

PCB Mass Loading Phase II
AMTRAK CNOC
SIRS ID: DE-1084
Wilmington, Delaware



Appendix 4

AMTRAK CONSOLIDATED NATIONAL OPERATIONS CENTER (CNOC) WILMINGTON, DELAWARE

SIRS ID: DE-1084

GENERAL SITE INFORMATION

Site Name: AMTRAK Consolidated National Operations Center (CNOOC)

SIRS ID Number: DE-1084

Site Location and Description:

The Amtrak CNOOC site is located at 15 South Poplar Street in Wilmington, Delaware (Figure 1). The site is approximately 1.8 acres in size and is comprised of one tax parcel (#2604300019) located at the southern extent of South Poplar Street in Wilmington. The property is bounded to the north by an active railroad viaduct maintained by Amtrak, beyond which is mixed parking and residential townhomes, to the east by South Poplar Street, beyond which are commercial and industrial properties, to the south by the publicly-accessible Christina Riverwalk, beyond which is the Christina River, and to the west by South Walnut Street, beyond which is a parking area, commercial office building, and a passenger rail station. The surrounding land is generally commercial and industrial.

Runoff from the Site is expected to flow south into the Christina River. The Christina River discharges into the Delaware River approximately 2.5 miles away from the Site.

The site currently serves as the headquarters of the Amtrak Consolidated National Operations Center, from which all Amtrak rail operations are coordinated. The CNOOC, which opened in 1998, is housed in a renovated two-story brick building on the southern portion of the site. The building occupies approximately one half of the site, with a parking lot and interspersed landscaping covering the remaining half of the site.

The current facility was constructed prior to 1936 and significant additions and renovations were made in 1997. A remedial action occurred concurrently with the renovation to reduce the likelihood of human contact with native site soils. Soils excavated during the renovations were characterized for onsite re-use or disposal. Additionally, a single 1,000 gallon diesel underground storage tank (UST) was discovered during the remedial action, and was subsequently removed in accordance with DNREC Tank Management Branch protocols. The site was capped with a layer of clean fill and/or a layer of asphalt or concrete. The Amtrak CNOOC site was issued a Certificate of Completion of Remedy (COCR) by the Site Investigation and Restoration Branch (SIRB) of the Delaware Department of Natural Resources and

Environmental Control (DNREC) in November of 1997. The site was also issued a No Further Action (NFA) letter by the Tank Management Branch of the Delaware Department of Natural Resources and Environmental Control (DNREC) in January of 1998.

Previous Site Uses:

The site was previously utilized for heavy industrial, manufacturing, and maintenance operations, but most recently was maintained as a storage and warehouse facility for a heating and plumbing equipment supplier (Wilco Plumbing and Heating Supply Co.). The property historically housed supporting operations for the former Pusey and Jones shipyard, including a machine shop, boiler shop, and forge. Based on previous investigations, it appears the use of the site as part of a ship yard extended from 1876 until the late 1940's or early 1950's. Ownership history of the site between the end of World War II and the early 1990's was not readily available, nor was it indicated in prior investigations.

Historic Sanborn maps reviewed during previous investigations indicate the following: In 1876, a large but unknown structure was present on the site. In 1884, distinct buildings (boiler shop, forge, and machine shop) were evident on the property. In 1901, a single railroad spur is noted as serving the complex. The site uses remained virtually unchanged between 1901 and 1927, although surrounding properties became increasing industrialized. In 1927, the forge was relabeled as a blacksmith shop, although the structure's footprint remained the same. By 1936 only a portion of the machine shop remained, and an unlabeled building of approximately the same footprint as the current structure had appeared. No Sanborn maps are provided for this site post-1936, however, a review of aerial photographs from 1937, 1954, 1961, 1968, and 1997 indicate the site changed little over the sixty-year period. The most significant changes occurred between 1954 and 1961, when the remnants of the former machine shop appear to have been demolished (while leaving the building that appeared in 1936 intact) and the South Walnut Street bridge was completed adjacent to the property.

Given the nature of industrial and commercial disposal practices before environmental regulation, the possibility exists for contamination to have migrated into the subsurface from neighboring properties and from the subject site.

Site Regulatory Status:

This section briefly summarizes previous investigations performed on the site through the SIRS program. A current SIRS regulatory status is also included.

Brownfields Preliminary Assessment II: Pusey and Jones Shipyard (DNREC, 1996)

In August 1996, DNREC prepared a Brownfields Preliminary Assessment II of the former Pusey and Jones Shipyard. The assessment was performed to determine if the area encompassing the former shipyard posed a threat to human health or the environment, and if further action was required under CERCLA/SARA. The investigation included sampling soil, sediment, surface water, and groundwater on and adjacent to properties that were formally part of the 25 acre Pusey and Jones shipyard complex, which includes the Amtrak CNOOC site.

DNREC installed a single monitoring well (MW-1) on the northwest corner of the Amtrak CNOOC site. Groundwater was encountered at 18.5 feet below grade and was observed to flow towards the Christina River.

A total of four soil samples (plus one duplicate), one groundwater sample, and one surface water sample (from the tidal Christina River in the vicinity of the Amtrak CNOOC site) were collected. All soil samples were screened for VOCs, SVOCs, Pesticides, and PCBs. Selected samples were sent to DNREC's laboratory for confirmatory analysis of EPA Target Compound List (TCL)/Target Analyte List (TAL) contaminants.

PCBs were not detected above laboratory detection limits in any of the media sampled from the Amtrak CNOOC site. Based upon the completed Brownfields Preliminary Assessment II, DNREC recommended further investigations be performed across the former Pusey and Jones shipyard. While PCBs were not detected on the Amtrak CNOOC site, PCBs and other TAL/TCL contaminants were found to exceed DNREC residential URS levels in surface soil and test pits on adjacent properties. The source of the contamination was believed to be the heavy industrial use of the area and wastes from associated manufacturing processes.

Brownfields Preliminary Assessment II: Wilco Plumbing and Heating Property (DNREC, 1996)

In December 1996, DNREC prepared a Brownfields Preliminary Assessment II of the former Wilco Plumbing and Heating Company (presently the Amtrak CNOOC site). The assessment was performed to determine if this portion of the former Pusey and Jones shipyard posed a threat to human health or the environment, and if further action was required under CERCLA/SARA. At that time, Amtrak had expressed interest in establishing a centralized operations center at that site. The investigation included the excavation of test pits to sample site soils. A total of twenty

soil samples were collected from the Amtrak CNOC site during the Wilco Plumbing and Heating Company BPA II. All soil samples were screened for Metals, VOCs, SVOCs, and Pesticides, and PCBs. Two soil samples were sent to DNREC's laboratory for confirmatory analysis of EPA Target Compound List (TCL)/Target Analyte List (TAL) contaminants. The analysis indicated that soil sample TP-3A did not contain PCBs above laboratory detection limits but TP-7a was found to contain Aroclor-1242 at a concentration of 0.98 mg/kg and Aroclor-1260 at a concentration of 0.23 mg/kg. Soil sample TP-7a exceeded the DNREC unrestricted URS of 0.3mg/kg for Aroclor-1242, but did not exceed the restricted URS.

PCBs were detected above laboratory detection limits in one of two soil samples analyzed for PCBs from the Amtrak CNOC site. Based upon the completed Brownfields Preliminary Assessment II, DNREC recommended a limited remedial action be performed at the Amtrak CNOC site to prevent human contact with native site soils.

Remedial Action Documentation: Amtrak CNOC (Duffield Associates, 1997)

In November 1997, Duffield Associates prepared a Remedial Action Documentation of the former Wilco Plumbing and Heating Company (presently the Amtrak CNOC site). The remedial action was performed during the renovation and expansion of the existing building onsite. During the excavation for the building foundations and utility trenches, Duffield segregated potentially contaminated soil and performed characterization sampling to determine if the soil was suitable for re-use onsite. During the remedial action, a 1,000 gallon diesel UST was discovered. The UST and associated petroleum contaminated soil were removed and disposed of in accordance with DNREC Tank Management Branch protocols.

Excavated soils were analyzed for various compounds depending on their origin or evidence of gross contamination. Analyses included X-ray fluorescence for lead, screening and confirmatory analysis for petroleum compounds, and the TCLP for lead. Only three samples were analyzed for PCBs. In September 1997, Duffield collected three composite samples (ACS-1, ACS-2, and ACS-3) of petroleum-bearing excavated soils. These three samples were sent to Lancaster Laboratories for a full waste characterization, including confirmatory PCB analysis. The pesticide/PCB analysis indicated that soil samples did not contain PCBs above laboratory detection limits.

The remedial action was successfully completed in November 1997. With the exception of soil disposed off-site, all excavated soil was re-used onsite. The native soil was contained under

approximately three inches of pavement, and/or one foot of clean fill (separated by a geo-textile marker fabric).

Current Regulatory Status:

The site was issued a Certificate of Completion of Remedy by DNREC-SIRB in November of 1997. An NFA letter regarding the removal of the diesel UST was issued in January of 1998.

Currently the site is occupied by the Amtrak CNO, and according to documents on the DNREC Environmental Navigator, has received regular Operations and Maintenance (O&M) inspections.

SUMMARY OF SITE PCB INFORMATION

Site Investigation PCB Findings:

PCBs were detected in one surface soil sample, TP-7a (1.0 feet below ground surface (bgs)), at a concentration of 1.2 mg/kg. Three additional screened surface soil samples had concentrations of <0.5 mg/kg and one had a concentration of >0.5 mg/kg and <10 mg/kg. A total of 11 unsaturated subsurface soil samples and three saturated soil samples had PCB concentrations <0.5 mg/kg.

The calculated 95% upper confidence limit (UCL) of the mean of the concentration of total PCBs observed in the surface soil is 4.1 mg/kg. For the purpose of the UCL, the screening result of >0.5 mg/kg and <10 mg/kg was considered to be 5 mg/kg. There were no PCBs detected in groundwater.

Concentrations of PCBs on Site			
Sample Matrix	Corresponding Figure	Analytical Methods	Range of Total PCBs
Surface Soil	Figure 2	Method 8082 and Screening Data	Not detected to 1.2 mg/kg
Subsurface Soil (unsaturated)	Figure 3	Screening Data	Not detected to <0.5 mg/kg
Subsurface Soil (saturated)	Figure 4	Screening Data	Not detected to <0.5 mg/kg
Groundwater	Figure 5	Method 8082	Not Detected

A summary of all samples collected for PCB analyses are presented in Tables 1 through 3.

Acreage where PCBs detected:

Based on the data reviewed and analyzed by BrightFields, the soil and groundwater are not impacted by PCBs.

PCB Remediation Status:

In 1997 the site was capped with asphalt and clean fill. No further PCB remediation is required for the Amtrak CNOC site.

PCB MASS LOADING SUMMARY

The Amtrak CNO Property was capped with asphalt and clean fill and PCBs were not detected at significant concentrations in the saturated subsurface soil or groundwater. Therefore, overland flow and groundwater transport are not likely mechanisms of transport of PCB contamination at the property.

Overland Flow:

No overland flow analysis was performed for this site.

Groundwater Discharge Analysis:

No groundwater discharge analysis was performed for this site.

Site References:

Delaware Department of Natural Resources and Environmental Control (DNREC), 1996(a), Brownfield Preliminary Assessment II of the Pusey and Jones Shipyard, August 1996.

DNREC, 1996(b), Brownfield Preliminary Assessment II of the Wilco Plumbing and Heating Property, December 1996.

DNREC to Riverfront Development Corporation of Delaware, Certificate of Completion of Remedy for the Amtrak C.N.O.C. Site, November 1997.

DNREC to Riverfront Development Corporation of Delaware, Former Wilco Plumbing and Heating, January 1998.

Delaware Geological Survey, 2013, Delaware Data Mil, <<http://datamil.delaware.gov/geonetwork/srv/en/main.home>>, May 2013. Duffield Associates, 1997, Remedial Action Documentation for the Amtrak CNO (DE-1389), November 1997.

New Castle County, 2013, New Castle County Parcel Search, <<http://www3.nccde.org/parcel/search/>>, January 2013.

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Figures



- Soil Sample
- ⊕ Groundwater Sample
- Surface Water Sample
- Amtrak CNOC Site Boundary (1.83 acres)
- Tax Parcels

Source: Delaware DataMIL - Aerial 2012, Tax Parcels.



BrightFields, Inc.

Environmental Evaluation
Investigation, and Remediation

801 Industrial Street, Suite 1
Wilmington, Delaware 19801

302-656-9600
302-656-9700 fax

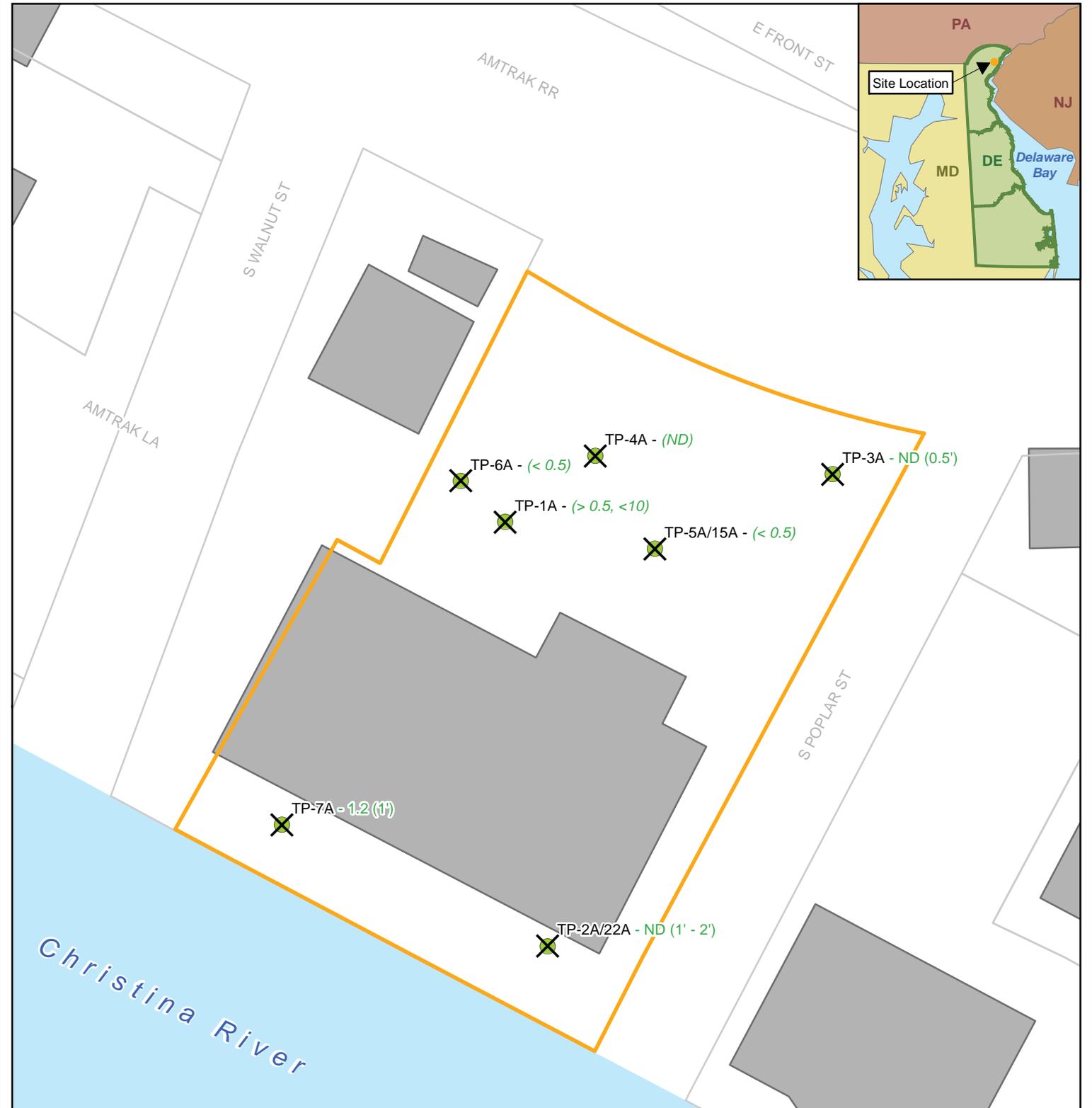
Historic Sample Locations
and Aerial Photograph (2012)
AMTRAK CNOC
Wilmington, Delaware

	By	Date	Scale:	File Name:
Drawn	ADS	7/15/2013	1:840	Fig1SiteLoc.mxd
Checked	JPR	7/15/2013	Fig. No.	Figure 1
Project #	0985.69.51			

0 35 70

Feet





- Sample Capped with either Hardscaping or Clean Fill
- Soil Sample
- AMTRAK CNOX Site Boundary
- Tax Parcels
- Buildings
- Surface Water

Notes:
 1.2 (1) - Total PCB Concentration (mg/kg) and Sample Depth.
 ND - Not Detected
 Screening data is in parentheses and italicized.
 PCB screening values of (< 0.5) are treated as Not Detected.

Source: Delaware DataML - Tax Parcels;
 New Castle County - Buildings.



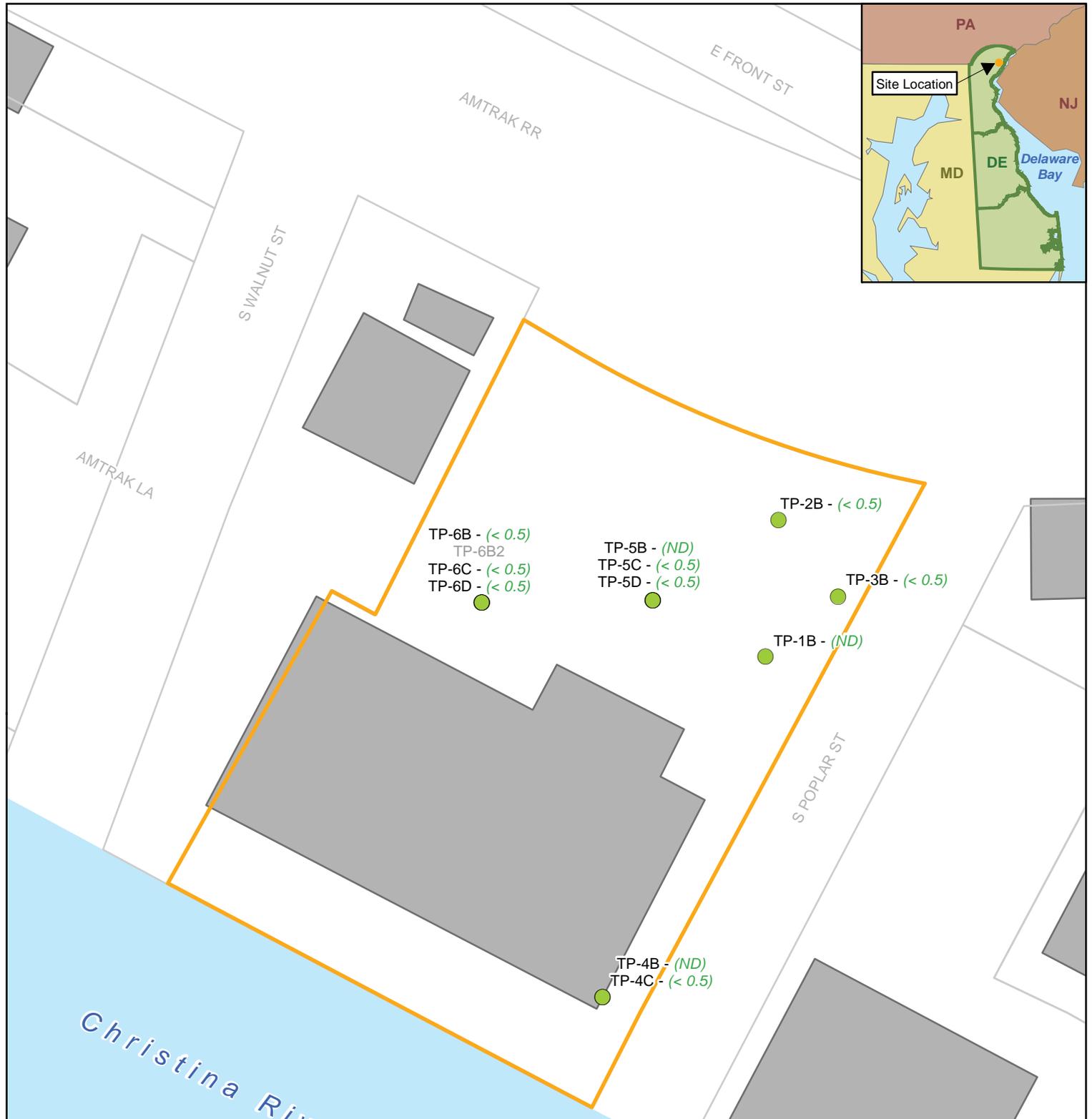
BrightFields, Inc.

Environmental Evaluation
Investigation, and Remediation

801 Industrial Street, Suite 1 Wilmington, Delaware 19801		302-656-9600 302-656-9700 fax	
PCB Distribution in Surface Soil (0' - 2' bgs) AMTRAK CNOX Wilmington, Delaware			
By	Date	Scale:	File Name:
Drawn ADS	1/27/2014	1:840	Fig2DistSurf.mxd
Checked JPR	1/27/2014	Fig. No.	
Project # 0985.69.51		Figure 2	







- Soil Sample, No PCB data available
- Soil Sample
- AMTRAK CNOC Site Boundary
- Tax Parcels
- Buildings
- Surface Water

Note:
 <0.5 - Total PCB Concentration (mg/kg)
 ND - Not Detected.
 Screening data is in parentheses and italicized.
 PCB screening values of (< 0.5) are treated as Not Detected.

Source: Delaware DataMIL - Tax Parcels;
 New Castle County - Buildings.

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 Environmental Evaluation
 Investigation, and Remediation

801 Industrial Street, Suite 1
 Wilmington, Delaware 19801

302-656-9600
 302-656-9700 fax

PCB Distribution in Subsurface Unsaturated Soil
 AMTRAK CNOC
 Wilmington, Delaware

	By	Date	Scale:	File Name:
Drawn	ADS	1/27/2014	1:840	Fig3SS_UnSat.mxd
Checked	JPR	1/27/2014	Fig. No.	
Project #	0985.69.51		Figure 3	

0 35 70

Feet



- Soil Sample
- AMTRAK CNOC Site Boundary
- Tax Parcels
- Buildings
- Surface Water

Note:
 <0.5 - Total PCB Concentration (mg/kg)
 ND - Not Detected.
 Screening data is in parentheses and italicized.
 PCB screening values of (< 0.5) are treated as Not Detected.

Source: Delaware DataMIL - Tax Parcels;
 New Castle County - Buildings.

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 Environmental Evaluation
 Investigation, and Remediation

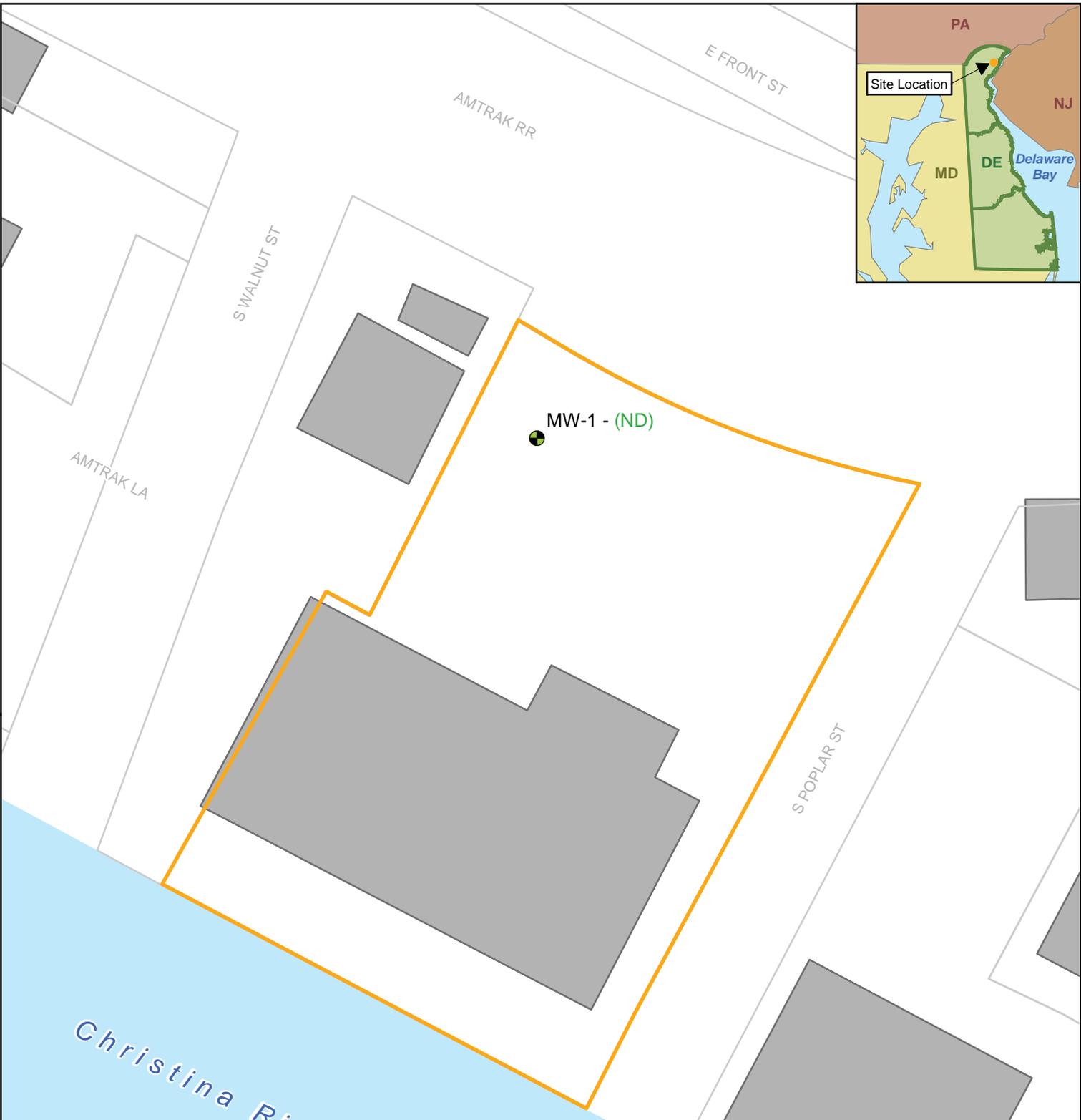
801 Industrial Street, Suite 1
 Wilmington, Delaware 19801

302-656-9600
 302-656-9700 fax

**PCB Distribution in Subsurface Saturated Soil
 AMTRAK CNOC
 Wilmington, Delaware**

	By	Date	Scale:	File Name:
Drawn	ADS	1/27/2014	1:840	Fig4SS_Sat.mxd
Checked	JPR	1/27/2014	Fig. No.	
Project #	0985.69.51		Figure 4	





- Groundwater Sample
- AMTRAK CNO Site Boundary
- Tax Parcels
- Buildings
- Surface Water

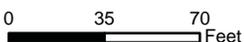
Note:
 ND - Not Detected.
 Screening data is in parentheses and italicized.

Source: Delaware DataMIL - Tax Parcels;
 New Castle County - Buildings.



BrightFields, Inc.

Environmental Evaluation
 Investigation, and Remediation

801 Industrial Street, Suite 1 Wilmington, Delaware 19801		302-656-9600 302-656-9700 fax		
PCB Distribution in Groundwater AMTRAK CNO Wilmington, Delaware				
Drawn	By	Date	Scale:	File Name:
ADS	ADS	1/13/2014	1:840	Fig5GW.mxd
Checked	JPR	1/13/2014	Fig. No.	Figure 5
Project #	0985.69.51			
				

PCB Mass Loading Phase II
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Tables

Table 1
 PCB Screening Results For Soil
 Amtrak CNOC (DE-1084)
 Wilmington, DE

Sample Identification	Sample Depth (feet bgs)	Sampling Company	Report Name	Report Date	Total PCBs
					DNREC-SIRS Screening Level (January 2014) (mg/kg) NCA
TP-2A/22A	1' - 2'	DNREC	BPA II	Aug-96	< 0.5
TP-3A	0.5'	DNREC	BPA II	Dec-96	< 0.5
TP-7A	1'	DNREC	BPA II	Dec-96	< 0.5
TP-1A	0' - 1'	DNREC	BPA II	Aug-96	< 0.5
TP-1B	11'	DNREC	BPA II	Aug-96	< 0.5
TP-2B	4'	DNREC	BPA II	Aug-96	< 0.5
TP-3B	4'	DNREC	BPA II	Dec-96	< 0.5
TP-3C	7.5'	DNREC	BPA II	Dec-96	< 0.5
TP-4A	1'	DNREC	BPA II	Dec-96	< 0.5
TP-4B	5'	DNREC	BPA II	Dec-96	< 0.5
TP-4C	8'	DNREC	BPA II	Dec-96	< 0.5
TP-5A/15A	1'	DNREC	BPA II	Dec-96	< 0.5
TP-5B	5.5'	DNREC	BPA II	Dec-96	< 0.5
TP-5C	2'	DNREC	BPA II	Dec-96	< 0.5
TP-5D	8'	DNREC	BPA II	Dec-96	< 0.5
TP-6A	1'	DNREC	BPA II	Dec-96	< 0.5
TP-6B	2'	DNREC	BPA II	Dec-96	< 0.5
TP-6C	4.5'	DNREC	BPA II	Dec-96	< 0.5
TP-6D	8'	DNREC	BPA II	Dec-96	< 0.5
TP-7B/10A	5.5'	DNREC	BPA II	Dec-96	< 0.5
TP-7C	7'	DNREC	BPA II	Dec-96	< 0.5

Note: All results reported in mg/kg.

Qualifiers:

- bgs - Below ground surface
- NCA - No criteria available

Table 2
 PCB Analytical Results For Soil
 Amtrak CNOC (DE-1084)
 Wilmington, DE

Sample Identification	Sample Depth (feet bgs)	Sampling Company	Report Name	Report Date	Aroclor-1016		Aroclor-1221		Aroclor-1232		Aroclor-1242		Aroclor-1248		Aroclor-1254		Aroclor-1260	
					DNREC-SIRS Screening Level (January 2014) (mg/kg)	0.39	DNREC-SIRS Screening Level (January 2014) (mg/kg)	0.14	DNREC-SIRS Screening Level (January 2014) (mg/kg)	0.14	DNREC-SIRS Screening Level (January 2014) (mg/kg)	0.22	DNREC-SIRS Screening Level (January 2014) (mg/kg)	0.22	DNREC-SIRS Screening Level (January 2014) (mg/kg)	0.11	DNREC-SIRS Screening Level (January 2014) (mg/kg)	0.22
TP-7A	1'	DNREC	BPA II	Dec-96	0.039	U												
TP-1B	11'	DNREC	BPA II	Aug-96	0.036	U	0.072	U	0.036	U								
TP-7B/70A	5.5'	DNREC	BPA II	Dec-96	0.16	U	0.32	U	0.16	U								

Note: All results reported in mg/kg.

Qualifiers:

bgs - Below ground surface

U - Sample not detected above the laboratory method

Bold and shaded - Exceeds DNREC-SIRS January 2014 Screening Levels

Table 3
 PCB Analytical Results For Groundwater
 Amtrak CNOC (DE-1048)
 Wilmington, DE

Sample Identification	Screen Depth (feet bgs)	Sampling Company	Report Name	Report Date	Aroclor-1016 DNREC-SIRS Screening Level (January 2014) (ug/L)	Aroclor-1221 DNREC-SIRS Screening Level (January 2014) (ug/L)	Aroclor-1232 DNREC-SIRS Screening Level (January 2014) (ug/L)	Aroclor-1242 DNREC-SIRS Screening Level (January 2014) (ug/L)	Aroclor-1248 DNREC-SIRS Screening Level (January 2014) (ug/L)	Aroclor-1254 DNREC-SIRS Screening Level (January 2014) (ug/L)	Aroclor-1260 DNREC-SIRS Screening Level (January 2014) (ug/L)
MW-1	19' - 29'	DNREC	BPA II	Aug-96	0.11	0.004*	0.004*	0.034*	0.034*	0.031*	0.034*
					1	2	1	1	1	1	1
					U	U	U	U	U	U	U

Note: All results reported in ug/L.

Qualifiers:

- bgs - Below ground surface
- * - Screening level likely below the routine method detection
- U - Sample not detected above the laboratory method detection limit

PCB Mass Loading Phase II
AMTRAK CNOC
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Site Photographs



From the southern corner of the site, some small landscaped areas, short grass, a patio, and a paved path border the building.



The grassy area ends in southwestern corner and there is a paved area with equipment, beyond which is a parking lot for the building.

PCB Mass Loading Phase II
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Overland Flow Calculations

(Not Applicable)

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Groundwater Transport Calculations (Not Applicable)