U			0.4 U				
Pyrene	2200	84000	190000	17000		**0.18 J**		**0.063 J**	**0.052 J**			**0.029 J**				
Total Solids																
Percent Solids					**74.60%**		**85.30%**			**84.10%**	**85.40%**		**82.40%**	**89.10%**	**90.70%**	**91.10%**
VOC																
1,1,1,2-Tetrachloroethane	18	3100	190000	9.8			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,1,1-Trichloroethane	20	10000	10000	39000			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,1,2,2-Tetrachloroethane	0.03	28	33	2.9			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,1,2-Trichloroethane	0.5	100	120	5.5			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,1-Dichloroethane	11	1000	1200	17			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,1-Dichloroethene	0.7	33	38				0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,2-Dibromoethane	0.005	0.93	8.6	0.17			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,2-Dichloroethane	0.5	63	73	2.2			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,2-Dichloropropane	0.5	160	180	4.7			0.005 U			0.0046 U	0.0049 U		0.0049 U			
1,4-Dioxane	2.4	210	240	160			1 U			0.93 U	0.97 U		0.98 U			
2-Butanone	580	10000	10000	190000			0.02 U			0.019 U	0.019 U		0.02 U			
2-Hexanone							0.02 U			0.019 U	0.019 U		0.02 U			
4-Methyl-2-Pentanone	41	4300	4900	52000			0.02 U			0.019 U	0.019 U		0.02 U			
Acetone	1000	10000	10000	610000			**0.006 J**			0.019 U	0.019 U		0.02 U			
Acrylonitrile	0.27	24	28	1.2			0.1 U			0.093 U	0.097 U		0.098 U			
Benzene	0.5	210	240	5.6			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Bromochloromethane	9	10000	10000				0.005 U			0.0046 U	0.0049 U		0.0049 U			
Bromodichloromethane	10	45	51	1.4			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Bromoform	10	1500	1700	220			0.005 U			0.0046 U	0.0049 U		0.0049 U			

Table 1.
Soils Data Summary - Building 41 - North Access Road (B41N)
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41N-TP-1E 5.5 - 6 1/20/2009	B41N-TP-1F 4 - 4.5 12/23/2008	B41N-TP-1F 4.5 - 5 12/30/2008	B41N-TP-1G 4 - 4.5 12/23/2008	B41N-TP-1G 4 - 4.5 12/23/2008	B41N-TP-1G 4.5 - 5 12/30/2008	B41N-TP-1G 4.5 - 5 12/30/2008	B41N-TP-1H 4.5 - 5 12/23/2008	B41N-TP-1H 4.5 - 5 12/30/2008	B41N-TP-1J 4 - 4.5 2/4/2009	B41N-TP-2A 4 - 4.5 2/4/2009	B41N-TP-3A 4 - 4.5 2/4/2009
Bromomethane	1	270	300	35			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Carbon Disulfide	410	10000	10000	3000			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Carbon Tetrachloride	0.5	110	120	1.3			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Chlorobenzene	10	10000	10000	1500			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Chlorodibromomethane	10	61	70				0.005 U			0.0046 U	0.0049 U		0.0049 U			
Chloroethane	90	10000	10000				0.005 U			0.0046 U	0.0049 U		0.0049 U			
Chloroform	10	17	19	1.5			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Chloromethane	0.3	920	1000	510			0.005 U			0.0046 U	0.0049 U		0.0049 U			
cis-1,2-Dichloroethene	7	1900	2100				0.005 U			0.0046 U	0.0049 U		0.0049 U			
cis-1,3-Dichloropropene	2.6	410	470				0.005 U			0.0046 U	0.0049 U		0.0049 U			
Ethylbenzene	70	10000	10000	29			**0.0013 J**			0.0046 U	0.0049 U		0.0049 U			
Methyl tert-butyl ether	2	3200	3700	190			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Methylene chloride	0.5	3500	4000	54			0.005 U			**0.00066 J B**	0.0049 U		**0.00081 J B**			
Styrene	24	10000	10000	38000			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Tetrachloroethene	0.5	1500	3300	2.7			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Toluene	100	10000	10000	46000			**0.015**			**0.001 J**	0.0049 U		0.0049 U			
trans-1,2-Dichloroethene	10	3700	4300				0.005 U			0.0046 U	0.0049 U		0.0049 U			
trans-1,3-Dichloropropene	2.6	410	470				0.005 U			0.0046 U	0.0049 U		0.0049 U			
Trichloroethene	0.5	970	1100	14			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Vinyl Chloride	0.2	53	220	1.7			0.005 U			0.0046 U	0.0049 U		0.0049 U			
Xylenes (Total)	1000	10000	10000	2600			**0.0063 J**			0.014 U	0.015 U		0.015 U			

Laboratory Qualifiers

Qualifier	Explanation
	Organic Data Qualifiers
J	Indicates an estimated value. This flag is used when the data
B	Analyte is found in the associated blank, as well as in the sample.
U	detection limit value.
	Inorganic Data Qualifiers
J	Analyte is found in the associated blank, as well as in the sample.
B	Indicates an estimated value. This flag is used when the data
E	Matrix Interference
U	detection limit value.

Screening Value Comparison Qualifiers

Qualifier	Explanation
	Soils
W	Excedence of the Pennsylvania DEP Act 2 Medium Specific Concentration for Soil to Groundwater (are the greater of the "100 X GW MSC" and "Generic" regulation values).
X	Excedence of the Pennsylvania DEP Act 2 Medium Specific Concentration for Direct Contact 0' to 2' below ground surface.
Y	Excedence of the Pennsylvania DEP Act 2 Medium Specific Concentration for Direct Contact 2' to 15' below ground surface.
Z	Excedence of the United States EPA Region 3 Risked Based Concentrations for Industrial soil. Per EPA, for certain low-toxicity chemicals, the screening levels exceed possible concentrations at the target risks.

NOTES:

Soils results included in individual laboratory data tables are in mg/kg unless noted in the analyte list.

Blank results indicate analyte was not analyzed for.

RBCs - Risk Based Concentrations from:
United States Environmental Protection Agency (EPA), May 19, 2009; Regional Screening Level Table.

MSCs - Medium Specific Concentrations from:
Pennsylvania Department of Environmental Protection (DEP), November 24, 2001; from Chapter 250, Appendix A.

1 - EPA has indicated that for certain low-toxicity chemicals, the screening levels exceed possible concentrations at the target risks.

Table 2.
Soils Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41-SB-117 6 - 6.5 2/13/2009	B41-SB-117 12 - 12.5 2/13/2009	B41-SB-117 19.5 - 20 2/13/2009	B41-TR-1A 5 - 5.5 1/21/2009	B41-TR-1B 5 - 5.5 1/21/2009	B41-TR-1C 5 - 5.5 1/21/2009	B41-TR-1D 5 - 5.5 1/21/2009
Cyanide, Free											
Cyanide, Free	200	56000	190000	20000	0.64 U	0.34 B J	2.6 J	0.28 B	0.62 U	0.64 U	0.6 U
Cyanide, Total											
Cyanide, Total	200	56000	190000		0.64 U	0.63 U	0.6 U	8.4	0.98	0.16 B	0.6 U
Hexavalent Chromium											
Hexavalent Chromium	190	420	190000	200	0.5 U	0.5 U	0.47 U	4.6	0.68	0.49 B	0.39 B
Mercury											
Mercury	10	840	190000	24	0.048	0.027 B	0.0081 B	0.059 J	0.06 J	0.067 J	0.051 J
Metal											
Antimony	27	1100	190000	410	0.22 B J	0.3 J	0.27 J	0.3	0.26	0.18 B	0.32
Arsenic	150	53	190000	1.6	5.6 Z	2.5 Z	4.4 Z	5.5 Z	4.6 Z	5.6 Z	7 Z
Barium	8200	190000	190000	190000	82.5	27.8	29.1	59.6 J	64.8 J	56 J	42.9 J
Beryllium	320	5600	190000	2000	0.76	0.55	1.4	0.55	0.42	0.51	0.72
Cadmium	38	210	190000	800	0.24	0.26	0.5	36.9	3.9	4.7	1.9
Chromium				1500000	13.1 J	9.7 J	15.7 J	69.5 J	25.6 J	16.7 J	17 J
Copper	36000	100000	190000	41000	10.7	14.9	21.1	12.6 J E	8.2 J	8.3 J	11.7 J
Lead	450	1000	190000	800	19.6	29.8	22.7	21.9	14.7	14	23.6
Nickel	650	56000	190000	20000	10.3	10.5	33.8	240 E	28.6	16	20.9
Selenium	26	14000	190000	5100	0.78	0.88	1.6	0.49 B	0.42 B	0.44 B	0.5 B
Silver	84	14000	190000	5100	0.061 B	0.044 B	0.078 B	0.058 B	0.048 B	0.035 B	0.026 B
Thallium	14	200	190000	66	0.17 J	0.1 B J	0.13 J	0.12 B	0.11 B	0.092 B	0.089 B
Vanadium	72000	20000	190000	5200	22.5	12.2	16.4	23 J	18.3 J	20.1 J	19.9 J
Zinc	12000	190000	190000	310000	29.8 J	14.8 J	86.6 J	130 J E	28.8 J	23.4 J	63.8 J
SVOC											
1,2,4-Trichlorobenzene	27	10000	10000	400	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
1,2-Dichlorobenzene	60	10000	10000	10000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
1,3-Dichlorobenzene	61	10000	10000	3066	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
1,4-Dichlorobenzene	10	3300	190000	13	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2,4,5-Trichlorophenol	6100	190000	190000	62000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2,4,6-Trichlorophenol	8.9	840	190000	160	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2,4-Dichlorophenol	2	8400	190000	1800	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2,4-Dimethylphenol	200	10000	10000	12000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2,4-Dinitrophenol	4.1	5600	190000	1200	2.2 U	2.2 U	2 U	11 U	11 U	2.2 U	10 U
2,4-Dinitrotoluene	0.84	260	190000	2044	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2,6-Dinitrotoluene	10	2800	190000	620	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2-Chloronaphthalene	18000	190000	190000	82000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2-Chlorophenol	4.4	920	1100	5100	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2-Methylnaphthalene	8000	10000	10000	4100	0.067 J	0.42 U	0.39 U	2.1 U	2.1 U	0.093 J	1.9 U
2-Methylphenol	510	10000	10000	51100	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
2-Nitroaniline	0.58	160	190000	1800	2.2 U	2.2 U	2 U	11 U	11 U	2.2 U	10 U
2-Nitrophenol	82	22000	190000		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
3,3'-Dichlorobenzidine	32	180	190000	6.35911	2 U	2 U	1.9 U	10 U	10 U	2 U	9.4 U
3/4-Methylphenol				5100	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
3-Nitroaniline	0.58	160	190000		2.2 U	2.2 U	2 U	11 U	11 U	2.2 U	10 U
4,6-Dinitro-2-Methylphenol					2.2 U	2.2 U	2 U	11 U	11 U	2.2 U	10 U
4-Bromophenyl phenyl ether					0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
4-Chloro-3-Methyl-Phenol	110	14000	190000		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
4-Chloroaniline	52	11000	190000	4088	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
4-Chlorodiphenyl Ether					0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
4-Nitroaniline	0.58	160	190000	86	2.2 U	2.2 U	2 U	11 U	11 U	2.2 U	10 U
4-Nitrophenol	6	22000	190000		2.2 U	2.2 U	2 U	11 U	11 U	2.2 U	10 U
Acenaphthene	4700	170000	190000	33000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Acenaphthylene	6900	170000	190000		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Anthracene	350	190000	190000	170000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Benzo (A) Anthracene	320	110	190000	2.1	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Benzo (a) Pyrene	46	11	190000	0.21	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Benzo (b) Fluoranthene	170	110	190000	2.1	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Benzo (g,h,i) Perylene	180	170000	190000		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Benzo (k) Fluoranthene	610	1100	190000	21	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Bis(2-Chloroethoxy) Methane				1800	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Bis(2-Chloroethyl) Ether	0.055	5	5.7	0.9	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Bis(2-Chloroisopropyl) Ether	30	160	190		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Bis(2-Ethylhexyl) Phthalate	130	5700	10000	120	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U

a. Blank results indicate analyte was not analyzed for.

Table 2.
Soils Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41-SB-117 6 - 6.5 2/13/2009	B41-SB-117 12 - 12.5 2/13/2009	B41-SB-117 19.5 - 20 2/13/2009	B41-TR-1A 5 - 5.5 1/21/2009	B41-TR-1B 5 - 5.5 1/21/2009	B41-TR-1C 5 - 5.5 1/21/2009	B41-TR-1D 5 - 5.5 1/21/2009
Butylbenzylphthalate	10000	10000	10000	910	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Carbazole	83	4000	190000		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Chrysene	230	11000	190000	210	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Dibenzo (a,h) Anthracene	160	11	190000	0.21	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Dibenzofuran					**0.016 J**	0.42 U	0.39 U	2.1 U	2.1 U	**0.033 J**	1.9 U
Diethylphthalate	500	10000	10000	490000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Dimethylphthalate					0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Di-n-Butylphthalate	4100	10000	10000		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Di-n-octylphthalate	10000	10000	10000		0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Fluoranthene	3200	110000	190000	22000	**0.012 J**	0.42 U	0.39 U	2.1 U	2.1 U	**0.056 J**	1.9 U
Fluorene	3800	110000	190000	22000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Hexachlorobenzene	0.96	50	190000	1.1	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Hexachlorobutadiene	1.2	560	10000	22	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Hexachlorocyclopentadiene	91	10000	10000	3700	2 U	2 U	1.9 U	10 U	10 U	2 U	9.4 U
Hexachloroethane	0.56	2800	190000	120	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Indeno (1,2,3-cd) Pyrene	28000	110	190000	2.1	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Isophorone	10	10000	10000	1800	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Naphthalene	25	56000	190000	20	**0.047 J**	0.42 U	0.39 U	2.1 U	2.1 U	**0.081 J**	1.9 U
Nitrobenzene	5.1	1400	10000	22	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
N-Nitrosodi-N-Propylamine	0.037	11	10000	0.25	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
N-Nitrosodiphenylamine	83	16000	190000	350	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Pentachlorophenol	5	660	190000	9	2 U	2 U	1.9 U	10 U	10 U	2 U	9.4 U
Phenanthrene	10000	190000	190000		**0.037 J**	0.42 U	0.39 U	2.1 U	2.1 U	**0.069 J**	1.9 U
Phenol	400	190000	190000	180000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	0.42 U	1.9 U
Pyrene	2200	84000	190000	17000	0.42 U	0.42 U	0.39 U	2.1 U	2.1 U	**0.049 J**	1.9 U
Total Solids											
Percent Solids					**78.40%**	**78.80%**	**84%**	**78.80%**	**80.20%**	**78.60%**	**83.90%**
VOC											
1,1,1,2-Tetrachloroethane	18	3100	190000	9.8	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,1,1-Trichloroethane	20	10000	10000	39000	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,1,2,2-Tetrachloroethane	0.03	28	33	2.9	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,1,2-Trichloroethane	0.5	100	120	5.5	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,1-Dichloroethane	11	1000	1200	17	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	**0.0019 J**	0.005 U
1,1-Dichloroethene	0.7	33	38		0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,2-Dibromoethane	0.005	0.93	8.6	0.17	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,2-Dichloroethane	0.5	63	73	2.2	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,2-Dichloropropane	0.5	160	180	4.7	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
1,4-Dioxane	2.4	210	240	160	1.2 U	1 U	0.95 U	1.1 U	1.1 U	1.2 U	1 U
2-Butanone	580	10000	10000	190000	0.023 U	0.021 U	0.019 U	0.021 U	0.022 U	0.024 U	0.02 U
2-Hexanone					0.023 U	0.021 U	0.019 U	0.021 U	0.022 U	0.024 U	0.02 U
4-Methyl-2-Pentanone	41	4300	4900	52000	0.023 U	0.021 U	0.019 U	0.021 U	0.022 U	0.024 U	0.02 U
Acetone	1000	10000	10000	610000	0.023 U	0.021 U	0.019 U	0.021 U	0.022 U	0.024 U	0.02 U
Acrylonitrile	0.27	24	28	1.2	0.12 U	0.1 U	0.095 U	0.11 U	0.11 U	0.12 U	0.1 U
Benzene	0.5	210	240	5.6	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Bromochloromethane	9	10000	10000		0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Bromodichloromethane	10	45	51	1.4	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Bromoform	10	1500	1700	220	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U

a. Blank results indicate analyte was not analyzed for.

Table 2.
Soils Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41-SB-117 6 - 6.5 2/13/2009	B41-SB-117 12 - 12.5 2/13/2009	B41-SB-117 19.5 - 20 2/13/2009	B41-TR-1A 5 - 5.5 1/21/2009	B41-TR-1B 5 - 5.5 1/21/2009	B41-TR-1C 5 - 5.5 1/21/2009	B41-TR-1D 5 - 5.5 1/21/2009
Bromomethane	1	270	300	35	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Carbon Disulfide	410	10000	10000	3000	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Carbon Tetrachloride	0.5	110	120	1.3	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Chlorobenzene	10	10000	10000	1500	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Chlorodibromomethane	10	61	70		0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Chloroethane	90	10000	10000		0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Chloroform	10	17	19	1.5	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Chloromethane	0.3	920	1000	510	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
cis-1,2-Dichloroethene	7	1900	2100		0.0058 U	0.0052 U	0.0048 U	**0.0018 J**	**0.0029 J**	**0.0038 J**	0.005 U
cis-1,3-Dichloropropene	2.6	410	470		0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Ethylbenzene	70	10000	10000	29	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Methyl tert-butyl ether	2	3200	3700	190	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Methylene chloride	0.5	3500	4000	54	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Styrene	24	10000	10000	38000	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Tetrachloroethene	0.5	1500	3300		**0.018**	0.0052 U	0.0048 U	**0.0027 J**	**0.0035 J**	**0.0013 J**	0.005 U
Toluene	100	10000	10000	46000	0.0058 U	0.0052 U	0.0048 U	**0.0014 J**	**0.0038 J**	0.0059 U	0.005 U
trans-1,2-Dichloroethene	10	3700	4300		0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	**0.0011 J**	0.005 U
trans-1,3-Dichloropropene	2.6	410	470		0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	0.005 U
Trichloroethene	0.5	970	1100	7.154	**0.0025 J**	0.0052 U	**0.0019 J**	**0.0072**	**0.016**	**0.0089**	0.005 U
Vinyl Chloride	0.2	53	220	1.7	0.0058 U	0.0052 U	0.0048 U	0.0053 U	0.0054 U	0.0059 U	**0.0017 J**
Xylenes (Total)	1000	10000	10000	2600	0.017 U	0.016 U	0.014 U	0.016 U	0.016 U	0.018 U	0.015 U

a. Blank results indicate analyte was not analyzed for.

Table 2.
Soils Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41-TR-1D 5 - 5.5 1/21/2009	B41-TR-1D 6 - 6.5 1/21/2009	B41-TR-1E 10.5 - 11 2/2/2009	B41-TR-1F 10.5 - 11 2/2/2009	B41-TR-1G 10.5 - 11 2/2/2009	B41-TR-1H 10.5 - 11 2/2/2009	B41-TR-1I 10 - 10.5 2/2/2009	B41-TR-1J 9.5 - 10 2/2/2009	B41-TR-1K 9.5 - 10 2/2/2009	B41-TR-1K 9.5 - 10 2/2/2009
Cyanide, Free														
Cyanide, Free	200	56000	190000	20000	0.62 U	0.63 U	0.61 U	0.62 U	0.61 U	0.62 U	0.61 U	0.57 U	0.62 U	0.59 U
Cyanide, Total														
Cyanide, Total	200	56000	190000		3.8	0.63 U	0.61 U	0.62 U	0.61 U	0.62 U	0.61 U	0.57 U	0.62 U	1.1
Hexavalent Chromium														
Hexavalent Chromium	190	420	190000	200	0.34 B	0.95	0.48 U	0.49 U	0.48 U	0.49 U	0.48 U	0.45 U	0.49 U	0.19 B
Mercury														
Mercury	10	840	190000	24	0.059 J	0.048 J	0.05	0.034 B	0.024 B	0.031 B	0.042	0.041	0.038 B	0.043
Metal														
Antimony	27	1100	190000	410	0.17 B	0.22 B	0.24 R	0.024 J	0.24 R	0.014 J	0.24 R	0.23 R	0.25 R	0.24 R
Arsenic	150	53	190000	1.6	5.2 Z	6.1 Z	2 J Z	3.3 J Z	2 J Z	3.5 J Z	1.3 J	0.75 J	3.7 J Z	5 J Z
Barium	8200	190000	190000	190000	52.5 J	53 J	65.8	31.9	58.1	38.9	59.4	47.3	64.1	64.5
Beryllium	320	5600	190000	2000	0.43	0.66	0.62	0.74	0.63	1.1	0.51	0.26	0.57	0.65
Cadmium	38	210	190000	800	7.1	0.98	0.14	0.18	0.17	0.46	0.19	2.2	5.8	12.7
Chromium				1500000	17.5 J	26.4 J	8.9 J	16.7 J	11.4 J	9.6 J	10.7 J	20.4 J	51.4 J	90.6 J
Copper	36000	100000	190000	41000	10.9 J	11.9 J	6.4	9	6.6	12	5.3	7.3	6.3	8.3
Lead	450	1000	190000	800	13.4	21	11.6 J	13.8 J	13.5 J	19.5 J	13.4 J	13.1 J	11.6 J	14.1 J
Nickel	650	56000	190000	20000	13.2	19.5	7 J	5.7 J	7.6 J	13.4 J	7 J	17 J	139 J	292 J
Selenium	26	14000	190000	5100	0.38 B	0.67	0.65 J	0.29 J	0.63 J	0.66 J	0.57 J	0.36 J	0.48 J	0.54 J
Silver	84	14000	190000	5100	0.026 B	0.043 B	0.1 B	0.027 B	0.067 B	0.035 B	0.059 B	0.052 B	0.043 B	0.044 B
Thallium	14	200	190000	66	0.094 B	0.091 B	0.23	0.12	0.23	0.11 B	0.18	0.088 B	0.088 B	0.11 B
Vanadium	72000	20000	190000	5200	18.7 J	19.7 J	16.8 J	26.1 J	24.3 J	16.6 J	19.3 J	14.1 J	25 J	26.8 J
Zinc	12000	190000	190000	310000	40.6 J	35.4 J	13.6 J	9.2 J	13.2 J	21.9 J	11.4 J	20.1 J	53.8 J	88.1 J
SVOC														
1,2,4-Trichlorobenzene	27	10000	10000	400	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.038 J	0.021 J
1,2-Dichlorobenzene	60	10000	10000	10000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.063 J	0.045 J
1,3-Dichlorobenzene	61	10000	10000	3066	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
1,4-Dichlorobenzene	10	3300	190000	13	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.021 J	0.39 U
2,4,5-Trichlorophenol	6100	190000	190000	62000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2,4,6-Trichlorophenol	8.9	840	190000	160	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2,4-Dichlorophenol	2	8400	190000	1800	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2,4-Dimethylphenol	200	10000	10000	12000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2,4-Dinitrophenol	4.1	5600	190000	1200	10 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.9 U	2.1 U	2 U
2,4-Dinitrotoluene	0.84	260	190000	2044	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2,6-Dinitrotoluene	10	2800	190000	620	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2-Chloronaphthalene	18000	190000	190000	82000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2-Chlorophenol	4.4	920	1100	5100	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2-Methylnaphthalene	8000	10000	10000	4100	2 U	0.049 J	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2-Methylphenol	510	10000	10000	51100	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
2-Nitroaniline	0.58	160	190000	1800	10 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.9 U	2.1 U	2 U
2-Nitrophenol	82	22000	190000		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
3,3'-Dichlorobenzidine	32	180	190000	6.35911	9.7 U	2 U	1.9 U	2 U	1.9 U	2 U	2 U	1.8 U	2 U	1.9 U
3/4-Methylphenol				5100	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
3-Nitroaniline	0.58	160	190000		10 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.9 U	2.1 U	2 U
4,6-Dinitro-2-Methylphenol					10 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.9 U	2.1 U	2 U
4-Bromophenyl phenyl ether					2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
4-Chloro-3-Methyl-Phenol	110	14000	190000		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
4-Chloroaniline	52	11000	190000	4088	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
4-Chlorodiphenyl Ether					2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
4-Nitroaniline	0.58	160	190000	86	10 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.9 U	2.1 U	2 U
4-Nitrophenol	6	22000	190000		10 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	1.9 U	2.1 U	2 U
Acenaphthene	4700	170000	190000	33000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Acenaphthylene	6900	170000	190000		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Anthracene	350	190000	190000	170000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Benzo (A) Anthracene	320	110	190000	2.1	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.037 J	0.064 J
Benzo (a) Pyrene	46	11	190000	0.21	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.031 J
Benzo (b) Fluoranthene	170	110	190000	2.1	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.05 J	0.08 J
Benzo (g,h,i) Perylene	180	170000	190000		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.019 J
Benzo (k) Fluoranthene	610	1100	190000	21	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Bis(2-Chloroethoxy) Methane				1800	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Bis(2-Chloroethyl) Ether	0.055	5	5.7	0.9	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Bis(2-Chloroisopropyl) Ether	30	160	190		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Bis(2-Ethylhexyl) Phthalate	130	5700	10000	120	0.43 J	0.42 U	0.4 U	0.41 U	0.093 J	0.041 J	0.4 U	0.27 J	1.6	1

a. Blank results indicate analyte was not analyzed for.

Table 2.
Soils Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41-TR-1D 5 - 5.5 1/21/2009	B41-TR-1D 6 - 6.5 1/21/2009	B41-TR-1E 10.5 - 11 2/2/2009	B41-TR-1F 10.5 - 11 2/2/2009	B41-TR-1G 10.5 - 11 2/2/2009	B41-TR-1H 10.5 - 11 2/2/2009	B41-TR-1I 10 - 10.5 2/2/2009	B41-TR-1J 9.5 - 10 2/2/2009	B41-TR-1K 9.5 - 10 2/2/2009	B41-TR-1K 9.5 - 10 2/2/2009
Butylbenzylphthalate	10000	10000	10000	910	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Carbazole	83	4000	190000		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Chrysene	230	11000	190000	210	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	**0.054 J**	**0.076 J**
Dibenzo (a,h) Anthracene	160	11	190000	0.21	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Dibenzofuran					2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Diethylphthalate	500	10000	10000	490000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Dimethylphthalate					2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Di-n-Butylphthalate	4100	10000	10000		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.03 J	0.046 J	0.035 J
Di-n-octylphthalate	10000	10000	10000		2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Fluoranthene	3200	110000	190000	22000	2 U	**0.072 J**	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	**0.013 J**	**0.15 J**	**0.25 J**
Fluorene	3800	110000	190000	22000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Hexachlorobenzene	0.96	50	190000	1.1	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Hexachlorobutadiene	1.2	560	10000	22	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Hexachlorocyclopentadiene	91	10000	10000	3700	9.7 U	2 U	1.9 U	2 U	1.9 U	2 U	2 U	1.8 U	2 U	1.9 U
Hexachloroethane	0.56	2800	190000	120	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Indeno (1,2,3-cd) Pyrene	28000	110	190000	2.1	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	**0.01 J**	**0.013 J**
Isophorone	10	10000	10000	1800	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Naphthalene	25	56000	190000	20	2 U	**0.024 J**	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Nitrobenzene	5.1	1400	10000	22	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
N-Nitrosodi-N-Propylamine	0.037	11	10000	0.25	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
N-Nitrosodiphenylamine	83	16000	190000	350	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Pentachlorophenol	5	660	190000	9	9.7 U	2 U	1.9 U	2 U	1.9 U	2 U	2 U	1.8 U	2 U	1.9 U
Phenanthrene	10000	190000	190000		2 U	**0.049 J**	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	**0.018 J**
Phenol	400	190000	190000	180000	2 U	0.42 U	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	0.41 U	0.39 U
Pyrene	2200	84000	190000	17000	2 U	**0.083 J**	0.4 U	0.41 U	0.4 U	0.41 U	0.4 U	0.38 U	**0.12 J**	**0.21 J**
Total Solids														
Percent Solids					**81.30%**	**79.40%**	**82.40%**	**81%**	**81.70%**	**81%**	**81.80%**	**87.90%**	**80.40%**	**84.60%**
VOC														
1,1,1,2-Tetrachloroethane	18	3100	190000	9.8	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,1,1-Trichloroethane	20	10000	10000	39000	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,1,2,2-Tetrachloroethane	0.03	28	33	2.9	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,1,2-Trichloroethane	0.5	100	120	5.5	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,1-Dichloroethane	11	1000	1200	17	0.0054 U	**0.0012 J**	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,1-Dichloroethene	0.7	33	38		0.0054 U	0.0052 U	**0.0016 J**	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,2-Dibromoethane	0.005	0.93	8.6	0.17	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,2-Dichloroethane	0.5	63	73	2.2	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,2-Dichloropropane	0.5	160	180	4.7	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
1,4-Dioxane	2.4	210	240	160	1.1 U	1 U	1.1 U	1 U	1.2 U	54 U	1 U	0.96 U	1.1 U	1 U
2-Butanone	580	10000	10000	190000	0.021 U	0.021 U	0.022 U	0.02 U	0.023 U	1.1 U	0.02 U	0.019 U	0.023 U	0.021 U
2-Hexanone					0.021 U	0.021 U	0.022 U	0.02 U	0.023 U	1.1 U	0.02 U	0.019 U	0.023 U	0.021 U
4-Methyl-2-Pentanone	41	4300	4900	52000	0.021 U	0.021 U	0.022 U	0.02 U	0.023 U	1.1 U	0.02 U	0.019 U	0.023 U	0.021 U
Acetone	1000	10000	10000	610000	0.021 U	**0.0069 J**	0.022 U	0.02 U	0.023 U	1.1 U	0.02 U	0.019 U	0.023 U	0.021 U
Acrylonitrile	0.27	24	28	1.2	0.11 U	0.1 U	0.11 U	0.1 U	0.12 U	5.4 U	0.1 U	0.096 U	0.11 U	0.1 U
Benzene	0.5	210	240	5.6	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Bromochloromethane	9	10000	10000		0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Bromodichloromethane	10	45	51	1.4	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Bromoform	10	1500	1700	220	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U

a. Blank results indicate analyte was not analyzed for.

Table 2.
Soils Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Depth (ft.) Sample Date Parameter	MSC Soil to GW Used Aquifer (mg/kg)	MSC Direct Contact 0 - 2 ft (mg/kg)	MSC Direct Contact 2 - 15 ft (mg/kg)	EPA RBC[1] Industrial Soil (mg/kg)	B41-TR-1D 5 - 5.5 1/21/2009	B41-TR-1D 6 - 6.5 1/21/2009	B41-TR-1E 10.5 - 11 2/2/2009	B41-TR-1F 10.5 - 11 2/2/2009	B41-TR-1G 10.5 - 11 2/2/2009	B41-TR-1H 10.5 - 11 2/2/2009	B41-TR-1I 10 - 10.5 2/2/2009	B41-TR-1J 9.5 - 10 2/2/2009	B41-TR-1K 9.5 - 10 2/2/2009	B41-TR-1K 9.5 - 10 2/2/2009
Bromomethane	1	270	300	35	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Carbon Disulfide	410	10000	10000	3000	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	**0.0025 J**	0.0057 U	**0.0016 J**
Carbon Tetrachloride	0.5	110	120	1.3	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Chlorobenzene	10	10000	10000	1500	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Chlorodibromomethane	10	61	70		0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Chloroethane	90	10000	10000		0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Chloroform	10	17	19	1.5	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Chloromethane	0.3	920	1000	510	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
cis-1,2-Dichloroethene	7	1900	2100		0.0054 U	**0.094**	**0.13**	**0.057**	**0.02**	**0.73**	**0.0034 J**	**0.0084**	**0.025**	**0.007**
cis-1,3-Dichloropropene	2.6	410	470		0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Ethylbenzene	70	10000	10000	29	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	**0.0026 J**	**0.00088 J**	0.0057 U	0.0052 U
Methyl tert-butyl ether	2	3200	3700	190	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Methylene chloride	0.5	3500	4000	54	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	**0.072 J**	0.005 U	0.0048 U	0.0057 U	0.0052 U
Styrene	24	10000	10000	38000	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Tetrachloroethene	0.5	1500	3300		0.0054 U	0.0052 U	**0.23**	**0.066**	**0.016**	**0.64 W**	**0.024**	**0.02**	**0.0063**	**0.0028 J**
Toluene	100	10000	10000	46000	0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	**0.0012 J**	0.0048 U	0.0057 U	0.0052 U
trans-1,2-Dichloroethene	10	3700	4300		0.0054 U	**0.011**	**0.0016 J**	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
trans-1,3-Dichloropropene	2.6	410	470		0.0054 U	0.0052 U	0.0055 U	0.0051 U	0.0058 U	0.27 U	0.005 U	0.0048 U	0.0057 U	0.0052 U
Trichloroethene	0.5	970	1100	7.154	**0.0017 J**	**0.0021 J**	**0.15**	**0.03**	**0.0075**	**0.46**	**0.0024 J**	**0.0047 J**	**0.0065**	**0.0019 J**
Vinyl Chloride	0.2	53	220	1.7	**0.001 J**	**0.097**	**0.0021 J**	**0.0053**	**0.01**	0.27 U	**0.0013 J**	**0.0037 J**	**0.0031 J**	**0.0011 J**
Xylenes (Total)	1000	10000	10000	2600	0.016 U	0.015 U	0.016 U	0.015 U	0.017 U	0.82 U	**0.0023 J**	**0.0023 J**	0.017 U	0.016 U

Laboratory Qualifiers

Qualifier	Explanation
	Organic Data Qualifiers
J	Indicates an estimated value. This flag is used when the data
B	Analyte is found in the associated blank, as well as in the sample.
U	with the detection limit value.
	Inorganic Data Qualifiers
J	Analyte is found in the associated blank, as well as in the
B	Indicates an estimated value. This flag is used when the data
E	Matrix Interference
U	with the detection limit value.

Screening Value Comparison Qualifiers

Qualifier	Explanation
	Soils
W	Concentration for Soil to Groundwater (are the greater of the
X	Excedence of the Pennsylvania DEP Act 2 Medium Specific Concentration for Direct Contact 0' to 2' below ground surface.
Y	Concentration for Direct Contact 2' to 15' below ground surface.
Z	Excedence of the United States EPA Region 3 Risked Based Concentrations for Industrial soil. Per EPA, for certain low-toxicity chemicals, the screening levels exceed possible

NOTES:

Soils results included in individual laboratory data tables are in mg/kg unless noted in the analyte list.

Blank results indicate analyte was not analyzed for.

RBCs - Risk Based Concentrations from:
United States Environmental Protection Agency (EPA), May 19, 2009; Regional Screening Level Table.

MSCs - Medium Specific Concentrations from:
Pennsylvania Department of Environmental Protection (DEP), November 24, 2001; from Chapter 250, Appendix A.

1 - EPA has indicated that for certain low-toxicity chemicals, the screening levels exceed possible concentrations at the target risks.

a. Blank results indicate analyte was not analyzed for.

Table 3.
Groundwater Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	MSC Used Aquifer (ug/L)	MSC Non-Used Aquifer (ug/L)	Federal MCL (ug/L)	EPA RBC Tap Water (ug/L)	MW-117 2/26/2009 (ug/L)	MW-116 5/21/2008 (ug/L)	MW-116 5/21/2008 (ug/L)	MW-116 6/10/2008 (ug/L)	MW-116 9/3/2008 (ug/L)	MW-116 9/3/2008 (ug/L)
Cyanide, Free										
Cyanide, Free	200	200000	200	730	4.6 B	10 U			10 U	
Cyanide, Total										
Cyanide, Total	200	200000			110	3.6 B J			10 U	
Dioxane										
1,4-Dioxane	24	240		6.1				22 Z		
Hexavalent Chromium										
Hexavalent Chromium	100	100000		110	10 U	50 U			0 U	
Hexavalent Chromium-Diss										
Hexavalent Chromium	100	100000		110	10 U		50 U			0 U
Mercury										
Mercury	2	2000	2	0.57	0.2 U	0.2 U			0.2 U	
Mercury-Diss										
Mercury	2	2000	2	0.57	0.2 U		0.2 U			0.2 U
Metal										
Antimony	6	6000	6	15	0.47 B J	10 U			0.076 B	
Arsenic	10	10000	10	0.045	0.89 B Z	10 U			1 U	
Barium	2000	2000000	2000	7300	273 J	26.8 B J			26.2	
Beryllium	4	4000	4	73	1 U	0.49 B J			1 U	
Cadmium	5	5000	5	18	1 U	0.51 B			0.44 B	
Chromium	100	100000	100		7.1 J	2.9 B			8.9 J	
Copper	1000	1000000	1300	1500	2.5	25 U			0.9 B	
Lead	5	5000	15		0.29 B J	3 U			0.28 B	
Nickel	100	100000		730	4.8	19.4 B			18.6	
Selenium	50	50000	50	180	1.5 B J	5 U			0.39 B	
Silver	100	100000		180	1 U	1.4 B			1 U	
Thallium	2	2000	2	2.4	0.072 B J	10 U			0.099 B	
Vanadium	720	720000		180	1.4 J	2.2 B			1.4 J	
Zinc	2000	2000000		10950	4.7 B	20.2 J			15.8	
Metal-Diss										
Antimony	6	6000	6	15	0.51 B		10 U			0.091 B J
Arsenic	10	10000	10	0.045	1 U		10 U			1 U
Barium	2000	2000000	2000	7300	266 J		25.7 B			25.1
Beryllium	4	4000	4	73	1 U		0.41 B J			1 U
Cadmium	5	5000	5	18	1 U		0.64 B			0.48 B
Chromium	100	100000	100		6.7 J E		2.9 B			7.3 J E
Copper	1000	1000000	1300	1500	1.6 B		25 U			0.86 B
Lead	5	5000	15		0.23 B J		3 U			0.12 B J
Nickel	100	100000		730	4.3		18.6 B			17.6
Selenium	50	50000	50	180	0.76 B		5 U			0.59 B
Silver	100	100000		180	1 U		1.5 B			1 U
Thallium	2	2000	2	2.4	0.15 B J		10 U			0.092 B J
Vanadium	720	720000		180	1 U		3 B			0.58 B
Zinc	2000	2000000		10950	4.2 B		15.8 B J			16.3
SVOC										
1,2,4-Trichlorobenzene	70	7000	70	0.96	9.7 U			9.5 U	9.6 U	
1,2-Dichlorobenzene	600	60000	600	0.0068	9.7 U			9.5 U	9.6 U	
1,3-Dichlorobenzene	600	60000		0.0068	9.7 U			9.5 U	9.6 U	
1,4-Dichlorobenzene	75	7500	75	0.034	9.7 U			9.5 U	9.6 U	
2,4,5-Trichlorophenol	10000	1000000		0.034	9.7 U			9.5 U	9.6 U	
2,4,6-Trichlorophenol	31	31000		0.034	9.7 U			9.5 U	9.6 U	
2,4-Dichlorophenol	20	2000		0.034	9.7 U			9.5 U	9.6 U	
2,4-Dimethylphenol	2000	2000000			9.7 U			9.5 U	9.6 U	
2,4-Dinitrophenol	41	410		8.2	48 U			48 U	48 U	
2,4-Dinitrotoluene	8.4	8400		370	9.7 U			9.5 U	9.6 U	
2,6-Dinitrotoluene	100	100000			9.7 U			9.5 U	9.6 U	
2-Chloronaphthalene	8200	8200		0.43	9.7 U			9.5 U	9.6 U	
2-Chlorophenol	40	40		3700	9.7 U			9.5 U	9.6 U	
2-Methylnaphthalene	2000	2000		6.1	9.7 U			9.5 U	9.6 U	
2-Methylphenol	5100	510000		110	9.7 U			9.5 U	9.6 U	
2-Nitroaniline	5.8	5.8		730	48 U			48 U	48 U	
2-Nitrophenol	820	820000		73	9.7 U			9.5 U	9.6 U	
3,3'-Dichlorobenzidine	5.8	3100		73	48 U			48 U	48 U	
3/4-Methylphenol				37	9.7 U			9.5 U	9.6 U	
3-Nitroaniline	5.8	5.8		2900	48 U			48 U	48 U	
4,6-Dinitro-2-Methylphenol				180	48 U			48 U	48 U	
4-Bromophenyl phenyl ether				2.3	9.7 U			9.5 U	9.6 U	

a. Blank results indicate analyte was not analyzed for.

Table 3.
Groundwater Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	MSC Used Aquifer (ug/L)	MSC Non-Used Aquifer (ug/L)	Federal MCL (ug/L)	EPA RBC Tap Water (ug/L)	MW-117 2/26/2009 (ug/L)	MW-116 5/21/2008 (ug/L)	MW-116 5/21/2008 (ug/L)	MW-116 6/10/2008 (ug/L)	MW-116 9/3/2008 (ug/L)	MW-116 9/3/2008 (ug/L)
4-Chloro-3-Methyl-Phenol	510	510			9.7 U			9.5 U	9.6 U	
4-Chloroaniline	410	410		110	9.7 U			9.5 U	0.53 J	
4-Chlorodiphenyl Ether					9.7 U			9.5 U	9.6 U	
4-Nitroaniline	5.8	5.8		0.15	48 U			48 U	48 U	
4-Nitrophenol	60	60000			48 U			48 U	48 U	
Acenaphthene	3800	3800			9.7 U			9.5 U	9.6 U	
Acenaphthylene	6100	16000			9.7 U			9.5 U	9.6 U	
Anthracene	66	66			9.7 U			9.5 U	9.6 U	
Benzo (A) Anthracene	3.6	11	0.2		9.7 U			9.5 U	9.6 U	
Benzo (a) Pyrene	0.2	3.8	0.2	0.34	9.7 U			9.5 U	9.6 U	
Benzo (b) Fluoranthene	1.2	1.2			9.7 U			9.5 U	9.6 U	
Benzo (g,h,i) Perylene	0.26	0.26		3.4	9.7 U			9.5 U	9.6 U	
Benzo (k) Fluoranthene	0.55	0.55			9.7 U			9.5 U	9.6 U	
Bis(2-Chloroethoxy) Methane				2200	9.7 U			9.5 U	9.6 U	
Bis(2-Chloroethyl) Ether	0.55	55			9.7 U			9.5 U	9.6 U	
Bis(2-Chloroisopropyl) Ether	300	30000		11000	9.7 U			9.5 U	9.6 U	
Bis(2-Ethylhexyl) Phthalate	6	290	6	0.029	9.7 U			9.5 U	2.1 J	
Butylbenzylphthalate	2700	2700		0.0029	9.7 U			9.5 U	9.6 U	
Carbazole	130	1200		0.029	9.7 U			9.5 U	9.6 U	
Chrysene	1.9	1.9			9.7 U			9.5 U	9.6 U	
Dibenzo (a,h) Anthracene	0.36	0.6		0.29	9.7 U			9.5 U	9.6 U	
Dibenzofuran				110	9.7 U			9.5 U	9.6 U	
Diethylphthalate	5000	1100000		0.012	9.7 U			9.5 U	9.6 U	
Dimethylphthalate					9.7 U			9.5 U	9.6 U	
Di-n-Butylphthalate	10000	400000		4.8	9.7 U			9.5 U	9.6 U	
Di-n-octylphthalate	2000	3000			9.7 U			9.5 U	9.6 U	
Fluoranthene	260	260			9.7 U			9.5 U	9.6 U	
Fluorene	1900	1900		2.9	9.7 U			9.5 U	9.6 U	
Hexachlorobenzene	1	6	1	0.0029	9.7 U			9.5 U	9.6 U	
Hexachlorobutadiene	1	1000			9.7 U			9.5 U	9.6 U	
Hexachlorocyclopentadiene	50	1800	50	29000	48 U			48 U	48 U	
Hexachloroethane	1	100			9.7 U			9.5 U	9.6 U	
Indeno (1,2,3-cd) Pyrene	3.6	62			9.7 U			9.5 U	9.6 U	
Isophorone	100	100000			9.7 U			9.5 U	9.6 U	
Naphthalene	100	10000		1500	9.7 U			9.5 U	9.6 U	
Nitrobenzene	51	51000		1500	9.7 U			9.5 U	9.6 U	
N-Nitrosodi-N-Propylamine	0.37	370			9.7 U			9.5 U	9.6 U	
N-Nitrosodiphenylamine	530	35000			9.7 U			9.5 U	9.6 U	
Pentachlorophenol	1	1000	1		48 U			48 U	48 U	
Phenanthrene	1100	1100			9.7 U			9.5 U	9.6 U	
Phenol	4000	400000		0.029	9.7 U			9.5 U	9.6 U	
Pyrene	130	130		71	9.7 U			9.5 U	9.6 U	
TOTAL VOC				0.14						
				0.12	115.71	2317			1874	
VOC				0.0096						
1,1,1,2-Tetrachloroethane	70	7000		14	1 U	50 U			50 U	
1,1,1-Trichloroethane	200	2000	200	0.56	1 U	50 U			50 U	
1,1,2,2-Tetrachloroethane	0.3	30			1 U	50 U			50 U	
1,1,2-Trichloroethane	5	50	5	11000	1 U	50 U			50 U	
1,1-Dichloroethane	110	1100		1100	1 U	14 J			17 J	
1,1-Dichloroethene	7	70	7		0.72 J	46 J WY			40 J WY	
1,2-Dibromoethane	0.05	5	0.05	0.52	1 U	50 U			50 U	
1,2-Dichloroethane	5	50	5	200	1 U	50 U			50 U	
1,2-Dichloropropane	5	50	5	0.067	1 U	50 U			50 U	
1,4-Dioxane	24	240		5	200 U	10000 U			10000 U	
2-Butanone	4000	400000		2.4	10 U	500 U			500 U	
2-Hexanone					10 U	500 U			500 U	
4-Methyl-2-Pentanone	410	41000		0.0065	10 U	500 U			500 U	
Acetone	10000	100000		0.15	10 U	500 U			500 U	
Acrylonitrile	2.7	270		0.39	20 U	1000 U			1000 U	
Benzene	5	500	5	6.1	1 U	50 U			50 U	
Bromochloromethane	90	90			1 U	50 U			50 U	
Bromodichloromethane	100	100			1 U	50 U			50 U	
Bromoform	80	8000		2000	1 U	50 U			50 U	
Bromomethane	10	1000		22000	1 U	50 U			50 U	
Carbon Disulfide	4100	4100		0.045	1 U	50 U			50 U	
Carbon Tetrachloride	5	50	5	0.41	1 U	50 U			50 U	

a. Blank results indicate analyte was not analyzed for.

Table 3.
Groundwater Data Summary - Building 41 (B41) East Trench
Former York Naval Ordnance Plant - York, PA

Location/ID Sample Date Parameter	MSC Used Aquifer (ug/L)	MSC Non-Used Aquifer (ug/L)	Federal MCL (ug/L)	EPA RBC Tap Water (ug/L)	MW-117 2/26/2009 (ug/L)	MW-116 5/21/2008 (ug/L)	MW-116 5/21/2008 (ug/L)	MW-116 6/10/2008 (ug/L)	MW-116 9/3/2008 (ug/L)	MW-116 9/3/2008 (ug/L)
Chlorobenzene	100	10000	100		1 U	50 U			50 U	
Chlorodibromomethane	80	8000		0.12	1 U	50 U			50 U	
Chloroethane	900	90000		8.5	1 U	50 U			50 U	
Chloroform	80	800		8.7	1 U	50 U			50 U	
Chloromethane	30	3000		1000	1 U	50 U			50 U	
cis-1,2-Dichloroethene	70	700	70	0.2	39	1200 WXYZ			1100 WXYZ	
cis-1,3-Dichloropropene	26	2600		91	1 U	50 U			50 U	
Ethylbenzene	700	70000	700		1 U	50 U			50 U	
Methyl tert-butyl ether	20	200			1 U	50 U			50 U	
Methylene chloride	5	500		0.19	1 U	140 B WZ			50 U	
Styrene	100	10000	100	190	1 U	50 U			50 U	
Tetrachloroethene	5	50	5		36 WYZ	310 WXYZ			210 WXYZ	
Toluene	1000	100000	1000		1 U	50 U			50 U	
trans-1,2-Dichloroethene	100	1000	100	1.5	0.43 J	50 U			50 U	
trans-1,3-Dichloropropene	26	2600		12	1 U	50 U			50 U	
Trichloroethene	5	50	5	4.8	39 WYZ	570 WXYZ			480 WXYZ	
Vinyl Chloride	2	20	2	1600	0.56 J Z	37 J WXYZ			27 J WXYZ	
Xylenes (Total)	10000	180000	10000		3 U	150 U			150 U	
				2300						

Laboratory Qualifiers

Qualifier	Explanation
	Organic Data Qualifiers
J	Indicates an estimated value. This flag is used when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
B	Analyte is found in the associated blank, as well as in the sample.
U	Indicates sample was analyzed for, but not detected. Report with the detection limit value.
	Inorganic Data Qualifiers
J	Analyte is found in the associated blank, as well as in the sample.
B	Indicates an estimated value. This flag is used when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
E	Matrix Interference
U	Indicates sample was analyzed for, but not detected. Report with the detection limit value.

Screening Value Comparison Qualifiers

Qualifier	Explanation
	Water
W	Excedence of the Pennsylvania DEP Act 2 Medium Specific Concentration for Non-Residential Use Aquifers.
X	Excedence of the Pennsylvania DEP Act 2 Medium Specific Concentration for Non-Residential Non-Used Aquifers.
Y	Excedence of the United States EPA Maximum Contaminant Level.
Z	Excedence of the United States EPA Region 3 Risked Based Concentrations for water.

NOTES:

Water results in individual laboratory data tables are in ug/L unless noted in the analyte list.
RBCs - Risk Based Concentrations from:
United States Environmental Protection Agency (EPA), May 19, 2009; Regional Screening Level Table.
MSCs - Medium Specific Concentrations from:
Pennsylvania Department of Environmental Protection (DEP), November 24, 2001; from Chapter 250, Appendix A.

a. Blank results indicate analyte was not analyzed for.

APPENDIX A

Photographs

APPENDIX A – Photographs
Building 41- East Pipe Trench and Sump

Photo 1 – View of pipe vault remaining from OWCA, looking southwest. Pipes remaining inside 24-inch dia. CMP.

Photo 2 - Looking south at Building 41 outside trench and vault removal.

Photo 3 - Impacted “green” soil on western side of vault excavation to north of Building 41.

Photo 4 - Inside Building 41 pipe trench before pipes were removed. View looking north from the EQ Tank.

Photo 5 – View of pipe trench looking south from the deeper segment, near SWMU 40.

Photo 6 - Looking north into 24” dia. corrugated pipe that connected interior and exterior trench under Bldg 41. Pipes were removed and exterior trench was backfilled with crushed stone.

Photo 7 - Building 41 interior trench – 4” PVC undocumented pipe. Note perforated pipe running N-S in trench. The pipe was solid running E-W. North indicated by white arrow.

Photo 8 - Building 41 interior trench soil removal. View facing south.

Photo 9 - Building 41 pipe trench looking south. Soil and pipes removed to depth.

Photo 10 - 24” dia. corrugated pipe concreted after all pipes were removed.

Photo 11 - Building 41 interior pipe trench backfilled with crushed stone after samples were collected.

Photo 12 - Building 41 sump excavation. Interior 6” dia. metal pipe that took a 90 degree turn and re-entered pipe trench in front of EQ tank. Pipe was cut and plugged with concrete.

Photo 13 - 4” dia. undocumented PVC pipe located under a 6” dia. pipe found in the pipe trench that was excavated during sump excavation. 6” pipe has already been removed in photo.

Photo 14 - 4” dia. PVC pipe was filled with a white flaky substance that was sampled and presumed to be an alkaline wastewater treatment agent.

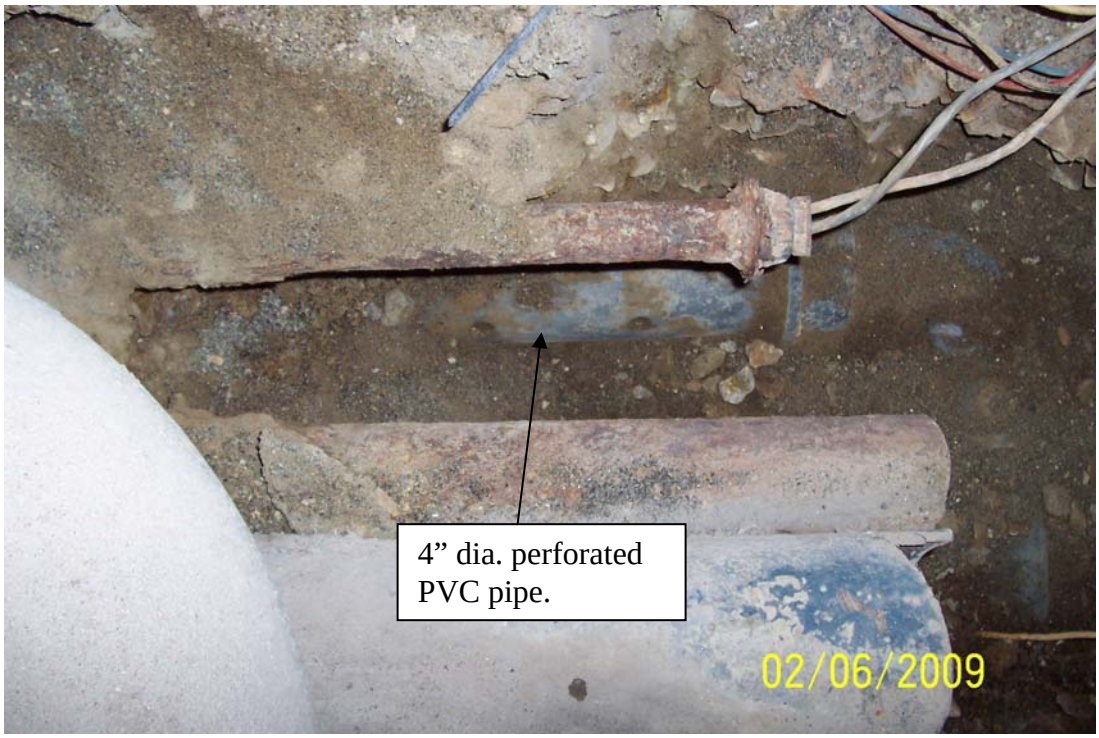


Photo 15 - 4” dia. PVC pipe continues in pipe trench by EQ. Note pipe is perforated.

Photo 16 - Sump excavation. Impacted soil around footer of settling basin tanks. View looking west.

Photo 17 - Black liquid entering sump excavation from under south settling basin footer.

Photo 18 - Sump pump used to remove liquid from sump excavation. Liquid was placed in a tote for storage until it was transferred off-site.

Photo 19 - Sump excavation. Impacted soil visible and liquid entering sump from impacted gravel zone. View looking west.

Photo 20 - Sump excavation looking west—rebar cage anchored into settling basin wall and plywood shoring of sump walls.

Photo 21 - Sump excavation looking west—wooden forms being installed, concrete bottom of sump with 2” of liquid in bottom of sump.

Photo 22 - 4” dia. PVC pipe installed with perforation from pipe trench in front of EQ tank into sump.

Photo 23 - Sump excavation looking west—wooden forms installed and concrete sump walls were poured.

Photo 24 - Sump looking west-wooden frames were removed, liquid in bottom of sump pit. 4” dia. perforated PVC pipe entering sump with compression cap.

Photo 25- Sump with ladder and gravel slope installed.

Photo 26 - Building 41 pipe trench concreted.

Photo 27 - Sump and trench remediation completed. North indicated by white arrow.

Photo 28 - Building 41 outside pipe trench asphalt surface completion. North indicated by white arrow.

Photo 29 - Building 41 vault and test pits backfilled and returned to grade. North indicated by white arrow.

Photo 30 - Pump installed in sump and new valve placed on pipe connection from south trench.

APPENDIX B

Historical Photographs and Drawings

Historical Photograph Summary

Photo 1 – Undated, believed to be the originally constructed Building 41 WWTP and open tanks circa early 1969 (following construction); view is looking southeast. Features in Photo 1 are consistent with 12-5-67 AMF Dwg 61-7-60000 (Figure 1). Note only one settling basin is visible and adjacent to a smaller treatment tank (both empty and all concrete, in-ground, open topped tanks).

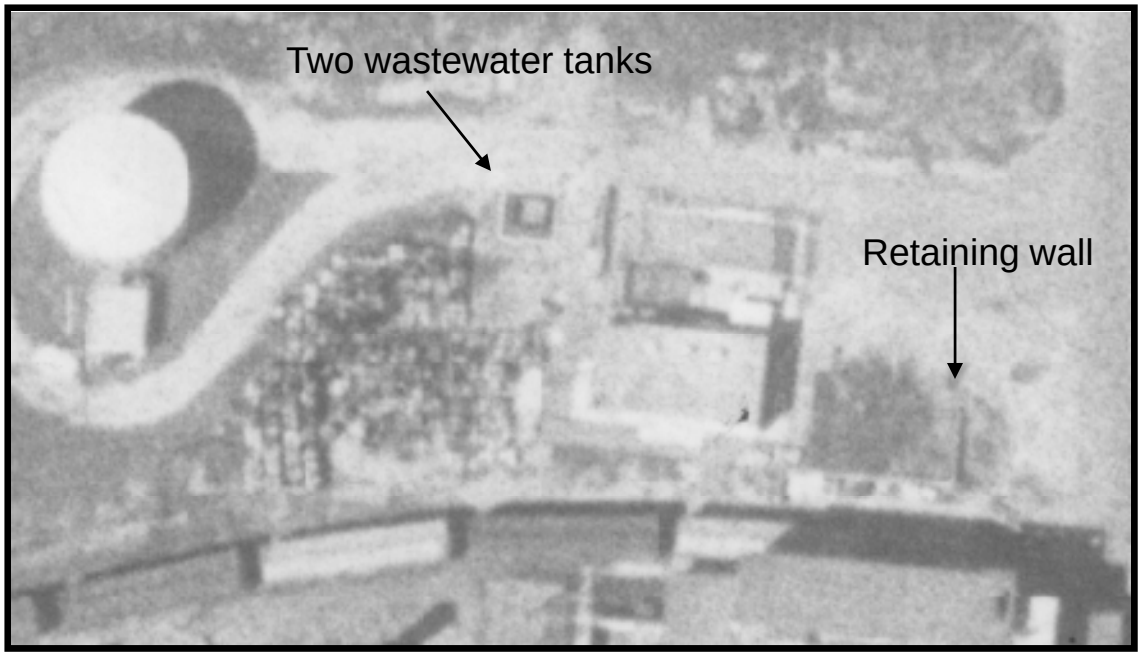


Photo 2 - August 11, 1971 Aerial Photo (north orientation). The active railroad track and Building 10 are visible to the south of Building 41 (at center). A retaining wall is visible to the east of Building 41; and a fire water tank and pump house are visible to the west of Building 41. Two main wastewater tanks are visible to the north of Building 41. The northern-most tank is the main settling tank (now referred to as the South Settling Basin). West of this settling basin is a square tank, which is assumed to be the original sludge holding pit. The tank south of the settling basin is the original equalization (EQ) tank, reported to be approximately 12’ wide x 20 feet long.

Historical Photograph Summary

Photo 3 – February 9, 1972 photo. View looking Southwest toward north side of Bldg 41. Excavation for new EQ tank is shown in the foreground. Note that the two new settling basins have already been constructed and are filled with water.

Photo 4 - February 9, 1972 photo. View looking west, east of new settling basins. Note fire protection tank in background and absence of EQ tank.

Historical Photograph Summary

Photo 5 – February 9, 1972 photo. View looking southwest along east side of new settling basins. Note large 30" diameter stormwater pipe in foreground.

Photo 6 - February 9, 1972 photo. View looking northeast from near north mandoor of WWTP building. Note former sump pad and excavation for new EQ tank.

Historical Photograph Summary

Photo 7 – February 1972 photo. View looking west from east side of WWTP tanks. Note both former (original 4'x4') sump pads and excavation for new EQ tank. Original EQ tank is visible in background.

Photo 8 - February 1972 photo. View looking south from northeast corner of new Settling tanks. Note 30" diameter underground stormwater pipe and smaller sanitary pipe. Workers are standing on new base for pH adjustment tank.

Historical Photograph Summary

Photo 9 – February 1972 photo. View looking southwest from northeast corner of new Settling tanks. Note western WWTP building extension.

Photo 10 - March 1, 1972 photo. View looking west from east side of new EQ tank (inside of south settling tank appears to be asphalt coated).

Historical Photograph Summary

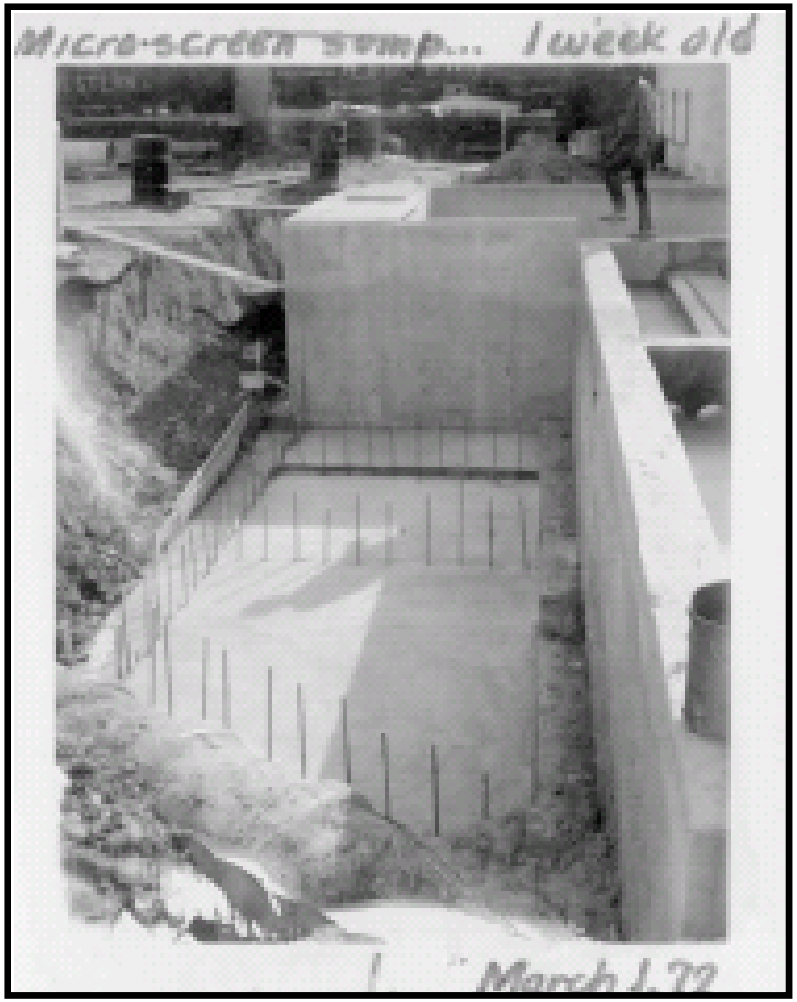


Photo 11 – March 4, 1972 photo. View looking south from northeast corner of new settling basins.

Photo 12 - March 6, 1972 photo. View looking southwest toward the northeast corner of the EQ tank. The three pipes are presumed to be from Bldg 2 WW tank area. Rebar from Neutralization tank wall construction in background.

Historical Photograph Summary

Photo 13 – April 3, 1972 photo. View looking west, east of new WW tanks for Bldg 41. Apparent sump/cover at northeast corner of WWTP building.

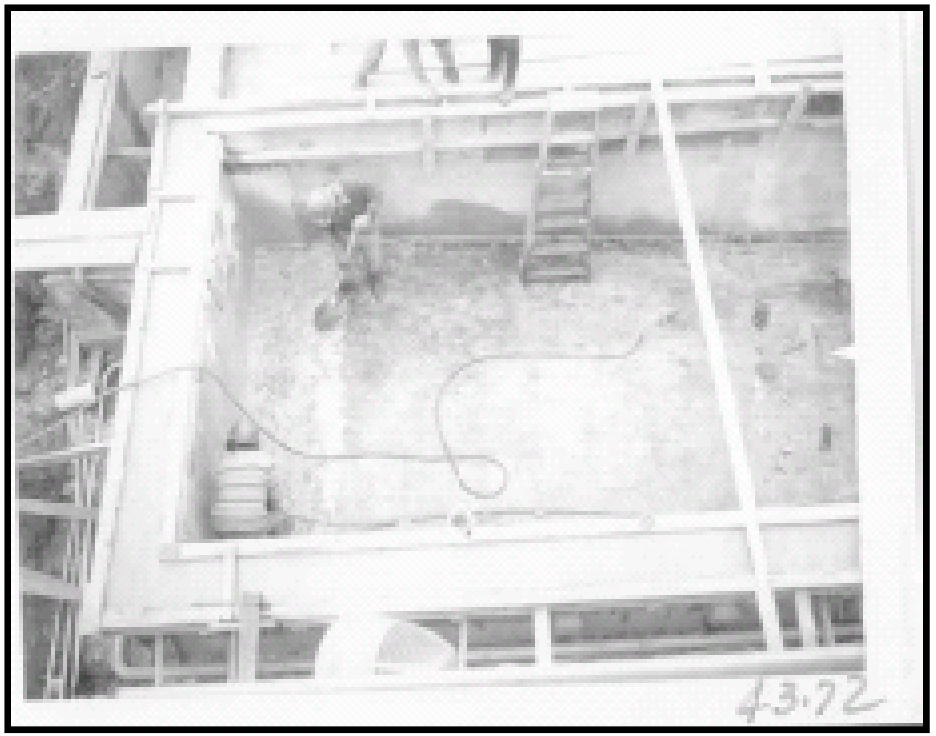


Photo 14 - April 3, 1972 photo. View looking north from WWTP roof at west side of new Flocculation tank.

Historical Photograph Summary

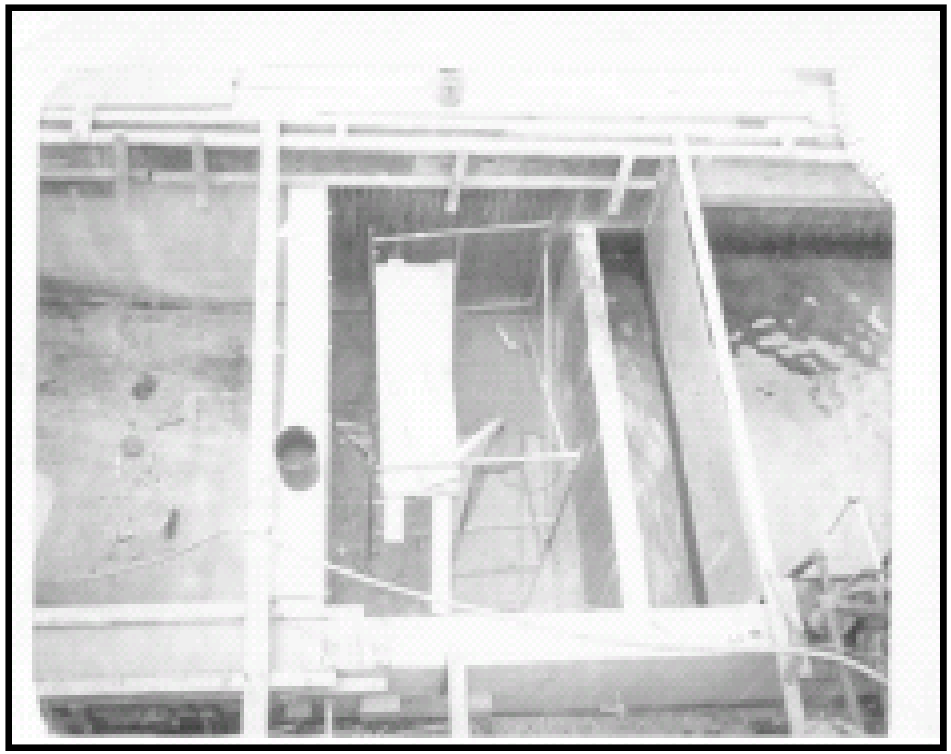


Photo 15 – View looking north from WWTP roof at new Precipitation tank.

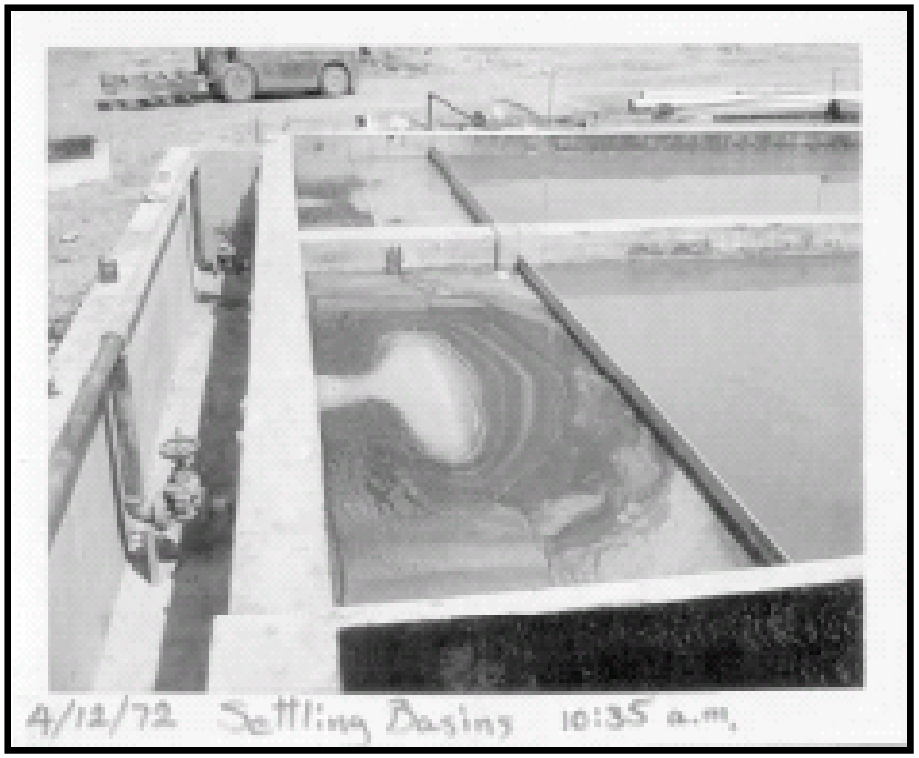


Photo 16 - April 12, 1972 photo. View looking north at west side of new settling basins.

Historical Photograph Summary

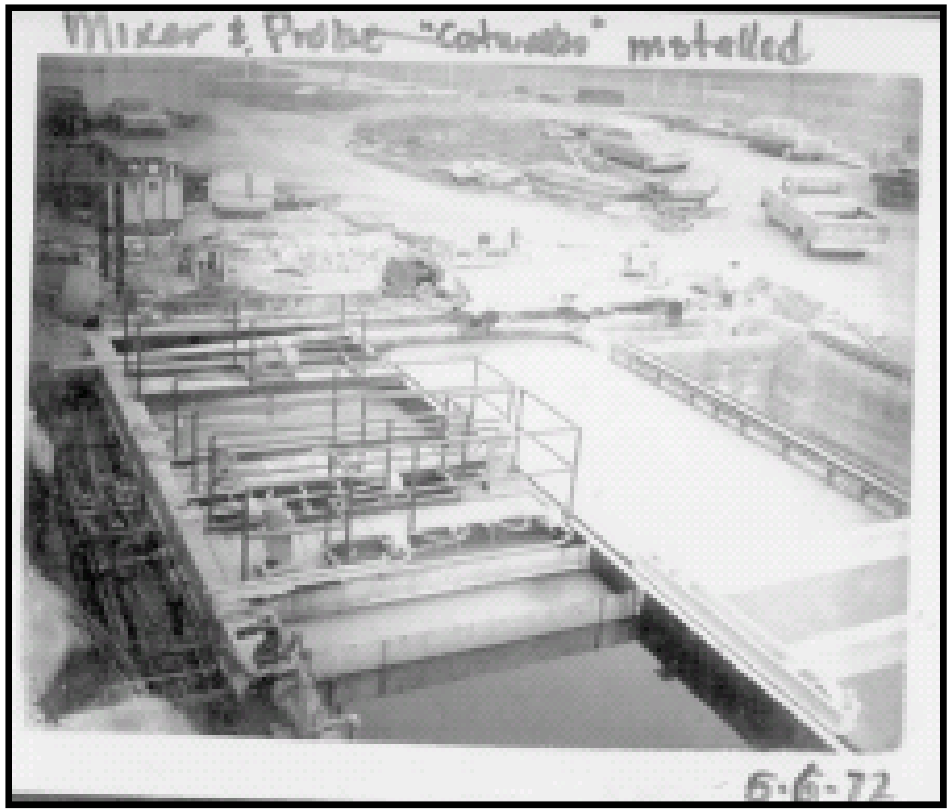


Photo 17 – May 6, 1972 photo. View looking northwest from WWTP roof at new Precipitation and Flocculation tanks and equipment installation. North settling tank was empty.

Photo 18 - May 8, 1972 photo. View looking north from WWTP roof.

Historical Photograph Summary

Photo 19 – May 8, 1972 photo. View looking northwest from WWTP roof at new Micro screen and effluent discharge point (northeast corner of Oxidation tank). Pipe trench is present on the right-hand side.

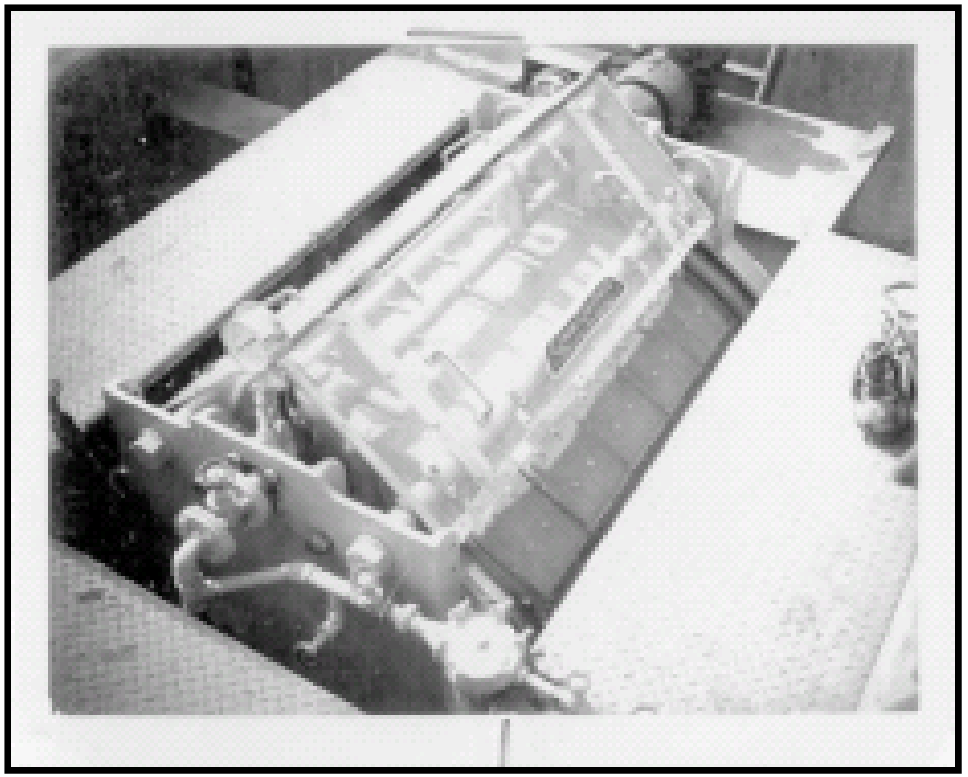


Photo 20 - Close-up of former micro screen equipment .

Historical Photograph Summary

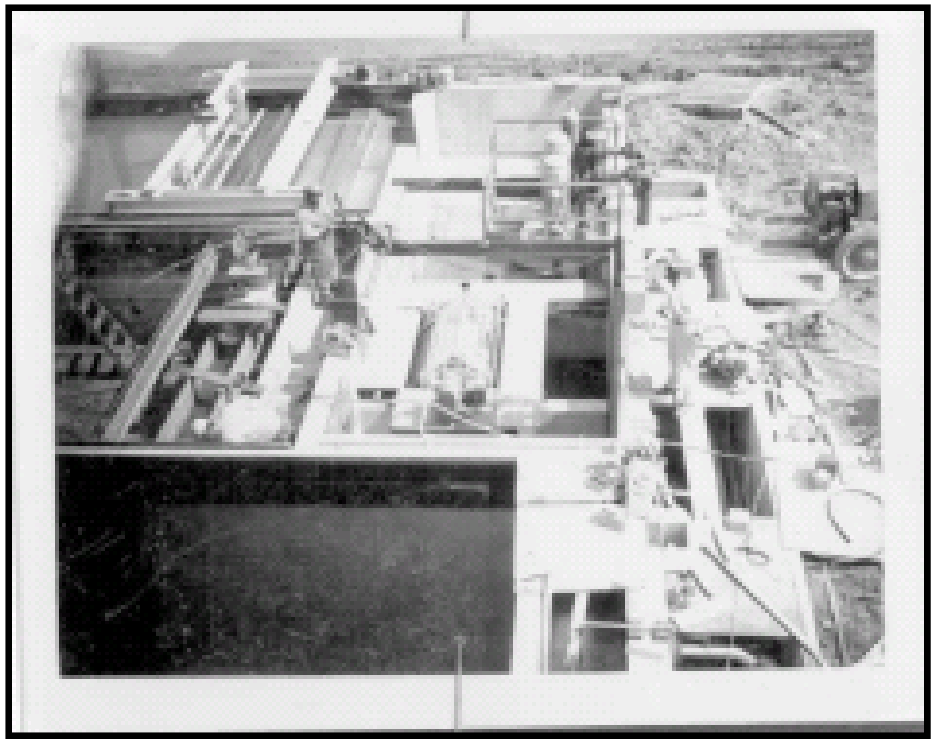


Photo 21 – Undated photo. View looking north from WWTP roof at new Microscreen installation. Pipe trench is present along east side of tanks and is partially covered and north settling basin is full.

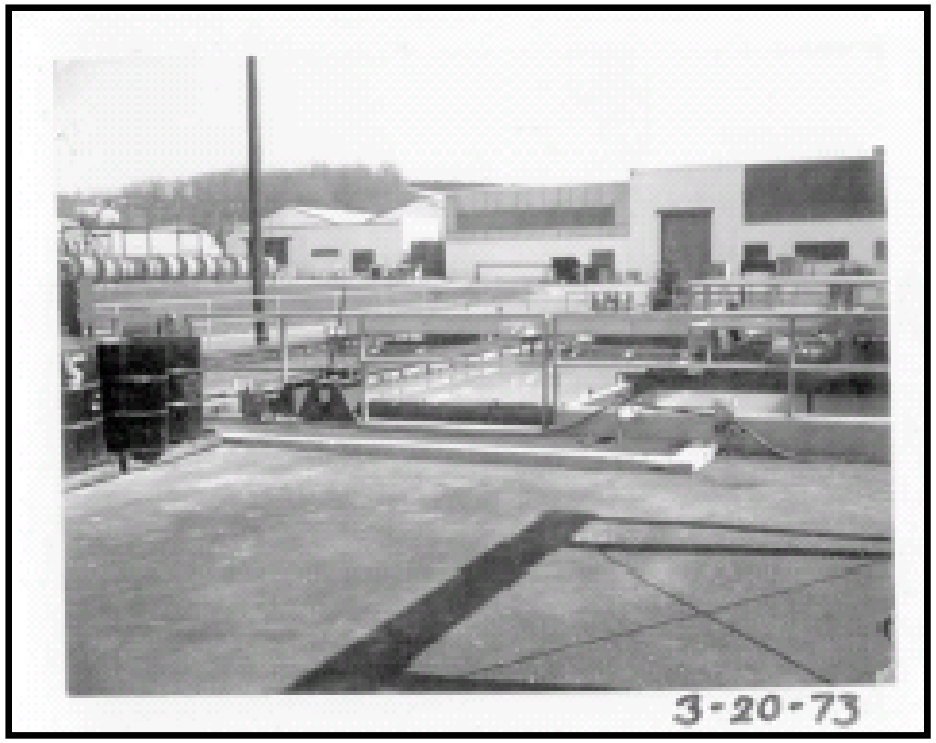


Photo 22 - March 20, 1973 photo. View looking east to northeast from west side of new settling basins. Asphalt pavement is present around tanks.

Historical Photograph Summary

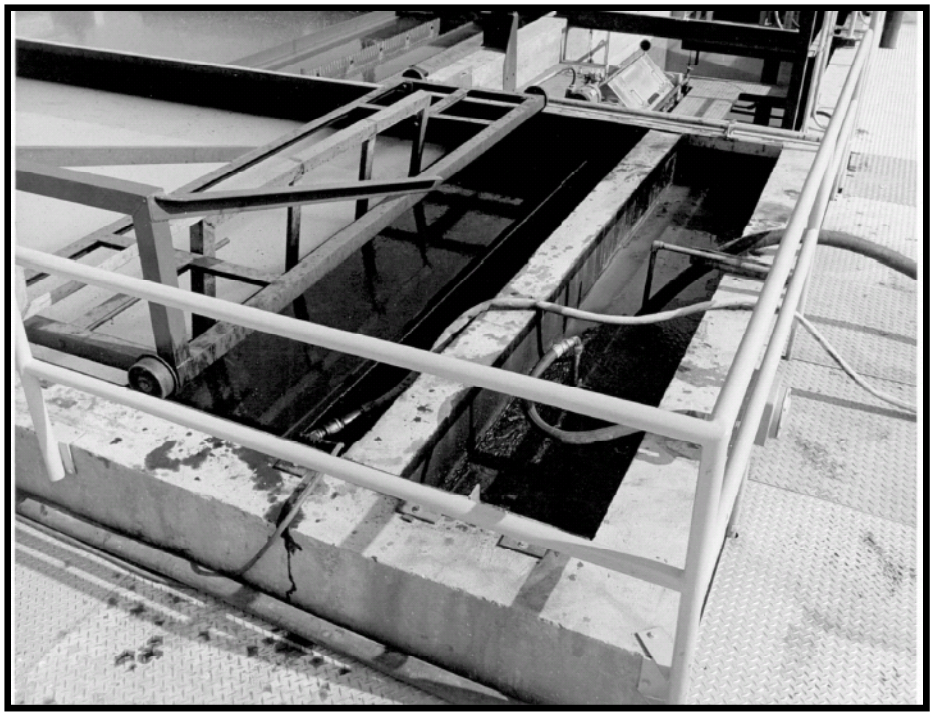


Photo 23 – View of southeast corner of new EQ tank in operation (no date). Metal plates are present over pipe trench on the right side.

Photo 24 - View looking west to southwest from north side of north settling basin (no date).

Historical Photograph Summary

Photo 25 – Undated photo. View looking south from northwest corner of settling basins.

Historical Drawings

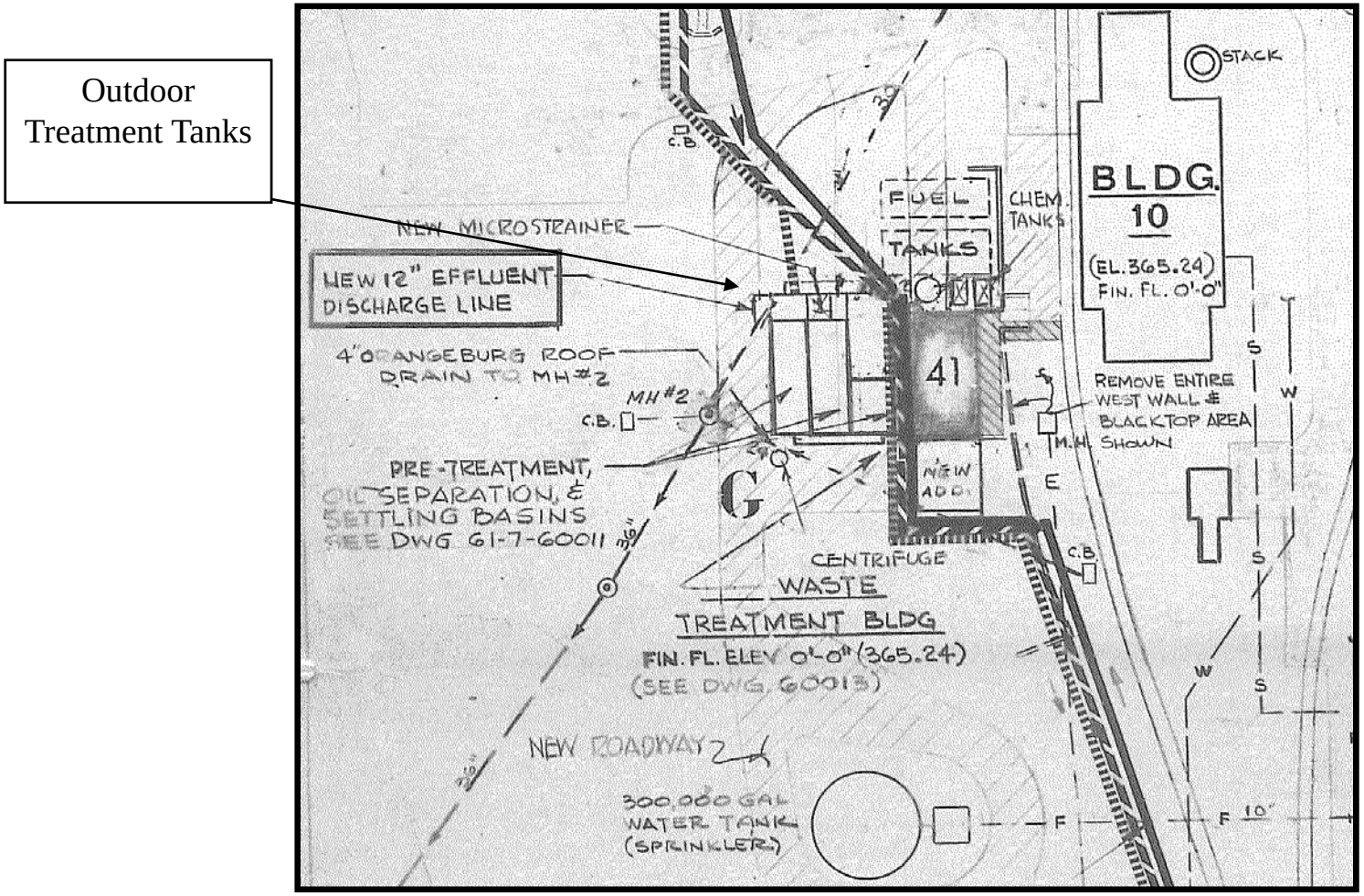


Figure 1 – December 5, 1967 AMF drawing No. 61-7-60000 (Proposed New Waste Treatment Building 41 - east orientation). Note location of original Building 41 structure and outdoor treatment tanks. Sumps located on the northeast and northwest corners of the building connected to piping from Building 2 & 4 wastewater tanks, respectively. Also note discharge to stormwater manhole from northeast corner of lone settling basin. Obscured note on this drawing indicated that the settling basin measured 54' long by 14' wide; the EQ tank measured 20'L x 12'W; and the sumps each measured 4'x 4'.

Historical Drawings

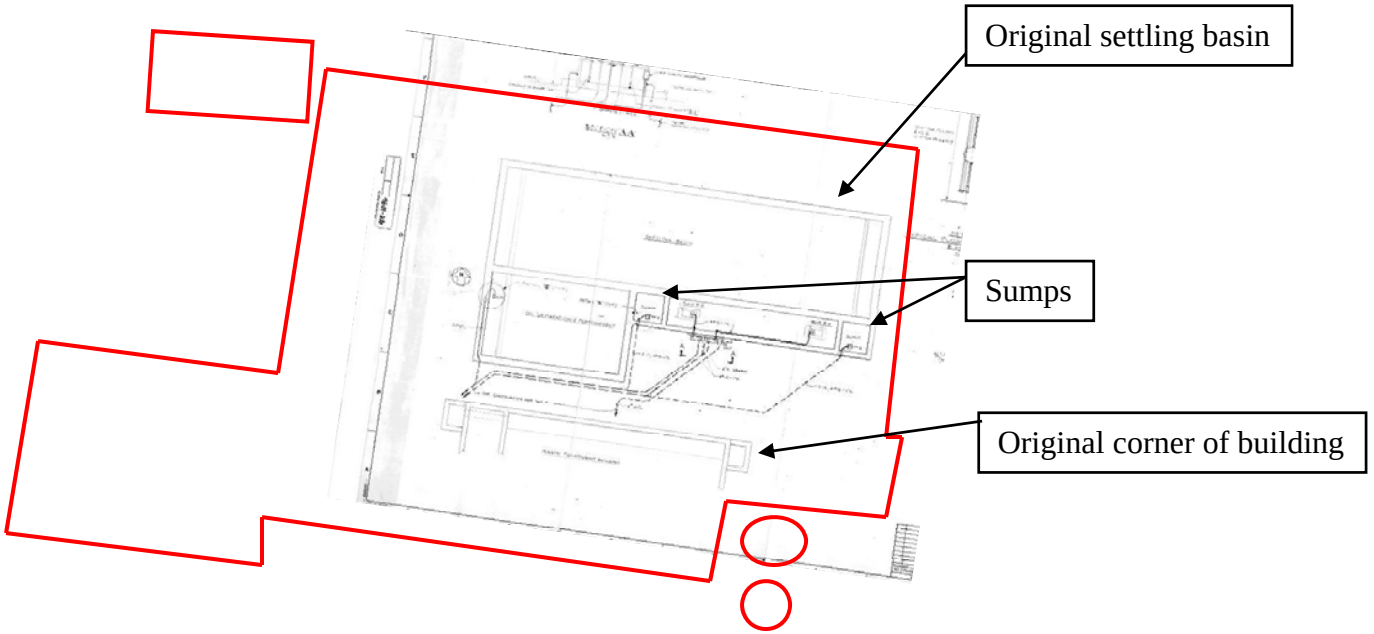


Figure 2 – August 2, 1968 drawing with current WWTP outline shown in red. Note location of original lone settling basin, sumps, and northern corners of original WWTP Building.

Historical Drawings

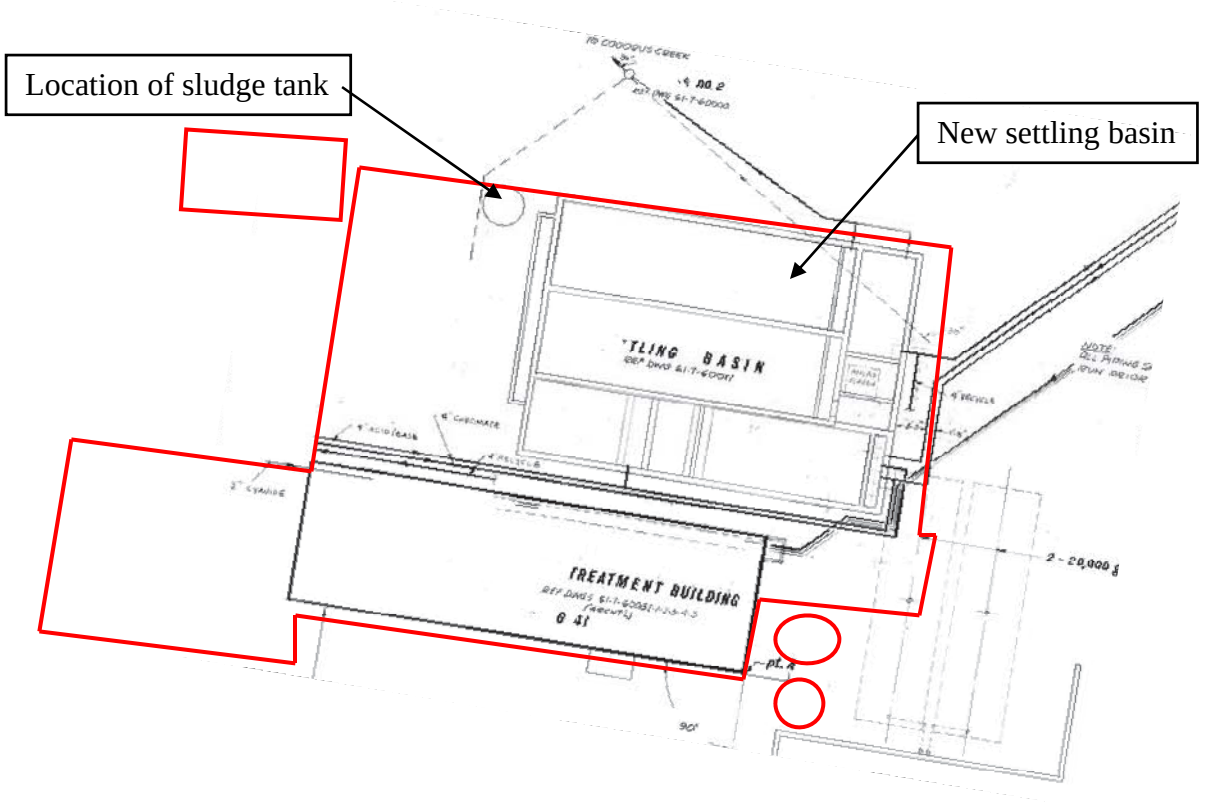


Figure 3 – (1972?) drawing with outline of current WWTP shown in red. Note planned locations of settling basins; pipes from Bldgs 2 (east) & 4 (west); and location of sludge tank (W of North settling basin).

Historical Drawings

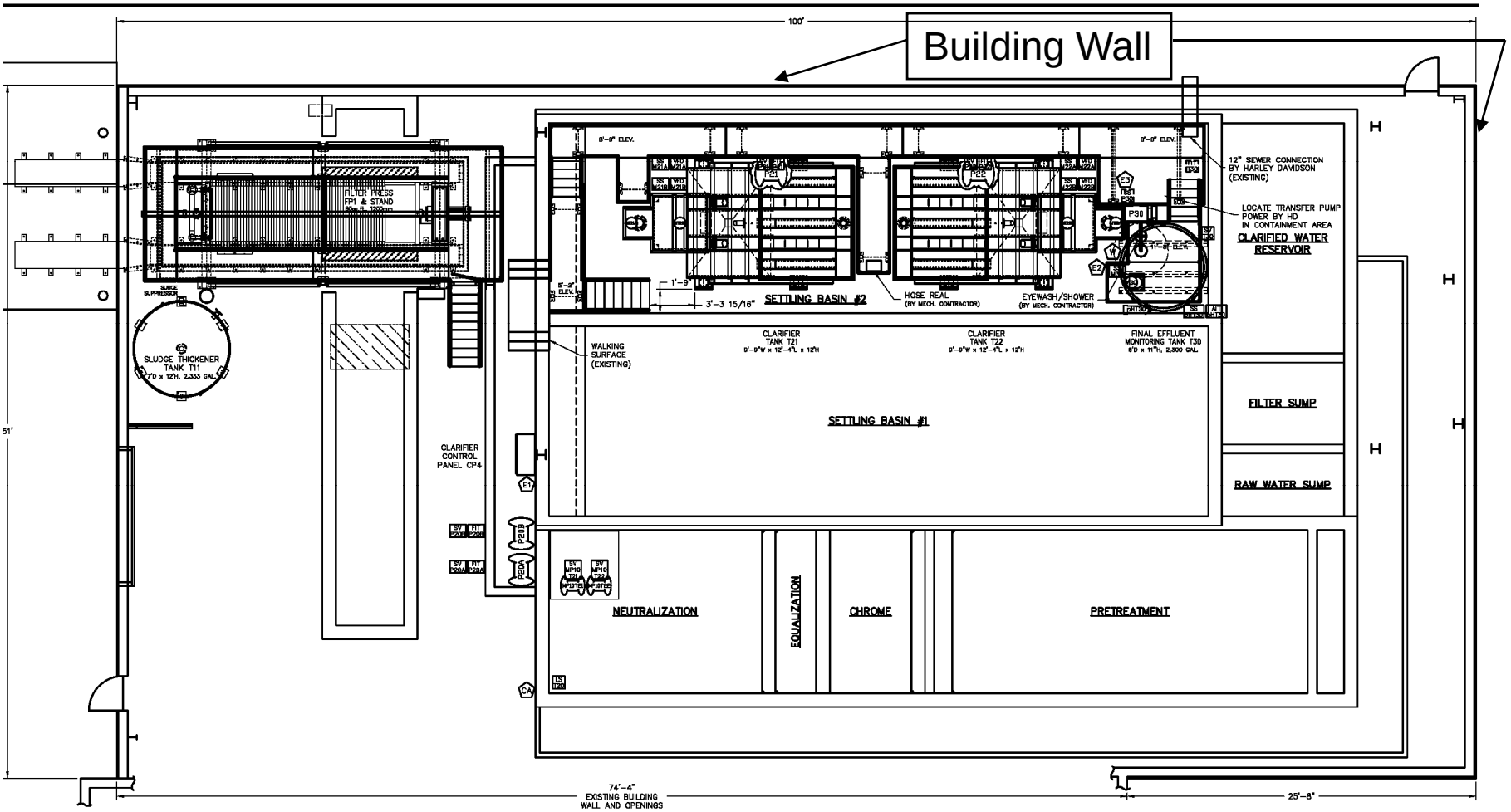


Figure 4 – June 20, 2007 proposed (existing) layout [J. Mark Systems] showing Bldg 41 wastewater tank area only. Note proposed use of northern settling basin with a new lamella clarifier; new location of sludge filter press (indoors); and existing sludge pit (west of settling basins). Building walls and current roof over the WWTP basins was constructed circa 1980, according to other available construction drawings.

APPENDIX C

MW-117 Well Construction Log

BORING LOG OF MW-117

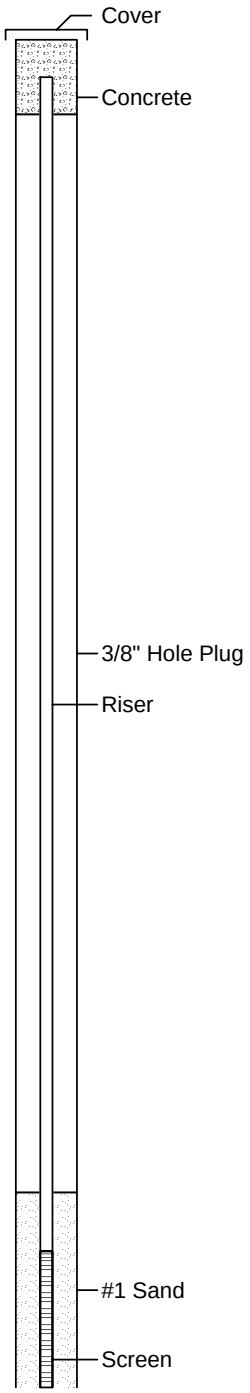
Harley Davidson
Building 41 Remediation
1425 Eden Road, York, PA

SAIC Project # 01-1633-00-6072-100

Drilling Company	: Environ. Equip. and Supply	Drilling Completed	: 2/14/09
Logged By	: Emily M. Wade	Well Construction	: 2/14/09
Drilling Method	: Direct Push Geoprobe/HSA	Well Development	: 2/19/09
Drilling Bit Diameter	: 2"/ 6.25" OD	Water Elev./Date	: 14.88' btoc / 2/19/09
Drilling Started	: 2/13/09		

Depth in Feet	Recovery	DESCRIPTION	USCS	PID (ppm) - bkgd = 0.0	GRAPHIC
0		Utility Clearance with Air Knife. Silty Clay, yellowish brown (10YR 5/6), medium plasticity, moist, semi dense	CL	0.0	
2	4.0/4.0'			0.2	
				0.3	
4				0.3	
		Clay, dark grayish brown (10YR 4/2), high plasticity, wet, low density	CH	0.1	
6	4.0/4.0'		CL		
		Silty Clay, yellowish brown (10YR 5/8), dense, hard, crumbly	CH	0.4	
		Clay, dark grayish brown (10YR 4/2), high plasticity, wet, low density			
		Silty Clay, yellowish brown (10YR 5/8), dense, hard, crumbly	CL	0.4	
8				0.4	
		Clay, dark grayish brown (10YR 4/2), dense, hard	CH	0.3	
10	4.0/4.0'			0.3	
		Silty Clay, yellowish brown (10YR 5/8), dense, hard, crumbly	CL	0.9	
12		Sluff		0.7	
		Silty Clay, yellowish brown (10YR 5/4), low plasticity, damp, crumbly, gray mottling (10YR 5/1)	CL		
		Silty Clay, yellowish brown (10YR 5/6), very low plasticity, damp, dense, crumbly	CL	0.6	
14	4.0/4.0'			0.8	
				1.0	
16		Sluff		0.5	
	4.0/4.0'	Silty Clay, yellowish brown (10YR 5/6), very low plasticity, damp, dense, crumbly	CL	1.5	
18			CL		

Well: MW-117
Elev.:



Well Construction Information

WELL CONSTRUCTION

Date Completed	: 2-14-09
Auger I.D.	: 4 1/4"
Drilling Method	: 6620DT Geoprobe
Driller	: Nate Womer

WELL CASING :

Material	: Sch 40 PVC
Diameter	: 2"
From	: 0.5' to 16.18' BGL
Joints	: Flush Threaded

WELL SCREEN :

Material	: Sch 40 PVC
Diameter	: 2"
From	: 16.18' to 29.5' BGL
Joints	: Flush Threaded
Opening	: 0.010 slot

ADDITIONAL CONSTRUCTION DETAILS

#1 Morie Sand, 7-50 lb. bags

Bentonite Seal (1' - 15.4' bgs)
6, 50 lb. bag

Sakrete Surface Completion, 1-80 lb. bags

A Geoprobe was used to collect continous soil samples to 28' BGL. Hollow Stem Augers were than advanced at the same location to 29.5' BGL for MW-117 construction.

Sample locations:
HD-B41-SB-117-6/6.5-0
HD-B41-SB-117-12/12.5-0
HD-B41-SB-117-19.5/20-0

BORING LOG OF MW-117

Harley Davidson
Building 41 Remediation
1425 Eden Road, York, PA

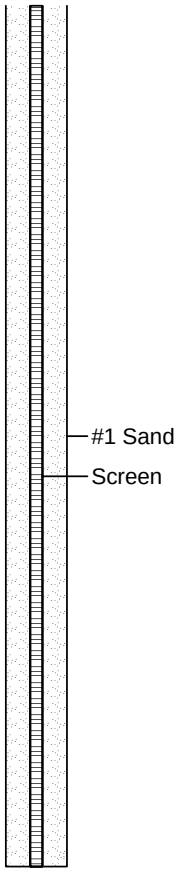
SAIC Project # 01-1633-00-6072-100

Drilling Company	: Environ. Equip. and Supply	Drilling Completed	: 2/14/09
Logged By	: Emily M. Wade	Well Construction	: 2/14/09
Drilling Method	: Direct Push Geoprobe/HSA	Well Development	: 2/19/09
Drilling Bit Diameter	: 2"/ 6.25" OD	Water Elev./Date	: 14.88' btoc / 2/19/09
Drilling Started	: 2/13/09		

Depth in Feet	Recovery	DESCRIPTION	USCS	PID (ppm) - bkgd = 0.0
18		Silty Clay, yellowish brown (10YR 5/6), moist, medium plasticity, semi dense, <3% angular quartzite fragments	CL	2.1
	4.0/4.0'	Silt with gravel, yellowish brown (10YR 5/6), <10% angular quartzite fragments, <3% sub rounded to rounded quartzite, wet	ML	2.8
20		Silty Clay, yellowish brown (10YR 5/6), saturated, <8% angular quartzite fragments	CL	1.1
		Gravelly clay, yellowish brown (10YR 5/6), saturated, 50% small, medium, and large angular quartzite gravel	CG	0.5
22	3.0/4.0'	SAME AS ABOVE: moist	CG	0.7
		Accumulated Lost Core		0.8
24		Clay, yellowish brown (10YR 5/4), saturated, <30% angular quartzite fragments	CL	0.5
				0.4
26	2.8/4.0'			0.7
		Accumulated Lost core		
28		END SOIL BORING @ 28' BGS		
		AUGER REFUSAL @ 29.5' BGS		
30				
32				
34				
36				

GRAPHIC

Well: MW-117
Elev.:



Well Construction Information

WELL CONSTRUCTION

Date Completed	: 2-14-09
Auger I.D.	: 4 1/4"
Drilling Method	: 6620DT Geoprobe
Driller	: Nate Womer

WELL CASING :

Material	: Sch 40 PVC
Diameter	: 2"
From	: 0.5' to 16.18' BGL
Joints	: Flush Threaded

WELL SCREEN :

Material	: Sch 40 PVC
Diameter	: 2"
From	: 16.18' to 29.5' BGL
Joints	: Flush Threaded
Opening	: 0.010 slot

ADDITIONAL CONSTRUCTION DETAILS

#1 Morie Sand, 7-50 lb. bags

Bentonite Seal (1' - 15.4' bgs)
6, 50 lb. bag

Sakrete Surface Completion, 1-80 lb. bags

A Geoprobe was used to collect continous soil samples to 28' BGL. Hollow Stem Augers were than advanced at the same location to 29.5' BGL for MW-117 construction.

Sample locations:
HD-B41-SB-117-6/6.5-0
HD-B41-SB-117-12/12.5-0
HD-B41-SB-117-19.5/20-0

03-02-2009 H:\Jobs\Harley\Boring Logs\MW-117.bor

APPENDIX D

MW-117 Well Sampling Log

Groundwater Sample Log

Sampling Event MW-117 Installation
Well ID: MW-117
Project NO:
Project Location York, Pa

Purge Information

Purge Date: 2/26/2009
Pump ID: 16389
Purged By: Emily M. Wade
Water Quality Inst: Horiba -U22
Purge Technique: Matched Well Yeild
Water Quality Inst ID: 16358
Purge Method: Fultz
Total Purge Vol (gal): 10.52 gal

Sample Information

Sampled By: Emily M. Wade
Sampled Method: low flow purge
Sample Date: 2/26/2009
Unit ID: 16389
Sample Time: 10:20
Duplicate ID: NA
Sample ID: HD-MW-117-01-0
MS/MSD ID: NA

Purge Parameter Information

Time	Temp. °C	pH SU	Turb NTU	Con. mS/cm	DO mg/	Sal	Pr g/m	Pv gal.	DTW feet	Notes
9:10									14.83	
9:35	18.1	6.1	354.2	2.54	1.42	0.1	0.3	1.32	14.9	
9:40	18.2	6.4	239	2.54	1.07	0.1	0.3	1.32	14.96	
9:45	18.2	6.6	77.9	2.59	0.77	0.1	0.3	1.3	14.96	
9:50	18.2	6.7	9.1	2.67	0.55	0.1	0.2	1.08	14.94	
9:55	18.1	6.8	0	2.71	0.42	0.1	0.2	1.1	14.96	
10:00	18	6.8	0	2.72	0.37	0.1	0.2	1.1	14.96	
10:05	18.1	6.8	0	2.74	0.33	0.1	0.2	1.1	14.96	
10:10	18	6.8	0	2.78	0.32	0.1	0.2	1.1	14.96	
10:15	18	6.8	0	2.78	0.33	0.1	0.2	1.1	14.96	
10:20								10.52		sampled

APPENDIX E

Waste Disposal Documentation

D16503

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

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
PAD001643691	1	877.818.0087	005644516 JJK

GENERATOR

5. Generator's Name and Mailing Address
Harley-Davidson Motor Co. Ops., Inc.
1425 Eden Road, York, PA 17402
Generator's Phone: 717.848.1177

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Freehold Cartage, Inc.
U.S. EPA ID Number: NJD054126164

7. Transporter 2 Company Name
U.S. EPA ID Number

DESIGNATED FACILITY

8. Designated Facility Name and Site Address
Envirite of Pennsylvania, Inc.
730 Vogelsong Road, York, PA 17404
Facility's Phone: 717.846.1900
U.S. EPA ID Number: PAD010154045

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3077, Hazardous Waste Solid, N.O.S., (F001, F003, F006, F005), 9, PG III, RQ	001	CM	20	Y	F001	F003	F005
						F006		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
9a.1) Profile 18901 Pips and Debris from Remediation (F001, F003, F005, F006), ERG # 171
Box # 9665 YES PO # 3718-13659 Trust Fund

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/Offeror's Printed/Typed Name: Brenda M Barber
Signature: Brenda M Barber
Month: 03 Day: 18 Year: 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: John M. Sebastian Sr.
Signature:
Month: 03 Day: 18 Year: 09
Transporter 2 Printed/Typed Name
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
32520 lbs
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
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. H141 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: Shane Biese
Signature: Shane Biese
Month: 03 Day: 18 Year: 09

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

D16504

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

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: PAD001643691
2. Page 1 of: 1
3. Emergency Response Phone: 877.818.0087
4. Manifest Tracking Number: 005644514 JJK

5. Generator's Name and Mailing Address
Harley-Davidson Motor Co. Ops., Inc.
1425 Eden Road, York, PA 17402
Generator's Phone: 717.848.1177

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Envirite of Pennsylvania, Inc.
U.S. EPA ID Number: PAD010154045

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Envirite of Pennsylvania, Inc.
730 Vogelsong Road, York, PA 17404
Facility's Phone: 717.846.1900
U.S. EPA ID Number: PAD010154045

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3077, Hazardous Waste Solid, N.O.S., (F001, F003, F005, F006), 9, PG III, RQ	001	CM	20	Y	F001 F005	F003	F005
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
9a.1) Profile 18901 Pipe and Debris from Remediation (F001, F003, F005, F006), ERG # 171
Box # 2502 VES PO #3718-13659 Trust Fund

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/Offeror's Printed/Typed Name: Brenda M. Barber
Signature: Brenda M Barber
Month: 03 Day: 18 Year: 09

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: HAROLD A WOOD
Signature: Harold A Wood
Month: 03 Day: 18 Year: 09

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

18. Discrepancy

18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
5340 #
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

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.	2.	3.	4.
H141			

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: Kirby E Newsholm
Signature:
Month: 03 Day: 19 Year: 09

GENERATOR — TRANSPORTER/INTL — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR