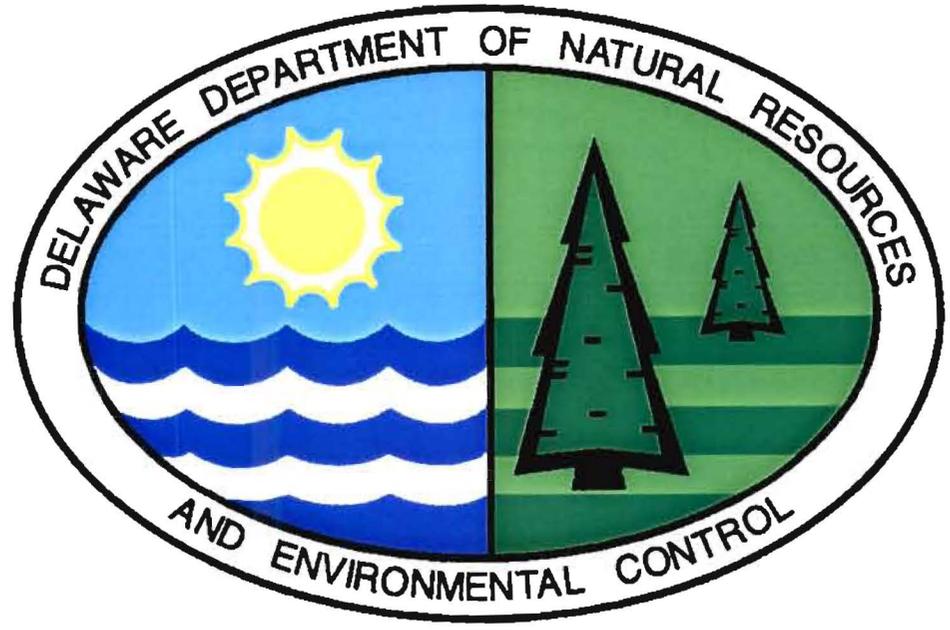


FILE #
OCT 28 2002
SCANNED

PROPOSED PLAN OF REMEDIAL ACTION

560 Terminal Avenue
New Castle, DE

DNREC Project No. DE 1123



October 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

FILE #
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1.0 INTRODUCTION

The 560 Terminal Avenue site (site) is located approximately ¼ mile west of the Port of Wilmington in New Castle, Delaware. In order to determine the potential for environmental liability prior to the purchase of the site, G&L Holdings, Inc. (G&L) entered into the Voluntary Cleanup Program (VCP) under the provisions of the Delaware Hazardous Substance Cleanup Act, 7 Del. C. Chapter 91 (HSCA), as administered by the Site Investigation and Restoration Branch on behalf of the Department of Natural Resources and Environmental Control (DNREC). Through a VCP Agreement, G&L agreed to investigate the potential risks to public health, welfare, and the environment by chemical contamination at the site. G&L contracted WIK Associates, Inc. (WIK) to perform a remedial investigation (RI) of the site.

The purpose of the RI was to: 1) document existing environmental conditions at the site; and 2) determine the level of risk posed by the contaminants, and based upon this analysis, if necessary, evaluate remedial alternatives.

This document is DNREC's proposed plan of remedial action (proposed plan) for the site. It is based on the results of the previous investigations performed at the site. This proposed plan is issued under the provisions of the HSCA and the Regulations Governing Hazardous Substance Cleanup (Regulations). It presents DNREC's assessment of the potential health and environmental risks posed by the site.

As described in Section 12 of the Regulations, DNREC will provide notice to the public and allow an opportunity for the public to comment upon the proposed plan. At the end of the public comment period, DNREC will review and consider all of the comments received and then DNREC will issue a final plan of remedial action (final plan). The final plan will designate the selected remedy for the site. All previous investigations of the site, the proposed plan, comments received from the public, DNREC's responses to those comments, and the final plan will constitute the Remedial Decision Record for the site.

Section 2.0 presents a summary of the site description and history. Section 3.0 provides a description of the remedial investigation results. Section 4.0 presents a discussion of the remedial action objectives. Section 5.0 presents the proposed plan of remedial action. Section 6.0 discusses public participation requirements.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Setting

The site is located at the intersection of Terminal Avenue and Pigeon Point Road, approximately ¼ mile west of the Port of Wilmington, in the City of New Castle, New Castle County, Delaware (Figures 1 & 2). It consists of an approximately six-acre parcel of developed, industrial land. Terminal Avenue borders the site to the north and northeast, Pigeon Point Road to the west, a truck storage depot to the south, and a railroad right-of-way to the southeast. An active asphalt hot mix facility presently occupies the site. The surrounding land use is industrial and

commercial, with several federal and state superfund sites within 0.5 miles, including the Halby Chemical superfund site located directly across Terminal Avenue from the site

2.2 Site and Project History

Through a review of historical aerial photographs, United States Geologic Survey topographic maps, historical Sanborn fire insurance maps and city directories, the historical use of the site has been investigated. Based upon the title search, the property has been corporately owned since at least 1872. At that time, and up until 1950, the property that encompasses the site was owned by the Lobdell Car Wheel Company, which manufactured railroad wheels and machinery. Lobdell Car Wheel Company sold the property to the Dover Equipment and Machine Company in 1950. G&L Holdings purchased the company in 1994, leasing the space to Tilcon Delaware, Inc. to operate the asphalt hot mix plant.

Three underground storage tanks were removed in 1992, including two gasoline tanks (one 10,000 gallon and one 3,000 gallon), and one 10,000 gallon diesel fuel tank. Contaminated soil associated with the tank removal was excavated and bioremediated onsite. The soil was treated to below DNREC action levels for underground storage tank releases and transported for use as fill in Dover, Delaware. The DNREC Underground Storage Tank Branch issued a no further action letter for the site in 1994.

WIK Associates, Inc. conducted a Phase I environmental site assessment of the site in 1993, which consisted of a historical review of the property and surrounding area. It recommended further investigation of the property. A Phase II site investigation was conducted in 1994 and consisted of soil sampling, asbestos sampling, and the sampling of two monitoring wells that were installed by the U.S. EPA in 1993 as part of the ongoing RI of the nearby Halby Chemical site. Results from the soil sampling indicated the presence of low concentrations of petroleum hydrocarbons and the chlorinated volatile organic compounds (VOCs), trichloroethene (TCE) and tetrachloroethene (PCE). TCE and PCE were detected in shallow well MW-4 at 9,200 µg/l and 66 µg/l, respectively, well above the respective U.S. EPA Maximum Contaminant Levels (MCLs) for Drinking Water of 5 µg/l. Low concentrations of the gasoline components toluene and ethylbenzene were detected in groundwater from MW-2.

A Phase III site investigation was conducted later in 1994 by WIK in an effort to assess the magnitude and extent of contaminants detected during the Phase II. These sampling results indicated that only low levels of petroleum hydrocarbons remained in onsite soils, at concentrations below action levels. TCE was found in soils near the TCE storage area and near monitoring well MW-4. It was also detected in groundwater at, and downgradient from, the TCE storage area. The observed concentrations of TCE suggested that further action was warranted.

3.0 INVESTIGATION RESULTS

WIK conducted a RI for the site in 2001 for purposes of assessing present environmental conditions of the site, and to evaluate the extent of the TCE contamination. Specific goals of the investigation were to identify the possible presence of non-aqueous phase liquid TCE (i.e., free product), assess the horizontal extent of groundwater impacts, determine the depth and configuration of the underlying clay confining unit, and determine the extent of soil contamination in the unsaturated zone.

Surface and subsurface soil samples were collected using direct-push technology, and were submitted for laboratory analysis of volatile and semivolatile organic compounds (VOCs and SVOCs), pesticides, polychlorinated biphenyls (PCBs), and cyanide. Groundwater samples were collected from five existing monitoring wells and one piezometer, and were submitted for the same suite of chemical analyses as the soil samples, plus metals. As the property is presently zoned industrial-commercial, and the surrounding land use is zoned similarly, the analytical results were compared to the DNREC Uniform Risk-Based Remediation Standards (URS) in a non-critical water resource area, using the restricted use (i.e., non-residential) risk scenario as a screen in order to determine potential contaminants of concern (COCs) for further risk evaluation.

No SVOCs, PCBs, nor cyanide were detected in any of the soil samples. Only trace concentrations of the pesticides 4-4'-DDE (15 µg/kg) and 4-4'-DDT (28 µg/kg) were detected in one soil sample, but the observed concentrations were several orders of magnitude below their respective restricted use, as well as unrestricted use, URS values. Three chlorinated VOCs, cis-1,2-dichloroethene (cis-1,2-DCE), TCE and PCE, were detected in several soil samples. None of the observed concentrations of the three compounds exceeded the respective restricted use URS values, or even the unrestricted use URS values. The highest concentrations were cis-1,2-DCE at 70 µg/kg (restricted use URS of 2,000 mg/kg), TCE at 1,500 µg/kg (URS of 520 mg/kg), and PCE at 630 µg/kg (URS of 110 mg/kg). Complete analytical results from the RI are listed in table format in Appendix A.

No SVOCs, PCBs, nor pesticides were detected in any of the groundwater samples. Cis-1,2-DCE (up to 61 µg/l in MW-4), TCE (up to 2,900 µg/l in MW-4), and PCE (up to 110 µg/l in GP-17) were detected in several of the monitoring wells. The respective MCLs for these compounds are 70 µg/l, 5 µg/l and 5 µg/l. Total cyanide was detected in SMW-6 at 60 µg/l (URS of 200 µg/l), while thiocyanate, a contaminant associated with the Halby site, was detected in two wells at a concentration up to 2,300 µg/l (URS of 370 µg/l). High concentrations of iron (up to 29,400 µg/l) and manganese (up to 744 µg/l) were also detected in groundwater from several wells above their respective URS values of 300 µg/L and 50 µg/L.

A cumulative, site-specific soil risk assessment indicated that the cumulative risks associated with site soil were at a carcinogenic risk of 5.89×10^{-9} for restricted use, and 5.28×10^{-8} for unrestricted use, with a non-carcinogenic Hazard Quotient of 0 for both scenarios. These risks are below the HSCA action level of 1×10^{-5} for carcinogenic risk and a Hazard Quotient of 1.0 for non-carcinogenic risks. Thus, the soil does not pose an unacceptable risk to human health even if the site were to be used for residential development.

Based upon initial screening, TCE, PCE, thiocyanate, iron and manganese were included in the risk assessment for groundwater. The cumulative non-carcinogenic Hazard Quotient was 0.56, which is below the HSCA threshold of 1.0. The cumulative carcinogenic risk was calculated at 7.7×10^{-4} , above the HSCA threshold of 1×10^{-5} .

At the present time there are no receptors for the contaminated groundwater, as the area surrounding the Port of Wilmington, which includes the subject site, are served with public water. In addition, the 560 Terminal Avenue property is located within the Zone B of the Halby

Chemical and Environs groundwater management zone. Within this Zone B, no public or domestic water supply wells are permitted either in the Columbia or Upper Potomac Aquifers.

Groundwater flows away from the site, as measured using water level measurements from exiting onsite monitoring wells and piezometers, and northeastward underneath the heavily contaminated Halby Chemical Superfund site.

4.0 REMEDIAL ACTION OBJECTIVES

According to Section 8.4 (1) of the Regulations, site-specific remedial action objectives (RAO) must be established for all plans of remedial action. The Regulations provide that DNREC set objectives for land use, resource use and cleanup levels that are protective of human health and the environment.

Qualitative objectives describe in general terms what the final results of the remedial action, if necessary, should be. The following qualitative objectives are determined to be appropriate for the site:

1. Prevent exposure to groundwater contaminated with PCE and TCE; and
2. Continue the use of public water for all purposes to the surrounding community.

These objectives are consistent with the current use of the site as an industrial facility in an area of mixed industrial/commercial use in an urban setting, New Castle County zoning policies, state regulations governing water supply and worker health and safety.

Based on the qualitative objectives, the quantitative objectives are:

- Prevent human exposure to groundwater contaminated with chlorinated solvents whose concentrations exceed the following U.S. EPA MCLs: TCE 5 µg/l and PCE 5 µg/l; and
- Ensure clean closure of areas of the site currently used to store asphalt materials.

5.0 PROPOSED PLAN OF REMEDIAL ACTION

Based on DNREC's evaluation of the site information and the above remedial action objectives, the recommended remedial actions for the site consist of the following activities as described below:

1. Placement of a deed restriction on the property that prohibits the installation of any water well on, or use of groundwater at, the site without the prior written approval of DNREC;
2. Ensure that the site will remain a part of the existing Halby Chemical and Environs Groundwater Management Zone; and

3. In the event that land use changes at the facility, a soil investigation will be required at the time of facility closure to ensure areas where asphalt materials are currently stored do not present a risk to human health and the environment.

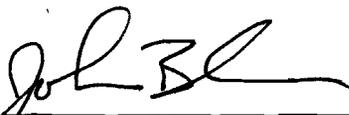
6.0 PUBLIC PARTICIPATION

The Department actively solicits public comments or suggestions on the proposed plan of remedial action and welcomes opportunities to answer questions. Please direct written comments to:

DNREC Site Investigation and Restoration Branch
391 Lukens Drive
New Castle, Delaware 19720
Attention: Keith Robertson

The comment period begins Monday, October 21, 2002, and ends at the close of business (4:30 p.m.) Tuesday, November 12, 2002. If DNREC receives a request with merit, a public meeting will be held on the proposed plan. The meeting time and place will be publicly announced in the same venues as this proposed plan.

KJR/rm
KJR.02029.doc
DE 1123 IIB8



John Blivins
Director, Division of Air and Waste Management

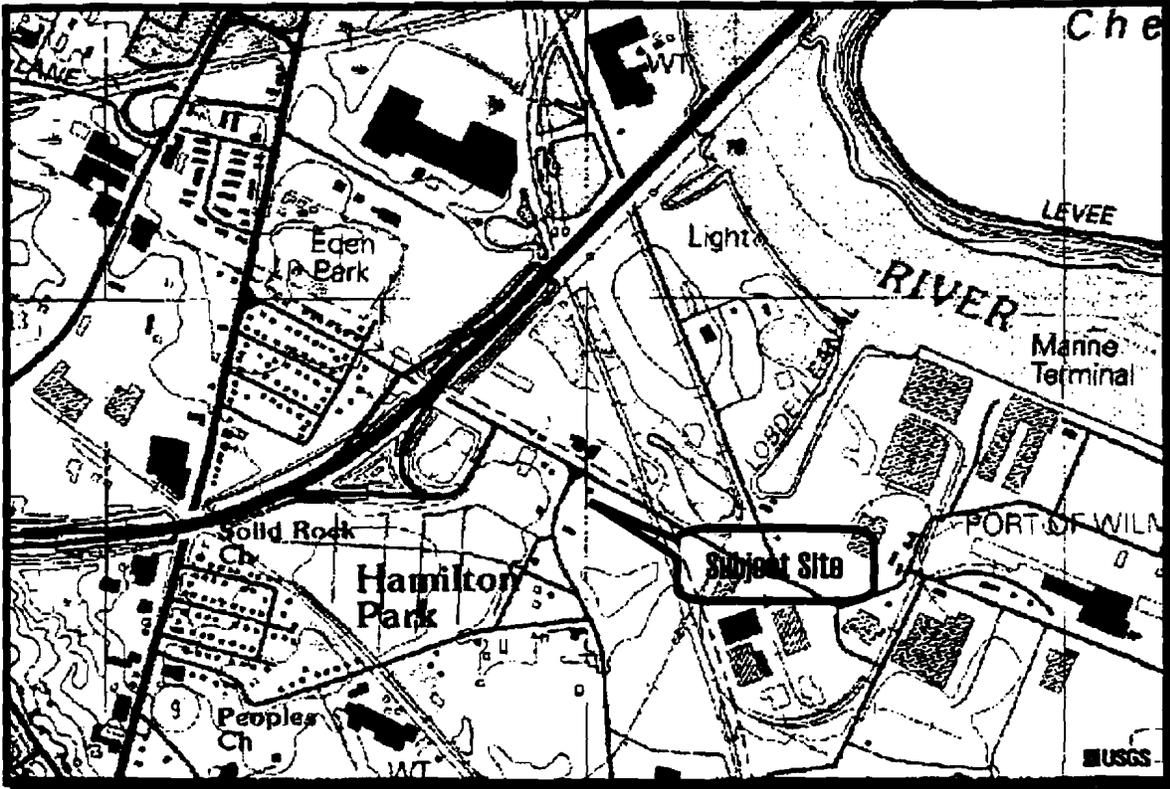
10/3/02

Date

Figures 1 & 2 from Remedial Investigation Report

Prepared by WIK Associates, Inc., October 2001.

Figure 1: Site Location



SCALE

0 ————— .25Mi

FIGURE 1

Site Location/Topographic Map

USGS Topo Map 1 Jul 1984 (downloaded from TerraServer 9/10/01)

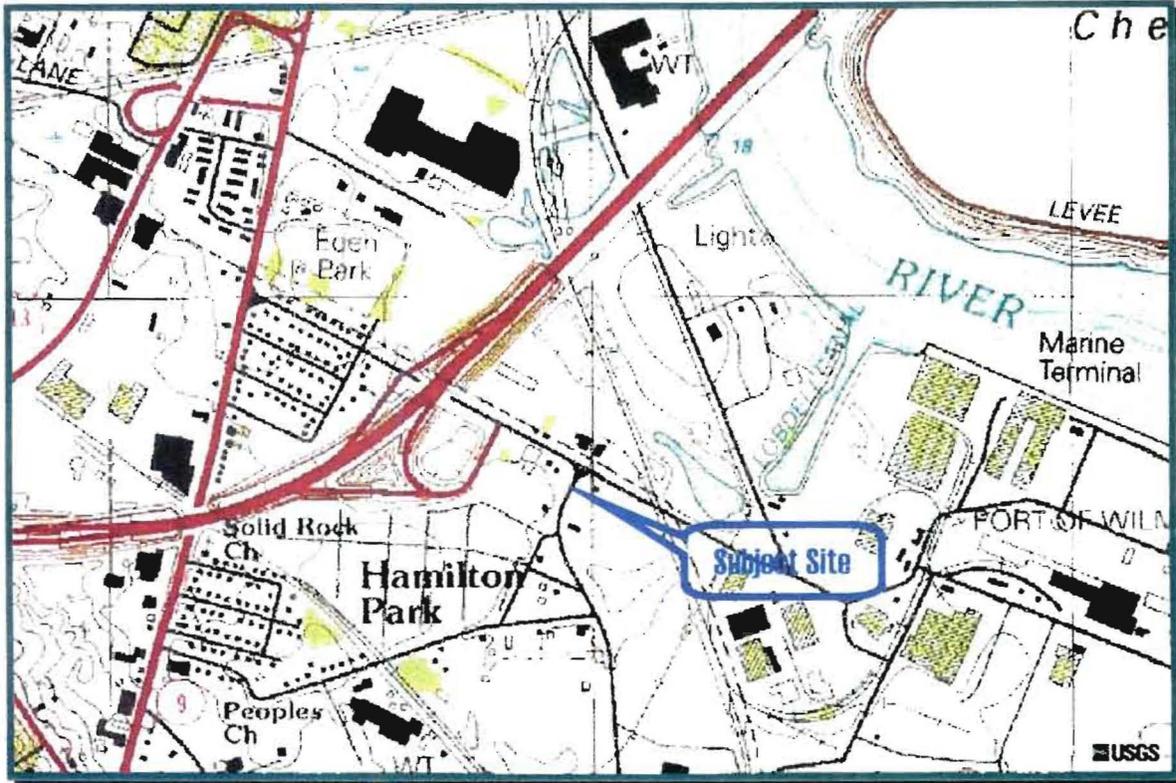
560 Terminal Avenue

New Castle, Delaware

File: 450.11.21



Figure 2: Surrounding Properties and Groundwater Flow Direction



SCALE

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FIGURE 1

Site Location/Topographic Map

USGS Topo Map 1 Jul 1984 (downloaded from TerraServer 9/10/01)

560 Terminal Avenue

New Castle, Delaware

File: 450.11.21



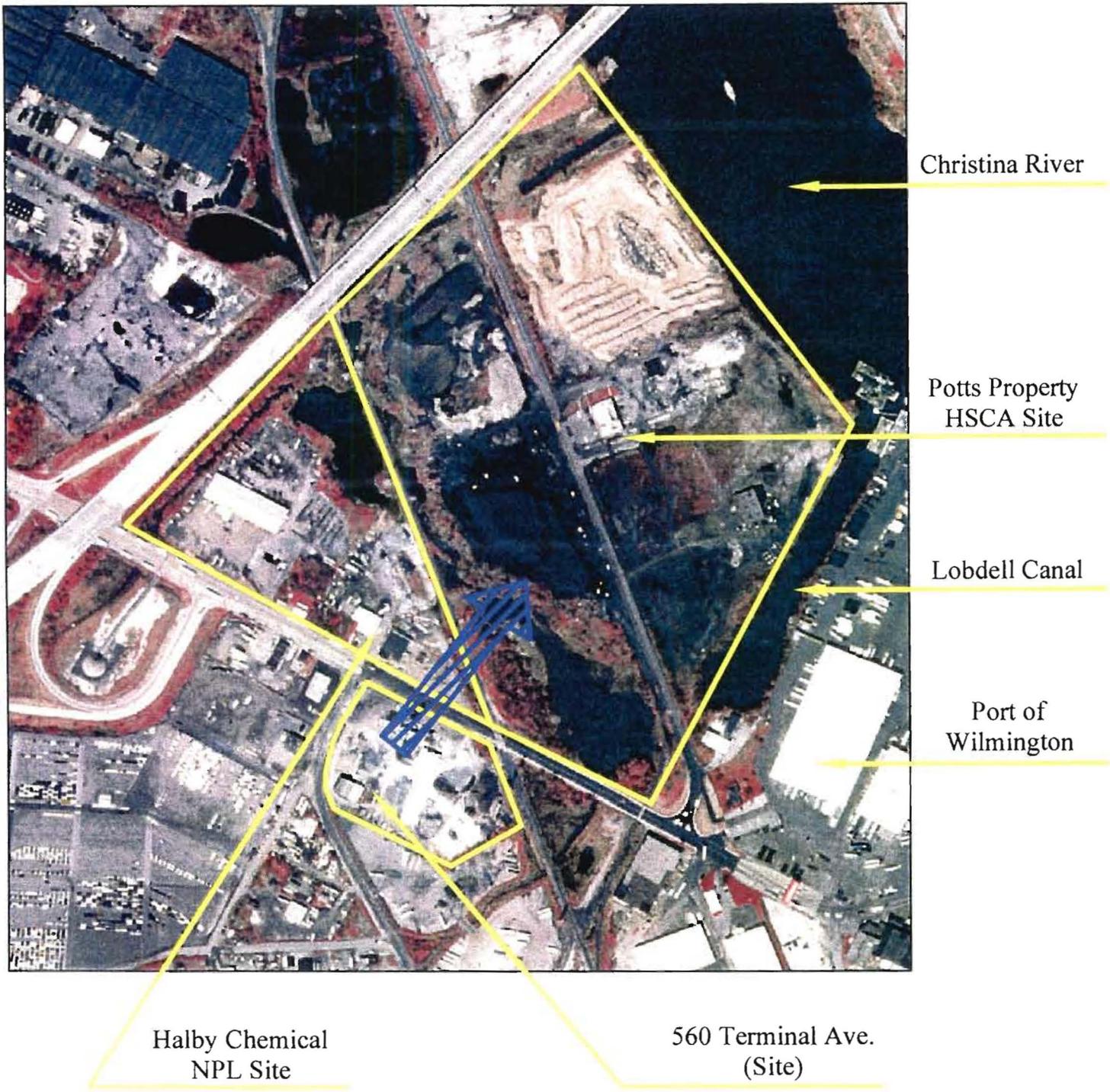


FIGURE 3

Aerial View of Site and Surrounding Properties

Aerial Image from the USGS 1997 Wilmington South Quadrangle

560 Terminal Ave.

New Castle, Delaware

File: 0450.11.21

 Property Outline

 Direction of Groundwater Flow (Columbia Aquifer)

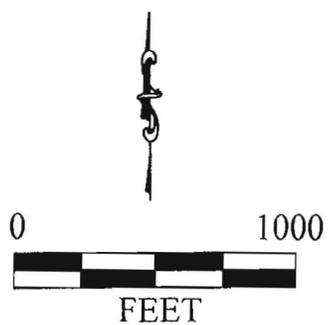


Figure 3: Sampling Locations

Former UST area

PIGEON POINT ROAD

GATE

FENCE

TERMINA

MW-3

TA-GP21

GP-22

TA-GP22

GP-23

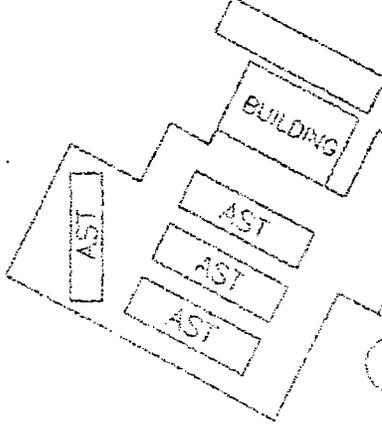
SMW6

MIP03

SB01

GP-21

IMW6



ROTAR

GP-25

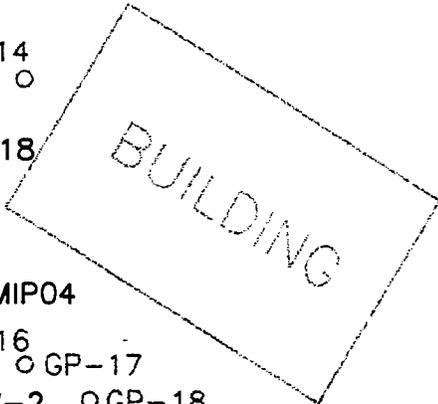
TA-GP23

GP-12

GP-15

GP-14

TA-GP18



MIP04

GP-16

GP-17

MW-2

GP-18

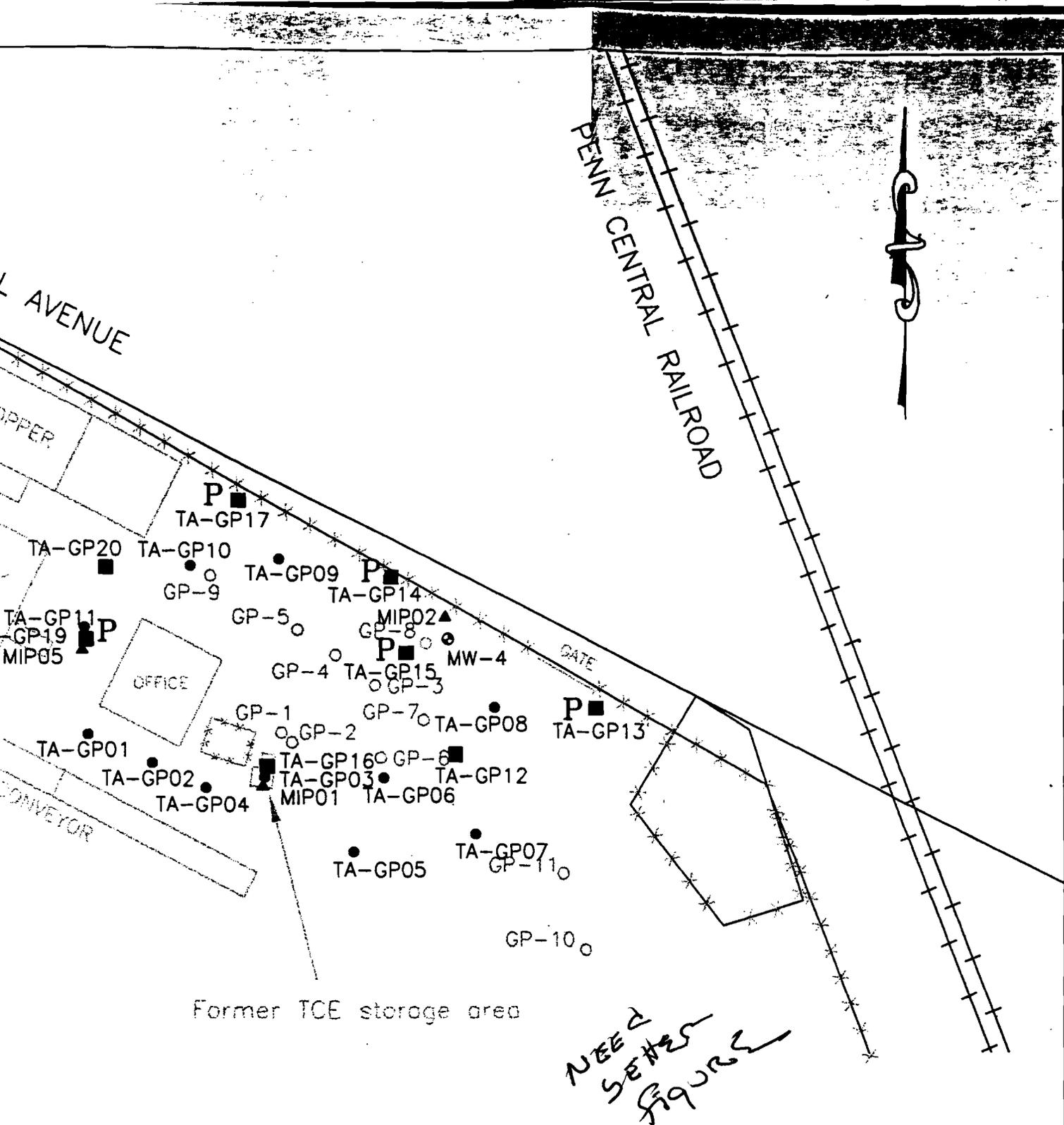
GP-19

GP-20

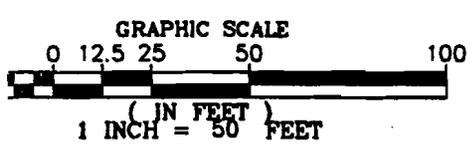
TA-GP24

GP-13





MEMBRANE INTERFACE PROBE LOCATION
 SOIL SAMPLE LOCATION
 GROUNDWATER SAMPLE LOCATION
 SOIL BORING
 MONITORING WELL
 GEOPROBE SAMPLE LOCATION (1994)



		ASSOCIATES, INC. Environmental Evaluation, Investigation, and Remediation	
		P.O. Box 230, 710 Wilmington Road New Castle, Delaware 19720-0230	
		302 322-2568 302 322-8821 fax	
ALL SAMPLE LOCATIONS			
560 TERMINAL AVENUE NEW CASTLE, DELAWARE			
	BY	DATE	SCALE:
DRAWN	JWS	9/24/01	1:720
CHECKED	JEC	9/24/01	DWG. NO.
PROJECT #	0450.11.21		Figure 5
			AC FILE: Risamploc
			REV.

APPENDIX A

NEED
BETTER
TABLE

TABLE 1
Soil Analytical Results from Previous Investigations
560 Terminal Avenue
New Castle, Delaware
Remedial Investigation

Sample ID	Sample Interval (feet)	Date Sampled	PID Headspace Reading (ppm)	Volatile Organic Compounds										Total Petroleum Hydrocarbons		
				Methylene Chloride	1,1-Dichloroethene	1,1,1-Trichloroethene	1,2-Dichloroethene	1,1,2-Trichloroethene	Benzene	Tetrachloroethene (PCE)	Toluene	Ethylbenzene	Xylene (Total)	All other VOCs	TPH/GC (Diesel)	TPH/GC (Gasoline)
Units				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
DNREC Soil URS for Non-Critical Water Resource Area - Restricted Use (12/99)				760	5,000	5,000	520	200	110	5,000	5,000	5,000	nca	nca	nca	
GP-1	3.0 - 4.0	3/24/94	130	-	-	-	1	-	N.D.	-	-	-	-	-	-	-
GP-2	3.0 - 4.0	3/24/94	104	-	-	-	0.86	-	N.D.	-	-	-	-	-	-	-
GP-3	6.0 - 7.0	3/24/94	50	-	-	-	1.9	-	N.D.	-	-	-	-	-	-	-
GP-4	9.0 - 10.0	3/24/94	5.4	-	-	-	0.4	-	N.D.	-	-	-	-	-	-	-
GP-5	15.5 - 16.5	3/24/94	2.8	-	-	-	0.009 J	-	N.D.	-	-	-	-	-	-	-
GP-6	18.5 - 19.5	3/24/94	5.9	-	-	-	1.2	-	N.D.	-	-	-	-	-	-	-
GP-11	0.1 - 0.3	3/25/94	0	-	-	-	N.D.	-	N.D.	-	-	-	-	-	-	-
GP-14	2.0 - 3.0	3/30/94	2	-	-	-	-	N.D.	-	N.D.	N.D.	N.D.	-	N.D.	N.D.	
GP-15	2.0 - 3.0	3/30/94	2.9	N.D.	0.16	0.021	N.D.	N.D.	N.D.	0.002 J	0.009 J	0.06	N.D.	41.4	N.D.	
GP-16	2.0 - 3.0	3/30/94	0.8	-	-	-	-	N.D.	-	N.D.	N.D.	N.D.	-	N.D.	N.D.	
GP-17	4.0 - 5.0	3/30/94	60.1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
GP-18	3.0 - 4.0	3/30/94	47.7	-	-	-	-	N.D.	-	N.D.	N.D.	N.D.	-	N.D.	N.D.	
GP-19	3.0 - 4.0	3/30/94	51	-	-	-	-	N.D.	-	N.D.	N.D.	N.D.	-	N.D.	N.D.	
GP-20	4.0 - 5.0	3/30/94	48.2	-	-	-	-	N.D.	-	N.D.	N.D.	N.D.	-	N.D.	N.D.	
MW-1	?	3/8/94	0	0.007 JB	0.011 B	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	
MW-2	3.0 - 3.5	3/8/94	0	N.D.	0.26 B	-	N.D.	0.008 J	N.D.	0.34	0.58	3.4 F	N.D.	206	N.D.	
MW-3	7.0 - 7.5	3/8/94	0	N.D.	N.D.	-	N.D.	N.D.	N.D.	N.D.	0.001 J	0.014 J	N.D.	N.D.	-	
MW-3	5.5 - 6.0	3/8/94	14.0	0.002 JB	N.D.	-	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	-	
MW-4	3.0 - 4.0	3/8/94	6.0	N.D.	N.D.	-	0.16	N.D.	0.001 J	N.D.	N.D.	N.D.	N.D.	N.D.	-	

N.D.: Compound was analyzed for but not detected above the laboratory minimum detection limit.
 J: Compound was detected, but below the Method Detection Limit. Quantitation is approximate.
 B: Compound was detected in the blank.
 -: Not Analyzed
 nca: No criteria available

NERC
BETTER
TABLE

TABLE 2
Groundwater (Monitoring Well) Analytical Results
from Previous Investigations
560 Terminal Avenue
New Castle, Delaware
Remedial Investigation

Date Sampled	DNREC Ground Water URS (12/99) (ug/L)	MW-1A	MW-2	MW-2	MW-3	MW-4	MW-4	SMW-6	SMW-6	SMW-6	IMW-6	IMW-6
		Mar-94	Mar-94	Apr-99	Mar-94	Mar-94	Apr-99	Aug-93	Dec-93	Apr-99	Aug-93	Dec-93
VOLATILE ORGANIC COMPOUNDS												
Methylene Chloride	5	ND	ND	1.91	ND	ND	3.09	ND	ND	2.32	ND	ND
Acetone	61	ND										
2-Butanone (MEK)	190	ND	-	-								
Trichloroethene (TCE)	5	ND	1 J	30.6	ND	9200	2400	41	28	ND	ND	ND
Benzene	5	ND	-	ND								
Tetrachloroethene (PCE)	5	ND	ND	ND	ND	66 J	48.7	ND	0.9 J	17.6	ND	ND
Toluene	1000	ND	1 J	ND	-	ND						
Ethylbenzene	700	ND	8 J	ND	-	-						
Vinyl Chloride	2	ND	ND	3.15	ND	ND	ND	ND	ND	ND	-	-
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	1.95	-	-	ND	-	-
Methyl-Tert-Butyl- Ether	20	-	-	3.72	-	-	ND	-	-	ND	-	-
Chloroform	100	ND	ND	ND	ND	ND	1.39	-	-	ND	ND	ND
1,2-Dichloroethene (trans)	100	ND	ND	1.52	ND	ND	ND	ND	ND	ND	-	-
1,2-Dichloroethene (cis)	70	ND	ND	27.2	ND	ND	42.4	ND	ND	1.13	-	-
Xylene (Total)	100	ND	-	ND	-	ND						
All other VOCs	nca	ND	ND	ND	ND	ND	ND	-	-	ND	-	-
METALS												
Total Mercury	0.4	ND	ND	NA	ND	ND	-	-	-	-	-	-
Total Iron	nca	22000	1200	NA	43	ND	-	-	-	-	-	-
Total Silver	100	180	ND	NA	ND	ND	-	-	-	-	-	-
Total Zinc	2000	170	150	NA	130	110	-	-	-	-	-	-
All others	nca	ND	ND	NA	ND	ND	-	-	-	-	-	-
Total CN	200	ND	ND	NA	ND	ND	-	-	-	-	-	-
Phenols	nca	ND	ND	NA	ND	ND	-	-	-	-	-	-
PESTICIDES/PCBs	nca	ND	ND	NA	ND	ND	-	-	-	-	-	-
SEMI-VOLATILES	nca	ND	ND	NA	ND	ND	-	-	-	-	-	-

Notes:
 SMW6 and IMW6 1993 data was obtained from the Halby Chemical Company Site Remedial Investigation Report (CH2MHill, January 1997)
 All units are in ug/L
 ND: Compound was not detected above the laboratory detection limit.
 J: Compound was detected, but below the Method Detection Limit. Quantitation is approximate.
 NA: Not Analyzed
 -: No Data Available

same

TABLE 4A
 March 2001 Soil Analytical Results -
 VOCs
 560 Terminal Ave
 New Castle, Delaware
 Remedial Investigation

Sample ID	DNREC URS for Non-critical water resource area unrestricted use (12/99)	DNREC URS for Non-critical water resource area restricted use (12/99)	TA-GP01-S001 03/01/01 7.0' ug/Kg	TA-GP02-S001 03/01/01 6.0' ug/Kg	TA-GP03-S001 03/01/01 8.0' ug/Kg	TA-GP04-S001 03/01/01 8.1' ug/Kg	TA-GP05-S001 03/01/01 6.0' ug/Kg	TA-GP06-S001 03/01/01 15.6' ug/Kg
VOLATILE COMPOUNDS								
cis-1,2-Dichloroethene	78,000	2,000,000	740 U	640 U	700 U	850 U	750 U	70 J
Trichloroethene (TCE)	5,000	520,000	150 U	500	1,000	1,100	360	1,500
Tetrachloroethene (PCE)	11,000	110,000	150 U	560	160	630	150 U	140 U

All units are ug/kg
 U - Compound was not detected at indicated concentration
 J - Result is less than quantitation limit but greater than zero
 The concentration given is an approximate value

same

TABLE 3
Groundwater (Geoprobe) Analytical Results
from Previous Investigations
560 Terminal Avenue
New Castle, Delaware
Remedial Investigation

	Sample Interval (feet)	Date Sampled	PID Headspace Reading (ppm)	Trichloroethene (TCE)	Tetrachloroethene (PCE)
DNREC Ground Water URS (12/99)					
Unit				µg/L	µg/L
GP-1	12.5 - 13.5	3/24/94	35	1600	33 J
GP-3	12.5 - 13.5	3/24/94	12	460	7 J
GP-4	14.0 - 15.0	3/24/94	11.7	260	6 J
GP-5	14.0 - 15.0	3/24/94	12.5	25	N.D.
GP-6	14.0 - 15.0	3/25/94	24.5	3100	N.D.
GP-7	14.0 - 15.0	3/25/94	12.5	750	16 J
GP-8	14.0 - 15.0	3/25/94	4.5	330	8 J
GP-9	16.0 - 17.0	3/25/94	166	6400	49 J
GP-10	17.0 - 18.0	3/25/94	3.1	N.D.	N.D.
GP-11	17.0 - 18.0	3/25/94	0	N.D.	N.D.
GP-12	20.0 - 21.0	3/25/94	0	N.D.	N.D.
GP-21	17.0 - 18.0	3/30/94	10.8	30	1 J
GP-22	20.0 - 21.0	3/30/94	6.9	80	4 J
GP-23	17.0 - 18.0	3/30/94	3.9	100	4 J
GP-24	19.0 - 20.0	3/30/94	-	10	N.D.

N.D.: Compound was not detected above the laboratory detection limit.
 J: Compound was detected, but below the Method Detection Limit.
 Quantitation is approximate.

same

TABLE 4A
March 2001 Soil Analytical Results -
VOCs
560 Terminal Ave
New Castle, Delaware
Remedial Investigation

	DNREC URS for Non-critical water resources area unrestricted use (12/99)	DNREC URS for Non- critical water resources area restricted use (12/99)	TA-GP07-S001 03/01/01 4.5'	TA-GP08-S001 03/01/01 4.5-6.0'	TA-GP09-S001 03/01/01 5.0-6.0'	TA-GP10-S001 03/01/01 6.5'	TA-GP11-S001 03/01/01 5.8'
Sample ID							
Sampling Date							
Depth Sampled (feet bgs)							
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS							
cis-1,2-Dichloroethene	78,000	2,000,000	770 U	790 U	930 U	780 U	910 U
Trichloroethene (TCE)	5,000	520,000	270	370	1,400	580	180 U
Tetrachloroethene (PCE)	11,000	110,000	150 U	160 U	140 J	150 U	180 U

All units are ug/kg
 U - Compound was not detected at indicated concentration
 J - Result is less than quantitation limit but greater than zero
 The concentration given is an approximate value

same

TABLE 4B
March 2001 Soil Analytical Results -
SVOCs, Pesticides, PCBs, Cyanide
560 Terminal Ave
New Castle, Delaware
Remedial Investigation

Sample ID	DNREC URS for Non-critical water resource area unrestricted use (12/99)	DNREC URS for Non-critical water resource area (restricted use (12/99)	GP1,1' TA-GP1	GP3,7 TA-GP3	GP4,1' TA-GP4	GP8,1' TA-GP8	GP8,8' TA-GP8	GP9,1' TA-GP9	GP9,6-7' TA-GP9	GP11,1' TA-GP11	GP11,8' TA-GP11
Sample Location											
Sampling Date			03/01/01	03/01/01	03/01/01	03/01/01	03/01/01	03/01/01	03/01/01	03/01/01	03/01/01
Depth Sampled (feet bgs)			0.8-1.1	6.9	1.5-2.0	0.8-2.0	4.8-6.0	2.5-3.4	5.0-5.9	1.0'	4.0-5.8
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
SVOCs											
All SVOCs were below laboratory detection limits											
PESTICIDES											
4,4-DDE	2,000	17,000	15	ND	ND	ND	ND	ND	ND	ND	ND
4,4-DDT	2,000	17,000	28	ND	ND	ND	ND	ND	ND	ND	ND
All other pesticides were below laboratory detection limits											
PCBs											
All PCBs were below laboratory detection limits											
CYANIDE											
All Cyanide results were below laboratory detection limits											

NOTE: The samples shown on this table were collected by DNREC-SIRB

ND - The compound was not detected.

SAME

TABLE 5
March 2001 Groundwater (Geoprobe) Analytical Results
560 Terminal Ave
New Castle, Delaware
Remedial Investigation

Sample ID Sampling Date Units	DNREC URS for groundwater (12/98) ug/L	TA-GP12-W001 03/08/01 ug/L	TA-GP13-W001 03/08/01 ug/L	TA-GP14-W001 03/08/01 ug/L	TA-GP15-W001 03/08/01 ug/L	TA-GP16-W001 03/08/01 ug/L	TA-GP16-W002 03/08/01 ug/L	TA-GP17-W001 03/08/01 ug/L
VOLATILE COMPOUNDS								
cis-1,2-Dichloroethene	70	10	10	29	11	0.7	9.8 U	6.4
Trichloroethene (TCE)	5	920	910	170	75	29	4,600	990
Benzene	5	1.3 U	1.3 U	0.3 U	0.3 U	1.2	6.5 U	1.3 U
Tetrachloroethene (PCE)	5	7.2	11	5.0	1.5	6.4	8.0 U	56
WET CHEMISTRY								
Thiocyanate	370	100 U	100 U	310	100 U	NR	100 U	350

All units are ug/L
Bold - Compound exceeds the groundwater URS
 U - Compound was not detected at the indicated concentration
 NR - Not analyzed
 nca - No criteria available
 J.U.J. - The indicated concentration is estimated

SAME

TABLE 5
March 2001 Groundwater (Geoprobe) Analytical Results
560 Terminal Ave
New Castle, Delaware
Remedial Investigation

Sample ID Sampling Date Units	DNREC URS for Groundwater (12/99) ug/L	TA-GP18-W001 03/08/01 ug/L	TA-GP19-W001 03/08/01 ug/L	TA-GP20-W001 03/12/01 ug/L	TA-GP21-W001 03/12/01 ug/L	TA-GP22-W001 03/12/01 ug/L	TA-GP23-W001 03/12/01 ug/L	TA-GP24-W001 03/12/01 ug/L
VOLATILE COMPOUNDS								
cis-1,2-Dichloroethene	70	0.4 U	16 J	1.6 J	0.4 UJ	0.4 UJ	0.4 UJ	0.4 UJ
Trichloroethene (TCE)	5	0.4 U	370 J	340 J	0.4 UJ	21 J	13 J	0.4 UJ
Benzene	5	0.3 U	0.5 UJ	0.5 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ
Tetrachloroethene (PCE)	5	0.3 U	14 J	24 J	0.3 UJ	0.3 UJ	1.4 J	0.9 J
WET CHEMISTRY								
Thiocyanate	370	100 U	160	100 U				

All units are ug/L
Bold - Compound exceeds the groundwater URS
 U - Compound was not detected at the indicated concentration
 NR - Not analyzed
 nca - No criteria available
 J/UJ - The indicated concentration is estimated

Same

TABLE 6A
May 2001 Groundwater (Monitoring Wall) Analytical Results-
VOCs, Metals, Wet Chemistry
560 Terminal Ave
New Castle, Delaware
Remedial Investigation

Sample ID	GP17-W001 05/01/01	GP17-W002 05/02/01	GP17-W003 05/01/01	GP17-W004 05/02/01	GP17-W005 05/01/01	GP17-W006 05/01/01	GP17-W007 05/02/01
Sampling Date	05/01/01	05/02/01	05/01/01	05/02/01	05/01/01	05/01/01	05/02/01
Units	ug/L						
VOLATILE COMPOUNDS							
cis-1,2-Dichloroethene	70	1.0	0.2 U	61	3.2	0.2 U	6.9
Trichloroethene (TCE)	5	1.1	0.3 U	2,900	25	0.3 U	1,200
Tetrachloroethene (PCE)	5	0.3 U	0.3 U	49	0.3 U	0.3 U	110
All other Volatile Organic Compounds were below laboratory detection limits							
METALS							
Aluminum	200	77.4 U	NR				
Antimony	6	3.9 U	NR				
Arsenic	50	3.4 U	NR				
Barium	2,000	27.9	52.9	66.4	57.2	89.7	NR
Beryllium	4	0.10 U	NR				
Cadmium	5	0.40 U	NR				
Calcium	nca	22,100	34,200	173,000	32,900	24,200	NR
Chromium	11	2.8 U	NR				
Cobalt	220	3.5 U	NR				
Copper	1,300	2.1 U	NR				
Iron	300	39.7 U	39.7 U	39.7 U	22,800	29,400	NR
Lead	15	2.2 U	NR				
Magnesium	nca	11,600	10,000	118,000	18,400	14,900	NR
Manganese	50	744	215	707	736	390	NR
Mercury	2	0.10 U	NR				
Nickel	100	3.9 U	NR				
Potassium	nca	537	1,600	6,910	1,240	1,030	NR
Selenium	50	3.9 U	NR				
Silver	100	0.70 U	0.70 U	0.70 U	0.97	0.70 U	NR
Sodium	nca	10,500	88,800	146,000	20,600	22,200	NR
Thallium	2	4.4 U	NR				
Zinc	2,000	12.6	10.8	5.8 U	5.8 U	5.8 U	NR
WET CHEMISTRY							
Thiocyanate	370	389	100 U	100 U	2,300 J	100 U	NR
Total Cyanide	200	10 U	10 U	10 U	60	10 U	NR

Bold - Compound exceeds the groundwater URS
 U - Compound was not detected at the indicated concentration
 J,U - The indicated concentration is estimated
 NR - Not analyzed.
 nca - no criteria available

SAME

TABLE 6B
May 2001 Groundwater (Monitoring Well) Analytical Results-
SVOCs, Pesticides, PCBs
560 Terminal Ave
New Castle, Delaware
Remedial Investigation

Sample ID	DNREC URS for groundwater (12/99)	MW02	MW03	MW04	SMW6	IMW6
Sampling Date		05/01/01	05/01/01	05/02/01	05/01/01	05/01/01
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SVOCs						
All SVOCs were below laboratory detection limits						
PESTICIDES						
All pesticides were below laboratory detection limits						
PCBs						
All PCBs were below laboratory detection limits						

NOTE: The samples shown on this table were collected by DNREC-SIRB

Table 7
Elevations of Ground Surface and Groundwater for Monitoring Wells Piezometers
560 Terminal Avenue
New Castle, Delaware
Remedial Investigation

Same

WELL ID	TOP OF WELL ELEVATION (FT. BGS)	GROUND SURFACE ELEVATION (FT. BGS)	WELL SCREEN INTERVAL (INCH)	TOTAL WELL DEPTH (FEET)	SCREEN INTERVAL (FEET)	DEPTH TO WATER (FT. BGS)	GROUNDWATER ELEVATION (FT. BGS)	DEPTH TO WATER (FT. BGS) 7/25/01	GROUNDWATER ELEVATION (FT. BGS) 7/25/01
MW-2	9.59	10.03	2-INCH	12.5	7.5-12.5	4.80	4.79	4.82	4.77
MW-3	10.95	11.31	2-INCH	15	5.0-15.0	7.66/(7.64)*	3.31	8.21	2.74
MW-4	8.56	8.80	2-INCH	15	5.0-15.0	5.44/(5.42)*	3.14	5.9	2.66
SMW-6	10.14	10.47	2-INCH	29	19-29	6.26/(6.25)*	3.89	6.67	3.47
IMW-6	10.02	10.41	2-INCH	62	52-62	5.91	4.11	6.4	3.62
GP-13	7.98	8.21	0.75-INCH	15	12-15	5.12	2.86	5.64	2.34
GP-14	9.08	9.17	0.75-INCH	18	15-18	6.1	2.98	6.65	2.43
GP-15	8.89	9.09	0.75-INCH	17	14-17	5.92	2.97	6.46	2.43
GP-16	9.28	9.55	0.75-INCH	16	13-16	6.18	3.1	6.7	2.58
GP-17	9.77	10.02	0.75-INCH	20	17-20	6.68	3.09	7.23	2.54
GP-18	9.74	9.81	0.75-INCH	21	18-21	5.82	3.92	6.23	3.51
GP-19	10.31	10.62	0.75-INCH	15	12-15	7.15	3.16	7.73	2.58

(1) ELEVATIONS SURVEYED BY TAYLOR WISEMAN & TAYLOR - JULY 25, 2001

* 5/7/01-Top of PVC casing trimmed to allow well cap to be placed on wells.

Number in parentheses reflects modified depth to water measurement.