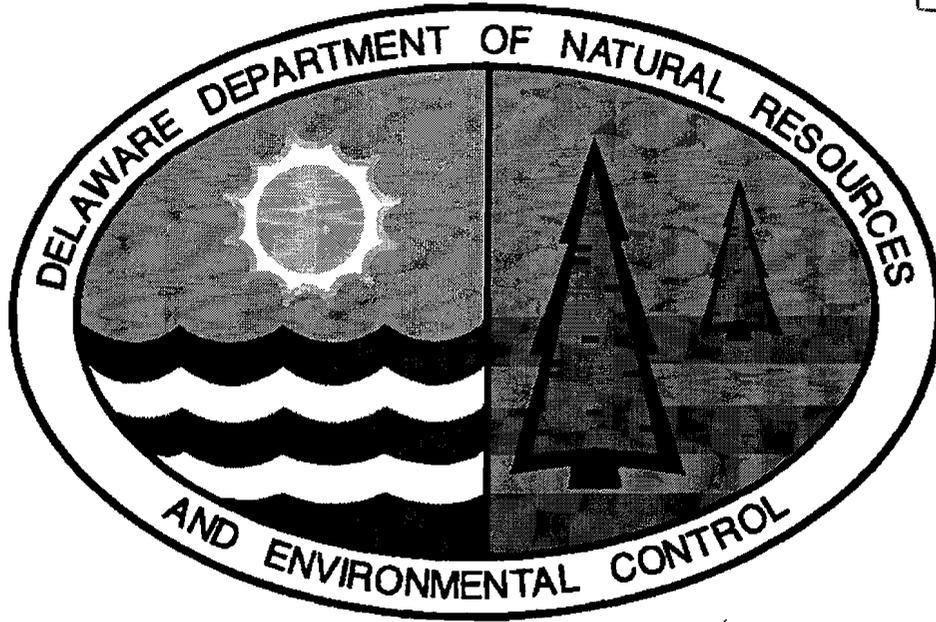
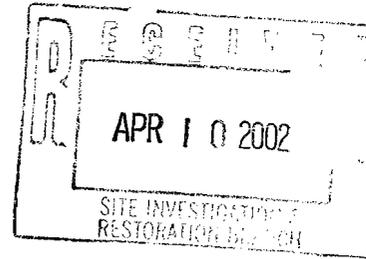


# FINAL PLAN OF REMEDIAL ACTION

Deemer Steel Site - Operable Unit-I  
New Castle, DE

DNREC Project No. DE 1243

APR 10 2002  
File# DE 1243  
B9



March 2002

Delaware Department of Natural Resources and Environmental Control  
Division of Air and Waste Management  
Site Investigation & Restoration Branch  
391 Lukens Drive  
New Castle, Delaware 19720

# TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>2</b>
<b>2.0</b>	<b>SITE DESCRIPTION AND HISTORY .....</b>	<b>4</b>
2.1	SITE SETTING.....	4
<b>3.0</b>	<b>SITE AND PROJECT HISTORY.....</b>	<b>4</b>
<b>4.0</b>	<b>INVESTIGATION RESULTS.....</b>	<b>4</b>
4.1	RESULTS OF PREVIOUS INVESTIGATIONS .....	4
4.2	PHASE I ENVIRONMENTAL SITE ASSESSMENT .....	4
4.3	SUMMARY OF THE FACILITY EVALUATION .....	5
4.4	SUMMARY OF REMEDIAL INVESTIGATION.....	5
4.5	SUMMARY OF THE GRID SAMPLING .....	6
<b>5.0</b>	<b>REMEDIAL ACTION OBJECTIVES.....</b>	<b>7</b>
<b>6.0</b>	<b>FINAL PLAN OF REMEDIAL ACTION.....</b>	<b>7</b>
<b>7.0</b>	<b>PUBLIC PARTICIPATION.....</b>	<b>8</b>
<b>8.0</b>	<b>DECLARATION.....</b>	<b>8</b>

## **LIST OF FIGURES**

**Figure 1 Site Location Map**

**Figure 2 Proposed Remediation Areas**

**Figure 3 Facility Evaluation Sample Locations**

**Figure 4 Remedial Investigation Test Pit and Monitoring Well Location Map**

**Figure 5 Grid Sampling Locations, 2001**

## .0 INTRODUCTION

The Deemer Steel Site (Site) is located at Ninth and Washington Streets, in New Castle, Delaware (Figure 1). In June 1997, Buck Kennett Associates, LLC (Buck Kennett) entered into a Voluntary Cleanup Program (VCP) Agreement with the Department of Natural Resources and Environmental Control, Site Investigation and Restoration Branch (DNREC). Under the provisions of the Delaware Hazardous Substance Cleanup Act (HSCA), 7 Del. C. Chapter 91, Buck Kennett completed a Facility Evaluation (FE) to evaluate the potential presence of contaminants in the soil associated with historic Site uses. In July 1999, Buck Kennett entered into a second VCP Agreement. Through this second VCP Agreement, Buck Kennett agreed to investigate the potential risks posed to the public health, welfare, and the environment through the performance of a Remedial Investigation and Feasibility Study (RI/FS). The purpose of the RI/FS was to obtain sufficient detailed Site information to supplement the earlier FE and develop an appropriate remedial approach. Buck Kennett contracted WIK Associates, Inc.(WIK) to perform the FE and RI/FS of the Site. The Site was subsequently divided into three Operable Units (OUs) prior to the issuance of the Proposed Plans. In July 2001, WIK completed further grid sampling of Operable Unit I (OU-I) of the Site to adequately evaluate that section of the site. This Proposed Plan of Remedial Action is for OUI only.

The purpose of the RI/FS and subsequent grid sampling was to: 1) characterize the nature and extent of any soil and/or groundwater contamination at the Site, 2) evaluate risks to public health, welfare, and the environment associated with identified contamination, and 3) perform a FS that would identify and recommend a Remedial Action.

In February 2002, DNREC issued the Proposed Plan of Remedial Action (Proposed Plan) for the Site based on the previous investigations. As described in Section 12 of the Regulations, DNREC provided notice to the public and an opportunity for the public to comment on the Proposed Plan. At the comment period's conclusion, DNREC did not receive any written or verbal comments to the Proposed Plan and is subsequently issuing this Final Plan of Remedial Action (Final Plan). The Final Plan designates the selected remedy for the Site. The Proposed Plan, all prior investigations of the Site, and the Final Plan of Remedial Action (Final Plan) will constitute the Remedial Decision Record.

This document is the Department's Final Plan of Remedial Action for OU-I. It is based on the results of the previous investigations performed at the Site. This Final Plan is issued under the provisions of the HSCA and the Regulations Governing Hazardous Substance Cleanup (Regulations). It presents the Department's assessment of the potential health and environmental risk posed by OU-I.

Section 2.0 presents a summary of the Site description and Site history. Section 3.0 presents a Site and Project History. Section 4.0 provides a description of the RI results. Section 5.0 presents a discussion of the Remedial Action Objectives. Section 6.0 presents the Final Plan, Section 7.0 discusses public participation requirements, and Section 8.0 presents the Director's Declaration.

## **2.0 SITE DESCRIPTION AND HISTORY**

### ***2.1 Site Setting***

The Site consists of three parcels of land, New Castle County Tax Parcel No. 21-014.00-499, 21-014.00-183 and 21-014.00-541, (7.67 acres) located at Ninth and Washington Street in New Castle, Delaware. Washington Street borders the Site to the west, Ninth Street borders the Site to the south and Gray Street borders a portion of the Site to the east. Two small streams join on the northern end of the Site and the resultant single stream crosses the Site from northwest to the southeast. The Site is currently a vacant lot. Surrounding land use includes primarily residential properties to the north, east and west. A City of New Castle water tower is present to the northeast of the Site, and the New Castle Steel Plant, a former National Priority List (NPL) Site, is located southeast of the Site across Ninth Street.

For the purposes of remedial alternative evaluation, the Site was divided into three operable units during the RI/FS (Figure 2). The Site is comprised of an easternmost parcel (0.9297 acres), Tax Parcel No. 21-014.00-499 designated as Operable Unit-I (OU-I); an adjacent parcel (5.9863 acres), Tax Parcel No. 21-014.00-183 designated as Operable Unit-II (OU-II) and a southeastern parcel (0.7493 acres), Tax Parcel No. 21-014.00-541 designated as Operable Unit-III (OU-III). This Proposed Plan is limited to the OU-I portion of the Site only. The Proposed Plan for OU-II and OU-III will be issued separately.

### **3.0 Site and Project History**

Title transfer records and historic aerial photographs were reviewed to evaluate the history and previous uses of the Site. Records indicate the Site has been owned and/or operated as a steel foundry by the Deemer Steel Casting Company (Deemer Steel) from the early 1900s until 1987. Sometime in the early 1990s, the buildings comprising the Deemer Steel operation were demolished. Currently the Site is overgrown with vegetation.

## **4.0 INVESTIGATION RESULTS**

### ***4.1 Results of Previous Investigations***

With the exception of the grid sampling that was exclusively performed on OU-1, the previous investigations were conducted on the entire Site made up of all three operable units. Previous investigations that did not include any testing of environmental conditions on the OU-I parcel are not described below, but can be found summarized in the Proposed Plan for OU-II and OU-III.

### ***4.2 Phase I Environmental Site Assessment***

WIK conducted a Phase I Environmental Site Assessment (ESA) on the Site in December 1990 (WIK, 1990). Based on the history of the Site, discussions with State and local agencies and the

on-site inspection, WIK recommended that Phase II soil sampling be conducted at the Site. The Phase II investigation did not take place on the OU-I parcel.

#### **4.3 *Summary of the Facility Evaluation***

In July 1997, WIK conducted a Facility Evaluation (FE) to evaluate the nature and extent of soil contamination on the Deemer Steel Site (WIK, 1999). At the time of the FE, the Site was divided into Parcel A (west of the stream) and Parcel B (east of the stream). These parcel boundaries do not correspond to the actual tax parcel boundaries or the current operable units.

The FE investigation included the excavation of 21 test pits across the Site (Figure 3). Of all the samples collected on Site, one test pit was excavated on the OU-I section (TP-05). Elevated concentrations of metals were found to be present in the surface soils at depths of 0 to one foot below grade including arsenic, iron and manganese. However, the levels of arsenic did not exceed the State of Delaware background levels of 11 mg/kg of Arsenic. Subsurface levels of iron detected in the deep sample (4-5 feet below grade) were below the Delaware HSCA Uniform Risk-Based (URS) concentrations based on unrestricted use.

#### **4.4 *Summary of Remedial Investigation***

On December 6, 1999, WIK excavated five trenches, consisting of 22 test pits, and 10 additional test pits in the southeastern corner of Parcel A (which included OU-I) on the Site and installed 4 monitoring wells on Site (Figures 4 & 5). Only one sample was collected on the OU-I parcel, a groundwater sample from MW-3.

The groundwater sample was analyzed for full Target Analyte List/Target Compound List (TAL/TCL) parameters according to HSCA protocols. The analytical results were compared with the URS criteria.

Organic compounds were not detected in the groundwater above the HSCA URS criteria. However, three metals aluminum, iron, and manganese exceeded their respective URS concentrations in groundwater.

A cumulative risk assessment was performed to evaluate the cumulative risk associated with exposure to groundwater on the Site. The cumulative risk from soils will be addressed in the summary of the grid sampling section. The calculations were conducted using the DNREC Site Specific Calculator for Multiple Analytes (DNREC May 2000 version) assuming a current and future risk scenario.

The risk assessment indicates that the cumulative non-cancer risk results in a Hazard Index of less than 1 for groundwater sampled at MW-3. Also the URS values found in DNREC's Remediation Standards Guidance Documents for the contaminants of concern iron, aluminum, and manganese, are based on the aesthetic qualities of the water such as taste, odor, and color, and do not relate to a human health risk. None of the contaminants of concern that screened above their URS in Monitoring Well 3 (iron, manganese, and aluminum) present a human health risk.

#### 4.5 *Summary of the Grid Sampling*

In order to characterize the surface soil of OU I, WIK excavated ten shallow borings. The locations were selected by using a 60-foot triangular grid pattern (Figure 4). A post-hole digger was used to core through the surface and a stainless steel trowel or dedicated plastic scoop was used to obtain the sample from the sidewalls of the open boring. One soil sample was collected from six inches below ground surface (bgs), and one soil sample was collected from twelve inches bgs at each location, for a total of 20 samples.

The soil samples collected during the investigation were transported to DNREC's Lukens Drive mobile laboratory and screened for metals, volatile organic compounds (VOCs), semi-volatile compounds (SVOCs) and, pesticides and polychlorinated biphenyls (PCBs). VOCs, SVOCs, pesticides or PCBs were detected above detection limits in one soil sample SS2-002. Six samples were selected after screening for analysis of TAL metals at the DNREC Environmental Services Laboratory in Dover. One sample, SS2-002, selected for TCL SVOCs, pesticides, and PCBs analysis at Severn Trent Laboratories (STL) Edison.

Based on the results of the 10 sample locations, the average concentration of arsenic in OU-I was 6.98 mg/kg, which is below the proposed background default standard of 11 mg/Kg. Concentrations of two other metals (iron and manganese) exceeded the unrestricted use URS. Soil sample SS2-002 screened above the method detection limit for organics during the mobile laboratory screening and was sent for confirmatory laboratory analysis of PAHs and PCBs. Four PAHs (benzo(a)pyrene, benzo(b)fluoranthene, benzo(a)anthracene, and dibenz(a,h)anthracene) were detected in the sample above the unrestricted use URS criterion. In addition, a PCB (Aroclor – 1254) was detected as 0.36 mg/kg, which is slightly above the unrestricted use URS of 0.3 mg/kg.

A cumulative risk assessment was performed to evaluate the cumulative risk associated with exposure to soils on the Site. The calculations were conducted using the DNREC Site Specific Calculator for Multiple Analytes (DNREC May 2000 version) assuming a current and future risk scenario.

A site-specific risk assessment was performed to evaluate the cumulative risks associated with the exposure to soil of the site. The contaminant of concern at the Site was determined to be iron, with an average on site concentration of 60,000 ppm. Iron concentrations at the Site are due to the Site being historically used as a former steel facility and foundry slag being placed across the property as fill material to allow the land to be used for storage of equipment and material.

Since arsenic was below the background standard and concentrations of carcinogenic compounds such as PAHs and PCBs were below method detection limits in nineteen out of twenty sampling locations. Based on the results of the grid sampling, the Site does not pose an unacceptable carcinogenic risk.

## **5.0 REMEDIAL ACTION OBJECTIVES**

According to Section 8.4 (1) of the Regulations, site-specific Remedial Action Objectives (RAOs) must be established for all Plans of Remedial Action. The remedial action will be based on the following factors:

- The Site is currently zoned as multi-family residential land and is currently vacant;
- The future Site use is expected to remain residential; and
- Surrounding land uses are mixed, including commercial and residential.

Qualitative objectives describe, in general terms, what the ultimate result of the Remedial Action at the Site should be. Considering that OU-I will be developed for residential use, the following qualitative objectives were developed:

- Control potential human contact (dermal and ingestion) of soil with elevated iron concentrations through removal of one foot of soil across OU-I.
- Placement of at least one foot of clean topsoil on the property that will allow the growth of vegetative cover.
- Preservation of mature trees on the property as they presently exist.

Quantitative objectives define specific levels of Remedial Action to achieve protection of human health and the environment. Based on the qualitative objectives, the following quantitative objectives were developed for OU-I.

- Prevent human contact with soil with iron concentrations greater than 23,000 mg/Kg.

## **6.0 FINAL PLAN OF REMEDIAL ACTION**

Based upon the information and results of the investigation performed at the Site and the Remedial Action Objectives for OU-I, DNREC has determined that the remedy conveyed in the Proposed Plan should be adopted as the Final Plan, and shall be implemented. The Final Plan consists of the following:

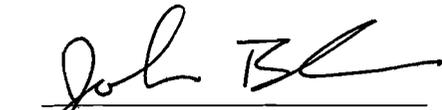
1. Removal and replacement of one foot of soil from the Site during the construction of the proposed residential development. This soil may be used on OU II and OU III as fill material as long as it is placed under the buildings or pavement as detailed in the Proposed Plan for those operable units. Soil will be allowed to remain in areas where mature trees are present. Soil generated from the excavation of the basements temporarily stored on OU II & OU III will be screened by DNREC prior to any of this soil being reused on the OU-I parcel.
2. Integration of setbacks incorporated into the Site development plan to allow for preservation of mature trees on the property.

## 7.0 PUBLIC PARTICIPATION

The Department actively solicited public comments or suggestions on the Proposed Plan of Remedial Action and welcomed opportunities to answer questions. The comment period began on February 25, 2002, and concluded at the close of business (4:30 p.m.) on March 18, 2002. No written comments or requests for a public hearing were received by DNREC.

## 8.0 DECLARATION

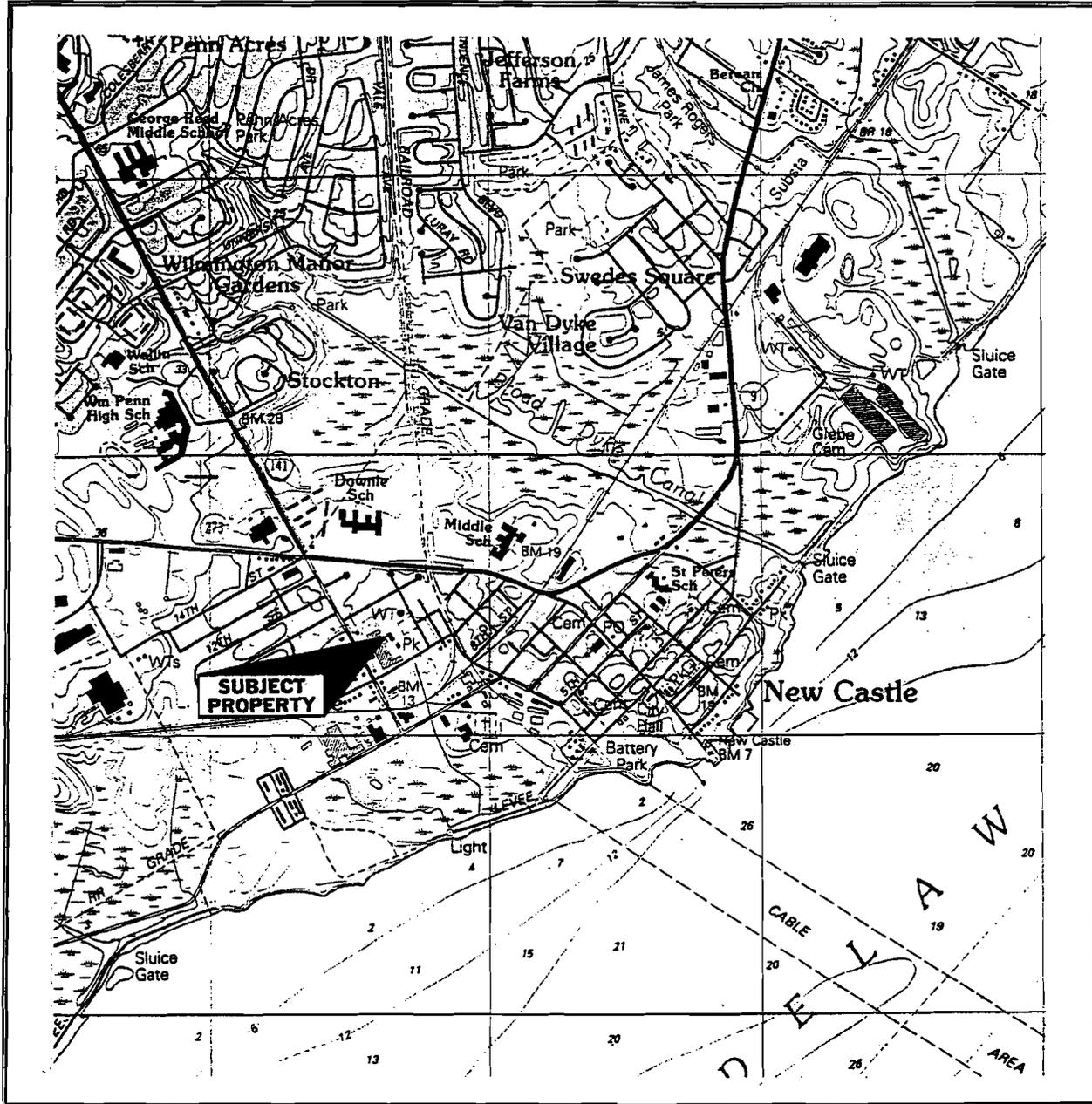
This Final Plan of Remedial Action for the Deemer Steel Operable Unit I Site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

  
\_\_\_\_\_  
John Blevins  
Director, Division of Air and Waste Management

4/5/02  
Date

ALB:dw  
ALB02013.doc  
DE 1243 II B8





## Figure 1

### Site Location/Topographic Map

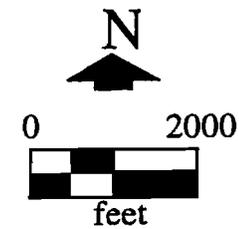
Wilmington South Quadrangle: 7.5 minute series

Map Date: 1989 Map edited 1993

Deemer Steel Casting Company

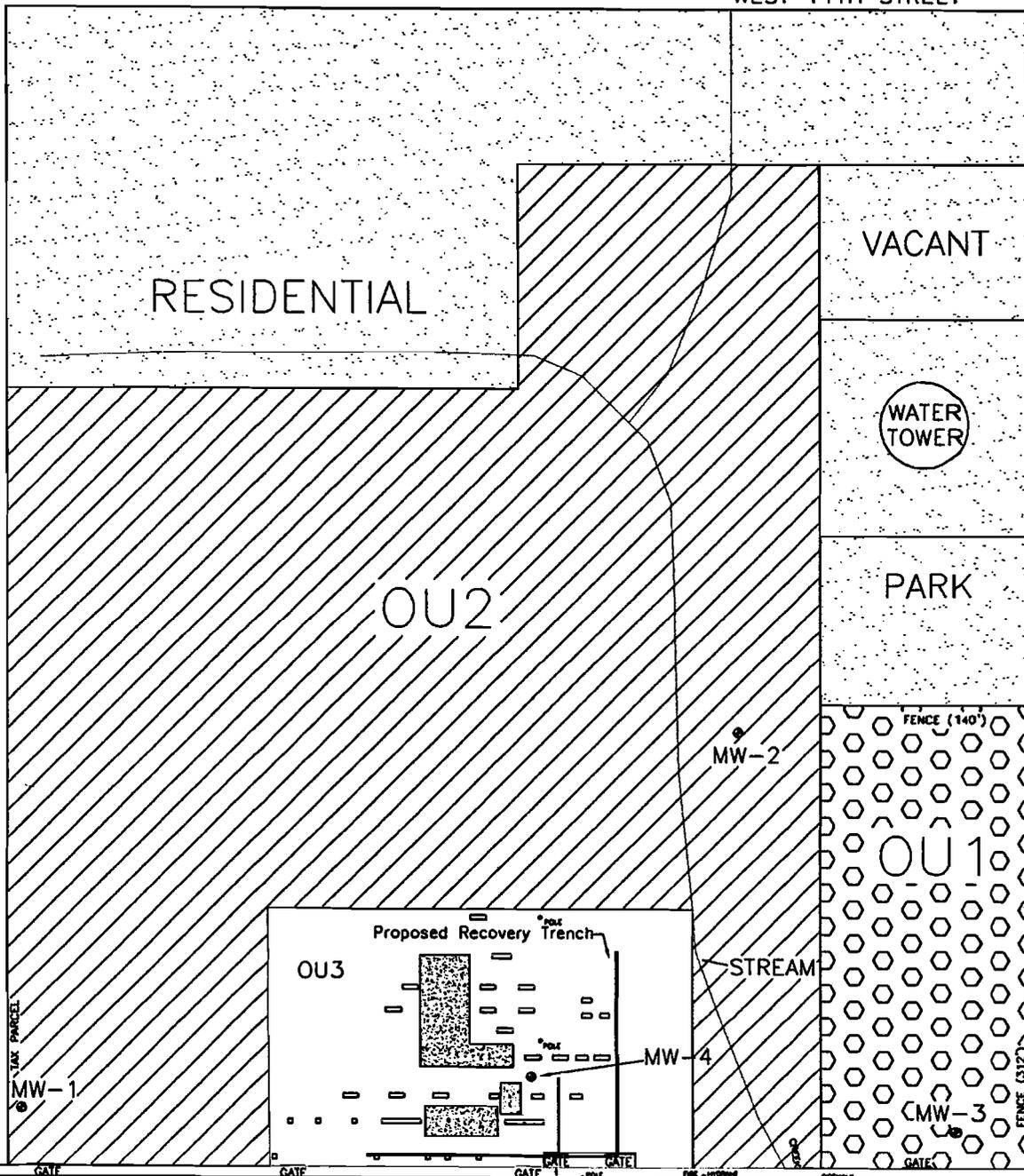
New Castle, Delaware

File: 1068.04.21



WASHINGTON AVENUE

WEST 11TH STREET



KEY

- TEST PIT
- MONITORING WELL
- ▨ SUBSURFACE CONCRETE
- (with dots) OU1
- ▨ (diagonal lines) OU2

WEST TENTH STREET

GRAY STREET

GRAPHIC SCALE



( IN FEET )  
1 inch = 100 feet



ASSOCIATES, INC.  
Environmental Evaluation,  
Investigation, and Remediation

P.O. Box 287, 710 Wilmington Road  
New Castle, Delaware 19720-0287  
302 322-2558  
302 322-8921 fax

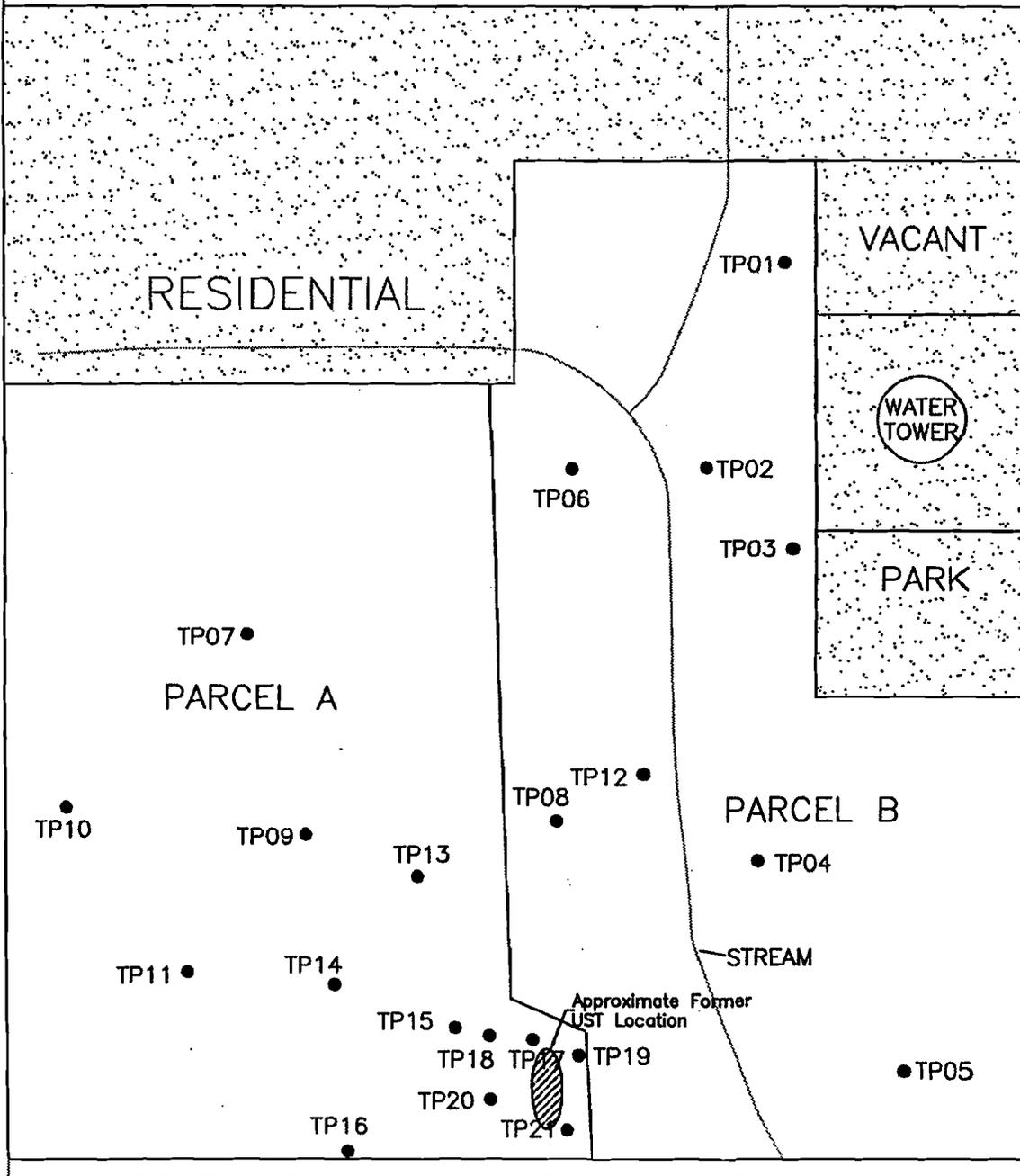
PROPOSED REMEDIATION AREAS  
DEEMER STEEL PROPERTY  
NEW CASTLE, DELAWARE 19720

	BY	DATE	SCALE:	AC FILE:
DRAWN	MJM	08/15/00	1:1200	Figure 8
CHECKED	JEC	08/15/00		
PROJECT #	1068.04.21		<b>FIGURE 2</b>	REV. 0

WEST 9TH STREET

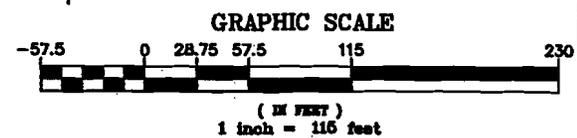
WEST ELEVENTH STREET

WASHINGTON AVENUE



GRAY STREET

WEST TENTH STREET



**WIK ASSOCIATES, INC.**  
 Environmental Evaluation,  
 Investigation, and Remediation

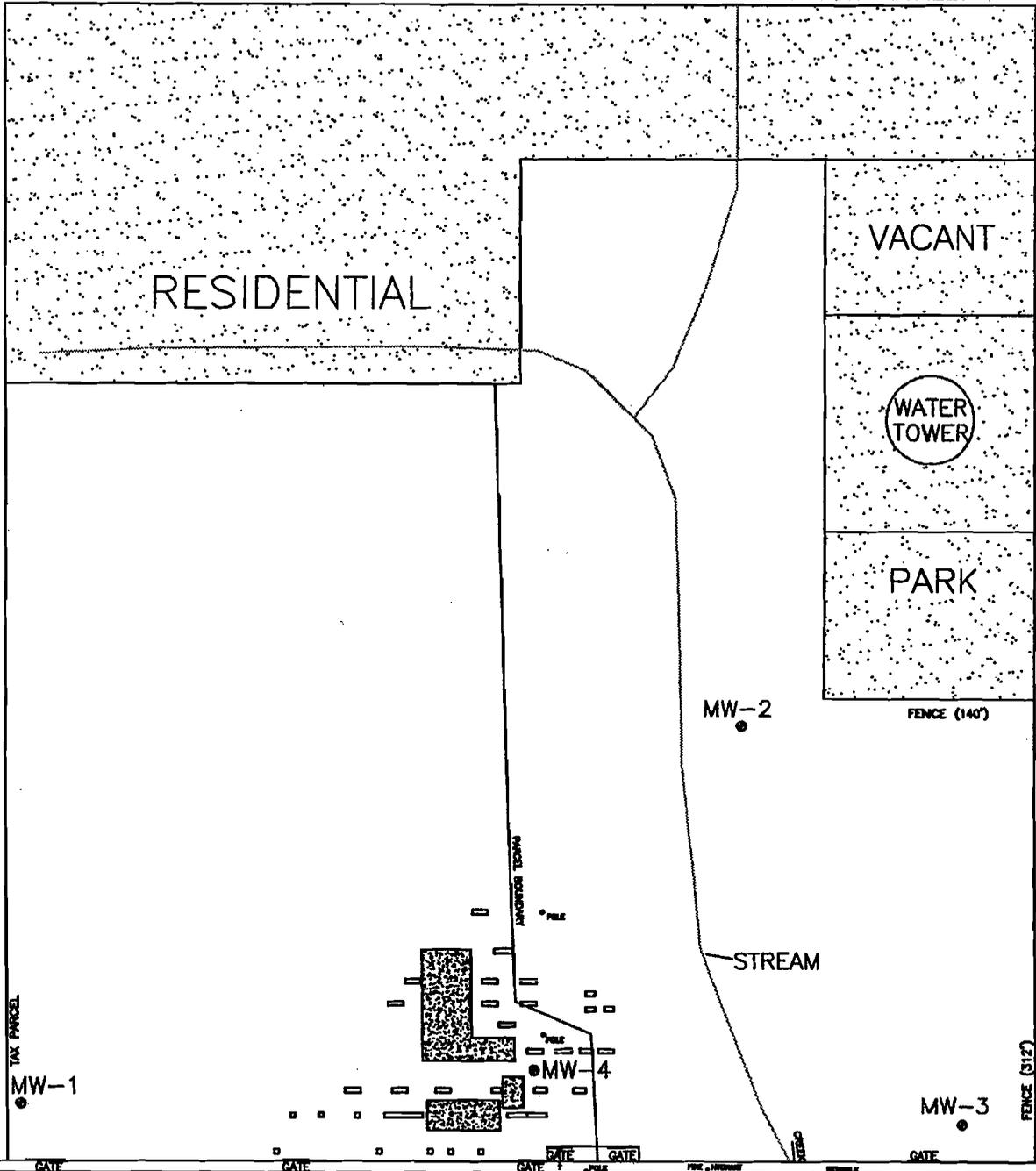
P.O. Box 287, 710 Wilmington Road  
 New Castle, Delaware 19720-0287

302 322-2558  
 302 322-8921 fax

**FACILITY EVALUATION SAMPLE LOCATIONS  
 DEEMER STEEL PROPERTY  
 NEW CASTLE, DELAWARE**

	BY	DATE	SCALE:	AC FILE:
DRAWN	JGA	2/19/99	1:1380	DSCC
CHECKED	SAJ	2/19/99	DWG. NO.	REV.
PROJECT #	1068.04.21		<b>FIGURE 3</b>	
				2

WEST 11TH STREET

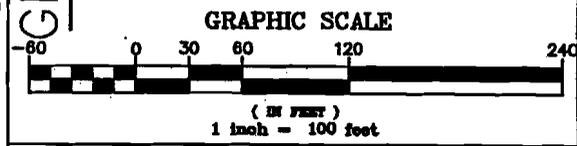


KEY

- = TEST PIT
- MONITORING WELL
- ▨ SUBSURFACE CONCRETE

WEST TENTH STREET

GRAY STREET



**WVik ASSOCIATES, INC.**  
 Environmental Evaluation,  
 Investigation, and Remediation

P.O. Box 287, 710 Wilmington Road 302 322-2558  
 New Castle, Delaware 19720-0287 302 322-8921 fax

REMEDIAL INVESTIGATION TEST PIT AND MONITORING  
 WELL LOCATION MAP  
 DEEMER STEEL PROPERTY  
 NEW CASTLE, DELAWARE 19720

	BY	DATE	SCALE:	AC FILE:
DRAWN	JCA	2/19/99	1:1200	DSCCPITS
CHECKED	JEC	3/16/00	DWG. NO.	REV.
PROJECT #	1068.04.21	FIGURE 4		2

WASHINGTON AVENUE

WEST 9TH STREET

MW-2

OU2

OU1

STREAM

GRAY STREET

SS10

SS9

SS8

SS7

SS6

SS5

SS4

SS3

SS2

SS1

MW-3

GATE

FIRE HYDRANT

SIDEWALK

WEST 9TH STREET

● SAMPLE LOCATION



**WVik ASSOCIATES, INC.**  
Environmental Evaluation,  
Investigation, and Remediation

P.O. Box 230, 710 Wilmington Road 302 322-2558  
New Castle, Delaware 19720-0230 302 322-8921 fax

OU1 GRID SAMPLING LOCATIONS  
DEEMER STEEL PROPERTY  
NEW CASTLE, DELAWARE 19720

	BY	DATE	SCALE:	AC FILE:
DRAWN	JWS	8/1/01	1:111	OU1SAMPLOC
CHECKED	JEC	8/1/01	DWG. NO.	REV.
PROJECT #	1088.04.21		Figure 5	1

# Appendix A

TABLE 4A  
 Facility Evaluation  
 Deemer Steel Property  
 DNREC Mobile Laboratory Surface - Soil Screening Results (mg/kg)

Sample ID Date Sampled Depth Sampled	Surface Soil								
	Delaware HSCA URS for Non-Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non-Critical Water Resource Area Restricted Use (2/98)	PARCEL B					PARCEL A	
			TP01-S001 7/23/97 0-1'	TP02-S001 7/23/97 0-1'	TP03-S001 7/23/97 0-1'	TP04-S001 7/23/97 0-1'	TP05-S001 7/23/97 0-1'	TP06-S001 7/23/97 0-1'	TP07-S001 7/23/97 0-1'
<b>Pest/PCBs mg/Kg)</b>									
PCB	1	1	ND	0.2	ND	ND	ND	ND	ND
DDT	2	17	ND	ND	ND	ND	ND	ND	1.57
<b>PAH (mg/Kg)</b>									
Total cPAHs	nca	nca	ND	ND	ND	ND	ND	ND	1.16
<b>Metals (mg/Kg)</b>									
Antimony	3	82	ND	ND	2.28	ND	0.79	<b>3.07</b>	<b>5.45</b>
Arsenic	2	61	1.15	<b>3.08</b>	<b>3.37</b>	<b>5.51</b>	<b>8.36</b>	<b>5.24</b>	<b>11.80</b>
Barium	550	5,000	400	328	366	236	251	84.4	268
Cadmium	4	100	ND	1.38	ND	ND	ND	ND	<b>4.54</b>
Calcium	nca	nca	2,538	2,562	2,767	16,257	7,364	1,978	13,920
Chromium	1000(III), 270(VI)	5,000	34.7	30.0	30.7	130	128	90.8	<b>974</b>
Cobalt	470	5,000	ND	ND	ND	ND	ND	66.2	ND
Copper	1,000	5,000	13.5	6.37	12.5	234	189	29.1	125
Iron	23,000	23,000	15,825	15,722	19,186	<b>186,210</b>	<b>105,891</b>	17,846	<b>120,840</b>
Lead	400	1,000	110	24.2	33.1	6.18	147.26	45.00	228
Manganese	180	4,700	<b>396</b>	<b>193</b>	<b>445</b>	<b>11,471</b>	<b>3,599</b>	<b>215</b>	<b>4,013</b>
Mercury	10	610	5.13	ND	0.22	6.43	ND	3.60	6.93
Nickel	160	4,100	ND	10.7	5.69	29.2	13.6	17.5	ND
Selenium	39	1,000	0.62	1.47	0.89	ND	ND	ND	0.85
Silver	39	1,000	ND	ND	0.65	0.47	ND	0.91	ND
Thallium	18	220	0.30	ND	1.04	ND	8.51	4.45	ND
Vanadium	55	1,400	34.0	<b>82.6</b>	28.5	ND	21.3	39.8	<b>70.6</b>
Zinc	1,000	5,000	54.8	44.2	60.5	38.8	195	137	387

ND-Not Detected

NR-No Results

Bold-Value exceeds Unrestricted regulatory criteria

Shaded - Value exceeds Restricted regulatory criteria

nca-no criteria available

**TABLE 4A**  
**Facility Evaluation**  
**Deemer Steel Property**  
**DNREC Mobile Laboratory Surface - Soil Screening Results (mg/kg)**

Sample ID Date Sampled Depth Sampled	Surface Soil									
	Delaware HSCA URS for Non-Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non-Critical Water Resource Area Restricted Use (2/98)	PARCEL A						TP12-S001 7/24/97 0-1'	TP13-S001 7/24/97 0-1'
			TP08-S001 7/23/97 1-2'	TP08-S101 7/23/97 1-2'	TP09-S001 7/24/97 0-1'	TP10-S001 7/24/97 0.5-1.5'	TP11-S001 7/24/97 0-1'			
<b>Pest/PCBs mg/Kg)</b>										
PCB	1	1	ND	ND	ND	ND	ND	ND	ND	
DDT	2	17	ND	ND	ND	ND	ND	ND	ND	
<b>PAH (mg/Kg)</b>										
Total cPAHs	nca	nca	ND	ND	ND	3.42	ND	ND	ND	
<b>Metals (mg/Kg)</b>										
Antimony	3	82	NR	<b>11.3</b>	2.24	ND	0.36	ND	2.90	
Arsenic	2	61	<b>17.67</b>	<b>16.45</b>	<b>3.68</b>	<b>3.10</b>	<b>4.09</b>	ND	1.48	
Barium	550	5,000	NR	387	<b>555</b>	<b>95.8</b>	<b>665</b>	<b>559</b>	214	
Cadmium	4	100	NR	NR	ND	0.36	ND	ND	ND	
Calcium	nca	nca	11,255	9,800	6,868	1,511	5,441	1,348	5,592	
Chromium	1000(III), 270(VI)	5,000	125.65	93.0	101	52.3	80.9	39.2	149	
Cobalt	470	5,000	84.6	NR	78.1	14.2	14.8	46.4	ND	
Copper	1,000	5,000	153	156	54.9	155	40.8	19.7	44.0	
Iron	23,000	23,000	<b>104,203</b>	17,800	<b>46,686</b>	<b>29,954</b>	<b>30,812</b>	<b>29,428</b>	<b>27,553</b>	
Lead	400	1,000	<b>849</b>	<b>680</b>	54.5	31.9	61.6	14.4	87.5	
Manganese	180	4,700	<b>1,590</b>	<b>1,900</b>	<b>838</b>	<b>998</b>	<b>594</b>	<b>195</b>	<b>1,471</b>	
Mercury	10	610	<b>437</b>	NR	0.87	ND	ND	ND	ND	
Nickel	160	4,100	1.91	NR	11.67	8.86	ND	7.40	28.4	
Selenium	39	1,000	0.76	NR	ND	0.31	0.71	2.29	0.16	
Silver	39	1,000	NR	NR	1.24	ND	0.91	ND	ND	
Thallium	18	220	15.00	14.00	5.48	ND	ND	ND	ND	
Vanadium	55	1,400	24.8	NR	<b>85.0</b>	26.4	2.07	39.2	14.2	
Zinc	1,000	5,000	604	837	100	51.9	77.4	65.2	96.6	

ND-Not Detected

NR-No Results

Bold-Value exceeds Unrestricted regulatory criteria

Shaded - Value exceeds Restricted regulatory criteria

nca-no criteria available

**TABLE 4A**  
**Facility Evaluation**  
**Deemer Steel Property**  
**DNREC Mobile Laboratory Surface - Soil Screening Results (mg/kg)**

Sample ID Date Sampled Depth Sampled	Surface Soil				
	Delaware HSCA URS for Non-Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non-Critical Water Resource Area Restricted Use (2/98)	PARCEL A		
			TP14-S001 7/24/97 0-1'	TP16-S001 7/24/97 0-1'	TP17-S001 7/24/97 0-1'
<b>Pest/PCBs mg/Kg</b>					
PCB	1	1	0.3	ND	<b>2.47</b>
DDT	2	17	ND	ND	ND
<b>PAH (mg/Kg)</b>					
Total cPAHs	nca	nca	ND	0.06	ND
<b>Metals (mg/Kg)</b>					
Antimony	3	82	0.67	ND	ND
Arsenic	2	61	<b>3.05</b>	<b>2.79</b>	<b>3.27</b>
Barium	550	5,000	48.4	73.5	<b>731</b>
Cadmium	4	100	2.41	0.52	2.51
Calcium	nca	nca	3,995	807	2,082
Chromium	1000(III), 270(VI)	5,000	25.6	9.26	98.9
Cobalt	470	5,000	ND	ND	15.2
Copper	1,000	5,000	17.0	26.8	17.2
Iron	23,000	23,000	8,739	<b>8,386</b>	<b>23,429</b>
Lead	400	1,000	10.6	26.3	10.9
Manganese	180	4,700	116	<b>242</b>	<b>393</b>
Mercury	10	610	ND	1.44	ND
Nickel	160	4,100	7.29	9.68	3.45
Selenium	39	1,000	ND	ND	ND
Silver	39	1,000	ND	ND	1.10
Thallium	18	220	ND	4.33	3.48
Vanadium	55	1,400	ND	ND	46.2
Zinc	1,000	5,000	35.5	197	22.6

ND-Not Detected  
 NR-No Results  
 Bold-Value exceeds Unrestricted regulatory criteria  
 Shaded - Value exceeds Restricted regulatory criteria  
 nca-no criteria available

**TABLE 4B**  
**Facility Evaluation**  
**Deemer Steel Property**  
**DNREC Mobile Laboratory Subsurface - Soil Screening Results (mg/kg)**

Sample ID Date Sampled Depth Sampled	Subsurface Soil								
	Delaware HSCA URS for Non- Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non- Critical Water Resource Area Restricted Use (2/98)	PARCEL B						PARCEL A
			TP01-S002 7/24/97 4-5'	TP02-S002 7/24/97 4-5'	TP03-S002 7/24/97 4-5'	TP04-S002 7/24/97 4-5'	TP04-S003 7/24/97 5.5-6.5'	TP05-S002 7/24/97 4.5-5.5'	TP06-S002 7/24/97 4-5'
<b>Pest/PCBs (mg/Kg)</b>									
PCB	1	1	ND	ND	ND	ND	ND	ND	ND
DDT	2	17	ND	ND	ND	ND	ND	ND	ND
<b>PAH (mg/Kg)</b>									
Total cPAHs	nca	nca	ND	ND	ND	ND	ND	ND	ND
<b>Metals (mg/Kg)</b>									
Antimony	3	82	0.18	0.28	2.21	2.95	2.80	ND	ND
Arsenic	2	61	1.64	<b>2.91</b>	<b>4.37</b>	<b>3.26</b>	<b>4.50</b>	<b>2.88</b>	1.66
Barium	550	5,000	347	550	352	132	398	383	425
Cadmium	4	100	1.95	ND	ND	1.86	0.62	ND	0.34
Calcium	nca	nca	2,915	1,634	1,083	26,987	2,590	2,230	2,665
Chromium	1000(III), 270(VI)	5,000	40.2	71.8	67.5	103	50.4	30.1	42.1
Cobalt	470	5,000	8.73	ND	ND	ND	54.70	ND	ND
Copper	1,000	5,000	17.4	30.9	25.2	171	17.0	8.71	4.26
Iron	23,000	23,000	15,148	<b>41,857</b>	<b>48,532</b>	<b>110,576</b>	<b>24,081</b>	17,500	<b>23,325</b>
Lead	400	1,000	10.0	20.3	19.4	16.3	9.4	27.4	18.0
Manganese	180	4,700	163	<b>462</b>	168	<b>2,956</b>	156	1,202	<b>207</b>
Mercury	10	610	0.69	ND	0.91	ND	1.40	ND	ND
Nickel	160	4,100	ND	ND	7.56	27.9	12.3	14.7	ND
Selenium	39	1,000	ND	1.10	ND	ND	1.09	0.54	ND
Silver	39	1,000	ND	1.12	ND	0.93	ND	1.20	ND
Thallium	18	220	ND	2.41	0.55	ND	0.43	1.79	2.76
Vanadium	55	1,400	<b>88.4</b>	<b>127.7</b>	<b>149</b>	37.9	<b>87.9</b>	<b>66.0</b>	<b>106</b>
Zinc	1,000	5,000	31.7	54.5	65.0	37.4	43.1	35.9	36.3

ND-Not Detected  
 NR-No Results  
 Bold-Value exceeds regulatory criteria  
 nca-no criteria available

**TABLE 4B**  
**Facility Evaluation**  
**Deemer Steel Property**  
**DNREC Mobile Laboratory Subsurface - Soil Screening Results (mg/kg)**

Sample ID Date Sampled Depth Sampled	Subsurface Soil								
	Delaware HSCA URS for Non- Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non- Critical Water Resource Area Restricted Use (2/98)	PARCEL A						
			TP07-S002 7/24/97 4-5'	TP08-S002 7/24/97 3.75-4'	TP08-S003 7/24/97 8-9'	TP09-S002 7/24/97 3.5-4.5'	TP10-S002 7/24/97 3.5-4.5'	TP11-S002 7/24/97 4-5'	TP12-S002 7/24/97 4-5'
<b>Pest/PCBs (mg/Kg)</b>									
PCB	1	1	ND	ND	ND	0.34	ND	ND	ND
DDT	2	17	ND	ND	ND	ND	ND	ND	ND
<b>PAH (mg/Kg)</b>									
Total cPAHs	nca	nca	ND	ND	ND	11.6	ND	ND	5.92
<b>Metals (mg/Kg)</b>									
Antimony	3	82	0.84	NR	NR	0.98	<b>4.00</b>	ND	<b>3.91</b>
Arsenic	2	61	<b>2.14</b>	<b>21.5</b>	<b>3.29</b>	ND	0.32	ND	<b>3.48</b>
Barium	550	5,000	367	<b>640</b>	517	228	<b>181</b>	248	366
Cadmium	4	100	0.49	NR	NR	1.03	ND	1.90	0.11
Calcium	nca	nca	3,650	6,700	3,950	17,799	980	1,450	2,865
Chromium	1000(III), 270(VI)	5,000	24.4	116	65.0	84.9	29.4	54.1	33.6
Cobalt	470	5,000	21.6	NR	NR	103.7	0.68	8.64	17.4
Copper	1,000	5,000	11.7	114.00	23.00	94.0	1.44	9.16	40.15
Iron	23,000	23,000	14,319	<b>39,000</b>	<b>36,000</b>	<b>31,904</b>	9,726	10,235	21,604
Lead	400	1,000	12.3	44.0	20.0	149	3	10.6	56.0
Manganese	180	4,700	96.87	<b>731</b>	<b>208</b>	<b>703</b>	161	<b>280</b>	<b>299</b>
Mercury	10	610	ND	NR	NR	ND	2.80	ND	8.32
Nickel	160	4,100	10.7	97.0	NR	47.2	7.25	ND	ND
Selenium	39	1,000	ND	NR	NR	ND	ND	ND	ND
Silver	39	1,000	1.78	NR	NR	ND	1.11	ND	0.28
Thallium	18	220	ND	NR	NR	ND	ND	6.09	6.69
Vanadium	55	1,400	19.2	110	NR	<b>81.0</b>	ND	32.9	<b>79.2</b>
Zinc	1,000	5,000	24.8	154	64	237	15	24.4	149

ND-Not Detected  
NR-No Results  
Bold-Value exceeds regulatory criteria  
nca-no criteria available

**TABLE 4B**  
**Facility Evaluation**  
**Deemer Steel Property**  
**DNREC Mobile Laboratory Subsurface - Soil Screening Results (mg/kg)**

Sample ID Date Sampled Depth Sampled	Subsurface Soil				
	Delaware HSCA URS for Non- Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non- Critical Water Resource Area Restricted Use (2/98)	PARCEL A		
			TP13-S002 7/24/97 3-4'	TP16-S002 7/24/97 2-3'	TP17-S002 7/24/97 3.5-4.5'
<b>Pest/PCBs (mg/Kg)</b>					
PCB	1	1	ND	0.76	ND
DDT	2	17	ND	ND	ND
<b>PAH (mg/Kg)</b>					
Total cPAHs	nca	nca	ND	4.1	ND
<b>Metals (mg/Kg)</b>					
Antimony	3	82	2.34	1.28	ND
Arsenic	2	61	<b>5.42</b>	1.85	1.25
Barium	550	5,000	396	80.8	<b>710</b>
Cadmium	4	100	1.08	0.30	1.57
Calcium	nca	nca	12,913	1,093	3,554
Chromium	1000(III), 270(VI)	5,000	72.5	12.6	91.9
Cobalt	470	5,000	77.0	22.4	91.1
Copper	1,000	5,000	43.1	26.5	49.5
Iron	23,000	23,000	<b>24,244</b>	9,764	<b>28,644</b>
Lead	400	1,000	47.9	5.83	27.2
Manganese	180	4,700	<b>507</b>	87.48	<b>617</b>
Mercury	10	610	2.89	ND	1.65
Nickel	160	4,100	9.17	ND	1.59
Selenium	39	1,000	2.69	0.10	0.21
Silver	39	1,000	ND	0.35	0.32
Thallium	18	220	1.30	ND	7.92
Vanadium	55	1,400	53.3	16.1	3.03
Zinc	1,000	5,000	41.0	18.7	45.4

ND-Not Detected  
 NR-No Results  
 Bold-Value exceeds regulatory criteria  
 nca-no criteria available

**Table 5A  
Facility Evaluation  
Deemer Steel Facility  
Surface Soil Analytical Results  
Metals (mg/Kg)**

Sample ID Date Sampled Depth Sampled	Surficial Soil Samples				
	DNREC HSCA URS- Non Critical Resource- Unrestricted (2/98)	DNREC HSCA URS- Non Critical Resource- Restricted (2/98)	PARCEL B	PARCEL A	
			TP02-S001 7/22/97 0' - 1.0'	TP07-S001 7/22/97 0' - 1.0'	TP08-S001 7/22/97 1.0' - 2.0'
<b>Metals</b>					
Aluminum	20,000	20,000	6,230 J	NA	NA
Antimony	3	82	ND(1.6)	NA	NA
Arsenic	2	61	<b>4.8</b>	<b>5.2</b>	<b>12.4</b>
Barium	550	5,000	78.0	73.0	107
Beryllium	0.50	1	0.45	NA	NA
Cadmium	4	100	0.14	1.0	0.30
Calcium	nca	nca	1,100	NA	NA
Chromium	270 VI;1000III	5,000	15.0	34.1	28.7
Cobalt	470	5,000	5.3	NA	NA
Copper	1,000	5,000	17.2	NA	NA
Iron	23,000	23,000	14,000	NA	NA
Lead	400	1,000	62.3	<b>53.8</b>	367
Magnesium	nca	nca	875	NA	NA
Manganese	180	4,700	<b>235 J</b>	NA	NA
Mercury	10	610	ND(0.078)	0.16	0.28
Nickel	160	4,100	10.2	NA	NA
Potassium	nca	nca	132	NA	NA
Selenium	39	1,000	ND(1.5)	ND(1.4)	ND(2.0)
Silver	39	1,000	ND(0.37)	ND(0.35)	0.79
Sodium	nca	nca	ND(158)	NA	NA
Thallium	18	220	ND(1.2)	NA	NA
Vanadium	55	1,400	25.3	NA	NA
Zinc	1,000	5,000	74.0	NA	NA
Cyanide(free)	160	4,100	ND (0.50)	NA	NA

ND - Not Detected. Detection limit shown in ( )

nca - No criteria available

Boldface - indicates value exceeds regulatory criteria-Unrestricted

**Table 5B**  
**Facility Evaluation**  
**Deemer Steel Facility**  
**Subsurface Soil Analytical Results**  
**Metals (mg/Kg)**

	Subsurface Soil Samples			
	DNREC HSCA URS- Non Critical Resource- Unrestricted (2/98)	DNREC HSCA URS-Non Critical Resource- Restricted (2/98)	PARCEL B	PARCEL A
Sample ID			TP05-S002	TP08-S002
Date Sampled			7/22/97	7/22/97
Depth Sampled			4.5' - 5.5'	3.75' - 4.0'
<b>Metals</b>				
Aluminum	20,000	20,000	7,500 J	NA
Antimony	3	82	ND(1.3)	NA
Arsenic	2	61	<b>4.8</b>	<b>78.2</b>
Barium	550	5,000	75.2	39.7
Beryllium	0.50	1	<b>0.59</b>	NA
Cadmium	4	100	ND(0.10)	ND(0.12)
Calcium	nca	nca	402	NA
Chromium	270 VI;1000III	5,000	12.7	4.3 B
Cobalt	470	5,000	25.4	NA
Copper	1,000	5,000	3.0	NA
Iron	23,000	23,000	15,800	NA
Lead	400	1,000	13.0	18.7
Magnesium	nca	nca	661	NA
Manganese	180	4,700	<b>1,690 J</b>	NA
Mercury	10	610	ND(0.063)	0.18
Nickel	160	4,100	5.4	NA
Potassium	nca	nca	211	NA
Selenium	39	1,000	ND(1.2)	ND(1.5)
Silver	39	1,000	ND(0.30)	ND(0.37)
Sodium	nca	nca	ND(127)	NA
Thallium	18	220	ND(0.95)	NA
Vanadium	55	1,400	26.0	NA
Zinc	1,000	5,000	23.1	NA
Cyanide(free)	160	4,100	ND (0.50)	NA

ND - Not Detected. Detection limit shown in ( )

nca - No criteria available

Boldface - indicates value exceeds Unrestricted regulatory criteria

Shaded - indicates value exceeds Restricted regulatory criteria

**TABLE 6A**  
**Facility Evaluation**  
**Deemer Steel Facility**  
**Surface Soil Analytical Results - SVOCS (mg/kg)**

Sample ID Date Sampled Depth Sampled	Surface Soil Samples				
	Delaware HSCA URS for Non-Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non-Critical Water Resource Area Restricted Use (2/98)	Parcel B	Parcel A	
			TP02-S001 7/23/97 0' - 1.0'	TP07-S001 7/23/97 0' - 1.0'	TP10-S001 7/24/97 0.5' - 1.5'
<b>Semivolatile Organics (mg/kg)</b>					
2-Methylnaphthalene	nca	nca	0.011 J	2.8 J	0.024 J
4-Methylphenol	39	5,000	0.007 J	NA	NA
Acenaphthene	470	5,000	0.032 J	4.5 J	0.044 J
Acenaphthylene	nca	nca	0.74	5.5 J	0.150 J
Anthracene	1,000	5,000	1.00	17.0 J	0.200 J
Benzo (a) Pyrene	0.09	0.8	<b>2.30</b>	<b>19.0 J</b>	<b>0.970</b>
Benzo (b) Fluoranthene	0.9	8	<b>4.10</b>	<b>24.0</b>	<b>1.400</b>
Benzo (g, h, i) Perylene	nca	nca	1.20	7.5 J	0.450
Benzo (k) Fluoranthene	9	78	1.30	<b>11.0 J</b>	0.500
Benzo (a) Anthracene	0.9	8	<b>2.60</b>	<b>30.0</b>	<b>1.200</b>
Carbazole	32	290	0.092 J	4.7 J	0.220 J
Chrysene	88	780	2.80	27.0	1.300
Dibenz (a,h) Anthracene	0.09	0.8	<b>0.40 J</b>	<b>3.1 J</b>	<b>0.160 J</b>
Dibenzofuran	31	820	0.011 J	6.7 J	0.069 J
Fluoranthene	310	5,000	3.00	62.0	2.000
Fluorene	310	5,000	0.034 J	8.6 J	0.059 J
Indeno (1, 2, 3-cd) pyrene	0.9	8	<b>1.50</b>	<b>8.7 J</b>	0.550
Naphthalene	310	5,000	0.01 J	4.2 J	0.038 J
Phenanthrene	1,000	5,000	0.290 J	69.0	1.200
Phenol	1,000	5,000	0.01 J	NA	NA
Pyrene	230	5,000	3.50	55.0	1.800
Total TICs Concentration	nca	nca	16.84	NA	NA

J - Result is below the detection limit and is an estimated value

ND - Not Detected

NA - Not Analyzed

nca - No criteria available

Boldface - indicates value exceeds Unrestricted regulatory criteria

Shaded - Indicates value exceeds Restricted regulatory criteria

**TABLE 6B**  
**Facility Evaluation**  
**Deemer Steel Facility**  
**Subsurface Soil Analytical Results - SVOCS (mg/kg)**

Sample ID Date Sampled Depth Sampled	Subsurface Soil Samples					
	Delaware HSCA URS for Non-Critical Water Resource Area Unrestricted Use (2/98)	Delaware HSCA URS for Non-Critical Water Resource Area Restricted Use (2/98)	PARCEL B	PARCEL A		
			TP05-S002 7/23/97 4.5' - 5.5'	TP09-S002 7/24/97 3.5' - 4.5'	TP12-S002 7/24/97 4.0' - 5.0'	TP16-S002 7/24/97 2.0' - 3.0'
<b>Semivolatile Organics (mg/kg)</b>						
2-Methylnaphthalene	nca	nca	ND	0.200 J	5.20 J	2.200 J
Acenaphthene	470	5,000	ND	0.690 J	2.50 J	ND
Acenaphthylene	nca	nca	0.004 J	0.820 J	5.60 J	ND
Anthracene	1,000	5,000	ND	2.80 J	7.20 J	ND
Benzo (a) Pyrene	0.09	0.8	ND	<b>4.80</b>	<b>13.0</b>	<b>0.480 J</b>
Benzo (b) Fluoranthene	0.9	8	ND	<b>5.80</b>	<b>17.0</b>	0.450 J
Benzo (g, h, i) Perylene	nca	nca	ND	2.00 J	4.80 J	ND
Benzo (k) Fluoranthene	9	78	ND	2.50 J	7.20 J	ND
Benzo (a) Anthracene	0.9	8	ND	<b>6.50</b>	<b>16.0</b>	ND
Carbazole	32	290	ND	0.640 J	4.10 J	ND
Chrysene	88	780	ND	6.00	17.0	ND
Dibenz (a,h) Anthracene	0.09	0.8	ND	<b>0.720 J</b>	<b>1.60 J</b>	ND
Dibenzofuran	31	820	ND	0.800 J	5.80 J	ND
Fluoranthene	310	5,000	ND	11.0	45.0	0.480 J
Fluorene	310	5,000	ND	1.60 J	9.80 J	0.610 J
Indeno (1, 2, 3-cd) pyrene	0.9	8	ND	<b>2.30 J</b>	<b>6.00 J</b>	ND
Naphthalene	310	5,000	ND	0.130 J	9.60 J	0.420 J
Phenanthrene	1,000	5,000	ND	9.80	56.0	ND
Phenol	1,000	5,000	0.005 J	NA	NA	NA
Pyrene	230	5,000	ND	10.0	41.0	3.600 J
Total TICs Concentration	nca	nca	1.214	NA	NA	NA

J - Result is below the detection limit and is an estimated value

ND - Not Detected

NA - Not Analyzed

nca - No criteria available

Boldface - Indicates value exceeds Unrestricted regulatory criteria

Shaded - Indicates value exceeds Restricted regulatory criteria

**TABLE 7A**  
**Facility Evaluation**  
**Deemer Steel Facility**  
**Soil Analytical Results - TCL Pesticides and PCBs (mg/kg)**

Sample ID Date Sampled Depth Sampled	Surface Soil Samples				
	Delaware HSCA URS for Non-Critical Water Resource Area Unrestricted Use (2/98)	Parcel B	Parcel A		
		TP02-S001 7/23/97 0' - 1.0'	TP07-S001 7/23/97 0' - 1.0'	TP14-S001 7/24/97 0' - 1.0'	TP17-S001 7/24/97 0' - 1.0'
<b>TCL Pesticides (mg/Kg)</b>					
4,4' - DDE	2	0.020	ND (0.0048)	NA	NA
4,4' - DDT	2	0.023	ND (0.0048)	NA	NA
Methoxychlor	39	0.063	ND (0.0048)	NA	NA
<b>PCBs (mg/Kg)</b>					
Polychlorinated biphenyls(PCBs)	1	ND (0.100)	NA	0.160	ND(0.073)

ND - Not Detected

nca - No criteria available

**Boldface-** indicates value exceeds  
regulatory criteria

**TABLE 7B**  
**Facility Evalaution**  
**Deemer Steel Facility**  
**Soil Analytical Results - TCL Pesticides and PCBs (mg/kg)**

	Subsurface Soil Samples				
	Delaware HSCA URS for Non- Critical Water Resource Area Unrestricted Use (2/98)	Parcel B	Parcel A		
		TP05-S002	TP09-S002	TP15-S002	TP16-S002
Sample ID		TP05-S002	TP09-S002	TP15-S002	TP16-S002
Date Sampled		7/23/97	7/24/97	7/24/97	7/24/97
Depth Sampled		4.5' - 5.5'	3.5' - 4.5'	3.0' - 4.0'	2.0' - 3.0'
<b>TCL Pesticides (mg/Kg)</b>					
4,4' - DDE	2	ND (0.0041)	NA	NA	NA
4,4' - DDT	2	ND (0.0041)	NA	NA	NA
Methoxychlor	39	ND (0.0041)	NA	NA	NA
<b>PCBs (mg/Kg)</b>					
Polychlorinated biphenyls(PCBs)	1	ND (0.084)	ND(.077)	ND (0.100)	ND(0.082)

ND - Not Detected

nca - No criteria available

**Boldface-** indicates value exceeds  
regulatory criteria

**TABLE 1**  
**DNREC Screening Data Summary**  
**OU 1 Grid Sampling**  
**Deemer Steel**  
**New Castle, Delaware**

Sample ID	DNREC URS for Non-Critical Water Resource Area (12/99) (mg/kg)	SS1-S001	SS1-S002	SS2-S001	SS2-S002	SS3-S001	SS3-S002	SS4-S001	SS4-S002	SS5-S001	SS5-S002
		0.5'	1'	0.5'	1'	0.5'	1'	0.5'	1'	0.5'	1'
Sample Depth (ft bgs)	Unrestricted Use	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01
<b>METALS</b>											
Antimony	3	3.1	ND	ND	0.22	ND	ND	ND	ND	1.6	ND
Arsenic	11 <sup>1</sup>	5.3	7.3	35.0	11.2	2.7	5.1	16.5	2.8	20.6	12.2
Barium	550	194	146	358	247	143	115	125	191	230	150
Cadmium	4	ND	4.0	ND							
Calcium	nca	8,030	7,560	5,830	5,390	5,000	3,960	3,550	8,090	5,780	4,320
Chromium	270*	118	108	105	81.7	78.9	54.0	138	108	45.2	62.5
Cobalt	470	211	ND	78.7	18.5	ND	ND	ND	ND	49.2	ND
Copper	310	89.2	98.5	170	191	82.1	42.8	118	72.0	76.2	67.9
Iron	2,300	63,300	58,300	51,900	59,000	60,900	61,500	101,000	73,100	42,200	36,300
Lead	400	67.7	60.6	560	325	80.1	36.1	166	85.2	206	150
Manganese	160	2,600	2,130	1,840	2,650	2,450	2,330	3,190	2,111	682	760
Mercury	10**	ND	ND	ND	ND	7.07	ND	ND	ND	ND	ND
Nickel	160	37.3	43.5	83.0	12.0	24.0	ND	ND	ND	ND	ND
Selenium	39	ND									
Silver	39	ND									
Thallium	18	ND	ND	ND	16.1	6.1	ND	ND	5.91	ND	ND
Vanadium	55	58.0	ND	102	62.4	32.7	ND	ND	20.2	ND	ND
Zinc	2,300	112	87.6	514	465	118	28.5	111	126	155	148
<b>VOCs</b>											
	nca	ND									
<b>SVOCs</b>											
	nca	ND									
<b>PCBs</b>											
	1	ND									
<b>Pesticides</b>											
	nca	ND									

nca - no criteria available

Bold - Compound exceeds Unrestricted Use URS

ND - Not Detected

\* - URS for Chromium VI

\*\* - URS for Inorganic Mercury

<sup>1</sup> - Preliminary background soil concentration provided by DNREC

**TABLE 1**  
**DNREC Screening Data Summary**  
**OU 1 Grid Sampling**  
**Deemer Steel**  
**New Castle, Delaware**

Sample ID	DNREC URS for Non-Critical Water Resource Area (12/99) (mg/kg)	SS6-S001	SS6-S002	SS7-S001	SS7-S002	SS8-S001	SS8-S002	SS9-S001	SS9-S002	SS10-S001	SS10-S002
		0.5'	1'	0.5'	1'	0.5'	1'	0.5'	1'	0.5'	1'
Sample Depth (ft bgs)	Unrestricted Use	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01
<b>METALS</b>											
Antimony	3	ND									
Arsenic	11 <sup>1</sup>	ND	ND	ND	10.1	<b>12.2</b>	ND	ND	3.4	<b>13.8</b>	<b>28.4</b>
Barium	550	108	69.2	237	156	285	288	127	23.7	215	369
Cadmium	4	ND									
Calcium	nca	4,850	3,590	12,600	4,320	4,850	4,440	11,600	2000	4,890	7,640
Chromium	270*	85.6	50	163	106	61.1	36.7	101	128	53.1	83.5
Cobalt	470	ND									
Copper	310	165	71.0	42.1	101	83	82.6	62.4	14.6	66.1	89.4
Iron	2,300	<b>51,200</b>	<b>37,200</b>	<b>49,400</b>	<b>78,600</b>	<b>24,100</b>	<b>21,500</b>	<b>41,600</b>	<b>26,200</b>	<b>36,100</b>	<b>43,000</b>
Lead	400	28.7	24.9	132	73.3	130	140	45.8	15.1	56.4	34.1
Manganese	160	<b>1,350</b>	<b>1,230</b>	<b>1,400</b>	<b>3,000</b>	<b>630</b>	<b>436</b>	<b>1,040</b>	<b>681</b>	<b>857</b>	<b>339</b>
Mercury	10**	ND	ND	ND	ND	ND	9.1	ND	ND	ND	ND
Nickel	160	26.4	ND	42.7	25.7	38.1	ND	50.8	ND	41.2	ND
Selenium	39	0.01	ND	ND	ND	1.2	ND	ND	ND	ND	ND
Silver	39	ND	0.06	ND							
Thallium	18	ND									
Vanadium	55	ND	ND	<b>62.7</b>	ND	<b>57.3</b>	<b>72.5</b>	ND	ND	ND	<b>166</b>
Zinc	2,300	73.9	38.7	163	102	200	181	70.8	15.3	150	129
<b>VOCs</b>											
	nca	ND									
<b>SVOCs</b>											
	nca	ND									
<b>PCBs</b>											
	1	ND									
<b>Pesticides</b>											
	nca	ND	NR	ND	ND						

nca - no criteria available

Bold - Compound exceeds Unrestricted Use URS

ND - Not Detected

\* - URS for Chromium VI

\*\* - URS for Inorganic Mercury

<sup>1</sup> - Preliminary background soil concentration provided by DNREC

**TABLE 2**  
**HSCA Soil Data Summary - Metals**  
**OU1 Grid Sampling**  
**Deemer Steel**  
**New Castle, Delaware**

Sample ID		SS2-S001	SS2-S002	SS5-S001	SS5-S002	SS9-S001	SS9-S002
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Depth (ft bgs)	DNREC URS for Non-Critical Water Resource Area (12/99) (mg/kg)	0.5'	1'	0.5'	1'	0.5'	1'
Sample Date	Unrestricted Use	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01	7/24/01
<b>METALS</b>							
Aluminum	7,800	3,590	2,960	3,110	2,770	3,640	944
Arsenic	11 <sup>†</sup>	8.2	12.1	8.0	9.4	4.2	ND
Barium	550	106	114	ND	50.5	ND	ND
Cadmium	4	1.8	2.2	1.6	1.8	ND	ND
Calcium	nca	2,080	2,360	2,350	2,190	2,670	ND
Chromium	270*	30.5	24.6	14.3	16.3	35.2	13.1
Cobalt	470	ND	12.5	ND	ND	ND	ND
Copper	310	116	202	78.8	72.8	61.6	25.1
Iron	2,300	<b>33,100</b>	<b>58,400</b>	<b>34,100</b>	<b>43,300</b>	<b>40,300</b>	<b>14,800</b>
Lead	400	3.37	2.59	147	133	32.4	11.8
Magnesium	nca	1,180	ND	1,150	ND	1,550	ND
Manganese	160	<b>1,140</b>	<b>1,350</b>	<b>490</b>	<b>497</b>	<b>616</b>	<b>281</b>
Mercury	10**	0.19	0.15	0.11	0.12	ND	ND
Nickel	160	37.5	52.3	33.1	34.1	41.4	12.9
Potassium	nca	ND	ND	ND	ND	1,290	ND
Thallium	18	8.1	11.4	2.2	2.7	2.1	ND
Vanadium	55	24.3	18.2	11.7	12.9	10.3	ND
Zinc	2,300	322	377	100	87	72.5	15.1
All other metals were not detected above laboratory detection limits							

nca - no criteria available

Bold - result exceeds DNREC URS for non-critical water resource area

ND - Not detected above laboratory detection limits

\* - URS for Chromium VI

\*\* - URS for Inorganic Mercury

<sup>†</sup> - Preliminary background soil concentration provided by DNREC

**TABLE 3**  
**HSCA Soil Data Summary - Pesticides, PCBs and Semivolatiles**  
**OU1 Grid Sampling**  
**Deemer Steel**  
**New Castle, Delaware**

Sample ID		SS2-S002
Units		mg/kg
Sample Depth (ft bgs)	DNREC URS for Non-Critical Water Resource Area (1299) (mg/kg)	1
Sample Date	Unrestricted Use	7/24/01
<b>Pesticides and PCBs</b>		
4,4 - DDE	2	0.24
4,4 - DDD	3	0.070 J
4,4 - DDT	2	0.77
Aroclor - 1254	0.3	<b>0.36</b>
All other Pesticide and PCBs were not detected above laboratory detection limits		
<b>Semivolatiles</b>		
Naphthalene	160	0.16 J
2-Methylnaphthalene	160	0.14 J
Acenaphthylene	nca	0.076 J
Acenaphthene	470	0.2
Dibenzofuran	31	0.17 J
Phenanthrene	1000	4.4
Anthracene	1000	0.61
Carbazole	32	0.74
Di-n-butylphthalate	780	4.4
Fluoranthene	310	5.4
Pyrene	230	3.6
Butylbenzylphthate	930	0.038 J
Benzo(a)anthracene	0.9	<b>2.1</b>
Chrysene	87	2.2
Benzo(b)fluoranthene	0.9	<b>2.3</b>
Benzo(k)fluoranthene	9	1.5
Benzo(a)pyrene	0.09	<b>1.9</b>
Indeno(1,2,3-cd)pyrene	0.9	0.86
Dibenz(a,h)anthracene	0.09	<b>0.38</b>
Benzo(g,h,i)perylene	nca	0.92
All other semivolatiles were not detected above laboratory detection limits		

nca - no criteria available  
 Bold - result exceeds DNREC URS  
 J - concentration is estimated