Final

BUILDING 41
NORTH SETTLING BASIN CLOSURE 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
6310 Allentown Boulevard / Harrisburg, PA 17112 / tel: 717.901.8100 / www.saic.com

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December 2009

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Respectfully submitted,

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1.0 INTRODUCTION AND BACKGROUND

This closure report is for the North Settling Basin (known as Solid Waste Management Unit [SWMU] No. 36) located in the northern end of Building 41 at the former York Naval Ordnance Plant (fYNOP) in York, Pennsylvania (see location on Figure 1). Activities conducted for this project were performed in accordance with the Work Plan Scoping document dated April 2007 and Science Applications International Corporation (SAIC) proposal number 01-1633-71-2008-070 dated April 30, 2007. The North Settling Basin was closed to allow two aboveground Lamella clarifiers to be constructed within the basin. Photographs of key elements of the closure activities are included in Appendix A.

Harley-Davidson Motor Company Operations, Inc. (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 May 16, 2007.

Building 41 is located in the northern part of the fYNOP, north of Buildings 4 and 2 (see Figure 1). This building has been operated as a wastewater treatment plant (WWTP) since 1969. It was built and installed in 1968. A photographic and historical drawing summary of Building 41 is shown 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, and cyanides; and several organic constituents listed in the total toxics organics list. The WWTP had 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.

The North Settling Basin was identified as SWMU No. 36 in the January 1989 Phase II Resource Conservation and Recovery Act (RCRA) Facility Assessment report prepared by A.T. Kearney, Inc. (Kearney) for the United States Environmental Protection Agency (EPA), Region III. In that report, two settling basins were 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 the flocculation tank (SWMU No. 35) via an open channel conduit. Sludge from the two settling basins 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 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 a release to soil or groundwater from these settling basins was low because of biannual inspections and continuous monitoring of flows into and out of the two tanks. The report further suggests verifying the integrity of the tanks and conducting soil sampling where the integrity of the tanks was questionable.

The North Settling Basin is a subgrade, concrete-lined open-top tank with approximate dimensions of 49 feet long x 14 feet wide x 6 feet deep. The concrete tank is underlain by 10 inches of crushed stone. The tank design had a capacity of 27,000 gallons. The North Settling Basin was formerly used to settle sludge from influent wastewater prior to being sent to

the filter press. Sludge was pumped from the concrete sludge sump in the west end of the tank to the filter press several times a week during routine operations. Wastewater coming into this tank was received from the flocculation tank (and for a brief period from the pH adjustment tank). Influent entered the tank from the west end via two 4-inch-diameter openings, while clarified effluent exited the tank through the weir at the east end. Clarified discharge from this tank was sent to the neutralization tank.

SAIC conducted subsurface soil investigations beneath the northern basin during the summer of 2007. This report describes the investigation, which involved the installation of eight soil borings and the collection of numerous soil samples. None of the soil samples from these borings detected regulated compounds above Pennsylvania Department of Environmental Protection (DEP) regulatory levels. Harley-Davidson has since closed Building 41's northern settling basin and installed two new aboveground Lamella clarifiers in its place.

2.0 TANK INSPECTION

Closure of the North Settling Basin began by dismantling equipment, removing liquid and sludge, permanently plugging influent and effluent lines, and cleaning the concrete surface. These tasks were completed by others prior to SAIC mobilizing to the site (see photographs in Appendix A). SAIC's initial involvement included an inspection of the concrete surfaces in the North Settling Basin for cracks or other evidence of past releases.

The settling basin inspection activities were performed in accordance with confined space entry protocol. Details regarding the procedures utilized were outlined in a site-specific health and safety plan. All work was completed safely and without incident.

SAIC's tank inspection revealed a crack running in an east-west direction on the floor of the tank near the south wall. The crack had been covered with a black sealant material. Two other cracks were observed on the southern wall of the tank. One crack was near the eastern end of the southern wall, and the other crack was near the center of the southern wall. Photographs of the cracks are included in Appendix A. The photographs also show the location of soil borings in relation to the cracks. The age of the cracks is indeterminate.

3.0 SUBSURFACE SOIL INVESTIGATION

SAIC installed eight soil borings (designated as SB-001 through SB-008) as close to the observed cracks as possible to determine if the contents of the tank had been released. The borings were installed on July 30-31, 2007. Figure 2 shows the locations of the eight soil borings. Concrete coring was used to cut through the concrete floor of the basin, and vacuum extraction was used to remove the crushed stone subbase. The concrete thickness ranged from 6 inches at SB-006 and SB-007 to 12 inches at SB-001, SB-002, and SB-004. The thickness of the crushed stone subbase ranged from 3 inches at SB-001 to 12 inches at SB-006.

The soil borings were advanced with a Geoprobe® sampler until refusal or a maximum depth of six feet below the top of the concrete floor. During soil boring advancement, soil type, color, photoionization detector (PID) response, and other relevant information were recorded on soil boring logs, which are included in Appendix C. Two soil samples were collected from seven of the eight boring locations. Only one soil sample was collected from boring SB-004 because of poor soil recovery. The first soil sampling interval was below the gravel layer and between two to four feet below the top of the concrete. The second soil sampling interval was at the bottom of the boring or between five to six feet below the top of the concrete. The second soil sample at boring SB-005 was collected three to four feet below the top of the concrete because of refusal. For quality assurance/quality control (QA/QC) purposes, a duplicate soil sample was collected from SB-004.

All 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, cyanide (total and free), and percent solids. At the completion of sampling, all soil borings were filled with bentonite, and the surface was sealed with concrete.

4.0 SOIL SAMPLE RESULTS

Upon receipt of the laboratory analytical data package from TestAmerica, the results were tabulated and compared to DEP's nonresidential medium-specific concentrations (MSCs) for soils for the 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 analyzed compounds that were detected in the soil samples, along with a comparison to the criteria identified above. None of the detected compounds exceed the MSCs for direct contact or soil-to-groundwater pathways.

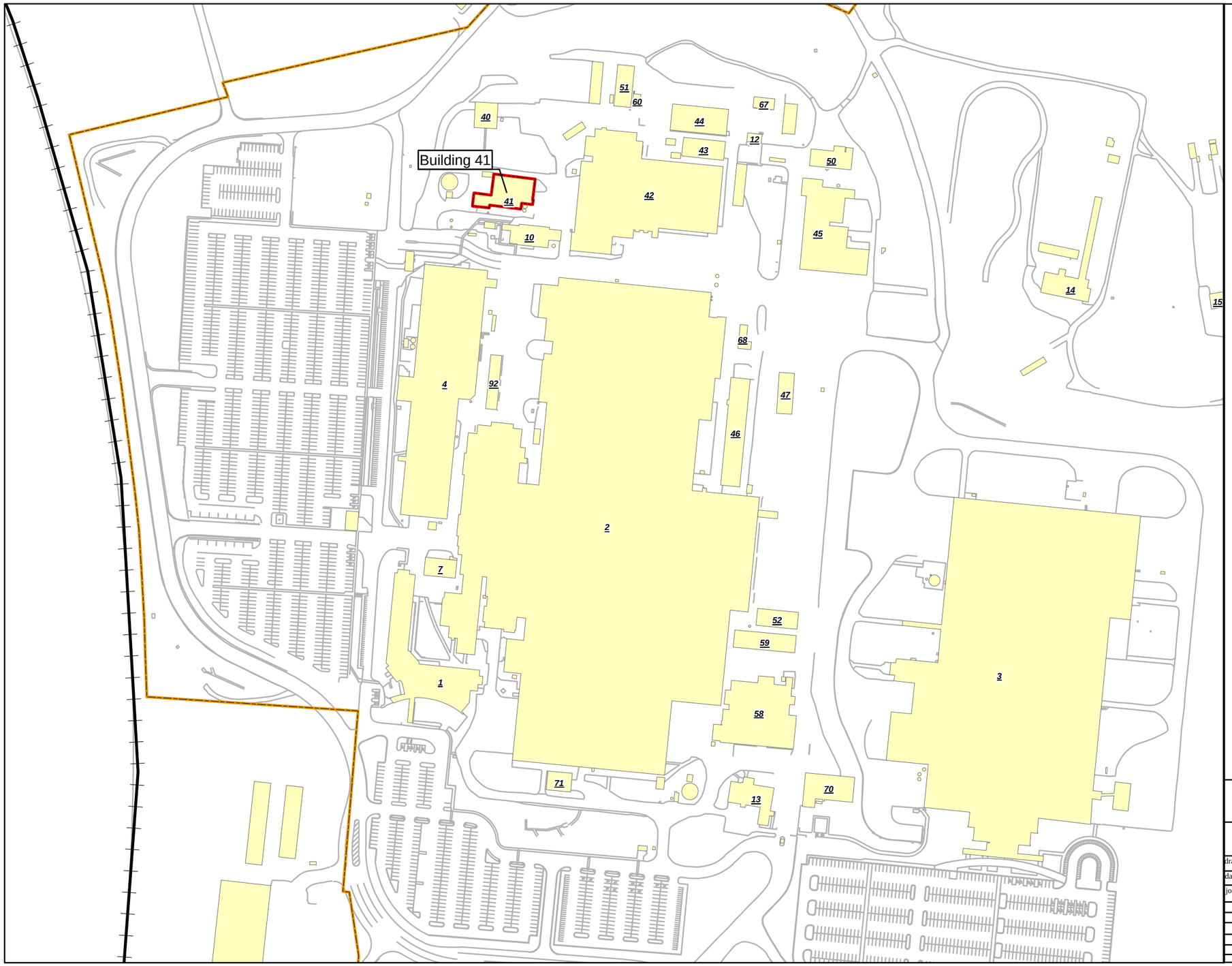
5.0 NORTH SETTLING BASIN CLOSURE

Subsurface conditions at the North Settling Basin were characterized in accordance with the approved work plan. Fifteen soil samples were collected from eight soil borings installed at locations where potential releases were possible. No compounds were detected at concentrations greater than applicable MSCs. Based on this information, no additional characterization or remediation was considered to be necessary. Thus, the Building 41 North Settling Basin (SWMU No. 36) was deemed to be closed. Closure certification is included in Appendix D.

6.0 POST-CLOSURE ACTIVITIES

Following the receipt of the soil sampling results discussed above, Harley-Davidson constructed a Lamella clarifier system within the former North Settling Basin. The Lamella clarifiers consist of two above-grade wastewater tanks designed for the removal of solids from the wastewater. These tanks were constructed on a new pad within the North Settling Basin, which was raised up approximately three feet with gravel and concrete to avoid confined space entry requirements.

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 RDM	approved SMS	figure no. 1
date 5/4/09	date 7/7/09	date 7/7/09	
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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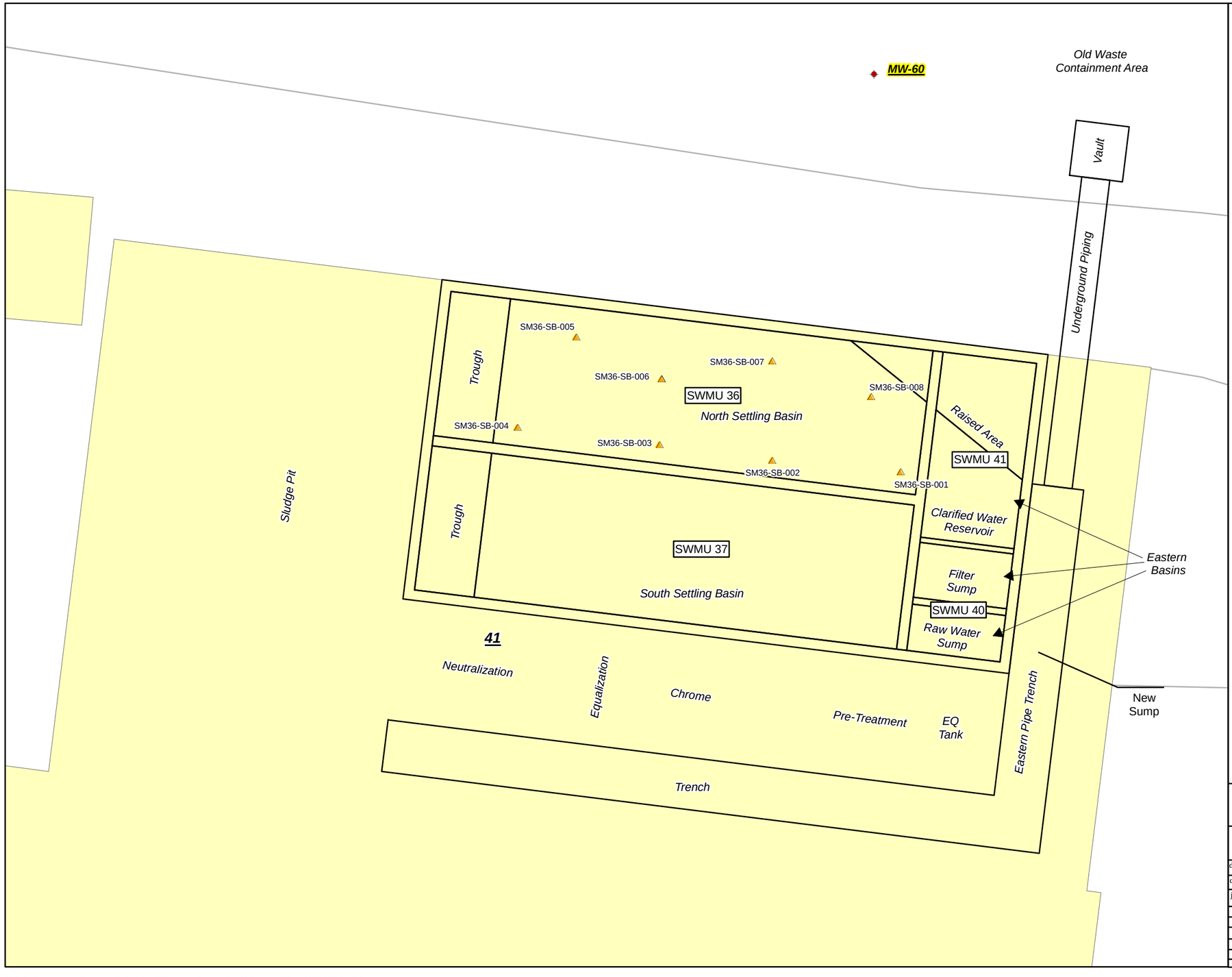

N
W E
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Legend

- 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 Basin Boundary
- Buildings
- Roads and Curb Boundary

0 2.5 5 10 15 Feet

1 inch = 10 feet

FORMER YORK NAVAL ORDNANCE PLANT

1425 EDEN ROAD, YORK, PA 17402

Building 41 North Basin Soil Samples

drawn AGM	checked RDM	approved SMS	figure no. 2
date 5/4/09	date 7/7/09	date 7/7/09	
job no. 01-1633-00-1365-518		file no. Fig_2 SMP_LOCS_20091215.mxd	

initials	date	revision

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TABLES

Table 1.
Soils Data Summary - Building 41 - North Basin IWTP (IWTP)
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)	SM36-SB-001 1 - 3 7/31/2007 (mg/kg)	SM36-SB-001 4 - 6 7/31/2007 (mg/kg)	SM36-SB-002 1 - 3 7/31/2007 (mg/kg)	SM36-SB-002 4 - 6 7/31/2007 (mg/kg)	SM36-SB-003 2 - 4 7/31/2007 (mg/kg)	SM36-SB-003 4 - 6 7/31/2007 (mg/kg)	SM36-SB-004 4 - 6 7/31/2007 (mg/kg)	SM36-SB-004 4 - 6 7/31/2007 (mg/kg)	SM36-SB-005 1 - 3 7/31/2007 (mg/kg)
Cyanide, Free													
Cyanide, Free	200	56000	190000	20000	0.62 U	0.59 U	0.58 U	0.62 U	0.61 U	0.61 U	0.62 U	0.62 U	0.59 U
Cyanide, Total													
Cyanide, Total	200	56000	190000		0.62 U	0.59 U	0.15 B	0.62 U	**0.12 B**	0.61 U	0.62 U	0.62 U	0.59 U
Hexavalent Chromium													
Hexavalent Chromium	190	420	190000	200	**0.29 B**	0.47 U	0.47 U	0.51 U	**1.2**	**1.2**	**0.29 B**	**0.36 B**	0.49 U
Mercury													
Mercury	10	840	190000	24	**0.049**	**0.026 B**	**0.019 B**	**0.047**	**0.073**	**0.045**	**0.039 B**	**0.047**	**0.02 B**
Metal													
Antimony	27	1100	190000	410	1.2 U	**0.11 B J**	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Arsenic	150	53	190000	1.6	**7.3 Z**	**4.3 Z**	**3.9 Z**	**6.6 Z**	**5.1 Z**	**2.9 Z**	**4.1 Z**	**3.1 Z**	**2.6 Z**
Barium	8200	190000	190000	190000	**54.4**	**36.6**	**66.5**	**66**	**57.7**	**46.9**	**52.5**	**60.6**	**45.5**
Beryllium	320	5600	190000	2000	**1.1 J**	**0.49 J**	**0.59 J**	**0.64 J**	**0.65 J**	**0.82 J**	**0.72 J**	**0.51 J**	**0.52 J**
Cadmium	38	210	190000	800	**0.13 B**	**0.064 B**	**0.59**	**0.5 B**	**2.8**	**0.42 B**	**0.73**	**0.49 B**	**0.59**
Chromium				1500000	**24.8**	**9.6**	**10.3**	**13.6**	**26.6**	**20.4**	**15.8**	**10.1**	**16**
Copper	36000	100000	190000	41000	**4.6**	**4**	**3.3**	**3.3**	**7.2**	**7.3**	**4.1**	**2 B**	**5.9**
Lead	450	1000	190000	800	**9.9 J**	**5.9 J**	**7.7 J**	**11.5 J**	**8.9 J**	**8.6 J**	**9.8 J**	**8.4 J**	**10.5 J**
Nickel	650	56000	190000	20000	**10.5**	**6**	**5.6**	**5.7**	**8.7**	**7.9**	**6.9**	**4.7 B**	**5.7**
Selenium	26	14000	190000	5100	**0.65**	**0.38 B**	**0.45 B**	**0.62 U**	**0.58 B**	**0.37 B**	**0.63**	**0.55 B**	0.59 U
Silver	84	14000	190000	5100	0.62 U	0.59 U	0.58 U	0.62 U	0.61 U	0.61 U	0.62 U	0.62 U	0.59 U
Thallium	14	200	190000	66	**2.1**	**0.78 B**	**0.51 B**	**1.1 B**	**0.94 B**	**0.99 B**	**1.2**	**0.66 B**	1.2 U
Vanadium	72000	20000	190000	5200	**25.8**	**13.9**	**15.8**	**24.1**	**20.2**	**27.1**	**23.1**	**21.6**	**32**
Zinc	12000	190000	190000	310000	**13.8**	**13.7**	**12.8**	**12.7**	**20.7**	**15.9**	**30**	**28.2**	**13.7**
SVOC													
1,2,4-Trichlorobenzene	27	10000	10000	400	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
1,2-Dichlorobenzene	60	10000	10000	10000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
1,3-Dichlorobenzene	61	10000	10000	3066	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
1,4-Dichlorobenzene	10	3300	190000	13	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2,4,5-Trichlorophenol	6100	190000	190000	62000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2,4,6-Trichlorophenol	8.9	840	190000	160	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2,4-Dichlorophenol	2	8400	190000	1800	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2,4-Dimethylphenol	200	10000	10000	12000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2,4-Dinitrophenol	4.1	5600	190000	1200	2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
2,4-Dinitrotoluene	0.84	260	190000	2044	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2,6-Dinitrotoluene	10	2800	190000	620	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2-Chloronaphthalene	18000	190000	190000	82000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2-Chlorophenol	4.4	920	1100	5100	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2-Methylnaphthalene	8000	10000	10000	4100	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2-Methylphenol	510	10000	10000	51100	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
2-Nitroaniline	0.58	160	190000	1800	2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
2-Nitrophenol	82	22000	190000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
3,3'-Dichlorobenzidine	32	180	190000	6.35911	2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
3/4-Methylphenol				5100	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
3-Nitroaniline	0.58	160	190000		2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
4,6-Dinitro-2-Methylphenol					2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
4-Bromophenyl phenyl ether					0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
4-Chloro-3-Methyl-Phenol	110	14000	190000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
4-Chloroaniline	52	11000	190000	4088	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
4-Chlorodiphenyl Ether					0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
4-Nitroaniline	0.58	160	190000	86	2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
4-Nitrophenol	6	22000	190000		2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
Acenaphthene	4700	170000	190000	33000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Acenaphthylene	6900	170000	190000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Anthracene	350	190000	190000	170000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Benzo (A) Anthracene	320	110	190000	2.1	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Benzo (a) Pyrene	46	11	190000	0.21	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Benzo (b) Fluoranthene	170	110	190000	2.1	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Benzo (g,h,i) Perylene	180	170000	190000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Benzo (k) Fluoranthene	610	1100	190000	21	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Bis(2-Chloroethoxy) Methane				1800	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Bis(2-Chloroethyl) Ether	0.055	5	5.7	0.9	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Bis(2-Chloroisopropyl) Ether	30	160	190		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Bis(2-Ethylhexyl) Phthalate	130	5700	10000	120	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Butylbenzylphthalate	10000	10000	10000	910	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Carbazole	83	4000	190000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Chrysene	230	11000	190000	210	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Dibenzo (a,h) Anthracene	160	11	190000	0.21	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Dibenzofuran					0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Diethylphthalate	500	10000	10000	490000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Dimethylphthalate					0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U

Table 1.
Soils Data Summary - Building 41 - North Basin IWTP (IWTP)
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)	SM36-SB-001 1 - 3 7/31/2007 (mg/kg)	SM36-SB-001 4 - 6 7/31/2007 (mg/kg)	SM36-SB-002 1 - 3 7/31/2007 (mg/kg)	SM36-SB-002 4 - 6 7/31/2007 (mg/kg)	SM36-SB-003 2 - 4 7/31/2007 (mg/kg)	SM36-SB-003 4 - 6 7/31/2007 (mg/kg)	SM36-SB-004 4 - 6 7/31/2007 (mg/kg)	SM36-SB-004 4 - 6 7/31/2007 (mg/kg)	SM36-SB-005 1 - 3 7/31/2007 (mg/kg)
Di-n-Butylphthalate	4100	10000	10000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Di-n-octylphthalate	10000	10000	10000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Fluoranthene	3200	110000	190000	22000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Fluorene	3800	110000	190000	22000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Hexachlorobenzene	0.96	50	190000	1.1	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Hexachlorobutadiene	1.2	560	10000	22	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Hexachlorocyclopentadiene	91	10000	10000	3700	2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
Hexachloroethane	0.56	2800	190000	120	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Indeno (1,2,3-cd) Pyrene	28000	110	190000	2.1	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Isophorone	10	10000	10000	1800	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Naphthalene	25	56000	190000	20	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Nitrobenzene	5.1	1400	10000	22	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
N-Nitrosodi-N-Propylamine	0.037	11	10000	0.25	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
N-Nitrosodiphenylamine	83	16000	190000	350	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Pentachlorophenol	5	660	190000	9	2 U	1.9 U	1.8 U	2 U	2 U	1.9 U	2 U	1.9 U	1.9 U
Phenanthrene	10000	190000	190000		0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Phenol	400	190000	190000	180000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Pyrene	2200	84000	190000	17000	0.4 U	0.39 U	0.38 U	0.41 U	0.41 U	0.4 U	0.41 U	0.4 U	0.39 U
Total Solids													
Percent Solids					**81%**	**84.20%**	**86%**	**81%**	**81.50%**	**82.30%**	**80.30%**	**81.30%**	**84.30%**
VOC													
1,1,1,2-Tetrachloroethane	18	3100	190000	9.8	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,1,1-Trichloroethane	20	10000	10000	39000	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,1,2,2-Tetrachloroethane	0.03	28	33	2.9	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,1,2-Trichloroethane	0.5	100	120	5.5	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,1-Dichloroethane	11	1000	1200	17	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,1-Dichloroethene	0.7	33	38		0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,2-Dibromoethane	0.005	0.93	8.6	0.17	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,2-Dichloroethane	0.5	63	73	2.2	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,2-Dichloropropane	0.5	160	180	4.7	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
1,4-Dioxane	2.4	210	240	160	1 U	0.99 U	0.93 U	0.94 U	1.1 U	0.97 U	1.1 U	1 U	0.98 U
2-Butanone	580	10000	10000	190000	0.02 U	0.02 U	0.019 U	0.019 U	0.021 U	0.019 U	0.021 U	0.021 U	0.02 U
2-Hexanone					0.02 U	0.02 U	0.019 U	0.019 U	0.021 U	0.019 U	0.021 U	0.021 U	0.02 U
4-Methyl-2-Pentanone	41	4300	4900	52000	0.02 U	0.02 U	0.019 U	0.019 U	0.021 U	0.019 U	0.021 U	0.021 U	0.02 U
Acetone	1000	10000	10000	610000	**0.022**	**0.0095 J**	0.019 U	0.019 U	0.021 U	0.0081 J	0.01 J	**0.011 J**	0.02 U
Acrylonitrile	0.27	24	28	1.2	0.1 U	0.099 U	0.093 U	0.094 U	0.11 U	0.097 U	0.11 U	0.1 U	0.098 U
Benzene	0.5	210	240	5.6	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Bromochloromethane	9	10000	10000		0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U

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Bromodichloromethane	10	45	51	1.4	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Bromoform	10	1500	1700	220	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Bromomethane	1	270	300	35	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Carbon Disulfide	410	10000	10000	3000	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Carbon Tetrachloride	0.5	110	120	1.3	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Chlorobenzene	10	10000	10000	1500	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Chlorodibromomethane	10	61	70		0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Chloroethane	90	10000	10000		0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Chloroform	10	17	19	1.5	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Chloromethane	0.3	920	1000	510	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
cis-1,2-Dichloroethene	7	1900	2100		**0.0012 J**	**0.0083**	**0.0025 J**	**0.0024 J**	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
cis-1,3-Dichloropropene	2.6	410	470		0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Ethylbenzene	70	10000	10000	29	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Methyl tert-butyl ether	2	3200	3700	190	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Methylene chloride	0.5	3500	4000	54	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Styrene	24	10000	10000	38000	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Tetrachloroethene	0.5	1500	3300	2.7	**0.0013 J**	**0.026**	0.0047 U	**0.0017 J**	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Toluene	100	10000	10000	46000	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
trans-1,2-Dichloroethene	10	3700	4300		0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
trans-1,3-Dichloropropene	2.6	410	470		0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Trichloroethene	0.5	970	1100	14	**0.0013 J**	**0.03**	0.0047 U	**0.0024 J**	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Vinyl Chloride	0.2	53	220	1.7	0.0051 U	0.0049 U	0.0047 U	0.0047 U	0.0053 U	0.0049 U	0.0054 U	0.0052 U	0.0049 U
Xylenes (Total)	1000	10000	10000	2600	0.015 U	0.015 U	0.014 U	0.014 U	0.016 U	0.015 U	0.016 U	0.016 U	0.015 U

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	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. Repor with the 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 certai low-toxicity chemicals, the screening levels exceed possible concentrations at the target risks.

NOTES:

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.

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Cyanide, Free											
Cyanide, Free	200	56000	190000	20000	0.59 U	0.62 U	0.6 U	0.59 U	**0.74**	**1.3**	0.6 U
Cyanide, Total											
Cyanide, Total	200	56000	190000		**0.24 B**	0.62 U	0.6 U	0.59 U	0.11 B	0.59 U	**0.15 B**
Hexavalent Chromium											
Hexavalent Chromium	190	420	190000	200	0.48 U	0.51 U	**0.25 B**	0.46 U	0.47 U	0.49 U	0.5 U
Mercury											
Mercury	10	840	190000	24	**0.028 B**	**0.093**	0.04 U	**0.027 B**	**0.025 B**	**0.063**	**0.029 B**
Metal											
Antimony	27	1100	190000	410	**0.2 B J**	1.2 U	1.2 U	**0.13 B J**	1.1 U	**0.11 B J**	1.2 U
Arsenic	150	53	190000	1.6	**2.5 Z**	**2.4 Z**	**2 Z**	**2.2 Z**	**1.5**	**2.7 Z**	**3.7 Z**
Barium	8200	190000	190000	190000	**47.2**	**66.7**	**60.5**	**78**	**64.4**	**78.4**	**87.4**
Beryllium	320	5600	190000	2000	**0.57 J**	**0.83 J**	**0.73 J**	**0.96 J**	**0.82 J**	**0.32 B J**	**0.9 J**
Cadmium	38	210	190000	800	**1.1**	**1.9**	**0.12 B**	**0.14 B**	0.57 U	**0.095 B**	**0.077 B**
Chromium				1500000	**13.1**	**16.1**	**16.6**	**9.9**	**7**	**9.4**	**8.4**
Copper	36000	100000	190000	41000	**6.3**	**6.3**	**7.2**	**4.1**	**2.7 B**	**1.5 B**	**2.1 B**
Lead	450	1000	190000	800	**10 J**	**9.8 J**	**9 J**	**10.9 J**	**10 J**	**11 J**	**13.2 J**
Nickel	650	56000	190000	20000	**6.9**	**6.7**	**7.3**	**3.1 B**	**2.8 B**	**2.8 B**	**3.1 B**
Selenium	26	14000	190000	5100	0.59 U	0.62 U	0.6 U	0.59 U	0.57 U	**0.41 B**	0.6 U
Silver	84	14000	190000	5100	0.59 U	0.62 U	0.6 U	0.59 U	0.57 U	0.59 U	0.6 U
Thallium	14	200	190000	66	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	**0.84 B**	**0.95 B**
Vanadium	72000	20000	190000	5200	**27.4**	**31.5**	**26.2**	**21.3**	**14**	**16.9**	**18.3**
Zinc	12000	190000	190000	310000	**22**	**14.7**	**17.1**	**13.6**	**10**	**10.6**	**23.1**
SVOC											
1,2,4-Trichlorobenzene	27	10000	10000	400	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
1,2-Dichlorobenzene	60	10000	10000	10000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
1,3-Dichlorobenzene	61	10000	10000	3066	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
1,4-Dichlorobenzene	10	3300	190000	13	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2,4,5-Trichlorophenol	6100	190000	190000	62000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2,4,6-Trichlorophenol	8.9	840	190000	160	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2,4-Dichlorophenol	2	8400	190000	1800	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2,4-Dimethylphenol	200	10000	10000	12000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2,4-Dinitrophenol	4.1	5600	190000	1200	1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
2,4-Dinitrotoluene	0.84	260	190000	2044	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2,6-Dinitrotoluene	10	2800	190000	620	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2-Chloronaphthalene	18000	190000	190000	82000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2-Chlorophenol	4.4	920	1100	5100	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2-Methylnaphthalene	8000	10000	10000	4100	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2-Methylphenol	510	10000	10000	51100	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
2-Nitroaniline	0.58	160	190000	1800	1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
2-Nitrophenol	82	22000	190000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
3,3'-Dichlorobenzidine	32	180	190000	6.35911	1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
3/4-Methylphenol				5100	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
3-Nitroaniline	0.58	160	190000		1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
4,6-Dinitro-2-Methylphenol					1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
4-Bromophenyl phenyl ether					0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
4-Chloro-3-Methyl-Phenol	110	14000	190000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
4-Chloroaniline	52	11000	190000	4088	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
4-Chlorodiphenyl Ether					0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
4-Nitroaniline	0.58	160	190000	86	1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
4-Nitrophenol	6	22000	190000		1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
Acenaphthene	4700	170000	190000	33000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Acenaphthylene	6900	170000	190000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Anthracene	350	190000	190000	170000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Benzo (A) Anthracene	320	110	190000	2.1	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Benzo (a) Pyrene	46	11	190000	0.21	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Benzo (b) Fluoranthene	170	110	190000	2.1	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Benzo (g,h,i) Perylene	180	170000	190000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Benzo (k) Fluoranthene	610	1100	190000	21	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Bis(2-Chloroethoxy) Methane				1800	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Bis(2-Chloroethyl) Ether	0.055	5	5.7	0.9	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Bis(2-Chloroisopropyl) Ether	30	160	190		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Bis(2-Ethylhexyl) Phthalate	130	5700	10000	120	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Butylbenzylphthalate	10000	10000	10000	910	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Carbazole	83	4000	190000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Chrysene	230	11000	190000	210	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Dibenzo (a,h) Anthracene	160	11	190000	0.21	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Dibenzofuran					0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Diethylphthalate	500	10000	10000	490000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Dimethylphthalate					0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U

Table 1.
Soils Data Summary - Building 41 - North Basin IWTP (IWTP)
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)	SM36-SB-005 2 - 4 7/31/2007 (mg/kg)	SM36-SB-006 2 - 4 7/31/2007 (mg/kg)	SM36-SB-006 4 - 6 7/31/2008 (mg/kg)	SM36-SB-007 1 - 3 7/31/2007 (mg/kg)	SM36-SB-007 4 - 6 7/31/2007 (mg/kg)	SM36-SB-008 1 - 3 7/31/2007 (mg/kg)	SM36-SB-008 4 - 6 7/31/2007 (mg/kg)
Di-n-Butylphthalate	4100	10000	10000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Di-n-octylphthalate	10000	10000	10000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Fluoranthene	3200	110000	190000	22000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Fluorene	3800	110000	190000	22000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Hexachlorobenzene	0.96	50	190000	1.1	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Hexachlorobutadiene	1.2	560	10000	22	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Hexachlorocyclopentadiene	91	10000	10000	3700	1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
Hexachloroethane	0.56	2800	190000	120	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Indeno (1,2,3-cd) Pyrene	28000	110	190000	2.1	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Isophorone	10	10000	10000	1800	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Naphthalene	25	56000	190000	20	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Nitrobenzene	5.1	1400	10000	22	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
N-Nitrosodi-N-Propylamine	0.037	11	10000	0.25	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
N-Nitrosodiphenylamine	83	16000	190000	350	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Pentachlorophenol	5	660	190000	9	1.9 U	2 U	1.9 U	1.9 U	1.8 U	1.9 U	1.9 U
Phenanthrene	10000	190000	190000		0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Phenol	400	190000	190000	180000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Pyrene	2200	84000	190000	17000	0.39 U	0.4 U	0.39 U	0.39 U	0.38 U	0.39 U	0.4 U
Total Solids											
Percent Solids					**84.60%**	**80.80%**	**83.20%**	**84.20%**	**87%**	**85%**	**82.80%**
VOC											
1,1,1,2-Tetrachloroethane	18	3100	190000	9.8	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,1,1-Trichloroethane	20	10000	10000	39000	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,1,2,2-Tetrachloroethane	0.03	28	33	2.9	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,1,2-Trichloroethane	0.5	100	120	5.5	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,1-Dichloroethane	11	1000	1200	17	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,1-Dichloroethene	0.7	33	38		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,2-Dibromoethane	0.005	0.93	8.6	0.17	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,2-Dichloroethane	0.5	63	73	2.2	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,2-Dichloropropane	0.5	160	180	4.7	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
1,4-Dioxane	2.4	210	240	160	0.97 U	1 U	1 U	0.95 U	0.93 U	1 U	1 U
2-Butanone	580	10000	10000	190000	0.019 U	0.021 U	0.02 U	0.019 U	0.019 U	0.02 U	0.02 U
2-Hexanone					0.019 U	0.021 U	0.02 U	0.019 U	0.019 U	0.02 U	0.02 U
4-Methyl-2-Pentanone	41	4300	4900	52000	0.019 U	0.021 U	0.02 U	0.019 U	0.019 U	0.02 U	0.02 U
Acetone	1000	10000	10000	610000	0.019 U	0.021 U	0.02 U	0.019 U	0.019 U	0.02 U	0.02 U
Acrylonitrile	0.27	24	28	1.2	0.097 U	0.1 U	0.1 U	0.095 U	0.093 U	0.1 U	0.1 U
Benzene	0.5	210	240	5.6	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Bromochloromethane	9	10000	10000		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U

Table 1.
Soils Data Summary - Building 41 - North Basin IWTP (IWTP)
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)	SM36-SB-005 2 - 4 7/31/2007 (mg/kg)	SM36-SB-006 2 - 4 7/31/2007 (mg/kg)	SM36-SB-006 4 - 6 7/31/2008 (mg/kg)	SM36-SB-007 1 - 3 7/31/2007 (mg/kg)	SM36-SB-007 4 - 6 7/31/2007 (mg/kg)	SM36-SB-008 1 - 3 7/31/2007 (mg/kg)	SM36-SB-008 4 - 6 7/31/2007 (mg/kg)
Bromodichloromethane	10	45	51	1.4	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Bromoform	10	1500	1700	220	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Bromomethane	1	270	300	35	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Carbon Disulfide	410	10000	10000	3000	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Carbon Tetrachloride	0.5	110	120	1.3	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Chlorobenzene	10	10000	10000	1500	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Chlorodibromomethane	10	61	70		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Chloroethane	90	10000	10000		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Chloroform	10	17	19	1.5	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Chloromethane	0.3	920	1000	510	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
cis-1,2-Dichloroethene	7	1900	2100		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	**0.0024 J**	**0.0079**
cis-1,3-Dichloropropene	2.6	410	470		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Ethylbenzene	70	10000	10000	29	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Methyl tert-butyl ether	2	3200	3700	190	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Methylene chloride	0.5	3500	4000	54	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Styrene	24	10000	10000	38000	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Tetrachloroethene	0.5	1500	3300	2.7	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	**0.0032 J**	**0.0049 J**
Toluene	100	10000	10000	46000	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
trans-1,2-Dichloroethene	10	3700	4300		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
trans-1,3-Dichloropropene	2.6	410	470		0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Trichloroethene	0.5	970	1100	14	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	**0.007**	**0.012**
Vinyl Chloride	0.2	53	220	1.7	0.0048 U	0.0051 U	0.005 U	0.0047 U	0.0047 U	0.005 U	0.0051 U
Xylenes (Total)	1000	10000	10000	2600	0.015 U	0.015 U	0.015 U	0.014 U	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 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	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
	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:

RBCs - Risk Based Concentrations from:
United States Environmental Protection Agency (
MSCs - Medium Specific Concentrations from:
Pennsylvania Department of Environmental Prote
1 - EPA has indicated that for certain low-toxicity che

APPENDIX A

Photographs

Photo 1 – North Settling Basin prior to closure activities. View facing east.

Photo 2 – View of North Settling Basin empty of wastewater, facing east.

Photo 3 – Cleaning tank and removal of equipment (by others) prior to subsurface investigations. View facing east.

Photo 4 – Possible crack in the southeast corner of basin, where a boring was later placed in the floor.

Photo 5 – Possible crack in wall along the south side of the basin, where another boring was placed.

Photo 6 – View of boring locations in the east end of the north basin.

Photo 7 – View of boring locations in the west end of the north basin.

Photo 8 – View of concrete thickness at each of the eight boring locations.

Photo 9 – View of new Lamella clarifiers installed in the north basin after closure. View facing northeast.

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).

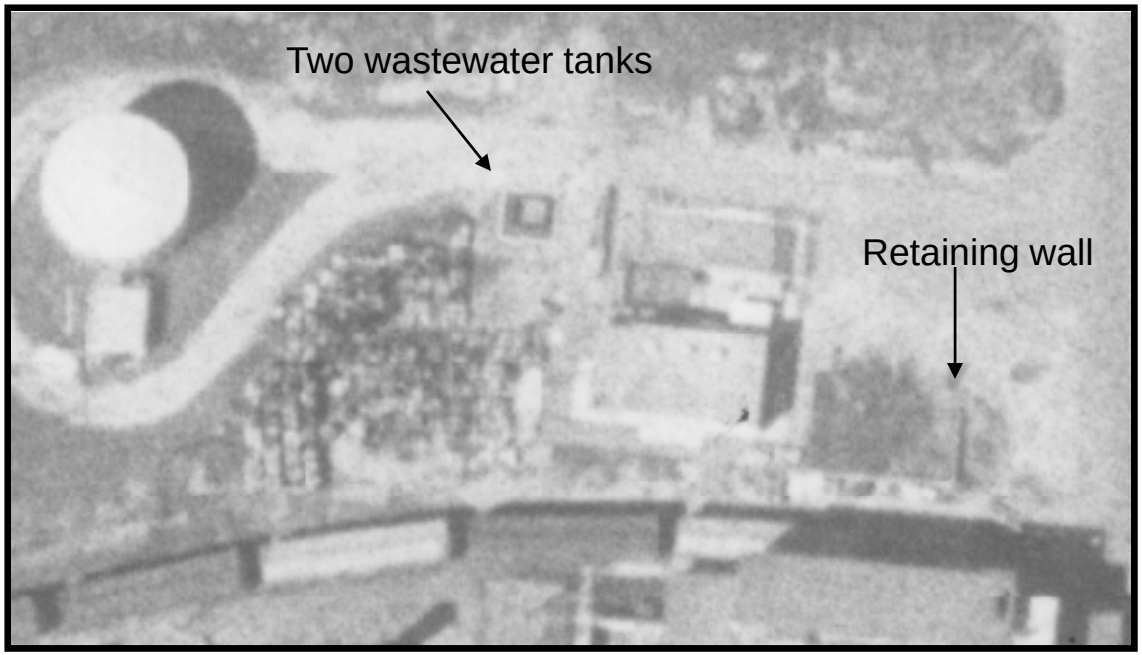

Photo 2 - August 11, 1971 Aerial Photo (north orientation). The active railroad track and Building 10 are visible to the south of Building 41 (at center). A retaining wall is visible to the east of Building 41; and a fire water tank and pump house are visible to the west of Building 41. Two main wastewater 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

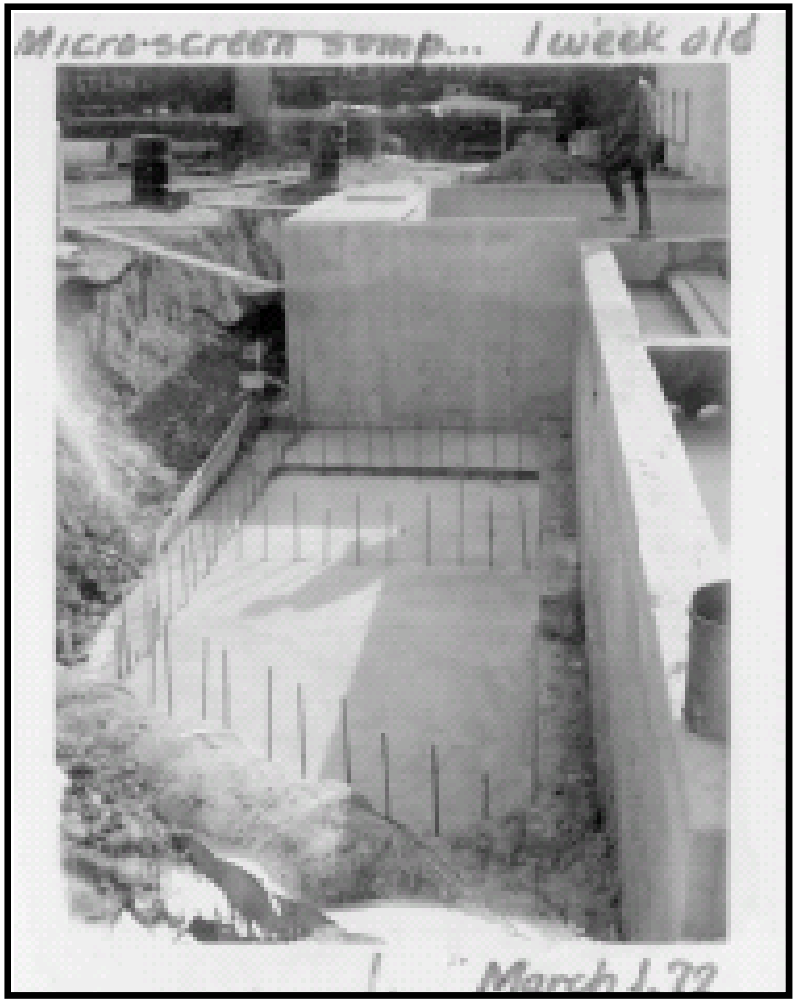

Photo 11 – March 4, 1972 photo. View looking south from northeast corner of new settling basins.

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.

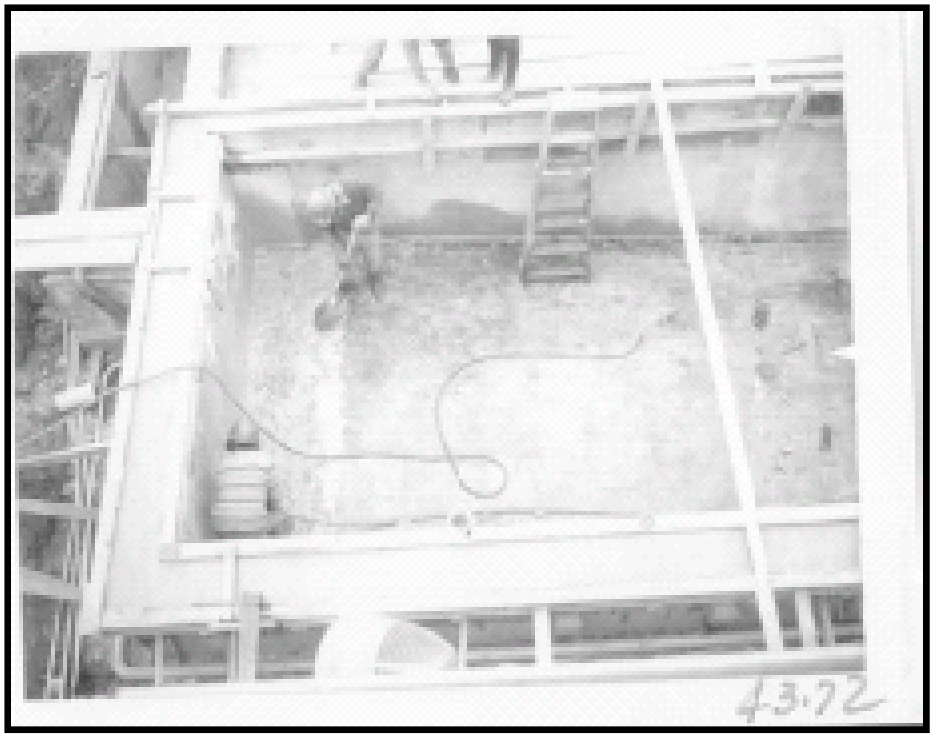

Photo 14 - April 3, 1972 photo. View looking north from WWTP roof at west side of new Flocculation tank.

Historical Photograph Summary

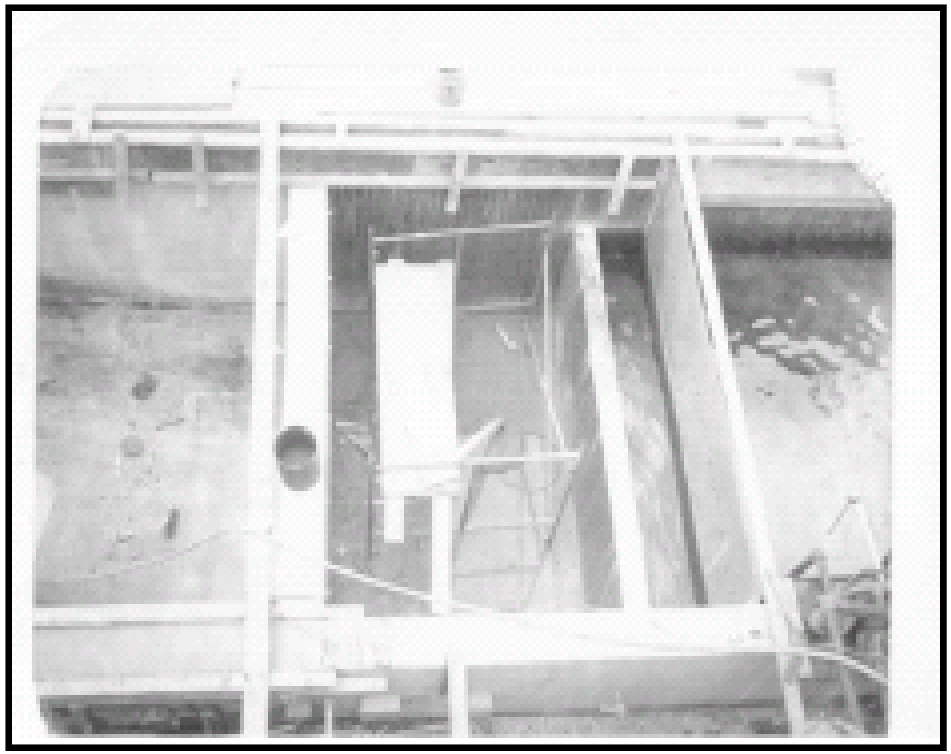

Photo 15 – View looking north from WWTP roof at new Precipitation tank.

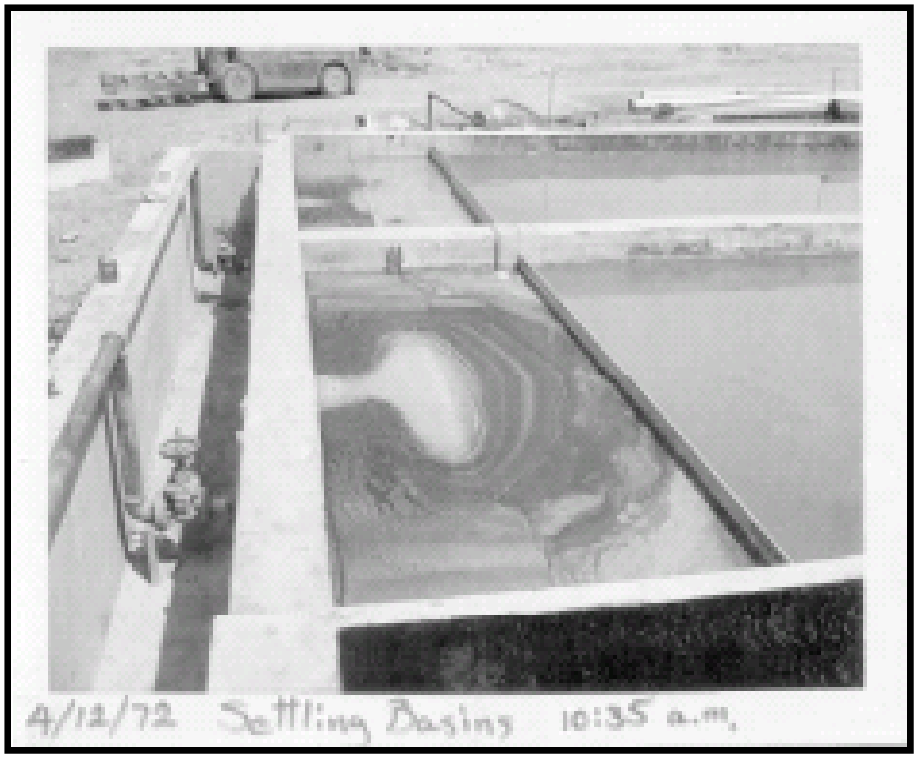

Photo 16 - April 12, 1972 photo. View looking north at west side of new settling basins.

Historical Photograph Summary

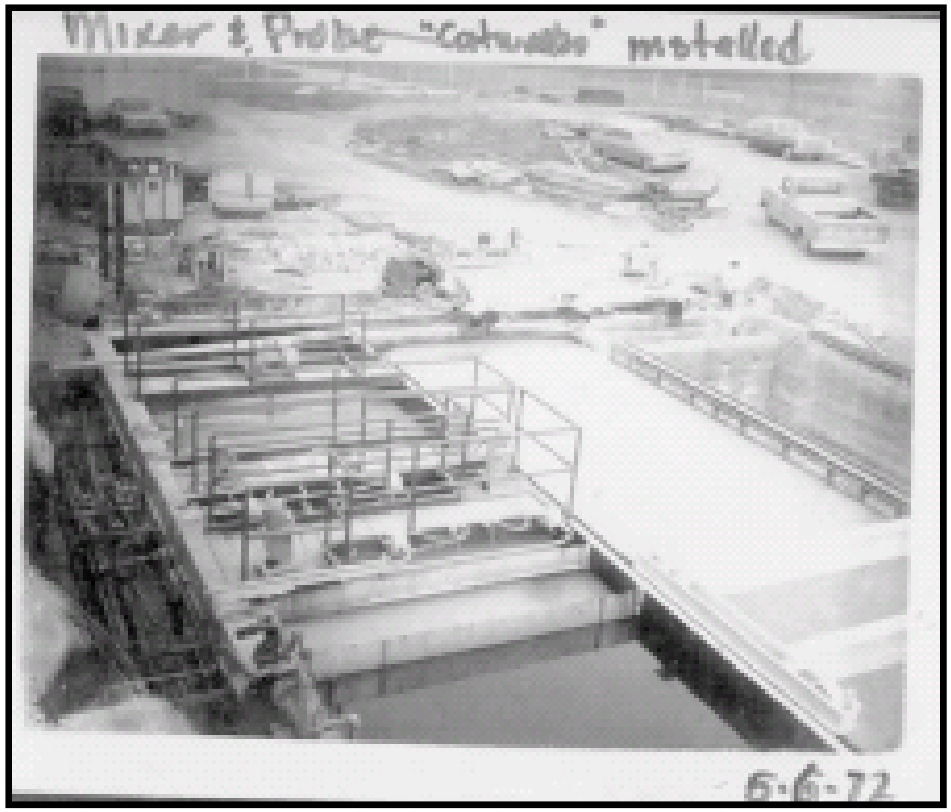

Photo 17 – May 6, 1972 photo. View looking northwest from WWTP roof at new Precipitation and Flocculation tanks and equipment installation. North settling tank was empty.

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.

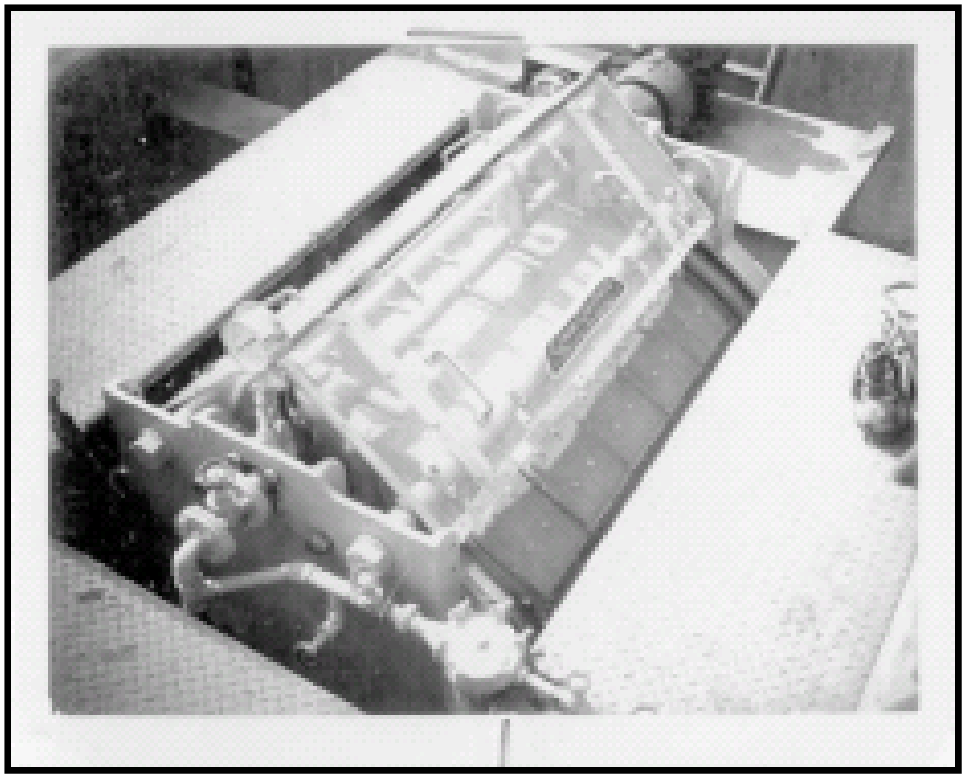

Photo 20 - Close-up of former micro screen equipment .

Historical Photograph Summary

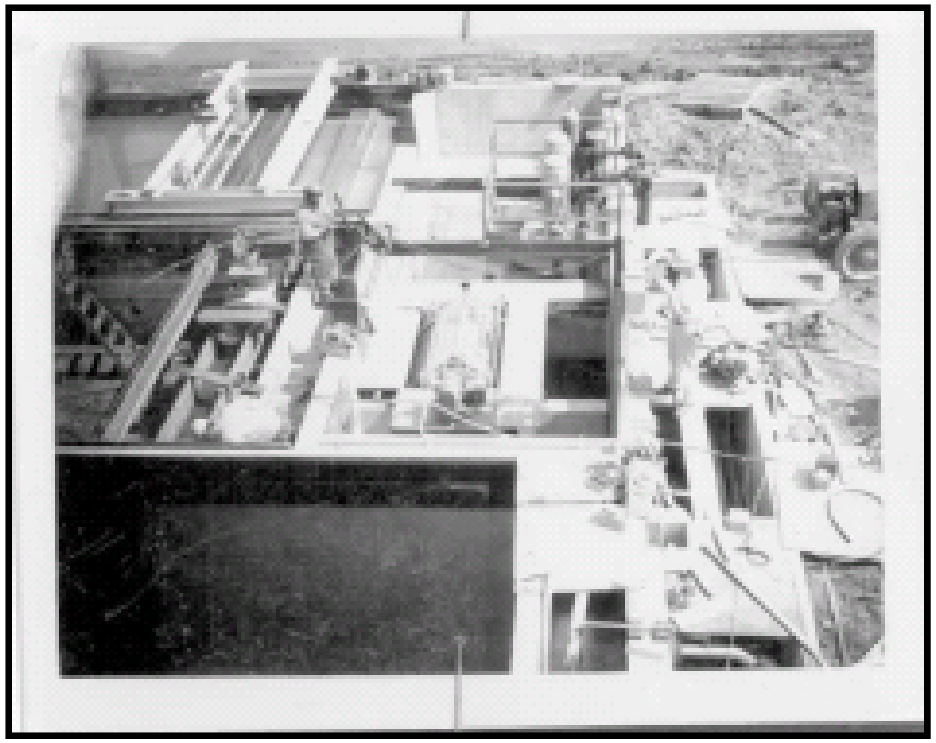

Photo 21 – Undated photo. View looking north from WWTP roof at new Microscreen installation. Pipe trench is present along east side of tanks and is partially covered and north settling basin is full.

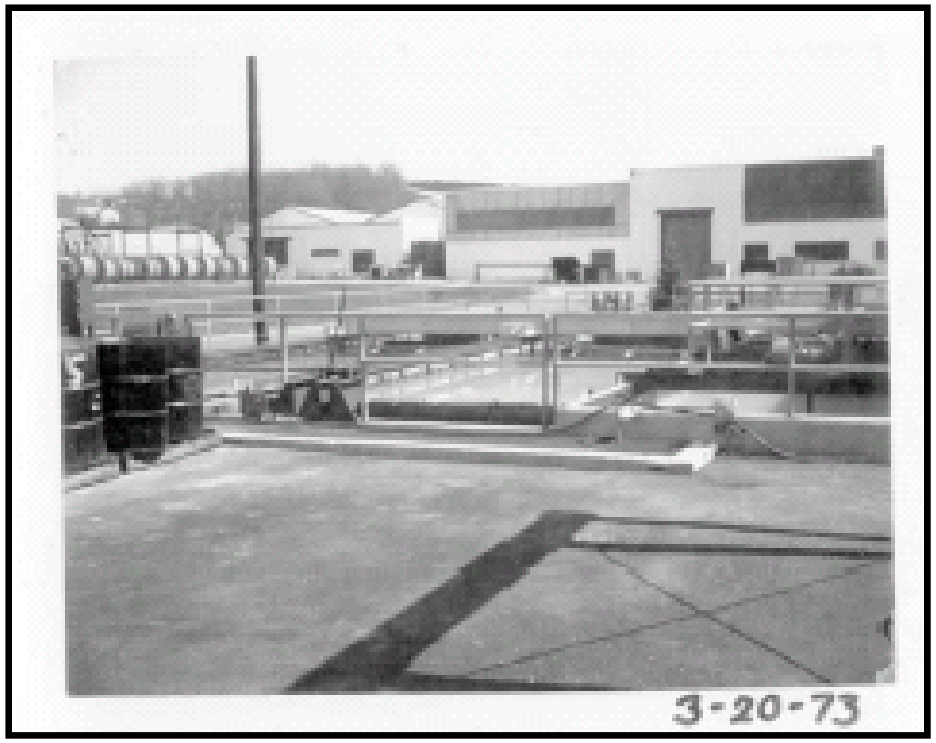

Photo 22 - March 20, 1973 photo. View looking east to northeast from west side of new settling basins. Asphalt pavement is present around tanks.

Historical Photograph Summary

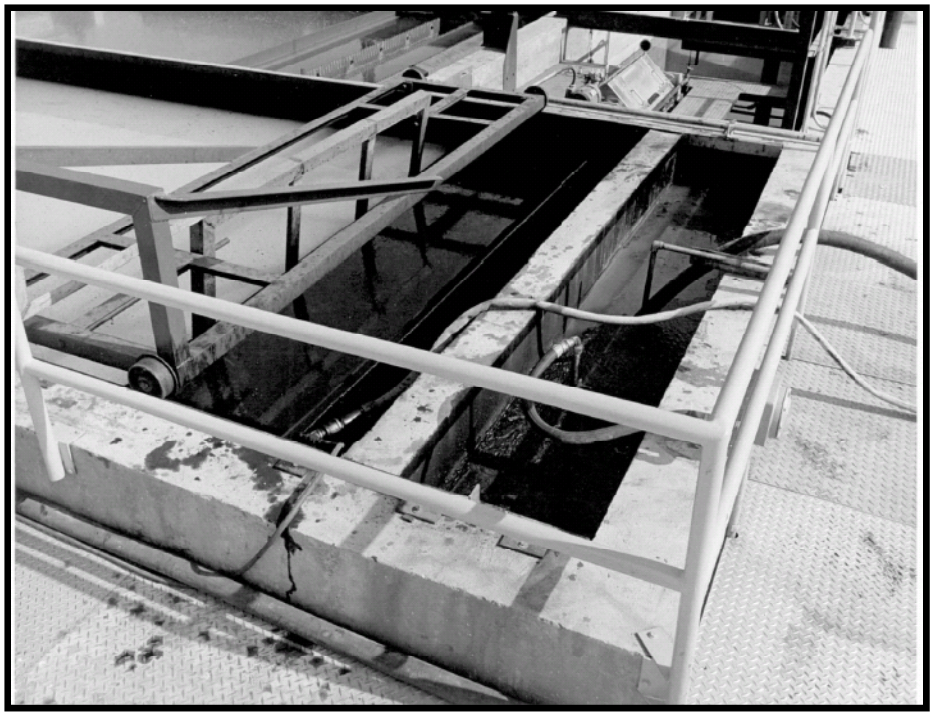

Photo 23 – View of southeast corner of new EQ tank in operation (no date). Metal plates are present over pipe trench on the right side.

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

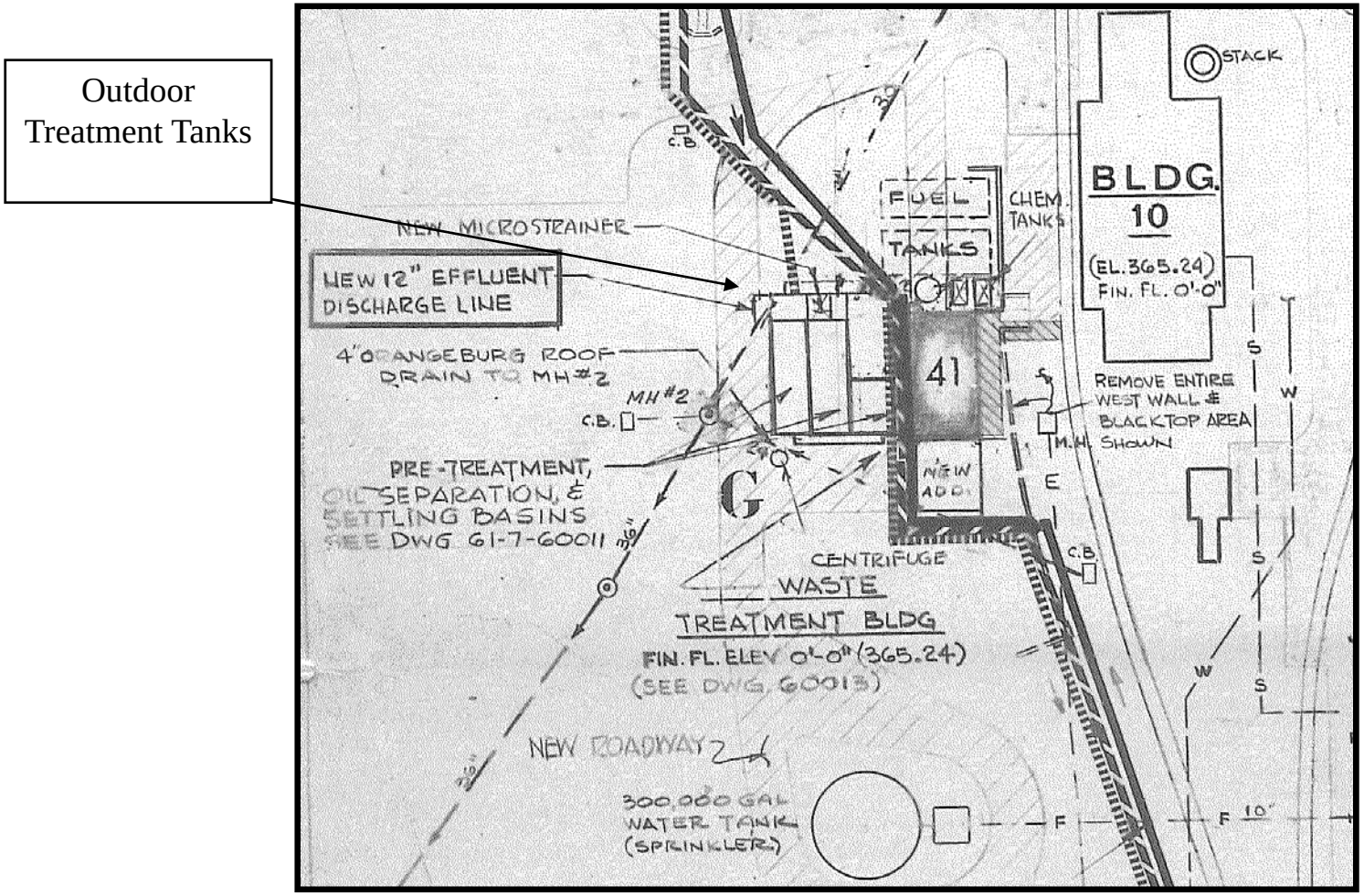

Figure 1 – December 5, 1967 AMF drawing No. 61-7-60000 (Proposed New Waste Treatment Building 41 - east orientation). Note location of original Building 41 structure and outdoor treatment tanks. Sumps located on the northeast and northwest corners of the building connected to piping from Building 2 & 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

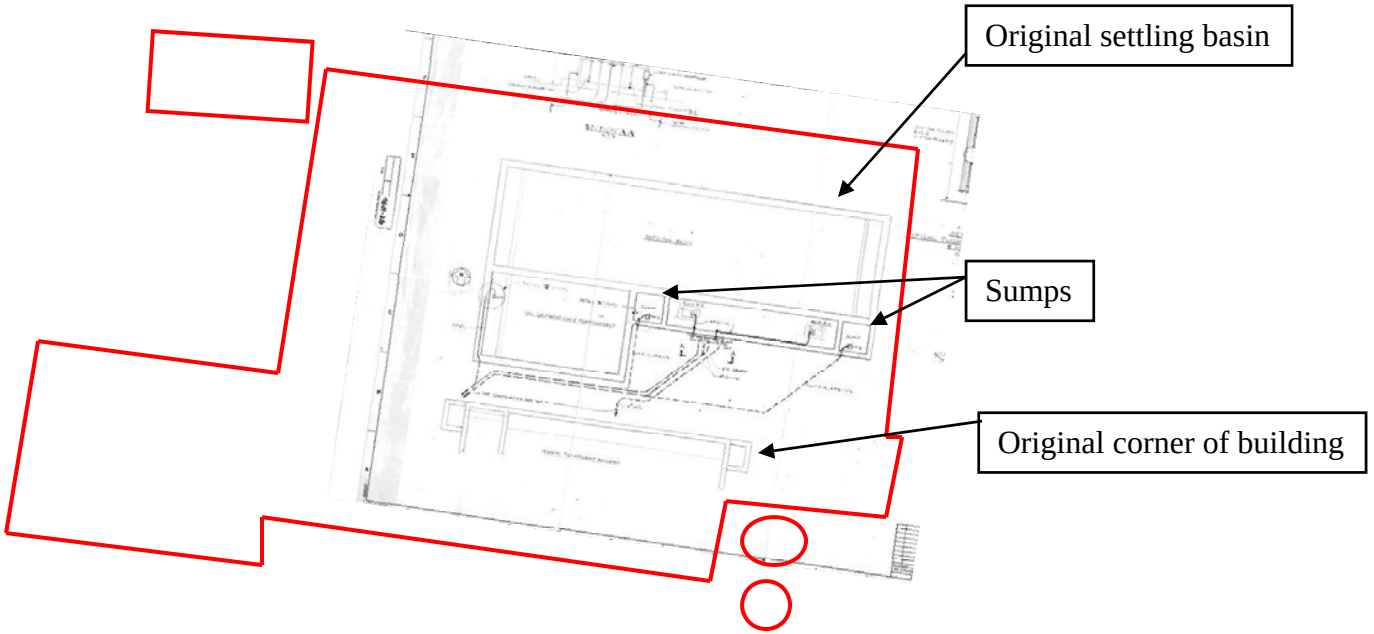

Figure 2 – August 2, 1968 drawing with current WWTP outline shown in red. Note location of original lone settling basin, sumps, and northern corners of original WWTP Building.

Historical Drawings

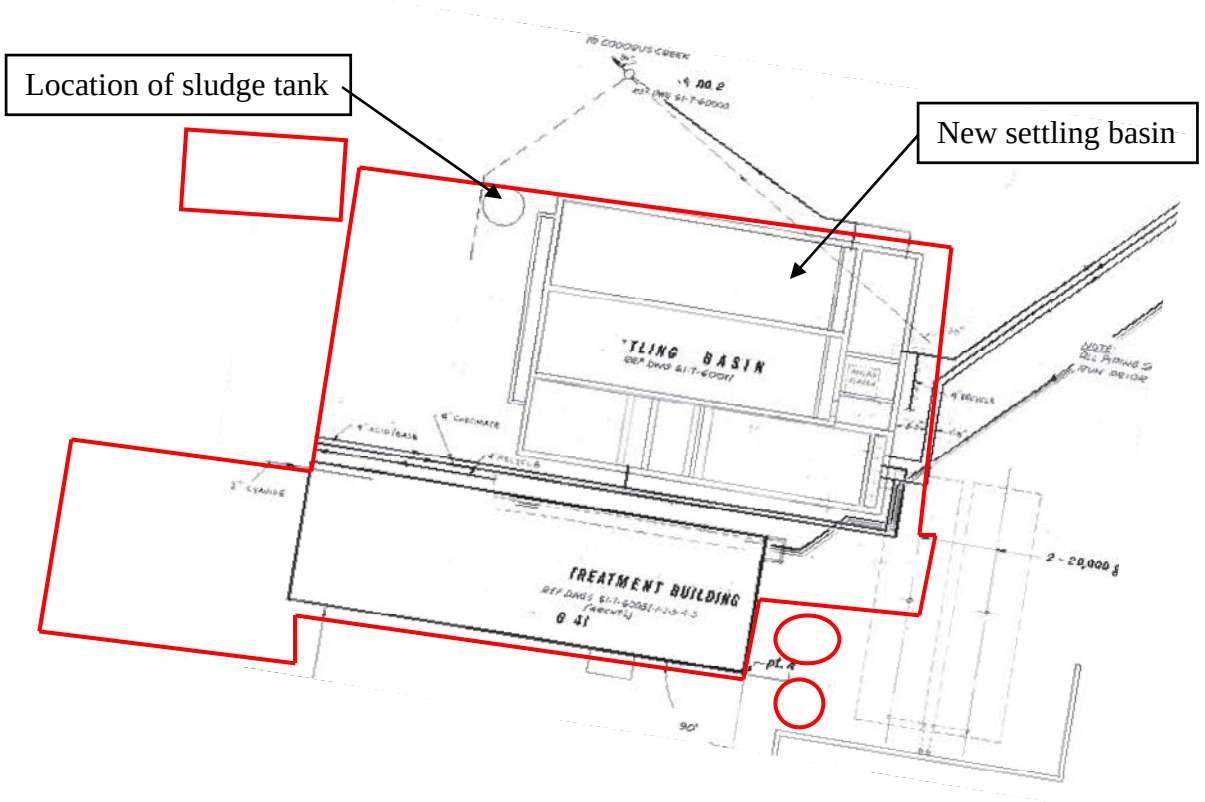

Figure 3 – (1972?) drawing with outline of current WWTP shown in red. Note planned locations of settling basins; pipes from Bldgs 2 (east) & 4 (west); and location of sludge tank (W of North settling basin).

Historical Drawings

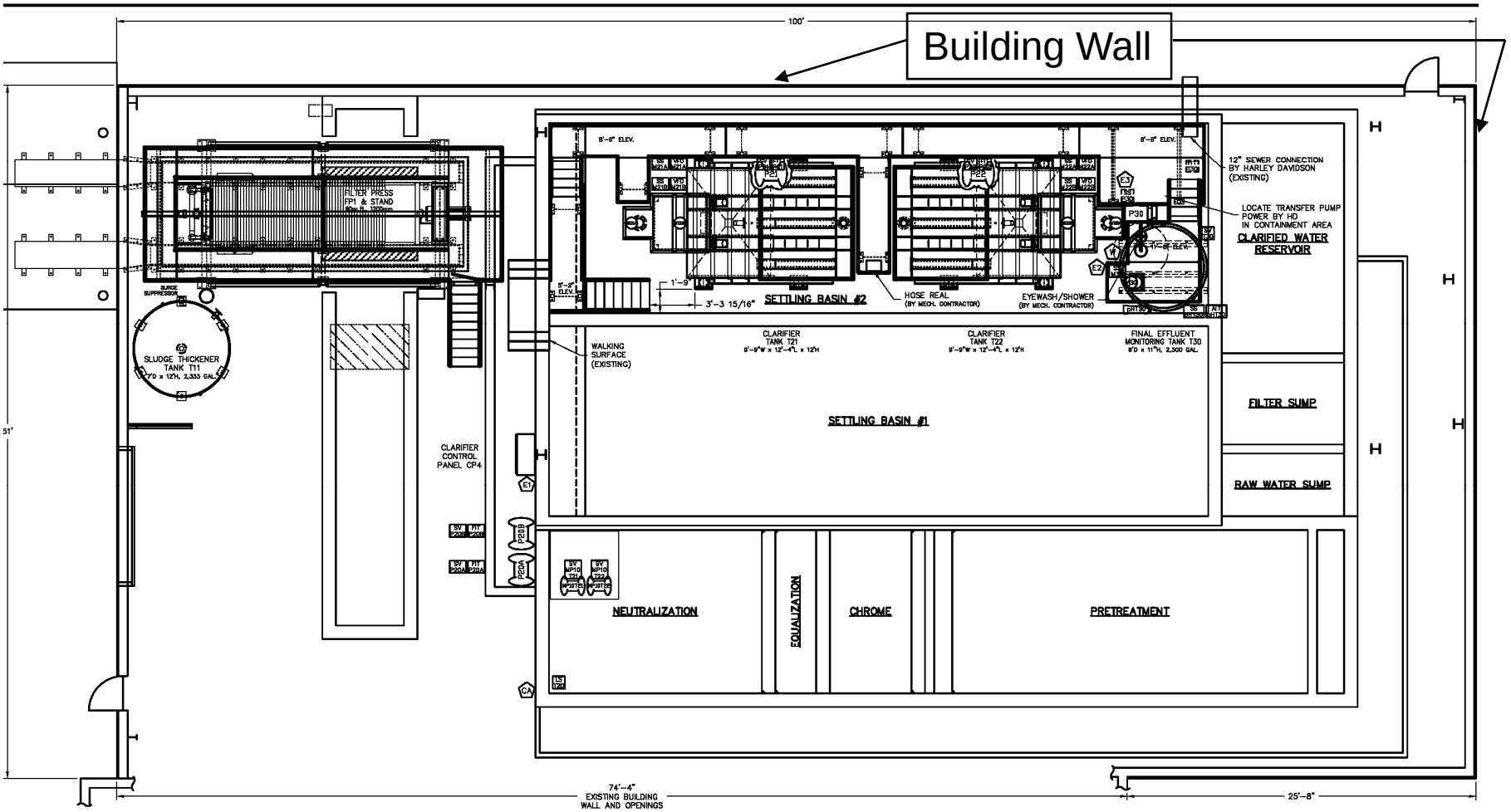

Figure 4 – June 20, 2007 proposed (existing) layout [J. Mark Systems] showing Bldg 41 wastewater tank area only. Note proposed use of northern settling basin with a new lamella clarifier; new location of sludge filter press (indoors); and existing sludge pit (west of settling basins). Building walls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

APPENDIX C

Soil Boring Logs

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SOIL BORING LOG

Client: HARLEY, DAVIDSON
Project No.: N. SETTLING BASIN CHAR

Boring/Well No.: SM36-0001 T.O.C. Elev.:
Location: BLDG 41
Surface Elevation:

Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0			CONCRETE					
1			GRAVEL SUB-BASE					
2		2.2/3	ML-CL SILTY CLAY DAMP TO DRY LEAN, YELLOWISH BROWN (10YR 5/8) WITH GRAY (10YR 6/1) DEPLETIONS AND RED (2.5 YR 5/8) ACCUMULATIONS	Ø Ø				COLLECTED SAMPLE FROM 2-3' BGS @ 0845
3				Ø				
4		3/3		Ø Ø				
5				Ø				COLLECTED SAMPLE HO-SM36-0001-06-00 @ 0900
6			END OF BORING					

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: Harlan - Davidson, Yonk
Project No.: N. Settling Basin Cmpl

Boring/Well No.: SM36-0002 T.O.C. Elev.:
Location: Bldg 41
Surface Elevation:
Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0								
			CONCRETE					
1			SUB-BASE GRAVEL					
		1.5/3						
2			ML-CL SILTY CLAY, LEAN W/ 20% GRAVEL MOIST TO V. MOIST FEW DEPLETIONS (GRAY) FINE (10YR 6/1)	Ø				SAMPLED 2'-3' BGS HD-SM36-SB-0002-03-0 @ 1135
3				Ø				
		3/3	MATRIX IS STRONG BROWN (7.5YR 4/6)	Ø				
4				Ø				
			FREE WATER BLEW SLEEVE					
5			MAY HAVE LEAKED OUT OF STONE FROM CORING	3.2				SAMPLED 5'-6' BGS HD-SM36-SB-0002-06-0 @ 1145
				Ø.4				
6			END OF BORING					

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: Harley-Davidson, York
Project No.: N. Settling Basin Cover.

Boring/Well No.: SM36-003 T.O.C. Elev.:
Location: Bldg 41
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0								
			CONCRETE					
1		0/3	SUB-BASE GRAVEL					
2			ML-CL, SILTY CLAY YELLOWISH-BROWN (10YR 5/6)	0				
3			FEW FINE CAVITIES GRAY (10YR 6/1)	0				COLLECTED SAMPLE ID-SM36-SB-003-04-0 @1225
		3/3	10% GRAVELS	0				
4				6				
5				0				COLLECTED SAMPLE ID-SM36-003-06-0 @1235
6								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: Harley - Davidson York
Project No.: N. Settling Basin

Boring/Well No.: SM36-0004 T.O.C. Elev.:
Location: Bldg 41
Surface Elevation:
Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0								
			CONCRETE					
1			SUBGRADE GRAVEL					COLLECTED SAMPLE HD-SM36-SB-0004-06-0 FROM 5'-6' BGS @ 1435, MATCHED ROO ON DUPLICATE SAMPLE (HD-SM36-SB-0004-06-1) ALSO COLLECTED FROM 5'-6' BGS
		0/3	ML-CL SILTY CLAY, 15% FINE GRAVELS, STRONG BROWN (7.5Y 5/8)	0				
2								
				0				
3								
			SOME OXIDATION	0				
			GRAY (10YR 6/1)					
4		1.8/3		0				
5				0				
6			END OF BORING					

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: Harley-Davidson, York
Project No.: N. Settling Basin Grade.

Boring/Well No.: SM36-0005 T.O.C. Elev.:
Location: Bldg 41
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0								
			CONCRETE					
1			SUB-BASE GRAVEL					
2			ML-SL SILTY CLAY, LOAM DAMP, STRONG BROWN (10YR 5/8), MANY DEPLETIONS, GRAY (10YR 6/1) AND Fe ACCUMULATIONS RED (2.5YR 5/8)	Ø				COLLECTED SAMPLE HA-SM36-SB-0005-03-0 @ 1345
3				Ø				COLLECTED SAMPLE HA-SM36-SB-0005-04-0 @ 1400
4				Ø				
			REFUSAL @ 4.2' BGS					
5								
6								

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: Hanley – Dawson, York
Project No.: N. SETTLING BASIN

Boring/Well No.: SM36-0006 T.O.C. Elev.:
Location: BLDG 41
Surface Elevation:
Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0								
			CONCRETE					
			SUB-BASE GRAVEL					
1								
			ML-CL LEAN SILTY CLAY, DAMP GLEY, GRAY (10YR 6/1) GRADING TO	Ø				
2		0.2/3						
3				Ø				COLLECTED SAMPLE HD-SM36-SS-0006-04-0 @ 1305
		3/3	10% GRAVELS MANY FINE DEPLETIONS GRAY AND ACCUMULATIONS OF Fe (RED 2.5Y 5/5 AND	Ø				
4								
5				Ø				COLLECTED SAMPLE HD-SM36-SS-0006-06-0 @ 1315
6			END OF BORING					

Driller:	Well Casing: Dia. To	Seal Type: Quantity:	
Drilling Type/Size:	Casing Type:	Filter Pack Type: Quantity:	
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: Harvey - Davidson
Project No.: N. Settling Basin Char.

Boring/Well No.: SM36-0007 T.O.C. Elev.:
Location: Bldg. 41
Surface Elevation:

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0								
			CONCRETE					
1			SUB-BASE GRAVEL					
			ML-CL SILTY CLAY LOAM, DRY, LT. GRAY (2.5Y 7/2) FOR N 0.2' GRADING TO BROWNISH YELLOW (10YR 6/6) WITH COMMON, MEDIUM DEPLETIONS, GRAY (10YR 6/1)	Ø				COLLECTED SAMPLE HO-SM36-SB-0007-03-Ø @ 1025
2				Ø				
3				Ø				
4			SAME AS ABOVE 100% GRAVEL, MOIST W/ DEPLETIONS (GRAY) AND ACCUMULATIONS OF Fe (RED 2.5YR 5/8)	Ø				COLLECTED SAMPLE # HO-SM36-SB-0007-06-Ø @ 1040
5								
6			END OF BORING					

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

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SOIL BORING LOG

Client: Hanson - Davidson · Yann
Project No.: N. Settling Basin

Boring/Well No.: SM36-008B T.O.C. Elev.:
Location: Bldg 41
Surface Elevation:
Page 1 of 1

Depth Feet	Blow Counts	Recovery (ft/ft)	Overburden/Lithologic Description	Sample ID/ OVA Screen	Graphic Log	Well Construction Graphic	Depth Feet	Well Construction Details
0			CONCRETE					
1		2/3	SUB-BASE GRAVEL ML-CL SILTY CLAY, LOAM DAMP TO MOIST YELLOWISH BROWN (10YR 4/6) WITH COMMON FINE	Ø				
2			DEPOSITIONS (GRAY 10YR 6/1) SOME	Ø				COLLECTED SAMPLE NO-SM36-008-03-0 @ 0945
3		3/3	FINE ACCUMULATIONS BROWN (10YR 5/8)	Ø				
4				Ø				
5			SAME AS ABOVE, LESS DEPOSITIONS AND COMMON TO MANY MN ACCUMULATIONS FINE DK YELLOWISH BROWN (10YR 3/6)	Ø				COLLECTED SAMPLE NO-SM36-008-06-0 @ 0955
6			END OF BORING					

Driller:	Well Casing: Dia. To	Seal Type:	Quantity:
Drilling Type/Size:	Casing Type:	Filter Pack Type:	Quantity:
Logged By:	Well Screen: Dia. To	Static Water Level:	
Drilling Started:	Screen Type:	Date/Time: 07/31/07	
Drilling Completed:	Slot Size:	Notes:	
Well Construction:	Grout Type: Quantity:		
Blown/Bailed Yield:			

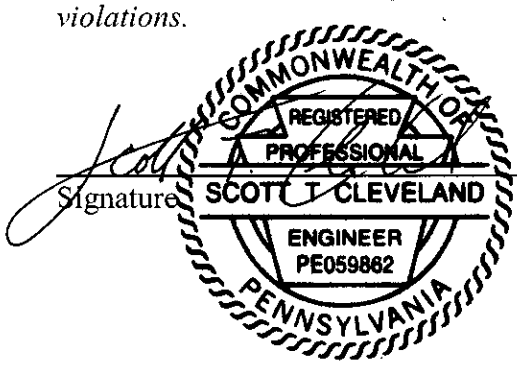
APPENDIX D

Closure Certification

CERTIFICATION

This certification of closure is based on information provided by the owner/operator of the waste tank system and sampling program results.

I certify under penalty of law that this document and all attachments were reviewed by me to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Signature

12/30/09

Date