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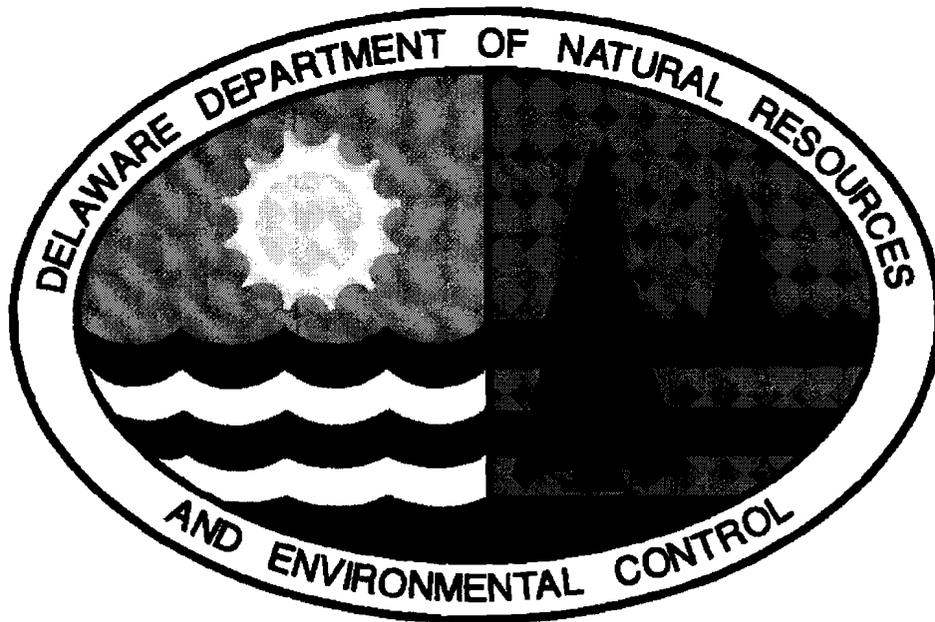
FINAL PLAN OF REMEDIAL ACTION

FOR THE

AMTRAK CNOC FACILITY

15 Poplar Street

Wilmington, Delaware



April, 1997

DNREC Project DE-1084

Prepared by:

Delaware Department of Natural Resources & Environmental Control

Division of Air and Waste Management

Site Investigation & Restoration Branch

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AMTRAK CENTRALIZED NATIONAL OPERATIONS CENTER (CNOC) FINAL PLAN OF REMEDIAL ACTION

I. INTRODUCTION

The Department of Natural Resources and Environmental Control (“DNREC” or “Department”) issues this Final Plan of Remedial Action under the authority granted by the Hazardous Substance Cleanup Act (“HSCA”) (7 Del. C., Ch. 91) and the Delaware Regulations Governing Hazardous Substance Cleanup (“Regulations”). The Final Plan presents the Department’s final selection of remedial activities to occur at the Amtrak Centralized National Operations Center (CNOC) site, located at 15 Poplar Street, Wilmington, Delaware (Figures 1 and 2).

II. BACKGROUND

In March 1997, Riverfront Development Realty Company of Delaware, entered into an agreement with the Department of Natural Resources and Environmental Control (“DNREC” or “Department”) under the authority granted by the Hazardous Substance Cleanup Act (7 Del. C., Ch. 91) (“HSCA”) to conduct a Voluntary Cleanup Program (“VCP”) Focused Feasibility Study (“FFS”), Remedial Design (“RD”) and Remedial Action (“RA”) at their property located at 15 Poplar Street, Wilmington, Delaware (Tax Parcel 26-043.00-019) (the “Site” or “Property”) and to perform remedial actions as necessary to protect public health, welfare and the environment.

The purpose of the FFS, RD and RA is to evaluate the nature and extent of contamination at the Site, evaluate risks to the public and the environment associated with identified contamination, to develop remedial alternatives for the Site, and to implement the selected remedial alternative that will be protective of public health and the environment. The selected remedial action will be incorporated into the planned renovation of the facility and construction of the Amtrak Centralized National Operations Center (“CNOC”).

The site is located at 15 Poplar Street, southwest of the intersection of Poplar Street and Front Street and south of the Amtrak rail line. The 1.87± acre property, roughly rectangular in shape, is found on the United States Geological Survey (“USGS”) Wilmington South Quadrangle Topographic Map (7.5 minute series) at Latitude 39°44’08” and Longitude 75°32’02” (Figures 1 and 2).

The site is bordered to the south by the Christina River, to the west by a telecommunications relay station, to the east by a commercial/industrial complex and to the north by an elevated Amtrak rail line. The site is located within a region targeted for selective historic, commercial, environmental and economic revitalization by the Governor’s Task Force on the Future of the Brandywine and Christina Rivers.

The property was formerly part of the historic Pusey and Jones Shipyard, and most recently owned by the Wilco Plumbing and Heating Company, a wholesale and retail plumbing supply distributor. The property was previously occupied by a number of machine shops, forge shops and boiler shops related to the shipyard from approximately 1884 to 1936.

III. RESULTS OF INVESTIGATION

In December 1995, a Brownfield Preliminary Assessment II ("BPA II") was conducted by DNREC Site Investigation and Restoration Branch ("SIRB") at the former Pusey and Jones Shipyard site. This study area included the Wilco Plumbing and Heating property. During this investigation, two (2) test pits were excavated at the property and a total of five (5) soil samples were collected for field screening and analysis. As a result of field screening, two (2) soil samples were submitted to a DNREC approved laboratory for confirmatory analysis.

In addition, one groundwater monitoring well was constructed on the Wilco property and one groundwater sample was collected for laboratory analysis.

In July 1996, SIRB conducted a second BPA II at the Wilco property in support of state and local efforts to encourage Amtrak to relocate their Operations Center to Wilmington. The investigation included the excavation of five test pits and the collection of twenty (20) shallow and deep soil samples (Figure 3).

Following field screening, a total of six (6) soil samples were sent to the laboratory for confirmatory analysis.

Soil samples taken during the sampling events were field screened in the SIRB mobile laboratory to determine which samples should be sent to the DNREC Environmental Services laboratory for analysis. Each sample was analyzed for polychlorinated biphenyls ("PCBs") and polyaromatic hydrocarbons ("PAHs") using Omicron Immunoassay test kits. Gas Chromatography/ Mass Spectroscopy ("GC/MS") was performed on all samples using a Bruker instrument for the analysis of pesticides, volatile organic compounds ("VOCs") and semivolatile organic compounds ("SVOCs"). Metals analysis was performed using the DNREC mobile lab's X-Ray Fluorescence ("XRF") instrument.

As a result of the field screening, a total of eight (8) soil samples from the two investigations were selected for submission to the laboratory. The samples were analyzed for all or part of the USEPA Target Analyte List ("TAL") and Target Compound List ("TCL").

The data generated during the two investigations indicated that soils at the property have been impacted by historic operations at the site, including the deposition of fill materials. Fill materials observed at the site included miscellaneous debris consisting of brick, wood, scrap metal, ash, slag, foundry sands and slags, and rock.

The laboratory analytical results are shown in Table 1. The results of analysis indicated the following contaminants exceeded DNREC screening levels ("screening levels") or EPA Region III Risk-Based Concentrations ("RBC"):

Surface Soil

Lead was detected above the screening level for industrial soil of 1000 mg/kg in two soil samples. The

highest concentration detected was 1836 mg/Kg by X-ray Fluorescence (1520 mg/kg by lab analysis)) in TP-7A.

Polycyclic aromatic hydrocarbons ("PAHs") were detected above screening levels in four soil samples analyzed in the DNREC laboratory. The highest concentrations (5.1 mg/kg) were found at sampling location TP-6B.

Polychlorinated Biphenyls ("PCBs") were detected slightly above the screening level of 0.74 mg/kg in one soil sample (TP-7A).

Groundwater

Analytical results for both filtered and unfiltered samples collected from the on-site groundwater monitoring well during the Pusey and Jones BPA II showed levels of iron and manganese which exceeded RBC. It was not determined if the levels of manganese and iron were related to the site or a result of natural conditions.

Volatile and semi-volatile organics and PCBs were not detected in the monitoring well samples above practical quantitation levels. (Table 2).

V. REMEDIAL ACTION OBJECTIVES

According to 8.4(1) of the Regulations, during a remedial investigation, remedial action objectives must be established. The Department establishes remedial action objectives considering land use, resource use and cleanup levels that are protective of human health and the environment. The following objectives were determined to be appropriate for the site:

- Prevent contact with soil that has a lead concentration greater than 1,000 mg/Kg.
- Prevent contact with soil that has a benzo(a)pyrene concentration greater than 0.78 mg/Kg.
- Prevent contact with soil that has a PCB concentration greater than 0.74 mg/Kg.
- Prevent ingestion of shallow groundwater that has an iron concentration greater than 11,000 ug/L and/or a manganese concentration greater than 180 ug/L.

These objectives are consistent with the current and future use of the property, the surrounding land use, the City of Wilmington zoning policies, state and federal regulations and community safety.

VI. PROPOSED PLAN AND PUBLIC PARTICIPATION

The Department provided public notice of its Proposed Plan of Remedial Action for the Amtrak CNOC site in The News Journal and Delaware State News on March 22, 1997. The Department's preferred remedy conveyed in the Proposed Plan is:

Permanent Capping, Deed Restriction, Groundwater Management Zone (GMZ): This remedy consists of renovating the existing building on the site and regrading and repaving the existing parking lot. Soil excavation, associated with foundation and utility construction, will be minimized. Contingency plans have been developed in the Focused Feasibility Study for the determination and handling of excavated soils that may be contaminated in excess of DNREC and/or EPA levels and which can not be replaced under a building foundation or under the asphalt parking lot. These soils shall be disposed of at a DNREC approved disposal facility.

The property owner will deed restrict the property limiting the use of the property to commercial/industrial purposes only. A statement will be included in the deed restriction requiring prior DNREC approval for any excavation activities following the remediation.

DNREC will place a Groundwater Management Zone on the property to prohibit the use of shallow groundwater at the site.

During the comment period, the Department received no comments on the Proposed Plan.

VII. FURTHER ACTION

Based upon the information and results of the investigations performed at the Amtrak CNOC site in Wilmington, Delaware, the Department has determined that the most preferred remedy conveyed in the proposed plan should be implemented.

VIII. DECLARATION

This Final Plan of Remedial Action for the Amtrak CNOC site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.



Nicholas A. DiPasquale, Director
Division of Air and Waste Management

FIGURE 1
LOCATION OF THE AMTRAK CNOC FACILITY
NEW CASTLE COUNTY, DELAWARE

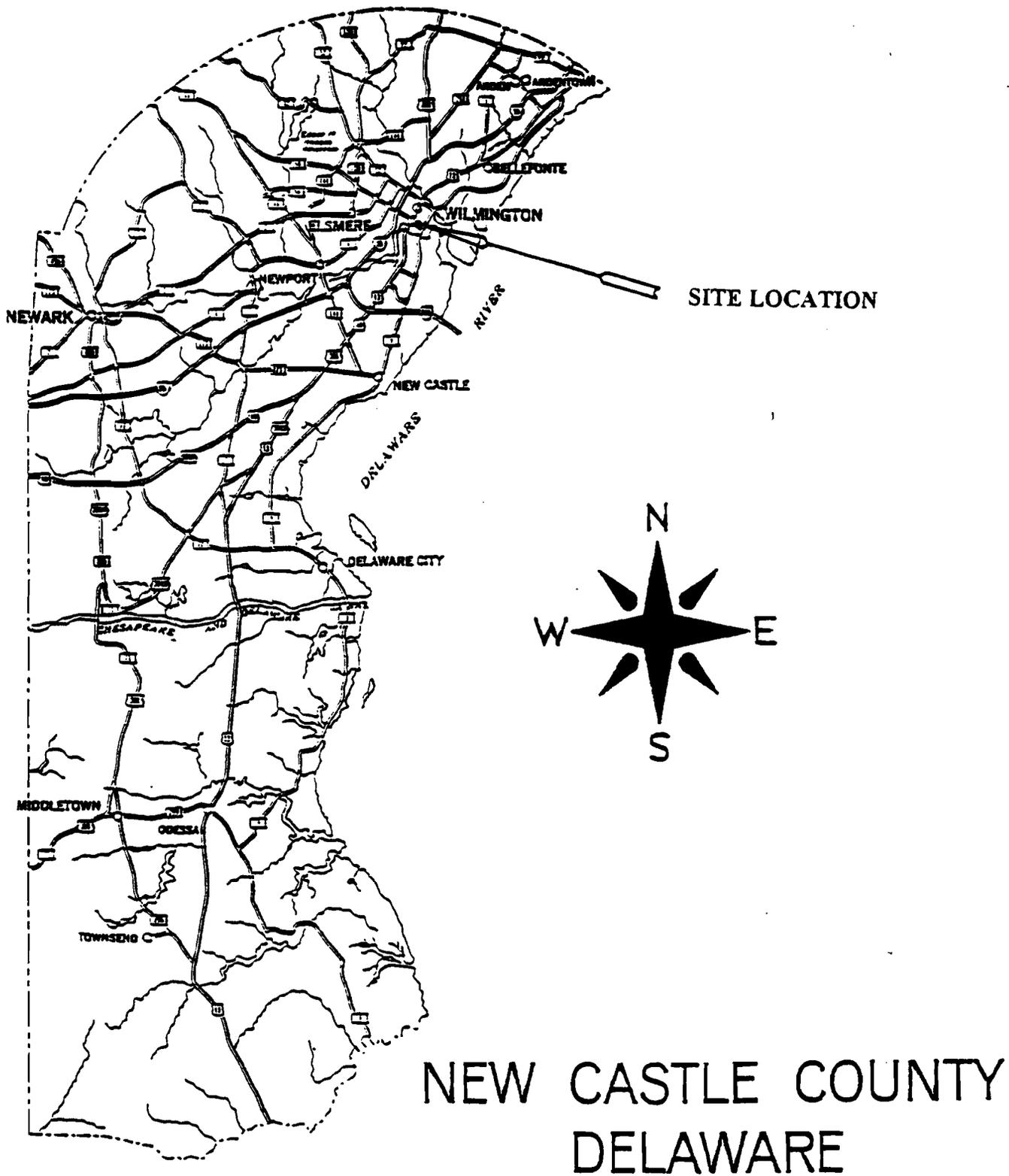
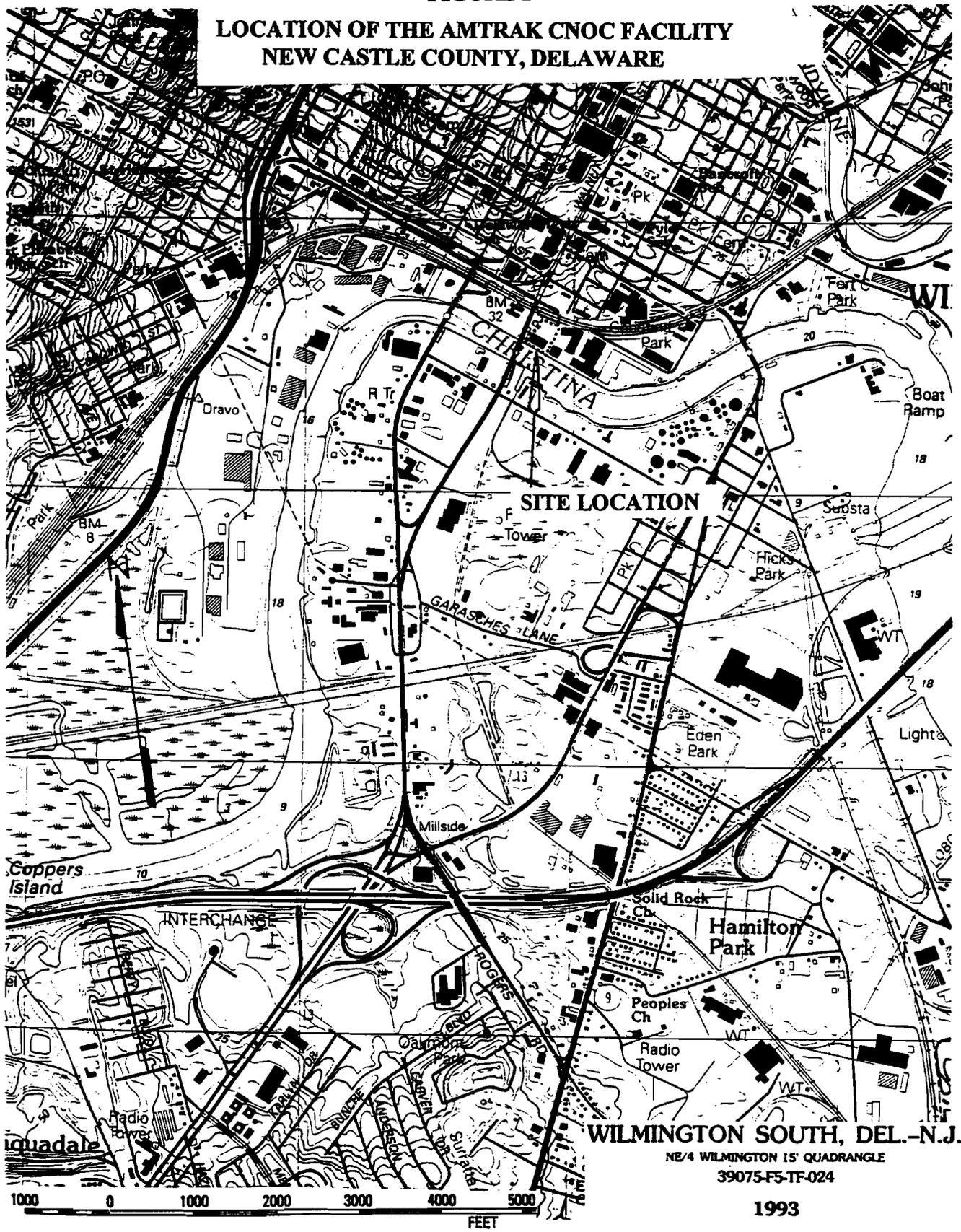


FIGURE 2

LOCATION OF THE AMTRAK CNOC FACILITY
NEW CASTLE COUNTY, DELAWARE



WILMINGTON SOUTH, DEL.-N.J.
NE/4 WILMINGTON 15' QUADRANGLE
39075-F5-TF-024

1993

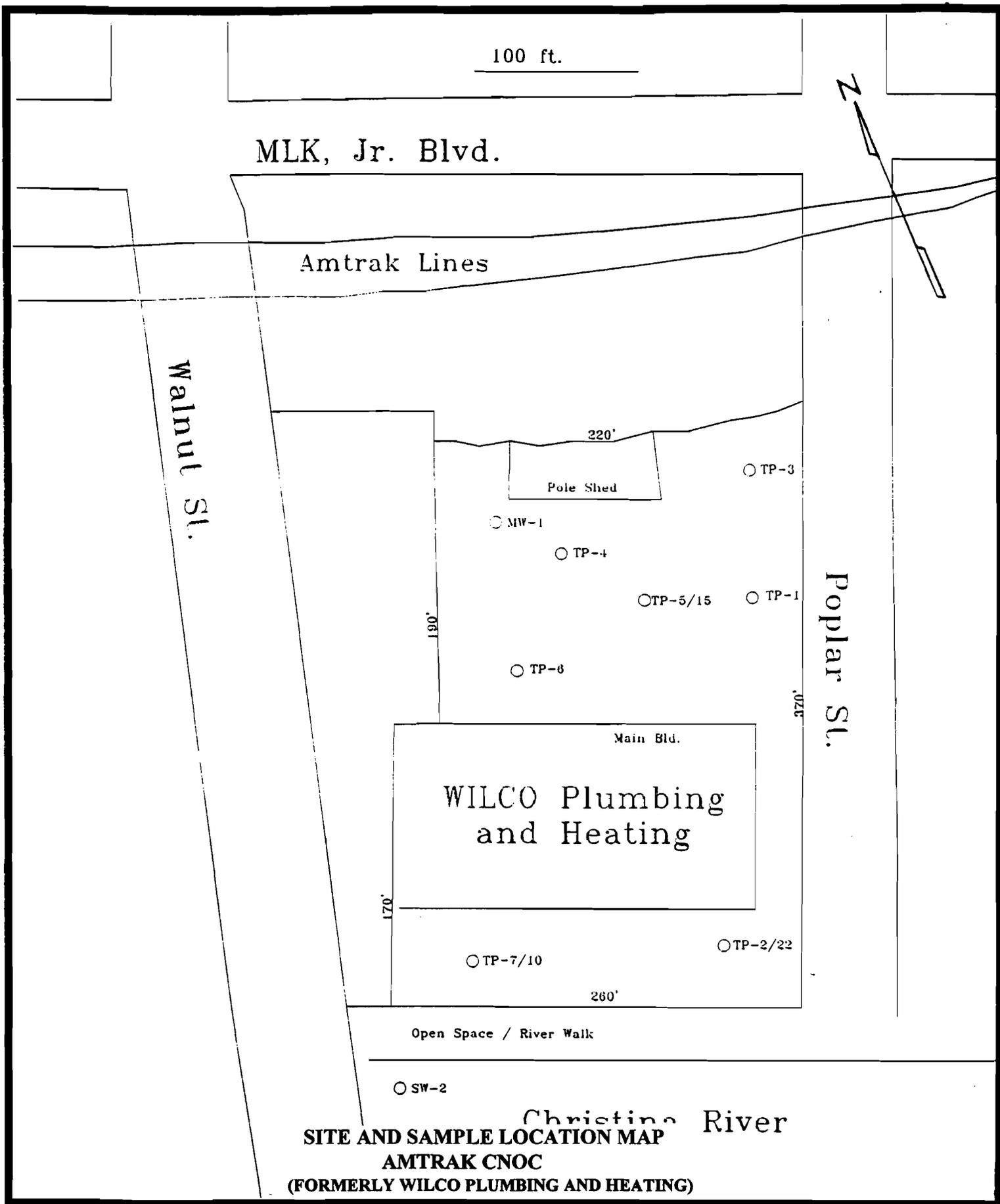


FIGURE 3

FOCUSED FEASIBILITY STUDY
FORMER WILCO PLUMBING AND HEATING PROPERTY
WILMINGTON, DELAWARE

TABLE 1

SUMMARY OF SOIL SAMPLES WITH CONCENTRATIONS EXCEEDING DNREC GUIDELINES AND EPA REGION III RBCs FOR INDUSTRIAL SOILS

DNREC Sample Number	Inorganics		Semi-volatiles	Pesticides/PCBs
	Arsenic (mg/kg) (RBC 610/3.8 mg/kg) ⁽²⁾⁽³⁾	Lead (mg/kg) (1,000 mg/kg) ⁽⁴⁾	Benzo(a)pyrene (ug/kg) (RBC 780 ug/kg) ⁽²⁾	Aroclor-1242 (ug/kg) (RBC 740 ug/kg) ⁽²⁾
PUSEY & JONES SHIPYARD PBA II				
TP-2A	10.2		2200	
TP-22A	15.3		1900	
WILCO PBA II				
TP-3A	8.1			
TP-4A	7.9			
TP-6B			5100	
TP-7A	18.2	1520	1500	980
TP-7B	10			
TP-10A	6.9			
WILCO PBA II (XRAY FLUORESCENCE)				
TP-1A	7.54			
TP-2B	64.8			
TP-3A	46.6			
TP-3B	12.3			
TP-3C	4.16			
TP-4A	79.3	1371		
TP-4B	6.67			
TP-4C	8.3			
TP-5A	6.41			
TP-5B	7.36			
TP-5C	9.29			
TP-5D	7.7			
TP-6A	39.5			
TP-6B2	5.95			
TP-6C	21.8			
TP-7A	119.7	1836		
TP-7B	19.4			
TP-7C	41.1			
TP-10A	15.8			
BACKGROUND SOIL SAMPLE				
SS-4	10.1			

Notes:

1. Data compiled from a report entitled "Brownfield Preliminary Assessment of the Wilco Plumbing and Heating Property," prepared by Delaware DNREC and dated December 1996.
2. RBCs taken from the EPA Region III Risk Based Concentration Tables (Jan-June 1996).
3. Non-carcinogenic effects/carcinogenic effects.
4. Interim Guidance on Reporting Levels for Hazardous Substances During Site Assessments under Delaware HSCA, Oct. 1995.

Site Name: WILCO Plumbing and Heating
 Sampling Date: December 18, 1995
 (as part of the Tracy and Jones Shipyard (RFA II))

TABLE 2
 DATA SUMMARY FORM: INORGANICS
 Groundwater Samples
 (ug/l.)

Sample Number	MW-1		MW-1		RBC*		MCL**	
	(Total)		(Dissolved)		Tap Water		Drinking Water	
Analyte					ug/l.		ug/l.	
Aluminum	325				37000	u	***	
Arsenic			[2.0]	K	11.0/0.015	n/c	50	
Barium	[102]		104		2600	u	**/p/2000	
Calcium	16900		17900		NL		NL	
Iron	45500		47700		11000	u	NL	
Lead					NL		15	
Magnesium	21700		23900		NL		NL	
Manganese	1010	J	1130	J	180	u	NL	
Sodium	84600		89400		NL		NL	
Zinc	[9.9]	I			11000	u	NL	

* = EPA Region III, Risk-Based Concentration Tables, R.L. Smith.

** = National Primary Drinking Water Standards, EPA, February, 1994.

*** = Criterion pH dependent.

/p/ = Proposed criterion

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

I = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

[] = Analyte present. As values approach the HDL, the quantitation may not be accurate.

u = Non-carcinogenic effects.

c = Carcinogenic effects.

NL = Not listed in table.