

ORIGINAL  
(Red)

R-585-1-5-16  
SITE INSPECTION USING AVAILABLE INFORMATION OF  
DUPONT NEWPORT LANDFILL  
PREPARED UNDER

TDD NO. ~~F3-8410-12~~  
EPA NO. DE-20  
CONTRACT NO. 68-01-6699

FOR THE  
HAZARDOUS SITE CONTROL DIVISION  
U.S. ENVIRONMENTAL PROTECTION AGENCY

OCTOBER 7, 1985

NUS CORPORATION  
SUPERFUND DIVISION

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SECTION 1

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## 1.0 INTRODUCTION

### 1.1 Authorization

NUS Corporation performed this work under Environmental Protection Agency Contract No. 68-01-6699. This specific report was prepared in accordance with Technical Directive Document No. F3-8410-12 for the DuPont Newport Landfill located in Newport, Delaware.

### 1.2 Scope of Work

NUS FIT III was tasked to conduct a Non-sampling Site Inspection using available data report for the DuPont Newport Landfill.

### 1.3 Summary

The DuPont Newport Landfill is located next to the DuPont Pigment Plant (now the Holly Run Plant) in Newport, New Castle County, Delaware. The DuPont Pigment Plant generated wastes that were disposed of at their 7-acre industrial landfill, from 1902 until 1975. The wastes included inorganically and organically bonded metals, radioactive residues, plant pigments and pigment sludges, organic pigments, magnetic tapes, and inert miscellaneous wastes. After its closure in 1975, the landfill was graded, covered, and vegetated and monitoring wells were installed in and around the area (see appendices F and G).

The Delaware Department of Natural Resources and Environmental Control (DE DNREC) and the DuPont Company performed groundwater monitoring of the 11 on-site monitoring wells. The laboratory results of the samples taken are presented in appendix D of this report. Briefly, the reports show that the major contaminants on the site are heavy metals. These laboratory results indicate that the landfill has contaminated both the Columbia and Potomac aquifers. The concentration of cadmium and iron found in the water is reported as being above the acceptable levels allowed by the Delaware drinking water standard. Overall, the concentrations of heavy metals is quite high (see appendix D).

The samples taken were also tested for organics. The concentrations of organics reported in laboratory results are low in comparison with those of the heavy metals. Correspondence between Mr. Kenneth R. Weiss and Lisa Hamilton, both of DE DNREC, indicates that the results of the samples taken indicate contamination. The letter also indicates that, since there are no official drinking water standards for synthetic organics to make comparisons, the level of contamination and its health effects are unknown. Other laboratory results show small amounts of organics present in the samples (see appendix D, organic sampling of February 21, 1980).

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SECTION 2

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## **2.0 THE SITE**

### **2.1 Location**

The DuPont Newport Landfill site is located in Newport, Delaware, adjacent to the Holly Run Plant on James and Water Streets (see appendix B).

### **2.2 Site Layout**

The DuPont Newport Landfill is presently closed. The site consists of 7 acres of wetlands that have been graded, covered, and vegetated. The Holly Run Plant is adjacent to the site.

### **2.3 Ownership History**

The site, originally owned by Henrik J. Krebs, was tidal wetlands before it was purchased by E. I. DuPont de Nemours Incorporated, who used it as a burning dump and industrial landfill from 1902 until 1975. The site is still owned by DuPont but is presently closed (see appendix G).

### **2.4 Site Use History**

Prior to landfilling by DuPont, the site was tidal wetlands. From 1902 until 1975, the site was used as a burning dump and then as an industrial landfill to dispose of wastes generated from the DuPont Pigment Plant. Available information also indicates that by-products generated from the manufacturing of lithipone (a white pigment) were disposed of by being pumped through a pipeline across the Christina River and onto the ground south of the river (see appendices F and G).

### **2.5 Permit and Regulatory Action History**

Reportedly, DuPont Newport Pigments held state solid waste permits and was in compliance with state and federal regulations while the landfill was operating.



## 2.6 Remedial Action To Date

After its closure on January 1, 1975, the DuPont Newport Landfill was graded, covered, and vegetated. Monitoring wells were installed in and around the site. A preliminary assessment was performed by the DE DNREC, who recommended the continued monitoring of the site (see appendices D and G).

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SECTION 3

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### 3.0 ENVIRONMENTAL SETTING

#### 3.1 Water Supply

The Artesian Water Company is the major supplier of potable water and has 3 wells within a 3-mile radius of the site. These wells are located on the other side of the Christina River, approximately 2 miles south of the landfill, near the Greater Wilmington Airport. The Artesian Water Company Distribution system is interconnected and reportedly serves an estimated 150,000 people. The city of Newport is serviced by the Wilmington Suburban Water Company. The water source comes from the Red and White Clay Creek pumping station located in Stanton. The pumping station is interconnected with the Christina River water shed (upgradient from the site), at Smalleys Pond near Christiana. This system reportedly serves an estimated 90,000 to 100,000 people (see appendices C, telecons dated November 11, 1984 and May 15, 1985, and E).

Records also indicate that private wells, located approximately 1/2 mile south of the site and on the other side of the Christina River, are utilized for drinking purposes. There is no alternate supply available (see appendices C, telecon dated September 19, 1985, and F).

#### 3.2 Surface Waters

The landfill is located entirely within the 100-year flood plain of the Christina River, which borders the southeast. Tidal wetlands are located to the south and west of the landfill. The surface water runoff is expected to drain southeast towards the Christina River, which flows in a northeasterly direction for approximately 8 miles before entering the Delaware River. The Christina River is used for industrial water supply, recreation, and fishing (see appendices B and H).

### 3.3 Geology and Soils

The DuPont Newport Landfill is within the Embayed Section of the Atlantic Coastal Plain Physiographic Province.<sup>5</sup> In the site area, the geology of this section can be broadly characterized as consisting of a relatively thin accumulation of unconsolidated sediments. Pleistocene and Cretaceous in age, overlying the Piedmont crystalline basement.<sup>2</sup>

Surficial deposits of the Columbia are reported to directly underlie the site.<sup>8,9</sup> On-site boring logs for monitoring wells SM1 and SM2, constructed in the Columbia, describe the lithology of these deposits as being predominantly composed of sand and silt, with lesser amounts of gravel.<sup>9</sup> The color of these logged sediments is recorded as light to dark brown, and gray.<sup>9</sup> The log descriptions of sediments encountered at shallow depths in other subsurface borings taken on the site concur with the above description (see appendix J).

The precise thickness of the Columbia beneath the site is not known. General geologic references on the Columbia report that it is 40 to 50 feet thick in this area.<sup>3</sup> A log of monitoring well DM1, believed to have been constructed in the Columbia, gives a total depth of 56 feet.<sup>9</sup> It is unclear, however, if this well is entirely within the Columbia, as it is screened at 27 to 31 feet and the details of its construction below the screened interval to its bottom are unknown. In considering the depths of wells SM1 and SM2, a minimum thickness of 24 to 25 feet can be assumed for the Columbia, at least beneath parts of the site.

The Columbia is recognized as having been deposited in a system of straight channels that generally coursed from the north-northeast to the south-southwest by melt-water streams originating from under glaciis.<sup>3</sup> Within interchannel areas, the Columbia is generally thin or does not occur.<sup>3</sup>

Unconformably lying beneath the Columbia at the site is the gently dipping Potomac Formation.<sup>2</sup> The Potomac Formation is considered to represent a marine sequence that overlapped upon the crystalline rocks of the southeasternward sloping Piedmont basement. Accordingly, the Potomac Formation can be structurally defined as a southeasterly dipping homocline.

Lithologically, the Potomac is described as being composed of variegated red, gray, purple, yellow, and white silts and clays that are frequently lignitic, interbedded with white, gray, and rust brown quartz sands containing some gravel.<sup>2</sup> Although it cannot be verified from the available data, it would seem that the variegated silts and clays described in boring logs may be those of the Potomac (see appendix J).

The thickness of the Potomac in the area of the site is considered to be about 125 feet.<sup>7</sup> Two on-site wells (nos. 13 and 12), reported to be drilled to depths of 112 and 116 feet, substantiate that the Potomac is at least 62 to 76 feet thick, if 40 to 50 feet is allowed for Columbia sediments.

Underlying the Potomac Formation is the Piedmont crystalline basement, considered to be a complex of early Paleozoic to Precambrian rocks of igneous and metamorphic origin. The contact of the Potomac with the basement rocks is considered unconformable.<sup>5</sup>

The precise depth at which the basement is found beneath the site is not known. As the site is located 2 to 3 miles south of the fall line, where the crystalline rocks of the basement crop out, the basement is probably at a relatively shallow depth. If the Potomac Formation is assumed to be 125 feet, and the Columbia is 50 feet thick, then the depth to the basement is approximately 175 feet below the ground surface.

No major structural features have been mapped within 3 miles of the site.

### 3.4 Groundwaters

There are 11 wells that have been reported for the DuPont Newport facility. Of this total, 3 are considered to have been constructed in the Columbia Formation, and 7 are in the Potomac Formation. There is some discrepancy concerning wells DM1 and DM2 as to whether they are within the Columbia Formation or the Potomac Formation (see appendix J).

Well information is summarized on the following page.

Although for modeling purposes the Potomac Formation has been divided into 3 sand aquifers, Kenneth Woodruff of the Delaware Geological Survey stated that the Potomac beneath the site area is divisible into 2 water-bearing sands, an upper sand, approximately 50 to 70 feet below the surface, and a deep sand, 85 to 100 feet below the surface.<sup>9</sup> In Woodruff's opinion, the upper sand of the Potomac is probably hydraulically connected to the Columbia. This is also indicated by the rise of water levels in monitoring wells DM1 and DM2 (if indeed these wells are constructed in the Columbia) in response to the shutdown of water supply well nos. 11 and 13, both constructed within the Potomac. Assuming the upper aquiferous sand of the Potomac is connected to the Columbia, the sand and the deposits of the Columbia would represent a water-table aquifer, with the most permeable section being within the Columbia.<sup>1</sup> The occurrence and movement of groundwater within the Columbia and the upper sand of the Potomac may, therefore, be considered under unconfined conditions, and is most likely influenced by local drainage, presumably in this case the Christina River.

As the deeper sand of the Potomac is separated from the upper sand by an intervening confining layer of relatively impermeable sediments, the flow of groundwater within this deeper aquiferous unit is probably under semi-confined to confined conditions. Although there may be some leakage between this confining layer and the upper sand, this cannot be specifically verified for the site from the available information.<sup>4</sup>

Site Name: DuPont Newport Landfill  
 TDD No.: F3-8410-12

WELL FIELD OWNER	DGS WELL NUMBER	LOCAL WELL NUMBER	TYPE, USE, AND STATUS	SCREENED INTERVAL	DEPTH DRILLED	DATE DRILLED	ELEVATION LAND SURFACE	ELEVATION MEASURING POINT	AQUIFER
Do	Cc34-14	11	I, P, Op	--	65	1930	22.0	--	Pot.
Do	Cc34-15	13	I, P, Op	88.5-99	112	1953	34.0	--	Pot.
Do	Cc34-19	12	I, P, N	87-100	116	1930	25	--	Pot.
Do	Cc34-34	DM5	I, O, W	53-63	81	1977	7.5	--	Pot.
Do	Cc34-37	DM3	I, O, W	53-62	63	1976	23.6	--	Pot.
Do	Cc34-38	DM4	I, O, W	--	51	1976	7.5	--	Pot.
Do	Cc34-39	DM6	I, O, W	60-70	70	1977	1.9	--	Pot.
Do	--	SM1	--	17-21	24	1975	--	--	Col.
Do	--	SM2	--	21-25	25	1975	--	--	Col.
Do	--	DM2	--	No verified information				Col.	?
Do	Cc34-36	DM1	I, O, W	27-31	56	1975	16.2	--	--

### **3.5 Climate and Meteorology**

The average annual temperature at the Greater Wilmington Airport and surrounding areas is 54°F. Based on the period from 1951 to 1980, the coldest month is January with a mean temperature of 31.2°F and the hottest month is July with a mean temperature of 76°F. The average annual precipitation is 41.38 inches.

### **3.6 Land Use**

To the north of the site lies the DuPont Pigment Plant, which is also adjacent to the city of Newport. The Christina River borders the site on the east and southeast. To the west is a railroad terminal and tidal wetlands. The tidal wetlands are also to the south. Since the closing of the landfill, grass has been planted and monitoring wells have been installed.

### **3.7 Population Distribution**

The estimated populations within a 1-, 2-, and 3-mile radius of the site are 871, 8,855, and 21,069, respectively. The nearest residences are located in the city of Newport, approximately 2,000 feet to the north, with a population of 1,167 (see appendix B).

### **3.8 Critical Environments**

No known critical environments are known to exist in the immediate area of the site. However, wetlands and the Christina River border the site on 2 sides.



### 3.9 References

1. Delaware Geological Survey. Hydrology of the Columbia (Pleistocene) Deposits of Delaware: An Appraisal of a Regional Water-Table Aquifer. Bulletin No. 14, June 1973.
2. University of Delaware Water Resources Center. The Availability of Ground Water in New Castle County, Delaware. July 1971.
3. Delaware Geological Survey. Pleistocene Channels of New Castle County, Delaware. May 1967.
4. United States Geological Survey. Simulated Ground-Water Flow in the Potomac Auqifers, New Castle County, Delaware. Water Resources Investigations Report 84-4007, December 1984.
5. Hunt, Charles B. Natural Regions of the United States and Canada. W.H. Freeman and Company. Copyright 1974.
6. Cherry, Phillip, Geologist with Delaware Division of Environmental Control, with David Side, NUS FIT III. Telecon. September 23, 1985.
7. Woodruff, Kenneth, Hydrogeologist with the Delaware Geological Survey, with Tim Silar, NUS FIT III. Telecon. September 24, 1985.
8. DuPont - Pigments Department NewPort, Delaware. Landfill - Groundwater Investigation.
9. Walton Corporation, drilling contractor to DuPont Newport. Boring logs SM-1, SM-2, DM-1. July 15, 1975 to July 21, 1975.
10. United States Geological Survey. Hydrologic Data for the Potomac Formation in New Castle County, Delaware. Water Resources Investigations Open File Report 81-916, 1982.

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SECTION 4

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#### 4.0 WASTE TYPES AND QUANTITIES

Wastes generated from the DuPont Pigment Plant include inorganically and organically bonded metals, radioactive residues, plant pigments and pigment sludges, organic pigments, magnetic tapes, and inert miscellaneous wastes. From 1945 to 1974, the landfill received an estimated 250 cubic yards of hazardous waste per year (see appendices F, G, and J).

Groundwater sampling performed by EPA, DE DNREC, and DuPont indicates high metal contamination in both the Columbia aquifer, which exceeded drinking water standards, and the Potomac aquifer. The Potomac aquifer shows less contamination than the Columbia, but cadmium levels remain above drinking water standards (see appendix D). The concentration of iron is also reported at above accepted levels for drinking water standards. Laboratory results also indicated further contamination of the Potomac and Columbia aquifers by organics. Among the organics present are trichloroethylene (5.8 ug/l), tetrachloroethylene (123 ug/l), and toluene (17 ug/l), to name a few. The degree of contamination by organics is undeterminable because there are no official drinking water standards for synthetic organics with which to compare sample concentrations. Two tests were also performed to determine the amount of radiation contamination. Results confirm that levels are very close to background levels (see appendix D, organic sampling February 21, 1980).

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SECTION 5

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**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 1 - SITE LOCATION AND INSPECTION INFORMATION**

I. IDENTIFICATION	
01 STATE DE	02 SITE NUMBER 20

**II. SITE NAME AND LOCATION**

01 SITE NAME (Legal, common, or descriptive name of site) DuPont Newport Landfill		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER James and Water Streets			
03 CITY Newport		04 STATE DE	05 ZIP CODE 19804	06 COUNTY New Castle	
09 COORDINATES 39° 42' 30" N 75° 36' 50" W		10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN			

**III. INSPECTION INFORMATION**

01 DATE OF INSPECTION N/A	02 SITE STATUS <input type="checkbox"/> ACTIVE <input checked="" type="checkbox"/> INACTIVE	03 YEARS OF OPERATION 1902   1975   UNKNOWN BEGINNING YEAR    ENDING YEAR	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR <u>NUS Corp.</u> <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR <input type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR <input type="checkbox"/> G. OTHER			

05 CHIEF INSPECTOR Thomas Pearce	06 TITLE Environmental Technician	07 ORGANIZATION NUS Corp.	08 TELEPHONE NO. (215) 687-9510
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO. ( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED N/A	14 TITLE	15 ADDRESS	16 TELEPHONE NO. ( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one) <input type="checkbox"/> PERMISSION <input checked="" type="checkbox"/> WARRANT N/A	18 TIME OF INSPECTION N/A	19 WEATHER CONDITIONS N/A
--	------------------------------	------------------------------

**IV. INFORMATION AVAILABLE FROM**

01 CONTACT Andrew Bullen	02 OF (Agency/Organization) Delaware DNREC		03 TELEPHONE NO. (302) 736-4781
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM Thomas Pearce	05 AGENCY	06 ORGANIZATION NUS Corp.	07 TELEPHONE NO. (215) 687-9510
			08 DATE 1 / 24 / 85 MONTH DAY YEAR

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**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 2 - WASTE INFORMATION**

**I. IDENTIFICATION**  
01 STATE DE 02 SITE NUMBER 20

**II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS**

<b>01 PHYSICAL STATES</b> <i>(Check all that apply)</i> <input checked="" type="checkbox"/> A SOLID <input type="checkbox"/> B POWDER, FINES <input checked="" type="checkbox"/> C SLUDGE <input type="checkbox"/> D OTHER _____ <i>(Specify)</i>	<b>02 WASTE QUANTITY AT SITE</b> <i>(Measures of waste quantities must be independent)</i> TONS _____ CUBIC YARDS <u>250</u> NO. OF DRUMS _____	<b>03 WASTE CHARACTERISTICS</b> <i>(Check all that apply)</i> <input checked="" type="checkbox"/> A TOXIC <input type="checkbox"/> B CORROSIVE <input checked="" type="checkbox"/> C RADIOACTIVE <input type="checkbox"/> D PERSISTENT <input type="checkbox"/> E SOLUBLE <input type="checkbox"/> F INFECTIOUS <input type="checkbox"/> G FLAMMABLE <input type="checkbox"/> H IGNITABLE <input type="checkbox"/> I HIGHLY VOLATILE <input type="checkbox"/> J EXPLOSIVE <input type="checkbox"/> K REACTIVE <input type="checkbox"/> L INCOMPATIBLE <input type="checkbox"/> M NOT APPLICABLE
--	---	--

**III. WASTE TYPE**

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			Wastes generated from DuPont plant: inorganically and organically bonded metals, radioactive residues, plant pigments and pigment sludges, organics, magnetic tapes and inert miscellaneous wastes. From 1902 to 1975, the landfill received an estimated 250 cubic yards of hazardous substances
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

**IV. HAZARDOUS SUBSTANCES** *(See Appendix for most frequently cited CAS numbers.)*

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/ DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Barium		On site sampling of monitoring wells detected these substances in the groundwater.		
	Cadmium	7440-43-9			
	Iron				
	Manganese				
	Zinc	7440-66-6			
	Trichloroethylene				
	Tetrachloroethylene				
	Toluene	108-88-3			

**V. FEEDSTOCKS** *(See Appendix for CAS Numbers.)*

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS	N/A	
FDS			FDS		
FDS			FDS		
FDS			FDS		

**VI. SOURCES OF INFORMATION** *(Cite specific references e.g. state files, sample analysis reports.)*

EPA Notification of Hazardous Waste Site DuPont Pigment Plant 1981.



**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS**

I. IDENTIFICATION	
01 STATE DE	02 SITE NUMBER 20

**II. HAZARDOUS CONDITIONS AND INCIDENTS**

01  A. GROUNDWATER CONTAMINATION 21,069 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 POPULATION POTENTIALLY AFFECTED: 21,069 (3 mile radius) 04 NARRATIVE DESCRIPTION  
 Groundwater analysis indicated heavy metal contamination of barium, cadmium, iron, manganese, and zinc in both the Columbia and Potomac aquifers.

01  B. SURFACE WATER CONTAMINATION 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 POPULATION POTENTIALLY AFFECTED: 21,069 (3 mile radius) 04 NARRATIVE DESCRIPTION  
 Possible surface water runoff to Christina River adjacent to site. However, the landfill has been graded with adequate cover and well vegetated.

01  C. CONTAMINATION OF AIR 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
 None reported

01  D. FIRE/EXPLOSIVE CONDITIONS 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
 None reported

01  E. DIRECT CONTACT 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
 None reported.

01  F. CONTAMINATION OF SOIL 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 AREA POTENTIALLY AFFECTED: \_\_\_\_\_ (Acres) 04 NARRATIVE DESCRIPTION  
 None reported

01  G. DRINKING WATER CONTAMINATION 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
 See Groundwater Contamination

01  H. WORKER EXPOSURE/INJURY 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 WORKERS POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
 None reported

01  I. POPULATION EXPOSURE/INJURY 02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED  
 03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 04 NARRATIVE DESCRIPTION  
 None reported

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**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION**

I. IDENTIFICATION	
01 STATE DE	02 SITE NUMBER 20

**II. PERMIT INFORMATION**

01 TYPE OF PERMIT ISSUED <i>(Check all that apply)</i>	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPDES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input checked="" type="checkbox"/> G. STATE <i>(Specify)</i>				Solid waste permit for drying lagoon.
<input type="checkbox"/> H. LOCAL <i>(Specify)</i>				
<input type="checkbox"/> I. OTHER <i>(Specify)</i>				
<input type="checkbox"/> J. NONE				

**III. SITE DESCRIPTION**

01 STORAGE/DISPOSAL <i>(Check all that apply)</i>	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT <i>(Check all that apply)</i>	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT <input type="checkbox"/> B. PILES <input type="checkbox"/> C. DRUMS, ABOVE GROUND <input type="checkbox"/> D. TANK, ABOVE GROUND <input type="checkbox"/> E. TANK, BELOW GROUND <input checked="" type="checkbox"/> F. LANDFILL <input type="checkbox"/> G. LANDFARM <input type="checkbox"/> H. OPEN DUMP <input type="checkbox"/> I. OTHER <i>(Specify)</i>	_____	_____	<input type="checkbox"/> A. INCENERATION <input type="checkbox"/> B. UNDERGROUND INJECTION <input type="checkbox"/> C. CHEMICAL/PHYSICAL <input type="checkbox"/> D. BIOLOGICAL <input type="checkbox"/> E. WASTE OIL PROCESSING <input type="checkbox"/> F. SOLVENT RECOVERY <input type="checkbox"/> G. OTHER RECYCLING/RECOVERY <input type="checkbox"/> H. OTHER <i>(Specify)</i>	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE Pigment Plant adjacent to L.F. 06 AREA OF SITE _____ 7 _____ <i>(Acres)</i>
	250	cu./yds.		

**07 COMMENTS**

The waste were generated from the Pigment Plant.

**IV. CONTAINMENT**

01 CONTAINMENT OF WASTES *(Check one)*  
 A. ADEQUATE, SECURE       B. MODERATE       C. INADEQUATE, POOR       D. INSECURE, UNSOUND, DANGEROUS

**02 DESCRIPTION OF DRUMS, Diking, LINERS, BARRIERS, ETC.**

Before landfilling the site was tidal wetlands. The landfill has adequate cover and is well maintained. There is no evidence of leachate at the site.

**V. ACCESSIBILITY**

01 WASTE EASILY ACCESSIBLE:  YES  NO  
 02 COMMENTS

Site is fenced, only access is through main gate.

**VI. SOURCES OF INFORMATION *(Cite specific references, e.g. state Reg. sample analyt. reports)***

Preliminary assessment prepared by Delaware DNREC, Solid Waste Branch March, 1984.  
 Telecon between Andrew Bullen of Delaware DNREC and Tom Pearce of NUS Corp. on 12-03-84





**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA**

**I. IDENTIFICATION**  
01 STATE | 02 SITE NUMBER  
DE | 20

**VI. ENVIRONMENTAL INFORMATION**

**D1 PERMEABILITY OF UNSATURATED ZONE (Check one)**

A.  $10^{-6} - 10^{-8}$  cm/sec     B.  $10^{-4} - 10^{-6}$  cm/sec     C.  $10^{-4} - 10^{-3}$  cm/sec     D. GREATER THAN  $10^{-3}$  cm/sec

**D2 PERMEABILITY OF BEDROCK (Check one)**

A. IMPERMEABLE  
(Less than  $10^{-8}$  cm/sec)     B. RELATIVELY IMPERMEABLE  
( $10^{-4} - 10^{-8}$  cm/sec)     C. RELATIVELY PERMEABLE  
( $10^{-2} - 10^{-4}$  cm/sec)     D. VERY PERMEABLE  
(Greater than  $10^{-2}$  cm/sec)

**03 DEPTH TO BEDROCK**

200 (ft)

**04 DEPTH OF CONTAMINATED SOIL ZONE**

unknown (ft)

**05 SOIL pH**

unknown

**06 NET PRECIPITATION**

10 (in)

**07 ONE YEAR 24 HOUR RAINFALL**

2.5 (in)

**08 SLOPE  
SITE SLOPE**

1 %

**DIRECTION OF SITE SLOPE**

unknown

**TERRAIN AVERAGE SLOPE**

unknown %

**09 FLOOD POTENTIAL**

SITE IS IN 100 YEAR FLOODPLAIN

10

SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

**11 DISTANCE TO WETLANDS (5 acre minimum)**

ESTUARINE

A. 8 (mi)

OTHER

B. adjacent (mi)

**12 DISTANCE TO CRITICAL HABITAT (of endangered species)**

N/A (mi)

ENDANGERED SPECIES: \_\_\_\_\_

**13 LAND USE IN VICINITY**

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

A. adjacent (mi)

RESIDENTIAL AREAS; NATIONAL/STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

B. 2,000' (mi)

AGRICULTURAL LANDS  
PRIME AG LAND      AG LAND

C. N/A (mi)      D. N/A (mi)

**14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY**

To the north lies the city of Newport and the DuPont Pigment Plant, which is adjacent to the landfill. The Christina River borders the site on the south and to the southwest along with Tidal Wetlands. To the west are more wetlands and a railroad terminal.

**VII. SOURCES OF INFORMATION** (Cite specific references, e.g., state Rec. sample analysis reports)

Preliminary Assessment prepared by Delaware DNREC, Solid Waste Branch March, 1984.  
HRS A Users Manual  
Wilmington South, Delaware-New Jersey Quadrangle 7.5 minute series (Topo)  
Hydrologic data for the Potomac Formation in New Castle County, Delaware by M. M. Marti  
and J.M. Denver 1982.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE DE 02 SITE NUMBER 20

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABL
GROUNDWATER		N/A	
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
	N/A

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	N/A	02 IN CUSTODY OF _____ <small>(Name of organization or individual)</small>
03 MAPS <input type="checkbox"/> YES <input type="checkbox"/> NO	N/A	04 LOCATION OF MAPS N/A

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

N/A

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

N/A



**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 7 - OWNER INFORMATION**

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
DE	20

<b>II. CURRENT OWNER(S)</b>							<b>PARENT COMPANY (if applicable)</b>							
01 NAME E.I. DuPont de Nemours Inc				02 D+B NUMBER			08 NAME Unknown				09 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.) James and Water Streets						04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD #, etc.)				11 SIC CODE	
05 CITY Newport			06 STATE DE		07 ZIP CODE 19084			12 CITY			13 STATE		14 ZIP CODE	
01 NAME N/A				02 D+B NUMBER			08 NAME N/A				09 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)						04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD #, etc.)				11 SIC CODE	
05 CITY			06 STATE		07 ZIP CODE			12 CITY			13 STATE		14 ZIP CODE	
01 NAME N/A				02 D+B NUMBER			08 NAME N/A				09 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)						04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD #, etc.)				11 SIC CODE	
05 CITY			06 STATE		07 ZIP CODE			12 CITY			13 STATE		14 ZIP CODE	
01 NAME N/A				02 D+B NUMBER			08 NAME N/A				09 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)						04 SIC CODE			10 STREET ADDRESS (P.O. Box, RFD #, etc.)				11 SIC CODE	
05 CITY			06 STATE		07 ZIP CODE			12 CITY			13 STATE		14 ZIP CODE	
<b>III. PREVIOUS OWNER(S) (List most recent first)</b>							<b>IV. REALTY OWNER(S) (if applicable, list most recent first)</b>							
01 NAME N/A				02 D+B NUMBER			01 NAME N/A				02 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)						04 SIC CODE			03 STREET ADDRESS (P.O. Box, RFD #, etc.)				04 SIC CODE	
05 CITY			06 STATE		07 ZIP CODE			05 CITY			06 STATE		07 ZIP CODE	
01 NAME N/A				02 D+B NUMBER			01 NAME N/A				02 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)						04 SIC CODE			03 STREET ADDRESS (P.O. Box, RFD #, etc.)				04 SIC CODE	
05 CITY			06 STATE		07 ZIP CODE			05 CITY			06 STATE		07 ZIP CODE	
01 NAME N/A				02 D+B NUMBER			01 NAME N/A				02 D+B NUMBER			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)						04 SIC CODE			03 STREET ADDRESS (P.O. Box, RFD #, etc.)				04 SIC CODE	
05 CITY			06 STATE		07 ZIP CODE			05 CITY			06 STATE		07 ZIP CODE	
<b>V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)</b>														
Preliminary Assessment prepared by Delaware DNREC, Solid Waste Branch March, 1984.														



**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION**

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
DE	20

II. CURRENT OPERATOR <small>(Provide if different from owner)</small>				OPERATOR'S PARENT COMPANY <small>(If applicable)</small>			
01 NAME N/A		02 D+B NUMBER		10 NAME Unknown		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small> James and Water Streets			04 SIC CODE	12 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small>			13 SIC CODE
05 CITY Newport		06 STATE DE	07 ZIP CODE 19804	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION 73	09 NAME OF OWNER						
III. PREVIOUS OPERATOR(S) <small>(List most recent first, provide only if different from owner)</small>				PREVIOUS OPERATORS' PARENT COMPANIES <small>(If applicable)</small>			
01 NAME N/A		02 D+B NUMBER		10 NAME N/A		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small>			04 SIC CODE	12 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small>			13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME N/A		02 D+B NUMBER		10 NAME N/A		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small>			04 SIC CODE	12 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small>			13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
01 NAME N/A		02 D+B NUMBER		10 NAME N/A		11 D+B NUMBER	
03 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small>			04 SIC CODE	12 STREET ADDRESS <small>(P.O. Box, RFD #, etc.)</small>			13 SIC CODE
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD						
<b>IV. SOURCES OF INFORMATION</b> <small>(Cite specific references, e.g., state files, sample analysis, reports)</small>							

Preliminary Assessment prepared by Delaware DNREC, Solid Waste Branch March, 1984



**POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION**

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
DE	20

**II. ON-SITE GENERATOR**

01 NAME E. I. DuPont De Nemours	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) James and Water Streets	04 SIC CODE
05 CITY Newport	06 STATE 07 ZIP CODE DE 19804

**III. OFF-SITE GENERATOR(S)**

01 NAME N/A	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME N/A	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

**IV. TRANSPORTER(S)**

01 NAME N/A	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME N/A	02 D+B NUMBER	01 NAME N/A	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

**V. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment prepared by Delaware DNREC, Solid Waste Branch March, 1984.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE DE 02 SITE NUMBER 20

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input checked="" type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION Landfilling of on-site wastes generated by the DuPont Pigment Plant.	02 DATE 1902-1975	03 AGENCY owner
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION  
01 STATE DE 02 SITE NUMBER 20

II PAST RESPONSE ACTIVITIES (Continued)

01  R. BARRIER WALLS CONSTRUCTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  S. CAPPING/COVERING  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

Adequate cover and well maintained.

01  T. BULK TANKAGE REPAIRED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  U. GROUT CURTAIN CONSTRUCTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  V. BOTTOM SEALED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  W. GAS CONTROL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  X. FIRE CONTROL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  Y. LEACHATE TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  Z. AREA EVACUATED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  1. ACCESS TO SITE RESTRICTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  2. POPULATION RELOCATED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

N/A

01  3. OTHER REMEDIAL ACTIVITIES  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

None reported.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Telecon between Andrew Bullen of Delaware DNREC and Tom Pearce of NUS Corporation on December 3, 1984.



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
DE	20

**II. ENFORCEMENT INFORMATION**

01 PAST REGULATORY/ENFORCEMENT ACTION  YES  NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

**III. SOURCES OF INFORMATION** (Cite specific references, e.g., state files, sample analysis reports)

Preliminary assessment prepared by DE DNREC, Solid Waste Branch - March 1984



ORIGINAL  
(R-16)

APPENDIX A

AR100526

1. COST CENTER:		REM/FIT ZONE CONTRACT TECHNICAL DIRECTIVE DOCUMENT (TDD)			2. NO.:	
ACCOUNT NO.:					F3-8410-1	
3. PRIORITY:		4. ESTIMATE OF TECHNICAL HOURS:	5. EPA SITE ID:	6. COMPLETION DATE:	7. REFERENCE INFO.:	
<input checked="" type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW		125	DE-20		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> ATTACHED <input checked="" type="checkbox"/> PICK UP	
		4A. ESTIMATE OF SUBCONTRACT COST:	5A. EPA SITE NAME:	1/31/85		
			DuPont Newport L.P. Newport, Del.			
8. GENERAL TASK DESCRIPTION: <u>Perform Site Inspection of the subject site using available information and data.</u>						
9. SPECIFIC ELEMENTS:					10. INTERIM DEADLINES:	
1.) <u>Review background information.</u> 2.) <u>Contact state and local agencies for relevant information.</u> 3.) <u>Visit state offices and review files.</u> 4.) <u>No site visit is required.</u> 5.) <u>Determine if enough information is available to prepare HRS, if not, prepare plan outlining what additional data is needed.</u> 6.) <u>Prepare and submit report include in cover letter recommendations for the need of HRS.</u>					_____ _____ _____ _____ _____ _____	
11. DESIRED REPORT FORM: FORMAL REPORT <input checked="" type="checkbox"/> LETTER REPORT <input type="checkbox"/> FORMAL BRIEFING <input type="checkbox"/>						
OTHER (SPECIFY): <u>Keep Neil Swanson informed on progress.</u>						
12. COMMENTS: <u>STATE CODE 10 COUNTY CODE 003</u>						
13. AUTHORIZING RPO:					14. DATE:	
<u>Harold G. Beyer</u> (SIGNATURE)					<u>10/30/84</u>	
15. RECEIVED BY:					16. DATE:	
<input checked="" type="checkbox"/> ACCEPTED <input type="checkbox"/> ACCEPTED WITH EXCEPTIONS <input type="checkbox"/> REJECTED <u>[Signature]</u> (CONTRACTOR RPM SIGNATURE)					<u>11/5/84</u>	

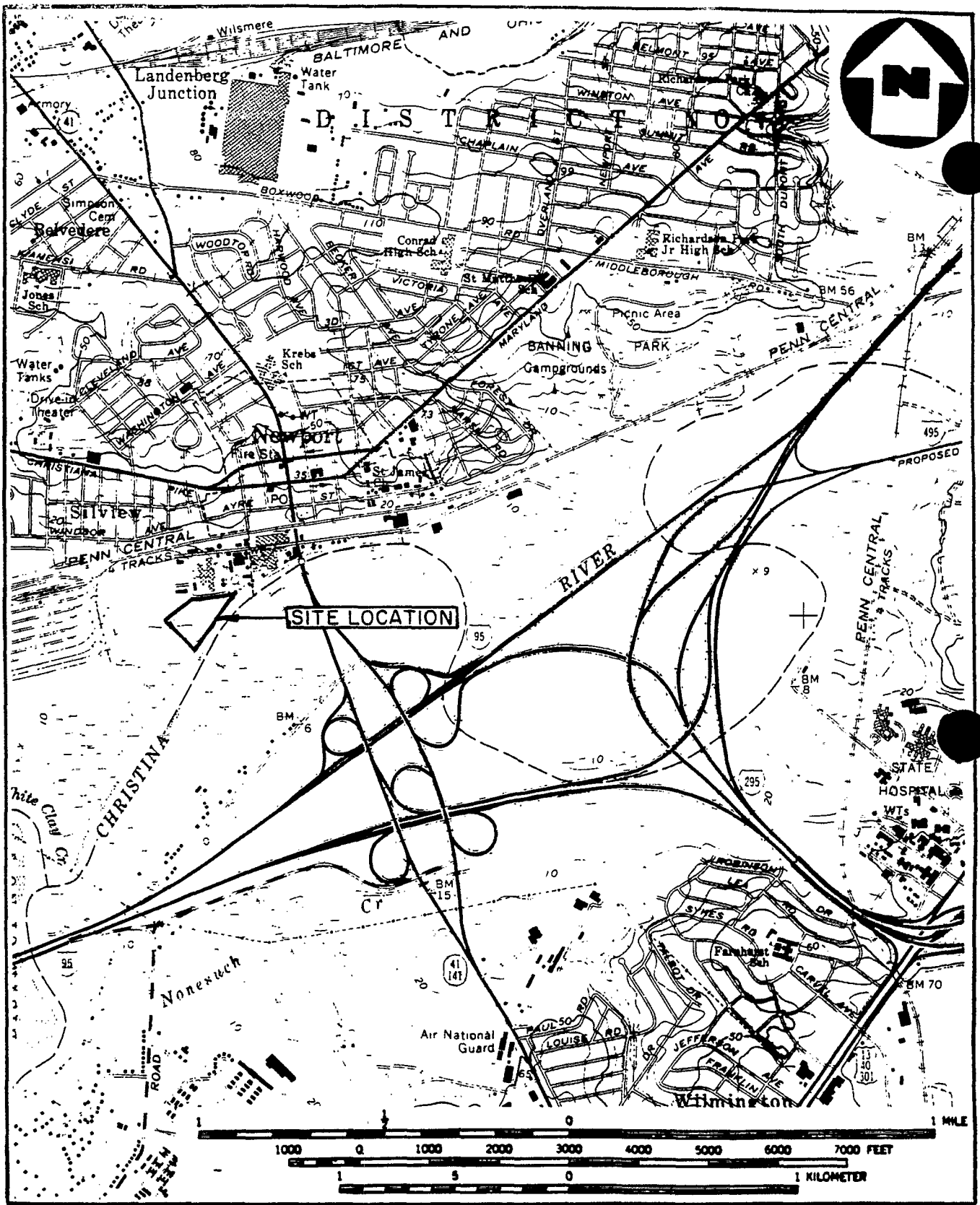
Sheet 1 White - FITL Copy Sheet 3 Pink - Contracting Officer's Copy (Washington, D. C.)  
 Sheet 2 Canary - DPO Copy Sheet 4 Goldenrod - Project Officer's Copy (Washington, D. C.)

AR100527

ORIGINAL  
(Red)

APPENDIX B

AR100528



SOURCE: (7.5 MINUTE SERIES) USGS WILMINGTON SOUTH, DEL.- N.J. QUAD.

**SITE LOCATION MAP**  
**DuPONT NEWPORT LANDFILL, NEWPORT, DEL.**  
 SCALE 1:24000

**FIGURE 1**

**NUS CORPORATION**  
 A Halliburton Company  
 AR100529

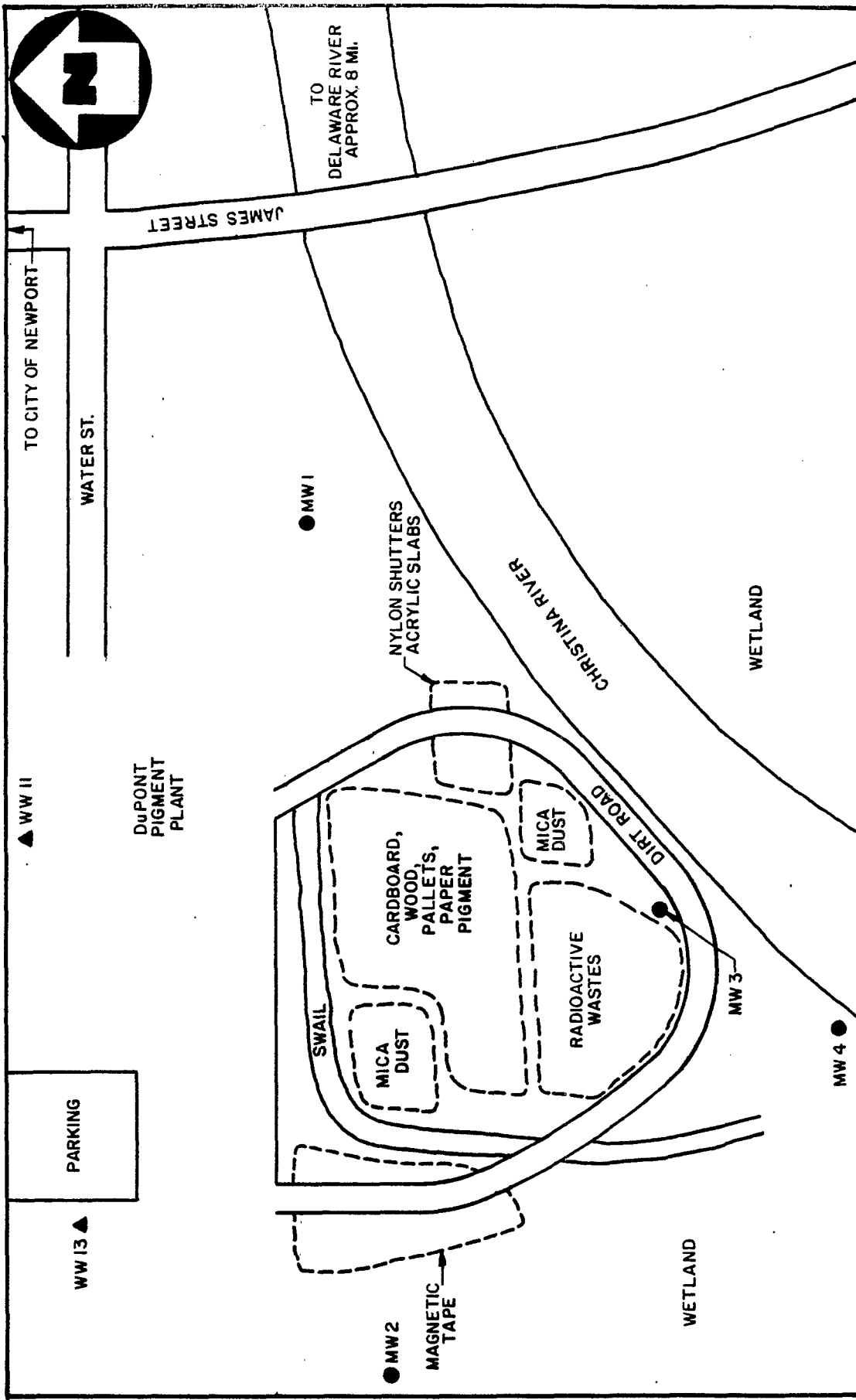
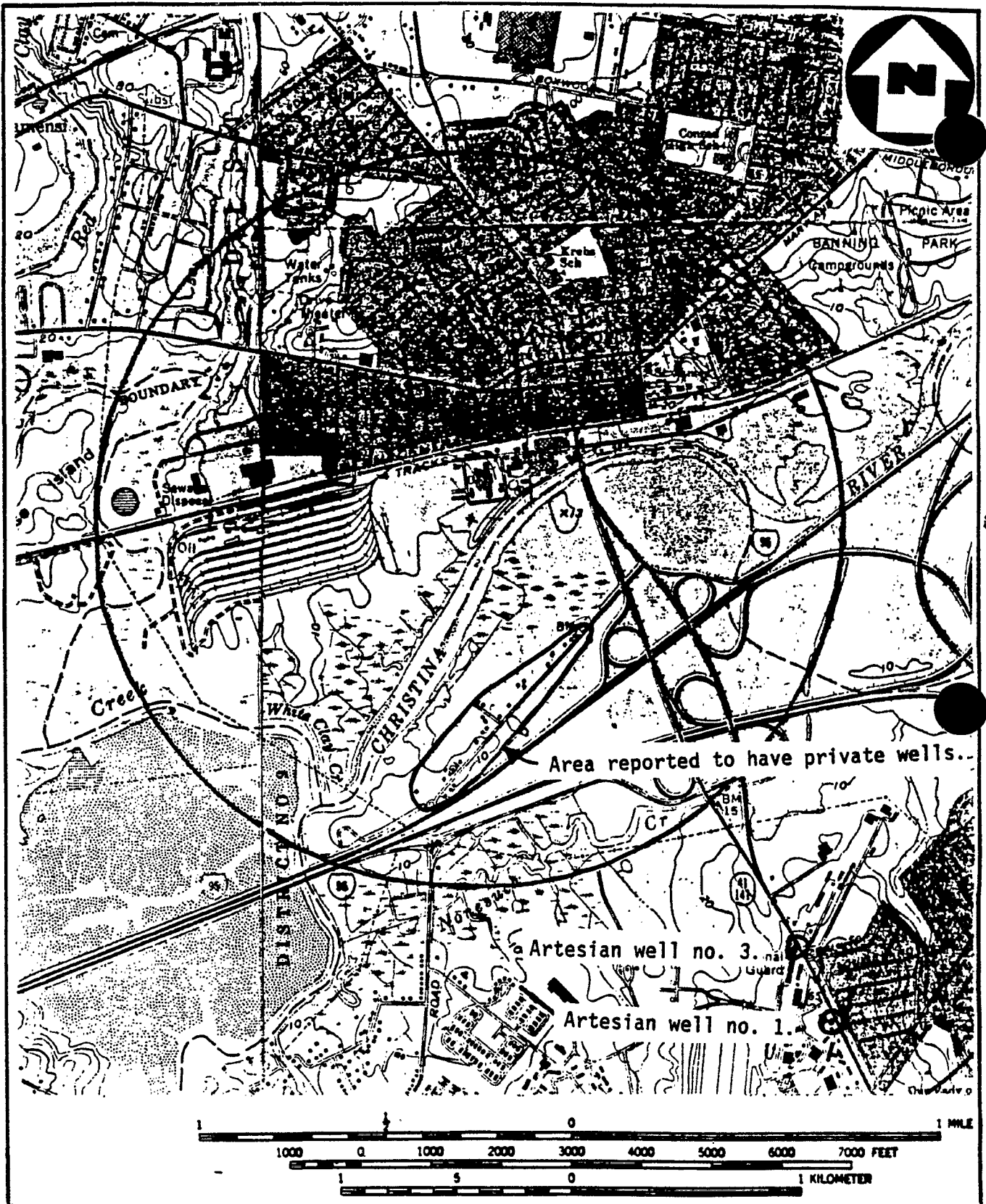


FIGURE 2



SITE SKETCH  
DuPONT NEWPORT LANDFILL, NEWPORT, DEL.  
(NO SCALE)

AR100530



SOURCE: (7.5 MINUTE SERIES) USGS NEWARK EAST & WILMINGTON SOUTH, DEL, QUADS.

WELL LOCATION MAP

DUPONT NEWPORT LANDFILL, NEWPORT, DEL.

SCALE 1:24000

FIGURE 3



A Halliburton Company

AR100531

ORIGINAL  
(Red)

APPENDIX C

AR100532

CONTROL NO:

F3-8410-12

DATE:

11-21-84

TIME:

1040

DISTRIBUTION:

du Pont NEWPORT LANDFILL

BETWEEN:

PLANNING DPT

OF:

ARTESIAN WATER  
COMPANY

PHONE:

302 (453) 6900

AND:

TOM PEARCE

(NUS)

DISCUSSION:

SERVICES TO: ELSMERE

CEDARS

PRICES CORNER

CRANSTONE HEIGHTS

BROOKLAND TERRACE

DUROSS HEIGHTS

MARSHALLTON

PENN ACRES

STANTON

BELVEDERE

WILMINGTON MANOR

MILLTOWN

WILMINGTON MANOR GARDENS DELAWARE PARK PLACE

MINQUADALE

GREATER WILMINGTON AIRPORT

ALL OLD WELL WATER, NEWPORT HAS OWN PRIVATE SYSTEM

SEE UPDATED TELECON DATED 5/15/85

BUT IS INTERCONNECTED WITH ARTESIAN.

BANGALADOR LAKSHMAN - HYDROGEOLOGIST 453-6917

ALTERNATE WATER SUPPLIES - YES

NEAREST WELLS LOCATION - <sup>NEAR</sup> GREATER WILMINGTON AIRPORT

3 WELLS - POTOMAC AQUIFER - DEPTH (DID NOT KNOW)

ACTION ITEMS:

OTHER WELLS

WILMINGTON MANOR GARDENS - 3 WELLS

CASTLE HILL - 3 WELLS

JEFFERSON FARMS - 2 WELLS

ALL WELLS ARE INTERCONNECTED AND SERVES APPROX 150,000 PEOPLE.



CONTROL NO:

F3-8410-12

DATE:

11-21-84

TIME:

1130

DISTRIBUTION:

DUPONT NEWPORT LANDFILL

ORIGINAL  
(Red)

BETWEEN:

SUSAN SCARLOSS

OF: WILMINGTON

SUBURBAN WATER

PHONE:

302 (792) 2835

AND:

TOM PEARCE

(NUS)

DISCUSSION:

SERVICES : NEWPORT INDUSTRIAL PARK - NORTH OF DUPONT PLANT,

DUPONT PLANT - NOW CIEBA - GIGY, AND SCARS

MAIN SERVICE IS NORTH NORTHEAST OF WILMINGTON

TREATMENT PLANT IN STANTON

INTAKE NEAR CHRISTIANA - SMALLEYS POND

LOCATED APPROXIMATELY 3-4 MILES FROM THE

CITY OF NEWPORT.

NEWPORT - 3 WELLS SERVICES 360 <sup>CONNECTIONS</sup> ~~FEET~~ - WILMINGTON

SUBURBAN WATER TAKING OVER THESE WELLS

ACTION ITEMS:

CONTROL NO:

F3-8410-12

DATE:

11-21-84

TIME:

1155

DISTRIBUTION:

DU PONT NEWPORT LANDFILL

ORIGINAL  
(Red)

BETWEEN:

ANDREA ZARGE

OF: TOWN HALL

NEWPORT WATER DPT.

PHONE:

302 (994) 6403

AND:

TOM PEARCE

(NUS)

DISCUSSION:

SERVICES THE CITY OF NEWPORT

3 WELLS SERVICING APPROXIMATELY 1150 PEOPLE  
NEWPORT USED TO HAVE A 4TH WELL BUT WAS  
SHOT DOWN APPROXIMATELY 5 YEARS AGO.

WILMINGTON SUBURBAN WATER COMPANY IS GOING  
TO TAKE OVER NEWPORT WATER IN THE NEAR FUTURE  
MAYBE BE AS EARLY AS 30 DAYS

ACTION ITEMS:

CONTROL NO:

F3-8410-12

DATE:

11-30

TIME:

1015

DISTRIBUTION:

to Port NEWPORT LANDFILL

ORIGINAL  
(Red)

BETWEEN:

ANDREW BULLEN

OF:

DELAWARE

PHONE:

DNREC SOLID WASTE

302(736) 4781

AND:

TOM PEARSE

(NUS)

DISCUSSION:

STATUS ON LANDFILL

~~PREVIOUS~~ OWNER - CIEBA-GIGY SPRING OF 1983

GROUNDWATER MONITORING QUARTERLY

GROUNDWATER IS STILL STABLE - NOT MOVING

MR BULLEN IS SENDING UPDATED ANALYSIS OF GROUND-  
WATER

LANDFILL IS NOT USED FOR ANYTHING ELSE

CIEBA-GIGY DOES NOT OWN MAGNETIC TAPE FACILITY  
OR THE LANDFILL  
NO ONE STILL OWNS

~~Foot of~~

ACTION ITEMS:

CONTROL NO:

F3-8910-12

DATE:

12-3-84

TIME:

1100

DISTRIBUTION:

DU PONT NEWPORT LANDFILL

(Red)

BETWEEN:

ANDREW BULLEN

OF: DELAWARE

DUREC SOLID WASTE

PHONE:

302 (736) 4781

AND:

TOM PEARCE

(NUS)

DISCUSSION:

USED FOR FISHING AND RECREATION  
SURFACE WATER USE - NO INTAKES DOWNSTREAM OF THE SITE

NO RECORDS OF WASTE QUANTITIES

DISPOSED OF WASTE ON WETLANDS - ADEQUATE COVER AND  
WELL MAINTAINED - NO EVIDENCE OF LEACHATE.

NO DIVERSION SYSTEM FOR COLLECTION OF SURFACE WATER  
RUNOFF

SITE IS FENCED IN, ONLY ACCESS IS THROUGH MAIN GATE

DU PONT PIGMENT PLANT - NOW CALLED HOLLY RUN PLANT  
AND OWNED BY CIEBA-GIGY - WITH EXCEPTION TO MAGNETIC  
TAPE FACILITY CIEBA-GIGY MAKES PIGMENTS AND WASTES  
AND LANDFILL

ACTION ITEMS:

ARE DISPOSED OF AT THE SOLID WASTE FACILITY IN  
PIGEON POINT. NO WASTES DISPOSED OF AT THE SITE  
SINCE 1/75.

CONTROL NO: F3-8410-12	DATE: 1/18/85	TIME: 2:30
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DISTRIBUTION: DUPONT NEWPORT LANDFILL	1/22/85	4:20
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ORIGINAL  
(501)

BETWEEN: MR. SCOTT ULREY	OF: <del>HOUSTON TEXAS</del> DUPONT PLANT AGREEMENT	PHONE: 302 (774) 8509
-----------------------------	--	--------------------------

AND:  
TAM PEARCE (NUS)

DISCUSSION:  
CONCERNING WELLS IN AND AROUND THE LANDFILL  
WATER WELLS 11 AND 13 ARE NO LONGER IN USE  
OTHER WELLS IN THE AREA ARE USED FOR MONITORING  
THE LANDFILL.

1/22 WATER WELLS 11 AND 13 ARE ONLY USED FOR MONITORING  
THE LANDFILL

DEPTHS OF WELLS FOR MONITORING

WW 11 - 65'	DM 5 81'	SM 1	} 20' to 30'
WW 13 - 112'	DM 6 70'	SM 2	
	DM 7 145'	SM 3	
	DM 8 55'	SM 4	
		SM 5	

UPPER AQUIFER IS THE PLEISTOCENE  
AGREEMENTS: IS GOING TO OBTAIN ADDITIONAL INFORMATION  
ON MONITORING WELLS.

CONTROL NO:

73-8910-12

DATE:

5/15/85

TIME:

1030

DISTRIBUTION:

DUPONT NEWPORT LANDFILL

BETWEEN:

ANDREA ZARCE

OF: TOWN HALL

NEWPORT WATER DEPT

PHONE:

(302) 974-6403

AND:

TOM PERKCE

(NUS)

DISCUSSION:

NEWPORT WATER DEPARTMENT WAS TAKEN OVER BY  
WILMINGTON SUBURBAN WATER CO. AT THE END OF FEB. 1985

3 WELLS SERVED 1150 RESIDE PEOPLE NOT INCLUDING  
INDUSTRIES.

ACTION ITEMS:

AR100539

CONTROL NO:

F3-8910-12

DATE:

5/15/85

TIME:

1130

DISTRIBUTION:

DUPONT NEWPORT LANDFILL

BETWEEN:

PETE SHEATS

OF:

WILMINGTON  
SUBURBAN WATER CO.

PHONE:

(302) 792-2835

AND:

TOM PEARCE

(NUS)

DISCUSSION:

WILMINGTON SUBURBAN WATER CO TOOK OVER NEWPORT WATER  
DPT. IN FEB. 1985 HOWEVER THE WELLS WHICH WERE USED BY  
THE CITY OF NEWPORT ARE NO LONGER USED BECAUSE THEY  
WERE NOT PUMPING ANY WATER.

WATER SOURCE FOR THE CITY OF NEWPORT IS THE RED AND WHITE  
CLAY CREEK PUMPING STATION IN STANTON WHICH IS INTERCONNECTED  
WITH THE CHRISTINA <sup>RIVER</sup> WATER SHD (SMALLEYS POND). SERVES AN  
ESTIMATED 90,000 TO 100,000 PEOPLE

SYSTEM PUMPS 18 TO 20 MILLION GALLONS PER DAY  
CITY OF NEWPORT USES LESS THAN 100,000 GPD

ACTION ITEMS:

CONTROL NO:

8910-12

DATE:

9/19/85

TIME:

8:40

DISTRIBUTION:

DUPONT NEWPORT LANDFILL

BETWEEN:

MR. MITCHELL

OF:

RESIDENT OF PRIVATE WELL

PHONE:

(302) 328-6956

AND:

TOM PEACKE

(NUS)

DISCUSSION:

USES WELL FOR POTABLE SUPPLIES - WATER OK <sup>OVER</sup> 30/65!  
EVERYONE ON ROAD HAS OWN WELL - NO CITY WATER

HIS HOME APPROX 700' FROM RIVER.

ANY CITY WATER - TRUCKED IN.

9:25

MARGIE NESSLY

PLANNING DPT.  
ARTESIAN WATER  
COMPANY

(302) 953-6900

NO WATER LINE ON OLD AIRPORT RD.

SENDING MAP

ACTION ITEMS:

AR100541



ORIGINAL  
(Rod)

APPENDIX D

AR100542

460.9

ORIGINAL  
(100)

SAMPLE RESULTS-  
ASSUMABLY COLLECTED  
BY DUPONT 1976 - 1979

AR100543

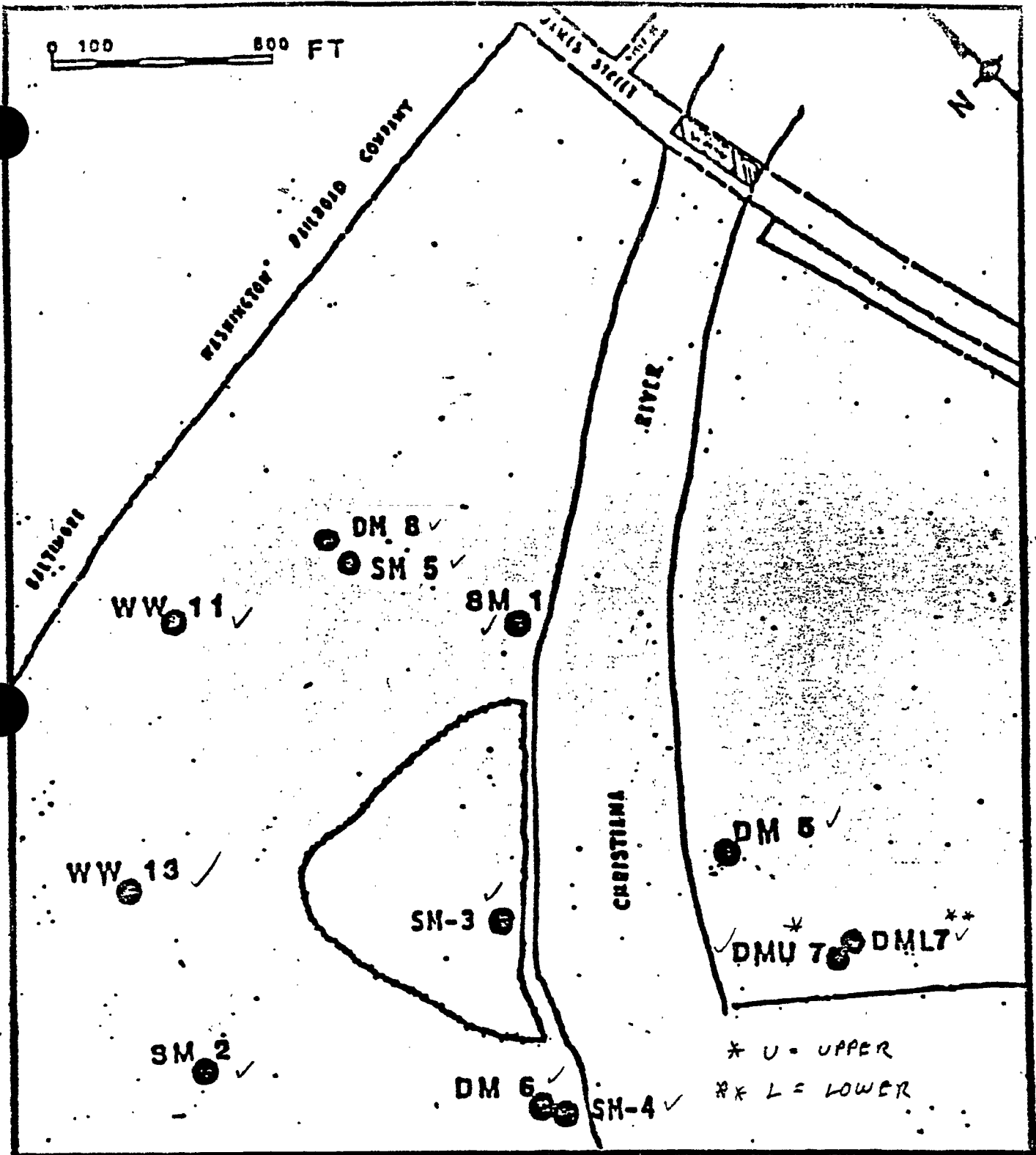


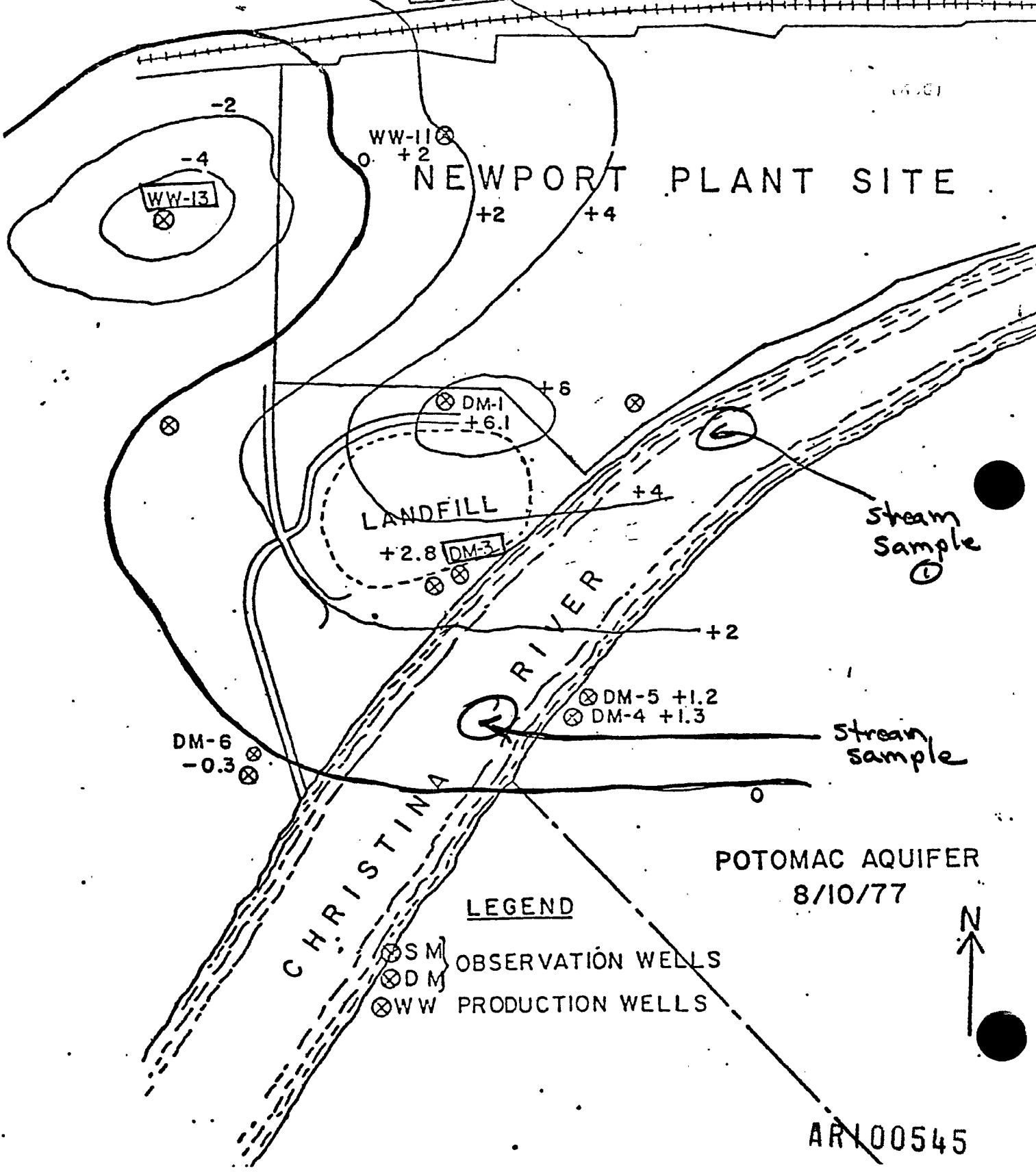
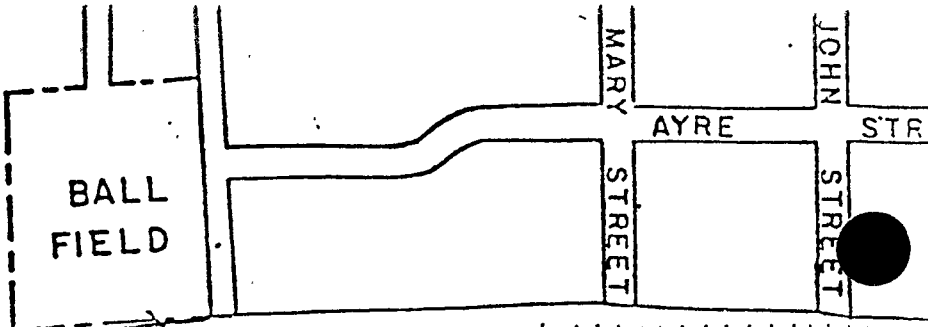
FIGURE 1

HOLLY RUN PLANT

GROUND WATER MONITORING POINTS

CURRENT

AR100544



average concentrations  
from 6-15-78 through  
5-1-79 (6 samples)

BALL  
FIELD

AYRE

STREET

STREET

ORIGINAL  
(Rad)

NEWPORT PLANT SITE

+8.0

+6.0

+4.0

+2.0

SM-2

Ba = 37/1  
SM-1

LANDFILL

Zn = 13.1

SM-3

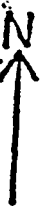
PLEISTOCENE  
AQUIFER  
5/1/79

DM-2  
Cd = 0.58  
Zn = 258.

LEGEND

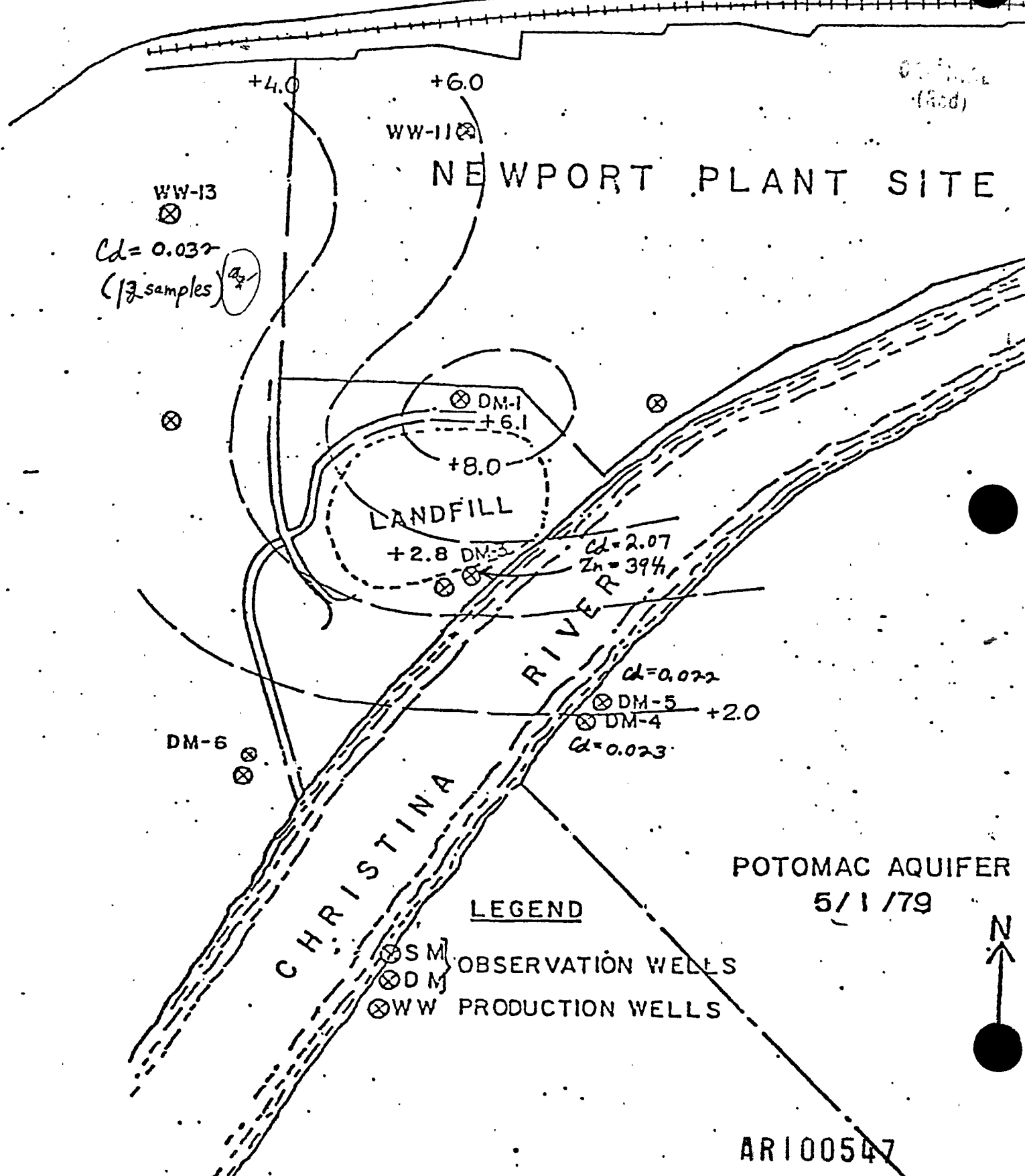
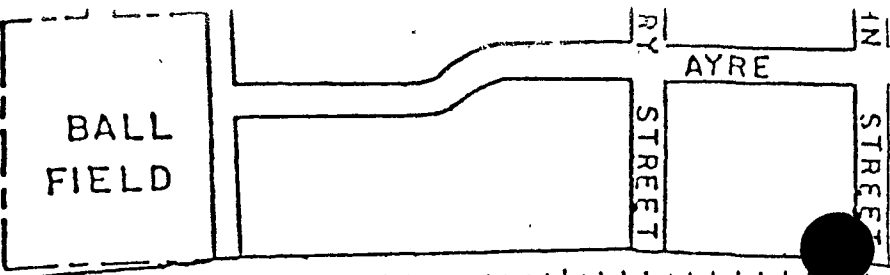
CHRISTINA  
RIVER

SM OBSERVATION WELLS  
DM OBSERVATION WELLS  
WW PRODUCTION WELLS



AR100546

Average Concentrations  
from 6-15-78 through  
5-1-79 (6 samples)



ARI00547

(Results in mg/L; Depth-ground to water)

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Total Diss. Iron	Lead	Zinc	Depth (Feet)	Sample Condition
6-15-78	N/A*	0.006	7	<0.02	0.006	0.07	<0.005	2.80	12.8	T.
9-27-78	50.4	0.011	10	<0.02	<0.005	2.21	<0.005	1.18	18.3	V. Cldy.
11-15-78	16.6	0.004	18	<0.02	0.029	0.72	0.006	1.2	18.5	T.
3-21-79	15.2	0.02	13	<0.02	<0.004	0.21	<0.005	1.5	18.1	V. Cldy.
5-1-79	66.4	<0.002	2	<0.02	<0.005	0.53	<0.005	0.51	14.4	V. Cldy.
Avg.	37.1	<0.009	10	<0.02	<0.01	0.75	<0.014	1.44	16.42	--
<u>SM-2</u>										
6-15-78	N/A*	0.002	6	<0.02	0.010	0.24	<0.005	0.51	6.3	Cldy.
9-17-78	Cov.	Cov.	Cov.	Cov.	Cov.	Cov.	Cov.	Cov.	--	--
11-15-78	<0.2	0.009	41	<0.02	0.022	0.71	0.008	0.9	6.1	V. Cldy.
3-20-79	<0.2	0.006	41	<0.02	<0.004	0.14	<0.005	1.1	5.6	Cldy.
5-1-79	1.0	0.003	41	<0.02	<0.005	0.12	0.005	0.31	5.3	Cldy.
Avg.	<0.5	0.005	42.25	<0.02	<0.010	0.30	<0.006	0.71	5.8	--
<u>SM-3</u>										
6-15-78	N/A*	<0.002	15	<0.02	0.008	<0.05	<0.005	13.3	19.1	Cldy.
9-27-78	<0.2	0.003	12	<0.02	<0.005	1.01	<0.005	14	19.3	Cldy.
11-15-78	0.3	0.013	4	<0.02	0.011	0.56	0.005	17	19.6	Cldy.
3-21-79	<0.2	0.011	6	<0.02	<0.004	0.21	<0.005	10	18.7	Sl. Cldy
5-1-79	<0.5	0.012	1	<0.02	<0.005	0.16	<0.005	11.1	18.5	Cldy
Avg.	<0.3	<0.008	7.6	<0.02	<0.007	<0.40	<0.005	13.1	19.0	--
<u>DM-1</u>										
6-15-78	N/A*	<0.002	7	0.02	0.011	0.25	<0.005	0.69	8.6	Sl. Cldy
9-27-78	<0.2	0.005	11	<0.02	<0.005	<0.05	<0.005	2.7	8.2	Sl. Cldy
11-15-78	<0.2	0.003	41	<0.02	<0.009	0.50	0.031	1.3	9.2	Sl. Cldy
3-21-79	0.2	0.004	2	<0.02	<0.004	3.46	<0.005	1.1	6.9	Sl. Cldy
5-2-79	<0.5	0.016	4	<0.02	<0.005	1.55	0.011	0.44	7.2	Sl. Cldy
Avg.	<0.3	<0.006	45	<0.02	<0.007	<1.16	<0.011	1.25	8.0	Sl. Cldy

APR 100548

ORIGINAL  
(post)

	Barium	Cadmium	Organic Carbon	Chromium	Cyanide	Diss. Iron	Lead	Zinc	Depth (Feet)	amt Condition
15-78	N/A*	1.06	4	0.02	0.008	1.12	0.042	300	0.3	C.
19-27-78	<0.2	0.297	5	<0.02	<0.005	1.54	0.019	270	0.7	C.
11-15-78	<0.2	0.197	<1	<0.02	0.012	1.07	0.050	200	1.2	Sl. Cldy
3-20-79	<0.2	0.185	2	<0.02	<0.004	4.27	0.010	260	1.2	Sl. Cldy
5-1-79	<0.5	1.17	3	<0.02	<0.005	1.00	0.007	260	0.8	Sl. Cldy
Avg.	<0.3	0.582	3	<0.02	<0.007	1.8	0.026	258	0.8	--
<u>DM-3</u>										
6-15-78	N/A*	5.3	6	0.03	0.008	0.39	<0.005	450	19.0	Cldy.
9-27-78	<0.2	0.343	11	<0.02	0.006	0.14	0.007	460	20.2	Cldy.
11-15-78	<0.2	0.222	<1	<0.02	0.020	0.93	0.012	340	20.1	Cldy.
3-21-79	<0.2	0.190	4	<0.02	<0.004	0.51	<0.005	340	19.2	Sl. Cldy
5-1-79	<0.5	4.3	2	<0.02	<0.005	0.39	0.005	380	19.1	Cldy.
Avg.	<0.3	2.071	<4.8	<0.022	<0.009	0.47	<0.007	394	19.5	--
<u>DM-4</u>										
6-15-78	N/A*	0.07	3	<0.02	0.008	0.25	<0.005	2.20	6.7	Sl. Cld
9-27-78	<0.2	0.026	4	<0.02	<0.005	0.39	<0.005	3.3	5.8	Sl. Cld
11-15-78	<0.2	0.009	6	<0.02	0.032	6.8	0.008	2.6	4.9	Cldy.
3-21-79	<0.2	0.005	<1	<0.02	<0.004	13.1	<0.005	0.52	5.3	Sl. Cld
5-2-79	<0.5	0.003	3	<0.02	<0.005	16.8	0.007	0.32	5.6	Sl. Cld
Avg.	<0.3	0.023	3.4	<0.02	<0.011	7.5	<0.006	1.79	5.7	--
<u>DM-5</u>										
6-15-78	N/A*	0.018	3	<0.02	0.008	6.20	<0.005	4.00	6.4	Sl. Cld
9-27-78	<0.2	0.041	6	<0.02	0.005	<0.05	<0.005	4.00	5.5	Sl. Cld
11-15-78	<0.2	0.027	2	<0.02	0.061	0.56	0.011	3.8	4.8	Cldy.
3-21-79	<0.2	0.020	<1	<0.02	<0.004	0.37	0.013	2.0	5.4	Sl. Cld
5-2-79	<0.5	0.003	<1	<0.02	<0.005	0.75	0.009	0.67	5.4	Sl. Cld
Avg.	<0.3	0.022	<2.6	<0.02	<0.017	1.59	<0.009	2.89	5.5	--
<u>DM-6</u>										
6-15-78	N/A*	0.004	3	0.02	0.011	<0.05	<0.005	0.82	0.1	Sl. Cl.
9-27-78	<0.2	0.003	3	<0.02	<0.005	0.12	<0.005	0.66	0.8	Sl. Cl
11-15-78	<0.2	0.005	<1	<0.02	0.049	0.44	0.013	0.3	0.4	V. Cld
3-20-79	<0.2	0.019	8	0.48	<0.004	0.17	<0.005	4.0	0.2	Cldy.
5-1-79	<0.5	0.015	<1	<0.02	<0.005	0.11	<0.005	2.1	0.6	Sl. Cl
Avg.	<0.3	0.015	<2.6	<0.02	<0.015	<0.18	<0.007	1.6	0.4	--

100549



Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Total Diss. Iron	Lead	Zinc	Depth (Feet)	Sal. Condi.
6-15-78	N/A*	0.003	4	0.02	0.006	0.16	<0.005	0.38	26	Rusty
7-27-78	<0.05	0.007	<1	<0.02	<0.005	0.16	0.019	0.30	31	Rusty
Avg.	<0.05	<0.005	2.5	<0.02	<0.0055	0.16	<0.012	0.34	29	--
<u>Water Well #13</u>										
6-15-78	N/A*	0.026	3	0.02	0.007	0.60TD	<0.005	4.10	32	C.
7-27-78	<0.05	0.049	<1	0.22	0.005	0.10D	0.011	3.1	35	C.
8-18-78	<0.05	0.022	<1	<0.02	<0.005	<0.05D	0.011	3.08	30	C.
9-27-78	<0.2	0.036	1	0.04	<0.005	<0.05TD	0.007	4.8	26	C.
11-3-78	0.2	0.035	<1	<0.02	<0.005	0.11D	0.012	3.9	26	C.
11-17-78	<0.2	0.033	1	<0.02	<0.005	0.56TD	0.026	3.4	32	C.
12-29-78	<0.2	<0.002	25	0.04	0.006	0.08D	0.006	0.79	35	C.
1-5-79	<0.2	0.037	12	0.03	0.063	.19TOT				
3-9-79	<0.2	0.036	<1	<0.02	<0.004	.05D	0.005	3.8	26	C.
3-20-79	<0.2	0.024	1	<0.02	<0.004	.68TOT				
4-30-79	<0.5	0.042	<1	<0.02	<0.005	.05D	0.172	4.4	30	C.
5-4-79	<0.5	0.036	<1	<0.02	<0.005	0.16TD	<0.005	4.5	25	C.
Avg.	<0.23	0.032	<4.08	<0.02	<0.005	2.49TOT	0.033	3.2	28	C.
				<0.02	<0.005	<0.05TD	<0.02	3.0	30	C.
				<0.041	<0.0099	1.12TOT	0.026	3.51	29.6	C.
						0.28TD				
						0.07D				

Abbreviations

- NA\* - Not applicable due to experimental error
- T - Turbid
- V.Cldy - Very Cloudy
- Cldy - Cloudy
- S.Cldy - Slightly Cloudy
- C - Clear
- TD - Total Dissolved
- D - Dissolved
- TOT - Total
- COV. - Inadvertently covered during nearby construction

- Samples taken between 6-15-78 and 5-4-79 were analyzed by Brandt Associates.
- Monitor well samples were filtered at Brandt Labs upon arrival with .45 micron filter.

IRON RESULTS

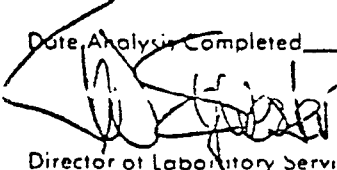
	<u>Dissolved Iron</u>	<u>Total Iron</u>
SM-1	.03	--
SM-2	.27	--
SM-3	.03	--
DM-1	.03	--
DM-2	.70	--
DM-3	.14	--
DM-4	.38	--
DM-5	.06	5.20
DM-6	.04	--
WW-13	.09	.24

Sampled 7-12-79. Analyzed by Artesian Water  
Company.

AR100551

50 Blue Hen Drive  
 Blue Hen Industrial Park  
 Newark Delaware 19713  
 Tel (302) 731-1550

Jim Hall  
 du Pont de Nemours & Co., Inc.  
 Port Plant  
 Wilmington, DE 19804

Date Analysis Completed January 19, 197  
  
 Director of Laboratory Services

Log Number	Sample Description
1X-1	DM-1
4X-2	DM-2
1X-3	Sm-1
1X-4	Sm-2

Results (mg/l unless indicated otherwise)

Sample Log Number	34X-1	34X-2	34X-3	34X-4
Acidity (as Ca CO <sub>3</sub> )				
Alkalinity (as Ca CO <sub>3</sub> )				
Aluminum				
Arsenic	<0.001	0.004	0.003	0.001
Barium	0.8	1.5	√21.0	<0.2
Bismuth	0.002	<0.001	0.008	<0.001
Total Organic Carbon				
Bromide				
Chromium, Total	0.36	<0.05	<0.05	<0.05
Sixvalent Chromium	0.023	0.025	0.038	0.013
Cobalt	<0.05	0.34	<0.05	<0.05
Fecal Coliform (col/100ml)				
Total Coliform (col/100ml)				
Copper	<0.05	<0.05	<0.05	<0.05
Cyanide	<0.1	<0.1	<0.1	<0.1
Fluoride				
Hardness (Ca, Mg as Ca CO <sub>3</sub> )				
Iron	5.33	6.20	9.13	1.67
Lead	0.08	0.02	√0.05	<0.02
Magnesium				
Manganese				
Mercury	0.0009	0.0013	0.0004	0.0007
Molybdenum				
Nickel	0.17	0.22	0.11	<0.05
Nitrate as N				
Nitrite as N				
Ammonia Nitrogen as N				
Total Kjeldahl Nitrogen as N				
Vanadium	<0.5	<0.5	<0.5	<0.5
Selenium	0.0067	0.002	0.0014	0.010
Zinc	0.26	4.60	1.50	0.19

CONSULTING  
ANALYTICAL  
CHEMISTS

50 BLUE HEN DRIVE  
BLUE HEN INDUSTRIAL PARK  
NEWARK, DELAWARE 19713  
PHONE (302) 731-1550



INVOICE NO.:

LOG NO.: 79W (6/3/75)

REPORT  
TO

Mr. Jerry Schwartz  
E. I. duPont de Nemours & Co., Inc.  
Pigments Dept.  
Newport, DE 19804

date report completed 6/10/75

*Alan R. Yasser*

Alan R. Yasser  
Director of Lab Services

SAMPLE IDENTIFICATION	well #11	well #13
ANALYZED FOR	RESULTS (mg/l UNLESS INDICATED OTHERWISE)	
Arsenic	0.001	0.002
Barium	0.05	0.05
Cadmium	0.02	0.02
hexavalent Chromium	0.005	0.005
Total Chromium	0.21	0.05
Cobalt	0.05	0.05
Copper	0.29	0.05
Cyanide	0.11	0.11
Iron	0.05	0.05
Lead by extraction	0.73	0.01
Mercury	0.0002	0.0002
Nickel	0.05	0.05
BOD		
COD		
Tin	0.5	0.5
Selenium	0.026	0.007
Zinc	0.32	2.7

AR100553

*Dist.*

RESULTS IN MG/L  
DEPTH-TO WATER

SM-1

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Lead	Zinc	Depth (Feet)	Sample Condition
- 8-77	70.3	0.014	17	<0.02	0.053	0.08	<0.01	0.61	18.6	CID-F-CLD
- 1-77	490	0.28	5	0.56	<0.01	<0.1	1.63	24.1	18.5	CID-F-CLD
-10-77	61.2	0.017	6	<0.02	<0.005	<0.05	0.02	2.53	18.7	CLD-F-SL-CLD
-14-77	91	0.09	9	0.22	0.009	<0.05	0.2	4.4	18.6	CLD-F-SL-CLD
-30-78	5.5	0.008	12	0.17	0.005	0.13	0.024	3.1	17.3	T-F-CLD
AVG.	143.6	0.08	9.8	0.25	0.016	0.082	0.38	6.95	18.3	-

AR100554

*Dist.*

SM-2

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Lead	Zinc	Depth (Feet)	Sample Condition
3- 0-77	0.5	0.019	4.5	<0.02	0.028	0.07	0.01	0.38	9.0	C-U
7- 1-77	7.45	0.003	<1	0.03	<0.01	<0.1	<0.01	0.47	8.9	C-U
10-10-77	0.46	0.010	<1	0.02	<0.005	<0.05	0.03	0.29	8.4	C-U
10-11-77	0.48	0.05	4	0.13	0.012	0.06	<0.2	0.28	8.5	C-U
3-30-78	0.8	0.005	8	0.13	<0.005	0.13	0.009	3.0	4.8	CLD-F-C
AVG.	1.94	0.017	3.7	0.066	0.012	0.082	0.05	0.88	7.9	-

ORIGINAL  
7-29-77

SM-3 *Plot*

<u>Date sampled</u>	<u>Barium</u>	<u>Cadmium</u>	<u>Total Organic Carbon</u>	<u>Chromium</u>	<u>Cyanide</u>	<u>Diss. Iron</u>	<u>Lead</u>	<u>Zinc</u>	<u>Depth (Feet)</u>	<u>Sample Condition</u>
3- 8-77	0.9	<0.005	20.5	<0.02	0.018	1.09	<0.01	(9.08)	19.3	CID-F-CID
7- 1-77	12.1	<0.02	10	0.02	<0.01	0.1	<0.01	(7.27)	19.9	CID-F-SL-CID
8-10-77	0.06	0.005	11	<0.02	<0.005	<0.05	<0.01	3.27	19.7	CID-F-SL-CID
10-14-77	(4.73)	0.05	16	(0.13)	0.008	0.09	<0.2	3.0	20.3	CID-F-SL-CID
3-30-78	3.2	<0.002	16	(0.16)	0.005	0.24	0.011	(10.2)	19.2	T-F-CID
AVG.	4.2	<0.016	14.7	(0.07)	0.009	0.314	0.05	(6.56)	19.7	-

ORIGINAL  
(Red)

AR100555

potassium

DM-1

RESULTS IN MG/L  
DEPTH-TO WATER

Date sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Total Iron	Lead	Zinc	Depth (Feet)	Sample Condition
3-8-77	1.4	<0.005	9	<0.02	0.171	<0.05	-	<0.01	0.99	8.9	C-U
7-1-77	1.92	0.009	3	0.08	<0.01	0.19	-	0.05	0.53	10.2	C-U
9-10-77	1.32	0.012	6	0.07	<0.005	0.06	-	0.03	0.56	10.0	C-U
0-14-77	0.55	0.03	4	0.14	0.025	<0.05	-	<0.2	0.38	11.3	C-U
3-30-78	3.8	0.006	10	0.12	0.013	0.13	-	0.014	1.22	7.9	CLD-F-C
VG.	(1.80)	<0.012	6.4	<0.086	<0.045	0.096	-	<0.061	0.736	9.7	-

Abbreviations and Symbols

(v) = Mg/kg

(i) = Sample results missing

(CLD-F-CLD) = Cloudy sample filtered and remained cloudy

(CLD-F-3L-CLD) = Cloudy sample filtered and slightly cloudy

(T-P-CLD) = Turbid sample filtered and remained cloudy

(C-U) = Clear sample - unfiltered

AR100556

(7.2)

*Dist.*

DM-2

<u>Date</u> <u>Sampled</u>	<u>Barium</u>	<u>Cadmium</u>	<u>Total</u> <u>Organic</u> <u>Carbon</u>	<u>Chromium</u>	<u>Cyanide</u>	<u>Diss.</u> <u>Iron</u>	<u>Total</u> <u>Iron</u>	<u>Lead</u>	<u>Zinc</u>	<u>Depth</u> <u>(Feet)</u>	<u>Sample</u> <u>Condition</u>
3- 8-77	0.7	<0.005	9.5	<0.02	0.036	<0.05	-	<0.01	19.3	0.9	C-U
7- 1-77	0.45	(0.26)	3	0.05	<0.01	0.27	-	0.01	(78.9)	1.2	C-U
8-10-77	0.69	0.35	5	0.04	<0.005	4.53	-	0.07	105	1.5	C-U
10-14-77	0.60	0.033	5	0.12	<0.004	4.83	-	<0.2	95	2.0	C-U
3-30-78	14.6	0.85	6	0.21	<0.005	1.00	-	0.035	160	0.9	CID-F-CID
AVG.	3.41	<0.30	5.7	0.088	<0.022	2.136	-	<0.07	(91.6)	1.3	-

(200)

AR100557



DM-3 Potomac

Results in mg/L unless indicated otherwise

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Lead	Zinc	Depth (Feet)	Sample Condition
3- 8-77	<0.1	4.78 <sup>x</sup>	5	<0.02	<0.005	0.47	<0.01	462	19.5	CLD-F-CLD
7- 1-77	0.33	2.34	3	0.03	<0.01	0.28	<0.01	241	21.0	CLD-F-SL-CLD
8-10-77	0.30	2.82	6	0.02	<0.005	<0.05	<0.2	359	20.5	CLD-F-SL-CLD
10-14-77	0.67	0.51	13	0.12	<0.004	0.42	0.007	300	22.2	CLD-F-SL-CLD
3-30-78	6.9	2.2	20	0.17	0.027	0.34	0.012	220	19.4	T-F-CLD
AVG.	<1.66	1.98	9.4	<0.072	<0.0102	0.312	<0.05	316.4	20.5	-

ARI00558

DM-4 Potomac

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Lead	Zinc	Depth (Feet)	Sample Condition
3- 8-77	<0.1	0.035	<1	<0.02	<0.01	<0.1	<0.01	0.93	6.5	C-U
7- 1-77	1.26	0.004	2	0.03	<0.005	0.05	0.02	0.64	6.0	C-U
8-10-77	0.54	0.04	4	0.11	0.009	0.07	<0.2	0.49	6.4	C-U
10-14-77	8.2	0.005	9	0.14	0.010	0.14	0.006	1.6	5.9	C-U
3-30-78	<0.5	0.021	<4	<0.075	<0.0085	<0.09	<0.06	0.92	5.4	C-U
AVG.	<2.625	0.021	<4	<0.075	<0.0085	<0.09	<0.06	0.92	6.0	-

Potomac

DM-5

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Lead	Zinc	Depth (Feet)	Sample Condition
3- 8-77	Well did not exist at this time									
7- 1-77	1.71	0.010	7	0.04	<0.01	<0.1	<0.01	0.45	6.0	C-U
8-10-77	0.94	0.018	4	0.04	<0.005	<0.05	0.05	0.59	6.5	C-U
10-14-77	2.59	0.05	5	0.12	0.006	0.06	<0.2	0.49	6.0	C-U
3-30-78	3.5	(0.011)	8	(0.18)	0.008	0.20	0.018	2.3	5.2	CLD-F-C
AVG.	2.185	0.02	6	0.095	.0072	0.103	0.07	0.958	5.9	-

AR100559

Potomac

DM-6

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Lead	Zinc	Depth (Feet)	Sample Condition
3- 8-77	Well did not exist at this time									
7- 1-77	1.71	0.010	11	0.04	<0.01	<0.1	<0.01	5.57	2.1	C-U
8-10-77	0.94	0.018	"	0.04	0.005	0.52	0.05	7.75	2.3	C-U
10-14-77	2.59	0.05	11	0.11	0.004	0.12	0.2	4.9	2.1	C-U
3-30-78	3.5	(0.011)	11	(0.18)	0.006	0.26	0.010	5.0	0.2	CLD-F-CID
AVG.	0.492	.019	7.75	0.09	<0.006	2.25	<0.07	5.805	1.7	-

*Adams*

WATER WELL #11

All Samples Unfiltered and Clear  
Results in MG/L

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Total Iron	Lead	Zinc	Depth (Feet)
12-15-76	<0.05	0.02	8.7	<0.05	<0.01	<0.1	--	<0.2	0.012	41
1-13-77	<0.1	<0.03	2.1	<0.02	<0.01	--	6.74	<0.01	0.01	18
2-18-77	<0.1	<0.02	21.3	0.04	<0.006	<0.05	0.08	<0.01	2.30	15
3-4-77	0.17	0.028	5	<0.02	<0.005	0.28	4.72	<0.01	2.53	15
5-6-77	0.08	<0.02	14	<0.02	0.009	0.07	0.50	<0.2	0.88	20
5-27-77	0.05	0.009	<1	0.03	0.009	0.12	0.39	<0.01	0.74	15
6-14-77	<0.05	0.035	<1	0.25	<0.01	<0.05	--	<0.01	1.22	15
8-8-77	0.11	0.008	<1	<0.02	<0.005	<0.05	0.22	0.02	1.01	20
9-9-77	0.09	0.016	12	<0.02	<0.005	<0.05	0.97	<0.005	3.29	20
10-14-77	0.21	0.010	5	0.15	<0.004	<0.05	0.17	<0.005	1.7	21
11-16-77	<0.05	0.018	*	0.04	<0.005	0.13	0.38	<0.005	2.2	20
12-9-77	<0.1	0.007	<1	<0.02	<0.005	0.15	0.68	0.007	0.64	20
1-13-78	<0.05	0.003	3	<0.02	<0.005	<0.05	1.84	0.023	0.45	20
2-24-78	1.10	<0.005	<1	0.04	0.009	0.16	1.98	0.028	0.59	20
3-23-78	0.80	0.005	5	<0.02	0.010	<0.05	17.7	0.022	0.5	20
4-7-78	0.9	<0.002	9	0.60	0.007	0.19	6.5	0.188	0.49	20
Avg.	<0.25	<0.014	<6.01	<0.085	<0.007	<0.10	3.11	<0.047	1.41	20

Test not run  
Results missing from lab

ORIGINAL

AR 100560  
4-27-78

WATER WELL #13 Potomac

All Samples Unfiltered and Clear  
Results in MG/L

Date Sampled	Barium	Cadmium	Total Organic Carbon	Chromium	Cyanide	Diss. Iron	Total Iron	Lead	Zinc	Depth (Feet)
12-15-76	0.06	0.03	<1	<0.05	<0.01	0.23	--	<0.2	0.023	43
1-13-77	<0.1	0.02	<1.0	<0.02	<0.01	--	3.17	<0.01	7.52	41
2-18-77	<0.1	0.03	4.6	0.04	<0.006	<0.05	1.29	<0.01	3.78	45
3-18-77	0.20	0.015	5.5	<0.02	<0.005	0.44	1.88	0.018	0.61	38
5-6-77	<0.05	0.04	9	<0.02	0.007	0.91	1.37	<0.2	3.12	36
5-27-77	<0.05	<0.005	<1	0.05	0.014	0.09	0.27	<0.01	3.28	38
6-14-77	<0.05	<0.005	<1	<0.02	<0.01	<0.05	--	0.07	3.41	38
8-8-77	0.22	0.044	<1	0.02	0.076	0.11	0.43	<0.01	7.03	45
9-9-77	0.05	0.006	<1	<0.02	<0.005	<0.05	1.18	<0.005	3.41	36
10-14-77	0.24	0.033	4	0.13	0.018	<0.05	5.16	<0.005	4.4	35
11-16-77	<0.05	0.032	*	0.02	<0.005	0.08	0.38	<0.005	3.5	36
12-9-77	<0.1	0.036	<1	<0.02	<0.005	0.15	0.26	<0.005	4.0	40
1-13-78	<0.05	0.046	7	<0.02	0.009	<0.05	0.22	0.005	3.4	21
2-24-78	1.13	0.044	<1	<0.02	0.007	0.18	0.26	0.005	3.2	31
3-23-78	0.70	0.017	3	0.02	0.007	<0.05	0.05	<0.005	4.0	29
4-7-78	1.3	0.040	6	0.23	0.005	<0.05	<0.05	<0.005	3.9	31
Avg.	<0.28	0.028	<3.1	<0.045	<0.012	<0.17	<1.14	<0.036	3.66	36.4

-- Test not run

\* Results missing from lab

AR100561

4-27-78

ORIGINAL  
(200)

SITE INSPECTION  
AND SAMPLING BY  
EPA ON 2/21/80

ARI00562

W.M.T.

DATE: March 11, 1980

SUBJECT: Hazardous Waste Site Inspection and Trip Report for: E.I. DuPont de Nemours & Co., Inc., Newport Pigments, Newport, DEL 19804

FROM: William M. Thomas, Jr. <sup>W.M.T.</sup> (3SA21) *[Signature]*  
Engineering Technician

TO: Jeffrey Hass (3SA30)  
Acting Chief, Environmental Emergency Branch

ORIGINAL  
(P-2)

On February 21, 1980 a Hazardous Waste Site Inspection was conducted at the E.I. DuPont de Nemours and Company, Inc., Newport Pigments landfill site. The site inspected is on plant property and is presently inactive and has been since 1975.

The facility was inspected and sampled by EPA, Region III personnel and assisted by Delaware DNREC. During the entire inspection, on and off site, the EPA team was accompanied by two of DuPont's personnel - Mike Barszcy and Pete Kress.

Samples were collected from 3 test wells, 2 river sampling locations and the City of Newport water supply.

The test wells were sampled by Mr. Kress with a company well sampler, which was needed due to the size of the well casings. These samples were split between EPA and DuPont. The stream samples were grab samples and were collected simultaneously by DuPont and EPA Personnel.

Chain of custody was employed for all samples, except during the sampling of the water supply, which was sampled by DNREC personnel to conserve time.

All samples will be analyzed for extractable and volatile organics, heavy metals and radioactivity.

Sample sources and locations:

Test Well #DM3

Sample #C0006

Located along S.E. corner of site, approximately 20' from property boundry 50' above Christina River. Water table approximately 20' feet deep, well depth 60'.

Test Well #DM6

Sample #C0007

Located off site, in marsh area slightly S.W. of fill area. This station is approximately 50' below site elevation, well depth 59'.

Test Well #DM5

Sample #C0008

AR100563

Located on opposite side of Christina River from plant in S.E. direction, 20 yards from river, well depth 45'.

<sup>UP</sup>  
~~Stream~~ Stream Sample

Sample #C0010

Christina River, same side as plant, below S.W. corner of site.

<sup>DOWN</sup>  
~~Stream~~ Stream Sample

Sample #C0011

Christina river, same side as plant, under Route 141 bridge,

new span.

Water Supply, City of Newport

Sample #C0009

Newport Water Treatment Plant

Enclosure (1)

cc: Leonard Mangiaracina (3EN00)  
Orterio Villa, Jr. (3SA20)

AR100564

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
ANNAPOLIS FIELD OFFICE, REGION III

DATE: April 3, 1980

SUBJECT: Energy Dispersive X-Ray Fluorescence of  
Newport Pigment and Tybout Corner Landfill

FROM: P. F. Sosinski <sup>PFS</sup>  
Physical Science Technician

TO: Daniel K. Donnelly  
Chief, Lab Section

(PFS)

Thirteen samples identified as shown in Table I below were subjected to qualitative and semi-quantitative energy dispersive x-ray fluorescence analysis. The results are presented in Table II. A check (✓) indicates the element was present but at an unknown concentration.

TABLE I

AFO #	Location
800225-01	Newport Pigments Well
800225-02	Newport Pigments Well
800225-03	Newport Pigments Well
800225-04	City of Newport - water supply
800225-05	Christina R. ( <del>downstream</del> ) <i>upstream wt</i>
800225-06	Christina R. ( <del>upstream</del> ) <i>downstream wt</i>
800225-07	Tybout Corner Landfill MD#2
800225-08	Tybout Corner Landfill MD#11
800225-09	Tybout Corner Landfill - upstream
800225-10	Tybout Corner Landfill - downstream
800225-11	Tybout Corner Landfill MD#23
800225-12	Tybout Corner Landfill - leachate
800225-13	Tybout Corner Landfill - private well

PFSosinski:jr

cc: Patricia Johnson



TABLE II

	<u>S</u>	<u>Ar</u>	<u>K</u>	<u>Ti</u>	<u>Cr</u>	<u>Mn</u>	<u>Fe</u>	<u>Co</u>	<u>Ni</u>	<u>Cu</u>	<u>Zn</u>	<u>Sr</u>	<u>Y</u>	<u>Zr</u>	<u>Cd</u>
800225-01	✓		✓	3.3	.6	.4	40-400	<.1	.5	.2	20-200	✓	✓	✓	3.0
-02	✓			.1			4-20				.6				
-03							.8		<.1	<.1	<.1				
-04	✓						.3	<.1	<.1	<.1					
-05	✓	✓	✓	.1			1.6			<.1	.2				
-06				.1			.9			<.1	.1				
-07	✓	✓		2.0			200-2000	4.8	.6	.2	2.3				
-08			✓	.2			3.1			<.1	<.1				
-09	✓		✓	.2			3.0			<.1	<.1				
-10	✓		✓	.1			3.5			<.1	<.1				
-11							.6		<.1	.1	.6				
-12	✓		✓	.7		.9	40-400								
-13	✓			.6			40-400			<.1	.4				

ARI00566

ORIGINAL  
(100)

LABORATORY DATA  
SHEETS - ORGANICS  
SAMPLING 2/21/80

AR100567

# REPORT



**WEST  
COAST  
TECHNICAL  
SERVICE  
INC.**

17605 Fabrica Way, Suite D  
Cerritos, California 90701  
213/921-9831  
714/523-9200

Prepared For Region III U.S. Environmental Protection Agency Custis Building, 6th & Walnut Sts. Philadelphia, PA 19106 Attn: Jeffrey Hass	
Date March 28, 1980	Job No. 19006/mn
P.O. No. 6035	Date Received February 27, 1980
Description of Samples	

Enclosed are the reports for samples number: C0006, C0007, C0008, C0009, C0010 and C0011.

RECEIVED EEB

APR 3 1980

We would appreciate a telephone call if you have any questions regarding this report.

Page 1 of 1 pages.

I certify that this report truly represents the findings of work performed by me, or under my direct supervision.

David Blecha  
Staff Chemist

Reviewed & Approved.

D. J. Northington, Ph.D.  
Technical Director

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purposes without written authorization is prohibited.

AR100568

Sample Number  
 100569

ORGANICS TRAFFIC REPORT

SITE NAME: PROJECT NAME: ADDRESS: CITY: STATE: ZIP:	SAMPLE TYPE: (Check One) <input type="checkbox"/> RUN OFF <input checked="" type="checkbox"/> WELL <input type="checkbox"/> RECEIVING WATER <input type="checkbox"/> LEACHATE <input type="checkbox"/> EFFLUENT <input type="checkbox"/> OTHER (specify)	SHIP TO: ATTN:
REGIONAL OFFICE: ADDRESS: CITY: STATE: ZIP:	Mark Volume Level on Sample Bottle Date Sampled	ANALYSIS LAB: Rec'd by: Date/Time Rec'd: Sample Condition on Receipt
ADDITIONAL INFORMATION: COMMENTS: SPECIAL HANDLING INSTRUCTIONS:	EXTRACTABLE EXTRACTABLE EXTRACTABLE EXTRACTABLE VOA UNPRESERVED VOA UNPRESERVED (Duplicate)	Fine Two bottles had

DESCRIPTION OF SAMPLE LOCATION:

Well 3

SPECIAL HANDLING INSTRUCTIONS:

(specify if hazardous, igneous, or radioactive)

AR100569

SAMPLE ID C0006 Well Water  
LAB ID 19006A1  
DATE EXTRACTED 2/28/80  
DATE INJECTED 3/22/80  
STD ID DFTPP987 SENS69 Phenol202  
CONC FACTOR 1000

<u>Acid Compounds</u>	<u>ug/l</u>
21A 2,4,6-trichlorophenol	ND
22A p-chloro-m-cresol	ND
24A 2-chlorophenol	ND
31A 2,4-dichlorophenol	ND
34A 2,4-dimethylphenol	ND
57A 2-nitrophenol	ND
58A 4-nitrophenol	ND
59A 2,4-dinitrophenol	ND
60A 4,6-dinitro-o-cresol	ND
64A pentachlorophenol	ND
65A phenol	ND

Base/Neutral Compounds

1B acenaphthene	ND
5B benzidine	ND
8B 1,2,4-trichlorobenzene	ND
9B hexachlorobenzene	ND
12B hexachloroethane	ND
18B bis(2-chloroethyl)ether	ND
20B 2-chloronaphthalene	ND
25B 1,2-dichlorobenzene	(1) *
26B 1,3-dichlorobenzene	(1) *
27B 1,4-dichlorobenzene	ND
28B 3,3'-dichlorobenzidine	ND
35B 2,4-dinitrotoluene	ND
36B 2,6-dinitrotoluene	ND
37B 1,2-diphenylhydrazine (as azobenzene)	ND
39B fluoranthene	ND
40B 4-chlorophenyl phenyl ether	ND

SAMPLE ID C0006 Well Water  
LAB ID 19006B1  
DATE EXTRACTED 2/28/80  
DATE INJECTED 3/17/80  
STD ID DFTPP982 BENZ240 BNSTD175  
CONC FACTOR 1000

<u>Base/Neutral Compounds</u>	<u>ug/l</u>
41B 4-bromophenyl phenyl ether	ND
42B bis(2-chloroisopropyl) ether	ND
43B bis (2-chloroethoxy) methane	ND
52B hexachlorobutadiene	ND
53B hexachlorocyclopentadiene	ND
54B isophorone	ND
55B naphthalene	ND
56B nitrobenzene	ND
61B N-nitrosodimethylamine	ND
62B N-nitrosodiphenylamine	ND
63B N-nitrosodi-n-propylamine	ND
66B bis (2-ethylhexyl) phthalate *	
67B butyl benzyl phthalate	*
68B di-n-butyl phthalate	*
69B di-n-octyl phthalate	ND
70B diethyl phthalate	ND
71B dimethyl phthalate	ND
72B benzo(a) anthracene	ND
73B benzo(a)pyrene	ND
74B 3,4-benzofluoranthene	ND
75B benzo(k)fluoranthene	ND
76B chrysene	ND
77B acenaphthylene	ND
78B anthracene	ND
79B benzo(ghi)perylene	ND
80B fluorene	ND
81B phenanthrene	ND
82B dibenzo(a,h)anthracene	ND
83B indeno(1,2,3-cd)pyrene	ND
84B pyrene	ND
129B 2,3,7,8-tetrachlorodibenzo- p-dioxin	ND

SAMPLE ID C0006 Well Water  
 LAB ID 19006V3  
 DATE INJECTED 3/11/80  
 STD ID DFTPP975 19005V12  
 CONC. FACTOR \_\_\_\_\_

SAMPLE ID C0006  
 LAB ID Traces #29 & 28  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/20/80  
 STD ID Trace #26  
 CONC. FACTOR 1 & 1/100 DIL

Volatiles	ug/l
2V acrolein	ND
3V acrylonitrile	ND
4V benzene	*
6V carbon tetrachloride	ND
7V chlorobenzene	ND
10V 1,2-dichloroethane	11
11V 1,1,1-trichloroethane	ND
13V 1,1-dichloroethane	ND
14V 1,1,2-trichloroethane	ND
15V 1,1,2,2-tetrachloroethane	ND
16V chloroethane	ND
17V bis(chloromethyl) ether	ND
19V 2-chloroethylvinyl ether	ND
23V chloroform	ND
29V 1,1-dichloroethylene	ND
30V 1,2-trans-dichloroethylene	ND
32V 1,2-dichloropropane	ND
33V 1,3-dichloropropylene	ND
38V ethylbenzene	ND
44V methylene chloride	*
45V methyl chloride	ND
46V methyl bromide	ND
47V bromoform	ND
48V dichlorobromomethane	ND
49V trichlorofluoromethane	ND
50V dichlorodifluoromethane	ND
51V chlorodibromomethane	ND
85V tetrachloroethylene	94
86V toluene	ND
87V trichloroethylene	*
88V vinyl chloride	ND

Pesticides	ug/l
89P aldrin	ND
90P dieldrin	ND
91P chlordane	ND
92P 4,4'-DDT	ND
93P 4,4'-DDE	28.7
94P 4,4'-DDD	ND
95P alpha-endosulfan	**45.0
96P beta-endosulfan	ND
97P endosulfan sulfate	**28.180
98P endrin	ND
99P endrin aldehyde	ND
100P heptachlor	**610
101P heptachlor epoxide	ND
102P alpha-BHC	**2
103P beta-BHC	ND
104P gamma-BHC	ND
105P delta-BHC	ND
106P PCB-1242	ND
107P PCB-1254	ND
108P PCB-1221	ND
109P PCB-1232	ND
110P PCB-1248	ND
111P PCB-1260	ND
112P PCB-1016	ND
113P toxaphene	ND

\* = Less than 10 ug/l  
 (pesticides less than 5 ug/l)  
 ND = Not detected  
 \*\* = Not confirmed by GCMS  
 (1) = Unresolved

AR100571

ORGANICS TRAFFIC REPORT

Sample Number  
2217

<p>UNITS: 21 577</p> <p>DATE RECEIVED: 2/27/92</p> <p>ANALYSIS LAB: <i>[Handwritten]</i></p> <p>ANALYST: <i>[Handwritten]</i></p> <p>SYNOPSIS: <i>[Handwritten]</i></p> <p>REMARKS: <i>[Handwritten]</i></p> <p>RESERVED INFORMATION</p>	SAMPLE TYPE: Trace (ml)	SHIP TO:
	SOLVENT (specify)	ATTN:
	Mark Volume Level on Sample Bottle	ANALYSIS LAB: Rec'd by: <i>[Handwritten]</i> Date/Time Rec'd: 2-27-92
	Date Sampled	Sample Condition on Receipt
	EXTRACTABLE 20221545	Fine
EXTRACTABLE		
EXTRACTABLE		
EXTRACTABLE		
VOA UNPRESERVED 20221545	Four bottles had label	
VOA UNPRESERVED (duplicate)		

DESCRIPTION OF SAMPLE LOCATION:  
 # DIM 2

RECEIVING INSTRUCTIONS:  
 (If sample is hazardous material)

ARI00572

SAMPLE ID C0007 Well Water  
 LAB ID 19006A2  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/22/80  
 STD ID DFTPP987 SENS69 Phenol202  
 CONC FACTOR 1000

SAMPLE ID C0007 Well Water  
 LAB ID 19006B2  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/17/80  
 STD ID DFTPP987 BENZ240 BNSTD175  
 CONC FACTOR 1000

Acid Compounds	ug/l
21A 2,4,6-trichlorophenol	ND
22A p-chloro-m-cresol	ND
24A 2-chlorophenol	ND
31A 2,4-dichlorophenol	ND
34A 2,4-dimethylphenol	ND
57A 2-nitrophenol	ND
58A 4-nitrophenol	ND
59A 2,4-dinitrophenol	ND
60A 4,6-dinitro-o-cresol	ND
64A pentachlorophenol	ND
65A phenol	ND

Base/Neutral Compounds

1B acenaphthene	ND
5B benzidine	ND
8B 1,2,4-trichlorobenzene	ND
9B hexachlorobenzene	ND
12B hexachloroethane	ND
18B bis(2-chloroethyl)ether	ND
20B 2-chloronaphthalene	ND
25B 1,2-dichlorobenzene	ND
26B 1,3-dichlorobenzene	ND
27B 1,4-dichlorobenzene	ND
28B 3,3'-dichlorobenzidine	ND
35B 2,4-dinitrotoluene	ND
36B 2,6-dinitrotoluene	ND
37B 1,2-diphenylhydrazine (as azobenzene)	ND
39B fluoranthene	ND
40B 4-chlorophenyl phenyl ether	ND

Base/Neutral Compounds	ug/l
41B 4-bromophenyl phenyl ether	ND
42B bis(2-chloroisopropyl) ether	ND
43B bis(2-chloroethoxy) methane	ND
52B hexachlorobutadiene	ND
53B hexachlorocyclopentadiene	ND
54B isophorone	ND
55B naphthalene	ND
56B nitrobenzene	ND
61B N-nitrosodimethylamine	ND
62B N-nitrosodiphenylamine	ND
63B N-nitrosodi-n-propylamine	ND
66B bis(2-ethylhexyl) phthalate	* -
67B butyl benzyl phthalate	ND
68B di-n-butyl phthalate	*
69B di-n-octyl phthalate	ND
70B diethyl phthalate	ND
71B dimethyl phthalate	ND
72B benzo(a) anthracene	ND
73B benzo(a)pyrene	ND
74B 3,4-benzofluoranthene	ND
75B benzo(k)fluoranthene	ND
76B chrysene	ND
77B acenaphthylene	ND
78B anthracene	ND
79B benzo(ghi)perylene	ND
80B fluorene	ND
81B phenanthrene	ND
82B dibenzo(a,h)anthracene	ND
83B indeno(1,2,3-cd)pyrene	ND
84B pyrene	ND
129B 2,3,7,8-tetrachlorodibenzo- p-dioxin	ND

AR100573



SAMPLE ID C0007 Well Water  
 LAB ID 19006V5  
 DATE INJECTED 3/11/80  
 STD ID DETTPP975 19005V12  
 CONC. FACTOR           

SAMPLE ID C0007  
 LAB ID Trace #31  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/20/80  
 STD ID Trace #26  
 CONC. FACTOR 10

Volatiles	ug/l
2V acrolein	ND
3V acrylonitrile	ND
4V benzene	ND
6V carbon tetrachloride	ND
7V chlorobenzene	ND
10V 1,2-dichloroethane	*
11V 1,1,1-trichloroethane	ND
13V 1,1-dichloroethane	ND
14V 1,1,2-trichloroethane	ND
15V 1,1,2,2-tetrachloroethane	ND
16V chloroethane	ND
17V bis(chloromethyl) ether	ND
19V 2-chloroethylvinyl ether	ND
23V chloroform	ND
29V 1,1-dichloroethylene	ND
30V 1,2-trans-dichloroethylene	ND
32V 1,2-dichloropropane	ND
33V 1,3-dichloropropylene	ND
38V ethylbenzene	ND
44V methylene chloride	*
45V methyl chloride	ND
46V methyl bromide	ND
47V bromoform	ND
48V dichlorobromomethane	ND
49V trichlorofluoromethane	ND
50V dichlorodifluoromethane	ND
51V chlorodibromomethane	ND
85V tetrachloroethylene	ND
86V toluene	ND
87V trichloroethylene	ND
88V vinyl chloride	ND

Pesticides	ug/l
89P aldrin	ND
90P dieldrin	ND
91P chlordane	ND
92P 4,4'-DDT	**4.8
93P 4,4'-DDE	ND
94P 4,4'-DDD	ND
95P alpha-endosulfan	ND
96P beta-endosulfan	ND
97P endosulfan sulfate	ND
98P endrin	ND
99P endrin aldehyde	**5.7
100P heptachlor	ND
101P heptachlor epoxide	ND
102P alpha-BHC	ND
103P beta-BHC	**3.1
104P gamma-BHC	ND
105P delta-BHC	ND
106P PCB-1242	ND
107P PCB-1254	ND
108P PCB-1221	ND
109P PCB-1232	ND
110P PCB-1248	ND
111P PCB-1260	ND
112P PCB-1016	ND
113P toxaphene	ND

\* = Less than 10 ug/l  
 (pesticides less than 5 ug/l)

ND = Not detected

\*\* = Not confirmed by GCMS

AR100574

Sample Number

0008

ORGANIC TRAFFIC REPORT

SAMPLE TYPE: Receipt

SHIP TO:

- SOL
- SOLUBLE
- SOLUBLE
- SOLUBLE
- SOLUBLE
- OTHER

(specify)

ATTN:

CHAS. N. S. ...

Mark Volume Level on Sample Bottle

ANALYSIS LAB:

Rec'd by: S. ...

Date/Time Rec'd: 5-2-68

Date Sampled

Sample Condition on Receipt

EXTRACTABLE

8002 21 1745

Fine

EXTRACTABLE

EXTRACTABLE

EXTRACTABLE

VOL UNPRESERVED

8002 21 1745

Fine

VOL UNPRESERVED

(Duplicate)

EXTRA INFORMATION

DESCRIPTION OF SAMPLE LOCATION:

5

USE FOLLOWING INSTRUCTIONS:

ARI00575

SAMPLE ID C0008 Well Water  
 LAB ID 19006B3  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/22/80  
 STD ID DFTPP987 SENS69 Phenol202  
 CONC FACTOR 1000

SAMPLE ID C0008 Well Water  
 LAB ID 19006B3  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/17/80  
 STD ID DFTPP982 BENZ240 BNSTD175  
 CONC FACTOR 1000

Acid Compounds	ug/l
21A 2,4,6-trichlorophenol	ND
22A p-chloro-m-cresol	ND
24A 2-chlorophenol	ND
31A 2,4-dichlorophenol	ND
34A 2,4-dimethylphenol	ND
57A 2-nitrophenol	ND
58A 4-nitrophenol	ND
59A 2,4-dinitrophenol	ND
60A 4,6-dinitro-o-cresol	ND
64A pentachlorophenol	ND
65A phenol	ND

Base/Neutral Compounds	ug/l
41B 4-bromophenyl phenyl ether	ND
42B bis(2-chloroisopropyl) ether	ND
43B bis(2-chloroethoxy) methane	ND
52B hexachlorobutadiene	ND
53B hexachlorocyclopentadiene	ND
54B isophorone	ND
55B naphthalene	ND
56B nitrobenzene	ND
61B N-nitrosodimethylamine	ND
62B N-nitrosodiphenylamine	ND
63B N-nitrosodi-n-propylamine	ND
66B bis(2-ethylhexyl) phthalate	*
67B butyl benzyl phthalate	ND
68B di-n-butyl phthalate	*
69B di-n-octyl phthalate	ND
70B diethyl phthalate	ND
71B dimethyl phthalate	ND
72B benzo(a) anthracene	ND
73B benzo(a)pyrene	ND
74B 3,4-benzofluoranthene	ND
75B benzo(k)fluoranthene	ND
76B chrysene	ND
77B acenaphthylene	ND
78B anthracene	ND
79B benzo(ghi)perylene	ND
80B fluorene	ND
81B phenanthrene	ND
82B dibenzo(a,h)anthracene	ND
83B indeno(1,2,3-cd)pyrene	ND
84B pyrene	ND
129B 2,3,7,8-tetrachlorodibenzo-p-dioxin	ND

Base/Neutral Compounds

1B acenaphthene	ND
5B benzidine	ND
8B 1,2,4-trichlorobenzene	ND
9B hexachlorobenzene	ND
12B hexachloroethane	ND
18B bis(2-chloroethyl)ether	ND
20B 2-chloronaphthalene	ND
25B 1,2-dichlorobenzene	ND
26B 1,3-dichlorobenzene	ND
27B 1,4-dichlorobenzene	ND
28B 3,3'-dichlorobenzidine	ND
35B 2,4-dinitrotoluene	ND
36B 2,6-dinitrotoluene	ND
37B 1,2-diphenylhydrazine (as azobenzene)	ND
39B fluoranthene	ND
40B 4-chlorophenyl phenyl ether	ND

SAMPLE ID C0008 Well Water  
 LAB ID 19006V6  
 DATE INJECTED 3/11/80  
 STD ID DFTPP975 19005V12  
 CONC. FACTOR \_\_\_\_\_

SAMPLE ID C0008  
 LAB ID 19006 Trace#32  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/20/80  
 STD ID Trace #26  
 CONC. FACTOR 10

Volatiles	ug/l
2V acrolein	ND
3V acrylonitrile	ND
4V benzene	ND
6V carbon tetrachloride	ND
7V chlorobenzene	ND
10V 1,2-dichloroethane	*
11V 1,1,1-trichloroethane	ND
13V 1,1-dichloroethane	ND
14V 1,1,2-trichloroethane	ND
15V 1,1,2,2-tetrachloroethane	ND
16V chloroethane	ND
17V bis(chloromethyl) ether	ND
19V 2-chloroethylvinyl ether	ND
23V chloroform	*
29V 1,1-dichloroethylene	ND
30V 1,2-trans-dichloroethylene	ND
32V 1,2-dichloropropane	ND
33V 1,3-dichloropropylene	ND
38V ethylbenzene	ND
44V methylene chloride	*
45V methyl chloride	ND
46V methyl bromide	ND
47V bromoform	ND
48V dichlorobromomethane	ND
49V trichlorofluoromethane	ND
50V dichlorodifluoromethane	ND
51V chlorodibromomethane	ND
85V tetrachloroethylene	86
86V toluene	ND
87V trichloroethylene	*
88V vinyl chloride	ND

Pesticides	ug/l
89P aldrin	ND
90P dieldrin	ND
91P chlordane	ND
92P 4,4'-DDT	** .3
93P 4,4'-DDE	ND
94P 4,4'-DDD	ND
95P alpha-endosulfan	ND
96P beta-endosulfan	ND
97P endosulfan sulfate	** .6
98P endrin	** .4
99P endrin aldehyde	ND
100P heptachlor	ND
101P heptachlor epoxide	ND
102P alpha-BHC	ND
103P beta-BHC	ND
104P gamma-BHC	ND
105P delta-BHC	ND
106P PCB-1242	ND
107P PCB-1254	ND
108P PCB-1221	ND
109P PCB-1232	ND
110P PCB-1248	ND
111P PCB-1260	ND
112P PCB-1016	ND
113P toxaphene	ND

\* = Less than 10 ug/l  
 (pesticides less than 5 ug/l)  
 ND = Not detected  
 \*\* = Not confirmed by GCMS

ARI00577

Sample Number  
 100

ORGANICS TRAFFIC REPORT

RECEIVED: DATE: <u>2-27-85</u>	SAMPLE TYPE: (check one) <input type="checkbox"/> WASTE <input type="checkbox"/> SOIL <input type="checkbox"/> FORMING WATER <input type="checkbox"/> LEACHATE <input type="checkbox"/> EFFLUENT <input checked="" type="checkbox"/> OTHER <u>Water Supply</u> (specify)	SHIP TO: FEDERAL BUREAU OF INVESTIGATION 1700 ST. ANDREW ST. WASHINGTON, DC 20535 ATTN: MR. ROBERT J. ...
ANALYZER: NAME: _____ TITLE: _____	Mark Volume Level on Sample Bottle Date Sampled	ANALYSIS LAB: Rec'd by: <u>...</u> Date/Time Rec'd: <u>2-27-85</u>
COMMENTS: ...	EXTRACTABLE <u>2002211535</u>	Sample Condition on Receipt <u>Fine</u>
COMMENTS: ...	EXTRACTABLE ...	...
COMMENTS: ...	VOA UNPRESERVED <u>2002211535</u>	Two bottles have bubbles
COMMENTS: ...	VOA UNPRESERVED (Duplicate)	...
COMMENTS: ...	...	...

DESCRIPTION OF SAMPLE LOCATION:  
NEWPORT - WATER SUPPLY

SPECIAL HANDLING INSTRUCTIONS:  
 ...

ARI00578

C0009 Water Supply

19006A4

EXTRACTED 2/28/80

INJECTED 3/22/80

STD ID DFTPP987 SENS69 Phenol202

CONC FACTOR 1000

SAMPLE ID C0009 Water Supply

LAB ID 19006B4

DATE EXTRACTED 2/28/80

DATE INJECTED 3/18/80

STD ID DFTPP983 BENZ241 BNSTD176

CONC FACTOR 1000

Acid Compounds	ug/l
21A 2,4,6-trichlorophenol	ND
22A p-chloro-m-cresol	ND
24A 2-chlorophenol	ND
31A 2,4-dichlorophenol	ND
34A 2,4-dimethylphenol	ND
57A 2-nitrophenol	ND
58A 4-nitrophenol	ND
59A 2,4-dinitrophenol	ND
60A 4,6-dinitro-o-cresol	ND
64A pentachlorophenol	ND
65A phenol	ND

Base/Neutral Compounds

1B acenaphthene	ND
5B benzidine	ND
8B 1,2,4-trichlorobenzene	ND
9B hexachlorobenzene	ND
12B hexachloroethane	ND
18B bis(2-chloroethyl)ether	ND
20B 2-chloronaphthalene	ND
25B 1,2-dichlorobenzene	ND
26B 1,3-dichlorobenzene	ND
27B 1,4-dichlorobenzene	ND
28B 3,3'-dichlorobenzidine	ND
35B 2,4-dinitrotoluene	ND
36B 2,6-dinitrotoluene	ND
37B 1,2-diphenylhydrazine (as azobenzene)	ND
39B fluoranthene	ND
40B 4-chlorophenyl phenyl ether	ND

Base/Neutral Compounds	ug/l
41B 4-bromophenyl phenyl ether	ND
42B bis(2-chloroisopropyl) ether	ND
43B bis(2-chloroethoxy) methane	ND
52B hexachlorobutadiene	ND
53B hexachlorocyclopentadiene	ND
54B isophorone	ND
55B naphthalene	ND
56B nitrobenzene	ND
61B N-nitrosodimethylamine	ND
62B N-nitrosodiphenylamine	ND
63B N-nitrosodi-n-propylamine	ND
66B bis(2-ethylhexyl) phthalate	*-
67B butyl benzyl phthalate	*-
68B di-n-butyl phthalate	*
69B di-n-octyl phthalate	ND
70B diethyl phthalate	ND
71B dimethyl phthalate	ND
72B benzo(a) anthracene	ND
73B benzo(a)pyrene	ND
74B 3,4-benzofluoranthene	ND
75B benzo(k)fluoranthene	ND
76B chrysene	ND
77B acenaphthylene	ND
78B anthracene	(1) *
79B benzo(ghi)perylene	ND
80B fluorene	ND
81B phenanthrene	(1) **
82B dibenzo(a,h)anthracene	ND
83B indeno(1,2,3-cd)pyrene	ND
84B pyrene	ND
129B 2,3,7,8-tetrachlorodibenzo- p-dioxin	ND

C0009 Water Supply

19006V8

INJECTED 3/11/80

DFTPP975 19005V12

CONC. FACTOR \_\_\_\_\_

SAMPLE ID C0009

LAB ID 19006 Trace #33

DATE EXTRACTED 2/28/80

DATE INJECTED 3/20/80

STD ID Trace #26

CONC. FACTOR 10

ORIGINAL (Red)

Volatiles	ug/l
2V acrolein	ND
3V acrylonitrile	ND
4V benzene	ND
6V carbon tetrachloride	ND
7V chlorobenzene	ND
10V 1,2-dichloroethane	*
11V 1,1,1-trichloroethane	ND
13V 1,1-dichloroethane	ND
14V 1,1;2-trichloroethane	ND
15V 1,1,2,2-tetrachloroethane	ND
16V chloroethane	ND
17V bis(chloromethyl) ether	ND
19V 2-chloroethylvinyl ether	ND
23V chloroform	ND
29V 1,1-dichloroethylene	ND
30V 1,2-trans-dichloroethylene	ND
32V 1,2-dichloropropane	ND
33V 1,3-dichloropropylene	ND
38V ethylbenzene	ND
44V methylene chloride	*
45V methyl chloride	ND
46V methyl bromide	ND
47V bromoform	ND
48V dichlorobromomethane	ND
49V trichlorofluoromethane	ND
50V dichlorodifluoromethane	ND
51V chlorodibromomethane	ND
85V tetrachloroethylene	ND
86V toluene	ND
87V trichloroethylene	ND
88V vinyl chloride	ND

Pesticides	ug/l
89P aldrin	ND
90P dieldrin	ND
91P chlordane	ND
92P 4,4'-DDT	** .1
93P 4,4'-DDE	ND
94P 4,4'-DDD	ND
95P alpha-endosulfan	ND
96P beta-endosulfan	ND
97P endosulfan sulfate	ND
98P endrin	ND
99P endrin aldehyde	** .2
100P heptachlor	ND
101P heptachlor epoxide	ND
102P alpha-BHC	ND
103P beta-BHC	** .4
104P gamma-BHC	ND
105P delta-BHC	ND
106P PCB-1242	ND
107P PCB-1254	ND
108P PCB-1221	ND
109P PCB-1232	ND
110P PCB-1248	ND
111P PCB-1260	ND
112P PCB-1016	ND
113P toxaphene	ND

\* = Less than 10 ug/l  
 (pesticides less than 5 ug/l)  
 ND = Not detected  
 \*\* = Not confirmed by GCMS  
 (l)=Not Resolved

AR100580

Sample Number  
100581

### ORGANICS TRAFFIC REPORT

FIELD NO: DATE: TIME: LOCATION: OPERATOR: (Specify)	SAMPLE TYPE: <input type="checkbox"/> ALCOHOL <input type="checkbox"/> OIL <input checked="" type="checkbox"/> DOMESTIC WASTE <input type="checkbox"/> INDUSTRIAL WASTE <input type="checkbox"/> EFFLUENT <input type="checkbox"/> OTHER	SHIP TO: ATTN: ORIGINAL (Red)
LABORATORY OFFICE:	Mark Volume Level on Sample Bottle Date Sampled	ANALYSIS LAB: Rec'd by: Date/Time Rec'd:
PERSONNEL: (End)	EXTRACTABLE 8002211600 EXTRACTABLE EXTRACTABLE EXTRACTABLE	Sample Condition on Receipt Fine One bottle had broken
SHIPPING INFORMATION: COMMENTS: SPECIAL HANDLING INSTRUCTIONS:	VOA UNPRESERVED 8002211600 VOA UNPRESERVED (Duplicate)	SPECIAL HANDLING INSTRUCTIONS:

DESCRIPTION OF SAMPLE LOCATION:   
 RIVER ~~DOWNSTREAM~~ FROM PLANT   
 Upstream

AR100581



SAMPLE ID C0010 Receiving Water  
 LAB ID 19006V9  
 DATE INJECTED 3/11/80  
 STD ID DFTPP975 19005V12  
 CONC. FACTOR \_\_\_\_\_

SAMPLE ID C0010  
 LAB ID 19005 Trace #36  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/20/80  
 STD ID Trace #34  
 CONC. FACTOR 10

ORIGINAL  
(291)

Volatiles	ug/l
2V acrolein	ND
3V acrylonitrile	ND
4V benzene	ND
6V carbon tetrachloride	ND
7V chlorobenzene	ND
10V 1,2-dichloroethane	*
11V 1,1,1-trichloroethane	ND
13V 1,1-dichloroethane	ND
14V 1,1,2-trichloroethane	ND
15V 1,1,2,2-tetrachloroethane	ND
16V chloroethane	ND
17V bis(chloromethyl) ether	ND
19V 2-chloroethylvinyl ether	ND
23V chloroform	ND
29V 1,1-dichloroethylene	ND
30V 1,2-trans-dichloroethylene	ND
32V 1,2-dichloropropane	ND
33V 1,3-dichloropropylene	ND
38V ethylbenzene	ND
44V methylene chloride	*
45V methyl chloride	ND
46V methyl bromide	ND
47V bromoform	ND
48V dichlorobromomethane	ND
49V trichlorofluoromethane	ND
50V dichlorodifluoromethane	ND
51V chlorodibromomethane	ND
85V tetrachloroethylene	ND
86V toluene	ND
87V trichloroethylene	ND
88V vinyl chloride	ND

Pesticides	
89P aldrin	ND
90P dieldrin	ND
91P chlordane	ND
92P 4,4'-DDT	ND
93P 4,4'-DDE	ND
94P 4,4'-DDD	ND
95P alpha-endosulfan	ND
96P beta-endosulfan	ND
97P endosulfan sulfate	ND
98P endrin	ND
99P endrin aldehyde	ND
100P heptachlor	ND
101P heptachlor epoxide	ND
102P alpha-BHC	ND
103P beta-BHC	ND
104P gamma-BHC	ND
105P delta-BHC	ND
106P PCB-1242	ND
107P PCB-1254	ND
108P PCB-1221	ND
109P PCB-1232	ND
110P PCB-1248	ND
111P PCB-1260	ND
112P PCB-1016	ND
113P toxaphene	ND

\* = Less than 10 ug/l  
 (pesticides less than 5 ug/l)  
 ND = Not detected  
 \*\* = Not confirmed by GCMS

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY \_\_\_\_\_

SAMPLE ID C0010 Recieving Water  
 LAB ID 19006A5  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/22/80  
 STD ID DFTPP987 SENS69 Phenol202  
 CONC FACTOR 1000

SAMPLE ID C0010 Receiving Water  
 LAB ID 19006B5  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/18/80  
 STD ID DFTPP983 BENZ241 BNSTD176  
 CONC FACTOR 1000

Acid Compounds	ug/l
21A 2,4,6-trichlorophenol	ND
22A p-chloro-m-cresol	ND
24A 2-chlorophenol	ND
31A 2,4-dichlorophenol	ND
34A 2,4-dimethylphenol	ND
57A 2-nitrophenol	ND
58A 4-nitrophenol	ND
59A 2,4-dinitrophenol	ND
60A 4,6-dinitro-o-cresol	ND
64A pentachlorophenol	ND
65A phenol	ND

Base/Neutral Compounds

1B acenaphthene	ND
5B benzidine	ND
8B 1,2,4-trichlorobenzene	ND
9B hexachlorobenzene	ND
12B hexachloroethane	ND
18B bis(2-chloroethyl)ether	ND
20B 2-chloronaphthalene	ND
25B 1,2-dichlorobenzene	ND
26B 1,3-dichlorobenzene	ND
27B 1,4-dichlorobenzene	ND
28B 3,3'-dichlorobenzidine	ND
35B 2,4-dinitrotoluene	ND
36B 2,6-dinitrotoluene	ND
37B 1,2-diphenylhydrazine (as azobenzene)	ND
39B fluoranthene	ND
40B 4-chlorophenyl phenyl ether	ND

Base/Neutral Compounds	ug/(Red)	ORIGINAL
41B 4-bromophenyl phenyl ether	ND	
42B bis(2-chloroisopropyl) ether	ND	
43B bis (2-chloroethoxy) methane	ND	
52B hexachlorobutadiene	ND	
53B hexachlorocyclopentadiene	ND	
54B isophorone	ND	
55B naphthalene	ND	
56B nitrobenzene	ND	
61B N-nitrosodimethylamine	ND	
62B N-nitrosodiphenylamine	ND	
63B N-nitrosodi-n-propylamine	ND	
66B bis (2-ethylhexyl) phthalate	*	
67B butyl benzyl phthalate	ND	
68B di-n-butyl phthalate	*	
69B di-n-octyl phthalate	ND	
70B diethyl phthalate	*	
71B dimethyl phthalate	ND	
72B benzo(a) anthracene	ND	
73B benzo(a)pyrene	ND	
74B 3,4-benzofluoranthene	ND	
75B benzo(k)fluoranthene	ND	
76B chrysene	ND	
77B acenaphthylene	ND	
78B anthracene	(1) *	
79B benzo(ghi)perylene	ND	
80B fluorene	ND	
81B phenanthrene	(1) *	
82B dibenzo(a,h)anthracene	ND	
83B indeno(1,2,3-cd)pyrene	ND	
84B pyrene	ND	
129B 2,3,7,8-tetrachlorodibenzo- p-dioxin	ND	

Sample Number

0011

ORGANICS TRAFFIC REPORT

ID NUMBER: <u>37</u> SPLICING NAME: <u>...</u> ... ...	SAMPLE TYPE: (check one) <input type="checkbox"/> ... <input type="checkbox"/> ... <input checked="" type="checkbox"/> ... <input type="checkbox"/> LEACHATE <input type="checkbox"/> EFFLUENT <input type="checkbox"/> OTHER (specify)	SHIP TO: ... ... ... ATTN: <u>THOMAS</u>
REGIONAL OFFICE: ... ... ...	Mark Volume Level on Sample Bottle Date Sampled	ANALYSIS LAB: Rec'd by: <u>...</u> Date/Time Rec'd: <u>...</u> Sample Condition on Receipt
SHIPPING INFORMATION ... ... ...	EXTRACTABLE <u>3002211715</u> EXTRACTABLE EXTRACTABLE EXTRACTABLE VOA UNPRESERVED <u>3002211715</u> VOA UNPRESERVED (Duplicate)	Fine Fine

DESCRIPTION OF SAMPLE LOCATION: Below  
ROCKY RIVER, ABOVE PLANT, RT 141 BRIDGE  
Downstream

SPECIAL HANDLING INSTRUCTIONS:  
 (Indicate any special precautions (e.g., hazardous nature))

AR100584

SAMPLE ID C0011 Receiving Water  
 LAB ID 19006B6  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/22/80  
 STD ID DFTPP987 SENS69 Phenol202  
 CONC FACTOR 1000

SAMPLE ID C0011 Receiving Water  
 LAB ID 19006B6  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/18/80  
 STD ID DFTPP983 BENZ241 BNSTD176  
 CONC FACTOR 1000

<u>Acid Compounds</u>	<u>ug/l</u>
21A 2,4,6-trichlorophenol	ND
22A p-chloro-m-cresol	ND
24A 2-chlorophenol	ND
31A 2,4-dichlorophenol	ND
34A 2,4-dimethylphenol	ND
57A 2-nitrophenol	ND
58A 4-nitrophenol	ND
59A 2,4-dinitrophenol	ND
60A 4,6-dinitro-o-cresol	ND
64A pentachlorophenol	ND
65A phenol	ND

<u>Base/Neutral Compounds</u>	
1B acenaphthene	ND
5B benzidine	ND
8B 1,2,4-trichlorobenzene	ND
9B hexachlorobenzene	ND
12B hexachloroethane	ND
18B bis(2-chloroethyl)ether	ND
20B 2-chloronaphthalene	ND
25B 1,2-dichlorobenzene	ND
26B 1,3-dichlorobenzene	ND
27B 1,4-dichlorobenzene	ND
28B 3,3'-dichlorobenzidine	ND
35B 2,4-dinitrotoluene	ND
36B 2,6-dinitrotoluene	ND
37B 1,2-diphenylhydrazine (as azobenzene)	ND
39B fluoranthene	ND
40B 4-chlorophenyl phenyl ether	ND

<u>Base/Neutral Compounds</u>	<u>ug/l</u>
41B 4-bromophenyl phenyl ether	ND
42B bis(2-chloroisopropyl) ether	ND
43B bis(2-chloroethoxy) methane	ND
52B hexachlorobutadiene	ND
53B hexachlorocyclopentadiene	ND
54B isophorone	ND
55B naphthalene	ND
56B nitrobenzene	ND
61B N-nitrosodimethylamine	ND
62B N-nitrosodiphenylamine	ND
63B N-nitrosodi-n-propylamine	ND
66B bis(2-ethylhexyl) phthalate	*
67B butyl benzyl phthalate	ND
68B di-n-butyl phthalate	*
69B di-n-octyl phthalate	ND
70B diethyl phthalate	ND
71B dimethyl phthalate	ND
72B benzo(a) anthracene	ND
73B benzo(a)pyrene	ND
74B 3,4-benzofluoranthene	ND
75B benzo(k)fluoranthene	ND
76B chrysene	ND
77B acenaphthylene	ND
78B anthracene	ND
79B benzo(ghi)perylene	ND
80B fluorene	ND
81B phenanthrene	ND
82B dibenzo(a,h)anthracene	ND
83B indeno(1,2,3-cd)pyrene	ND
84B pyrene	ND
129B 2,3,7,8-tetrachlorodibenzo- p-dioxin	ND

WA  
 AR100585

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY \_\_\_\_\_

SAMPLE ID C0011 Receiving Water  
 LAB ID 19006V10  
 DATE INJECTED 3/11/80  
 STD ID DFTPP975 19005V12  
 CONC. FACTOR \_\_\_\_\_

SAMPLE ID C0011  
 LAB ID 19006 Trace #35  
 DATE EXTRACTED 2/28/80  
 DATE INJECTED 3/20/80  
 STD ID Trace #34  
 CONC. FACTOR 10

Volatiles	ug/l
2V acrolein	ND
3V acrylonitrile	*
4V benzene	ND
6V carbon tetrachloride	ND
7V chlorobenzene	ND
10V 1,2-dichloroethane	ND
11V 1,1,1-trichloroethane	ND
13V 1,1-dichloroethane	ND
14V 1,1,2-trichloroethane	ND
15V 1,1,2,2-tetrachloroethane	ND
16V chloroethane	ND
17V bis(chloromethyl) ether	ND
19V 2-chloroethylvinyl ether	ND
23V chloroform	ND
29V 1,1-dichloroethylene	ND
30V 1,2-trans-dichloroethylene	ND
32V 1,2-dichloropropane	ND
33V 1,3-dichloropropylene	ND
38V ethylbenzene	ND
44V methylene chloride	*
45V methyl chloride	ND
46V methyl bromide	ND
47V bromoform	ND
48V dichlorobromomethane	ND
49V trichlorofluoromethane	ND
50V dichlorodifluoromethane	ND
51V chlorodibromomethane	ND
85V tetrachloroethylene	ND
86V toluene	ND
87V trichloroethylene	ND
88V vinyl chloride	ND

Pesticides	ug/l
89P aldrin	ND
90P dieldrin	ND
91P chlordane	ND
92P 4,4'-DDT	ND
93P 4,4'-DDE	ND
94P 4,4'-DDD	ND
95P alpha-endosulfan	ND
96P beta-endosulfan	ND
97P endosulfan sulfate	ND
98P endrin	ND
99P endrin aldehyde	ND
100P heptachlor	ND
101P heptachlor epoxide	ND
102P alpha-BHC	ND
103P beta-BHC	**1.2
104P gamma-BHC	ND
105P delta-BHC	ND
106P PCB-1242	ND
107P PCB-1254	ND
108P PCB-1221	ND
109P PCB-1232	ND
110P PCB-1248	ND
111P PCB-1260	ND
112P PCB-1016	ND
113P toxaphene	ND

\* = Less than 10 ug/l  
 (pesticides less than 5 ug/l)  
 ND = Not detected  
 \*\* = Not confirmed by GCMS

AR100586

ORIGINAL  
(Red)

DNREC ANALYTICAL  
RESULTS - ORGANICS  
SAMPLING 2/21/80

AR100587

MEMORANDUM

TO: Kenneth R. Weiss  
FROM: Lisa A. Hamilton  
DATE: April 3, 1980  
SUBJECT: Results of analysis of sample from du Pont Newport well DM-3

On February 21, 1980 the EPA, along with Judy Denver, Bob Touhey and I, visited du Pont Newport's inactive landfill site to sample some of the wells. We took a sample from well DM-3 and it was analyzed by the Division's laboratory for synthetic organic compounds and certain other parameters.

The specific conductance of raw water (untreated) ranges from 50 - 500  $\mu$ mhos/cm and of highly mineralized water from 500 - 1000  $\mu$ mhos/cm. The A and S wells at Llangollen, which are screened in the trash, have specific conductance levels ranging from 100 - 68,000  $\mu$ mhos/cm. Using these ranges for comparison, the specific conductance of the sample is higher than natural ground water at 1660  $\mu$ mhos/cm.

The iron in the sample, at 0.61 mg/l, is above Delaware's drinking water standard (0.3 mg/l). It is also an increase from the last iron sample (0.39 mg/l) from this well in May, 1979. This well has shown higher iron concentrations before as the sample November 1978 indicates at 0.93 mg/l.

The chemical oxygen demand (COD), at 62 mg/l, is relatively high. The total organic carbon (TOC), chloride and total Kjeldahl nitrogen (organic and ammonia) show low levels.

The level of sensitivity in analyzing synthetic organics is 1.0  $\mu$ g/l. The organics which show concentrations above the level of sensitivity are trichloroethylene (5.8  $\mu$ g/l), benzene (< 7.6  $\mu$ g/l); bromoform (< 4  $\mu$ g/l); tetrachloroethylene (123  $\mu$ g/l); toluene (17  $\mu$ g/l); ethylbenzene (< 10  $\mu$ g/l) and acrylonitrile (< 2 mg/l). The tetrachloroethylene and the trichloroethylene both show higher concentrations than samples taken for Phase I of the Water Supply Assessment of September 1979 by Cabe Associates (from 16.0  $\mu$ g/l to 123  $\mu$ g/l and from 2.5  $\mu$ g/l to 5.8  $\mu$ g/l, respectively). Although the well appears to be contaminated, there are no official drinking water standards for synthetic organics to compare the sample to. Therefore, the level of contamination and its health effects are unknown.

Judy spoke with Wayne Naylor from the EPA on April 1. He said they are expecting the data from their sample analyses soon and would send copies to us and the industries involved when they received the results.

Attachment

/ltg

cc: Mr. Robert J. Touhey

AR100588

ANALYSIS REQUEST

NO.	657								
NAME									
DATE									
TIME									
LOCATION									
DEPTH									
TEMPERATURE									
TURBIDITY, FTU									
SPEC. COND. (25°C)	1260								
pH	5.5								
ALP, mg/l CaCO <sub>3</sub>									
ACIDITY, mg/l CaCO <sub>3</sub>									
AMMONIA, mg/l									
CHLORIDE, mg/l	110								
T. NITROGEN, mg/l	1.8								
ORGANIC N, mg/l	1.1								
AMMONIA N, mg/l	0.75								
NITRITE N, mg/l									
NITRATE N, mg/l									
SULFATE, mg/l SO <sub>4</sub>									
TOTAL PO <sub>4</sub> , mg/l									
TOT. SOLIDS, ml/l									
T. SUSP. SOLDS. mg/l									
N.V. SUSP. SOLDS. mg/l									
F. SUSP. SOLDS. mg/l									
F. SOLDS. mg/l									
N. V. T. SOLDS. mg/l									
VOL. TOTAL SOLDS. mg/l									
T. DIS. SOLDS. mg/l									
% MOISTURE									
MBAS mg/l									
GREASE, mg/l									
PHENOL, ug/l									
TOC, mg/l	< 5								
IRON, ug/l	610								
COPPER, ug/l									
MANGANESE, ug/l									
CHROMIUM, ug/l									
SILVER, ug/l									
CALCIUM, mg/l									
ZINC, mg/l									
LEAD, mg/l									
NICKEL, ug/l									
CADMIUM, ug/l									
MERCURY, ug/l									
ARSENIC, ug/l									
SELENIUM, ug/l									
Substrate, Organic Chemicals									
E. COLIFORM #/100 ml									
F. COLIFORM #/100 ml									
F. STREP #/100 ml									

Filter

AR100589



ORGANIC COMPOUNDS	CONCENTRATION	UNIT	SAMPLE NO.	PESTICIDES	UNITS	SAMPLE NO.
Formaldehyde, ug/l.	687					
Acetaldehyde, ug/l.	< 1			Polychlorinated biphenyls	ug/l	
Acetone, ug/l.	< 1			Aldrin, ug/l.		
Chloroform, ug/l.	< 1			Dieldrin, ug/l.		
Diethyl ether, ug/l.	< 1			DDE-o,p, ug/l.		
Hydrochloric acid, ug/l.	< 1			DDE-p,p, ug/l.		
Chloroform, ug/l.	< 1			DDD-o,p, ug/l.		
1,1-Dichloroethane, ug/l.	< 1			DDD-p,p, ug/l.		
1,2-Dichloroethane, ug/l.	Trace			DDT-o,p, ug/l.		
1,1,1-Trichloroethane, ug/l.	Trace			DDT-p,p, ug/l.		
1,1,2-Trichloroethane, ug/l.	< 1			Chlordane-cis isomer, ug/l.		
1,1,1,3-Tetrachloroethane, ug/l.	< 1			Chlordane-trans isomer, ug/l.		
1,1,2,2-Tetrachloroethane, ug/l.	< 1			cis isomer of nonchlor, ug/l.		
1,1,2,3-Tetrachloroethane, ug/l.	< 1			trans isomer of nonchlor, ug/l.		
1,2-Dichloropropane, ug/l.	< 1			Endrin, ug/l.		
1,2-Dichloroethane, ug/l.	< 1			Methoxychlor, ug/l.		
1,2,3-Trichloropropane, ug/l.	5.8			Hexachlorobenzene, ug/l.		
1,2,3,4-Tetrachloropropane, ug/l.	< 1			BHC-A isomer, ug/l.		
1,2,3,4,5-Pentachloropropane, ug/l.	< 1			BHC-B isomer, ug/l.		
1,2,3,4,5,6-Hexachloropropane, ug/l.	< 1			Lindane, ug/l.		
1,2,3,4,5,6,7-Heptachloropropane, ug/l.	< 1			Heptachlor, ug/l.		
1,2,3,4,5,6,7,8-Octachloropropane, ug/l.	< 1			Heptachlor epoxide, ug/l.		
1,2,3,4,5,6,7,8,9-Nonachloropropane, ug/l.	< 1			Mirex, ug/l.		
1,2,3,4,5,6,7,8,9,10-Decachloropropane, ug/l.	123					
1,2,3,4,5,6,7,8,9,10,11-Undecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12-Dodecachloropropane, ug/l.	177					
1,2,3,4,5,6,7,8,9,10,11,12,13-Tridecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12,13,14-Tetradecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15-Pentadecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16-Hexadecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17-Heptadecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18-Octadecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19-Nonadecachloropropane, ug/l.	< 1					
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20-Eicosachloropropane, ug/l.	< 1					

17 July 1966 - Timberline - Tantalum - Iron - Vanadium  
to Conference

ORIGINAL  
(Red)

RADIOLOGICAL RESULTS

DATED 5/5/80

AR100591

3

2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III - 6th & Walnut Sts.  
Philadelphia, Pa. 19106

SUBJECT: Newport Pigmenta - Radiological Results

DATE: MAY 5 1980

FROM: William Belanger, PE (3AH13)

TO: William Thomas  
Annapolis Field Station

*William E. Belanger*

I have reviewed the results sent from the Montgomery radiation facility and have discussed them with Dave Langford and Charles Porter of the Montgomery facility. The gross radiation levels measured are very close to background values and would not be considered significant unless they were to occur in a drinking water supply. A comparison with EPA's drinking water regulation shows an allowable maximum gross alpha value of 15 pCi/l. This value was not exceeded in any sample.

Beta levels are similarly very low. These levels would only be of concern if they were caused by Radium 228, for which the maximum level is 5 pCi/l, and occurred in a drinking water supply. Certain Iodine isotopes would also be of concern if they caused this level of activity in a drinking water supply, but this is highly unlikely. Mr. Porter felt that the levels were so low that further analysis of these samples for specific chemicals is not warranted.

Since there appear to be water wells in the immediate vicinity of the site, it might be worthwhile to collect some samples from them, but again, since sample C0007 showed low activity, significant contamination of the water wells is unlikely.

I hope this analysis has been helpful to you. If you have any further questions please call me at 597-8188.

cc: Jeff Hass (3SA30)  
Dave Langford (3AH00)



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
NEWPORT, DELAWARE 19804

CC: Robert Toughey - DNREC

CHEMICALS, DYES AND PIGMENTS DEPARTMENT

ORIGINAL  
(Red)

May 12, 1980

→ Mr. Wayne Naylor  
U. S. EPA Region III  
6th and Walnut Streets  
Philadelphia, Penn. 19106

This letter is to confirm that Du Pont's Newport Plant willingly admitted representatives of the Environmental Protection Agency and Delaware Department of Natural Resources and Environmental Control on February 21, 1980 to conduct an on-site inspection and collect samples of groundwater monitoring wells DM-3, DM-5, and DM-6, and Christina River water samples upstream and downstream of the site.

In response to your request during that visit, the following is an approximate breakdown of the wastes contained on the site. As I indicated at that time, these are very much "ballpark" estimates.

- 75% - residues containing metals  
(bonded organically and inorganically)
- 15% - miscellaneous wastes
- 9% - organic wastes
- less than 1% - radioactive residues > 50 picocuries/gram

Please accept my apologies for the delayed response to your earlier inquiry. Also, as indicated during your visit, we would appreciate seeing the results of your analyses of the samples collected when they become available.

*M. Barszcz*  
M. BARSZCZ

SAFETY, HEALTH & ENVIRONMENTAL SUPERVISOR

MB:cac

RECEIVED  
HAZARDOUS MATERIALS BRANCH

MAY 13 1980

REGION III

AR100593

ORIGINAL  
(Rec)

SAMPLE RESULTS OF  
THE CHRISTINA RIVER  
DATED 6/10/80

ARI00594

FILE COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III - 6th & Walnut St.

Philadelphia, Pa. 19106

SUBJECT: Assessment of Effects on Christina River  
Aquatic Life by the Newport Pigments Landfill

DATE: JUN 10 1980

FROM: Anthony J. Bartolomeo  
Environmental Engineer, HWTF (3EN12)

TO: Ron Preston  
Chief Aquatic Biologist

The analysis of samples taken from the Christina River at points upstream and downstream from the Newport Pigments landfill site reveals the presence of the following substances in the river:

Heavy Metals (ug/l)

	<u>As</u>	<u>Se</u>	<u>Cd</u>	<u>Cr</u>	<u>Pb</u>	<u>Ag</u>	<u>Ba</u>
Upstream	<2	<2	<50	<1	8.8	<.2	36
Downstream	<2	<2	<50	<1	8.4	<.2	32

Organics (ug.l)

	<u>Upstream</u>	<u>Downstream</u>
bis(2-ethylhexyl)phthalate	< 10	<10
di-n-butyl phthalate	<10	<10
1,2-dichloroethane	<10	--
methylene chloride	<10	<10
beta-BHC	--	1.2
anthracene	<10	--
diethyl phthalate	<10	--
phenanthrene	<10	--
acrylonitrile	--	<10

The upstream sample was gathered from the Christina River below the S.W. corner of the site on the same side of the river as the plant. The downstream sample was taken from the Christina River under the Route 141 bridge (new span) on the same side of the river as the plant. The attached maps show the locations of the sampling points.

I would appreciate it if you reviewed this information and assessed the effects of the substances present on the aquatic life in the Christina River. I understand from Ruthanne Gordon that you were mainly concerned with the Heavy Metal contamination. However, I included the organic results for your information.

If you have any questions, please call me at 215/597-8772. I have sent a memo to Mr. Montague requesting your assistance on this project.

AR100596

DATE: May 2, 1980

SUBJECT: RCRA Results: Newport Pigments

FROM: P. G. Johnson <sup>pgj</sup>  
 Physical Scientist

TO: Daniel K. Donnelly  
 Chief, Lab Section

The samples identified below were subjected to quantitative analysis by flame and furnace atomic absorption. Precision and accuracy data is presented following the analytical results.

Sample No.	←-----µg/l-----→						
	<u>As</u>	<u>Se</u>	<u>Cd</u>	<u>Cr</u>	<u>Pb</u>	<u>Ag</u>	<u>Ba</u>
800225-01	<2	8	3900**	31**	37	0.7	1170**
02	<2	<2	<50	<1	20	<.2	130
03	<2	3	<50	<1	23	.3	126
04	<2*	<2*	<50*	<1*	17*	<.2*	28*
05	<2	<2	<50	<1	8.8	<.2	36
06	<2	<2	<50	<1	8.4	<.2	32

Avg. Coefficient of Variation,

%	1.9	-	0.7	2.9	3.1	1.1	4.8
# Replicates	n=2	n=1	n=2	n=2	n=2	n=2	n=2
% R, Ref. Sample	100.0						
	111.5	87.5	98.5	100.0	110.4	97.8	124.0
% R, Check Std.	110.0	100.0	101.0	104	116	85.0	93.0

\*duplicate preparation

\*\*Spiked % R                                 97.5     110                                 92.0

Sample No.	Location
800225-01	Newport Pigments Well, #DM-3 C0006
02	Newport Pigments Well, #DM-6 C0007
03	Newport Pigments Well, #DM-5 C0008
04	City of Newport - water supply C0009
05	Christina River (upstream) C0010
06	Christina River (downstream) C0011

PGJohnson:ad



ORIGINAL  
(Red)

EPA SAMPLING  
INSPECTION 6/24/80

AR100598

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region III, Central Regional Laboratory

DATE: August 26, 1980

SUBJECT: Trip Report for: Newport Pigments Resampling

FROM: William M. Thomas, Jr. (3SA21) *WMT*  
Engineering Technician

TO: Abraham Ferdas (3EN10)  
Acting Chief, Air Enforcement Branch

THRU: Orterio Villa, Jr. *OV* (3SA20)  
Director

On June 24, 1980 a sampling inspection was conducted at the E.I. DuPont de Nemours and Company, Inc., Newport Pigments Landfill site in Newport, Delaware.

Participants of the inspection include the following:

Pete Kress - DuPont - Newport

Mike Barszcz - DuPont - Newport

William M. Thomas, Jr. - S&A - Annapolis CRL

Gerard W. Crutchley - S&A - Annapolis CRL

Anthony Bartolomeo - Enforcement Division - R.O.

Patrick McManus - Enforcement Division - R.O.

Two monitoring wells were sampled, one on-site and one down grade of the site. A production well was also sampled up grade of the site, which was a Newport City well.

The following is a list of monitoring well locations and the production well location:

Sample #NP-1

Test Well #DM-3

Located along S.E. edge of site, approximately 35 feet above Christina River. Depth to water level 19.2 feet. pH - 5.0. Well in Potomac Aquifer.

Sample #NP-2

Test Well - DM-5

Located on opposite side of Christina River from plant site, in a S.E. direction; approximately 20 yards from river. Depth to water level - 5.7 feet. pH - 5.35. Well in Potomac Aquifer.

Sample #NP-3  
 Newport City Well #4  
 Potomac production well located on Stonehurst Drive and  
 Christian Street, Newport, Delaware. pH - 5.2.

All samples were collected to be analyzed for volatile organics  
 and total metals and were split with DuPont.

On the afternoon of July 3, 1980 additional sampling was  
 conducted from private wells, down grade of the site. The  
 samples were collected from wells located along Old Airport Road,  
 Newport, which is in a southerly direction from the Newport Plant  
 approximately 1/2 of a mile from the site.

Sample locations:

Sample #NP-4  
 Residence of Hobart Mitchell, 433 Old Airport Road, Newport,  
 Delaware. Well depth 20 feet. pH - 5.2.  
 302-328-6956

Sample #NP-5  
 Delaware Auto Salvage, 445 Old Airport Road, Newport, Delaware.  
 Well depth 110 feet. pH - 6.0.

WMTJr./ram 302 322-2328

PO  
 JERRY RUSSELL - OWNER

AR100600

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: September 30, 1980

Central Regional Lab, Region III

SUBJECT: Analytical Reports

FROM: Daniel K. Donnelly (3SA22) DAD  
Chief, Lab Section

TO: Bruce Smith (3EN21)  
Enforcement Division

Enclosed are data reports for the last sample sets collected at Tybouts Landfill and Newport Pigments. Since Enforcement needed the data quickly, the reports were telecopied to Ruth Ann Gordon.

DKDonnelly:jr

RECEIVED EEB

1980 9 1980

DATE: Sept. 29, 1980

SUBJECT: Newport Pigments - GC/MS Purgeable Organics Analysis (6/27/80-9/29/80)

FROM: T.O. Munson, Ph.D. *[Signature]*  
Chief, Organic Analysis Unit

TO: D.K. Donnelly  
Chief, Lab Section

ORIGINAL  
(Red)

Three samples identified as in Table I were analyzed for purgeable organics by gas chromatography/mass spectrometry. The results, reported to one significant figure, are presented in Table 2. The detection limit for most purgeable compounds was in the range 0.1 to 1.0 parts per billion.

TABLE I

Sample Identifications

<u>AFO #</u>	<u>Sample</u>	<u>Date Sampled</u>
800625-01	Newport Pigments, NP-1, Test Well, DM-3	6/24/80
800625-02	Newport Pigments, NP-2, Test Well, DM-5	6/24/80
800625-03	Newport Pigments, NP-3 Production Well	6/24/80

TABLE II

Purgeable Organics Detected (parts per billion, µg/l)

<u>Compound</u>	<u>800625-01</u>	<u>800625-02</u>	<u>800625-03</u>
trichloroethylene	7	3	1
chloroform	1	1	-
tetrachloro-ethylene	100	100	-

ORIGINAL  
(Red) ORIGINAL  
(Red)

INORGANIC ANALYSIS DATA SHEETS  
RECEIVED BY THE LABORATORY ON  
6/26/80

AR100603

*August 7 1980*

585-11

INORGANICS ANALYSIS DATA SHEET

LABORATORY NAME Versar SAMPLE NO. MC8043  
LAB SAMPLE ID NO. 4495 QC REPORT NO. 3 ORIGINAL (Red)

TASK 1 (Elements to be identified and measured)

1. <u>Aluminum</u>	<u>300.</u>	<u>ug/l</u>	10. <u>Nickel</u>	<u>600.</u>	<u>ug/l</u>
2. <u>Chromium</u>	<u>20.</u>		11. <u>Manganese</u>	<u>31,100.</u>	
3. <u>Barium</u>	<u>80.</u>		12. <u>Zinc</u>	<u>194,000.</u>	
4. <u>Beryllium</u>	<u>&lt; 2.</u>		13. <u>Boron</u>	<u>20.</u>	
5. <u>Cadmium</u>	<u>3,810.</u>		14. <u>Vanadium</u>	<u>&lt;10.</u>	
6. <u>Cobalt</u>	<u>570.</u>		15. <u>Calcium</u>	<u>51,600.</u>	
7. <u>Copper</u>	<u>200.</u>		16. <u>Magnesium</u>	<u>26,200.</u>	
8. <u>Iron</u>	<u>1,040.</u>		17. <u>Sodium</u>	<u>26,600.</u>	
9. <u>Lead</u>	<u>&lt;40.</u>				

TASK 2 (Elements to be identified and measured)

1. <u>Arsenic</u>	<u>&lt;10.</u>	<u>ug/l</u>	5. <u>Mercury</u>	<u>&lt; 1.</u>	<u>ug/l</u>
2. <u>Antimony</u>	<u>&lt;20.</u>		6. <u>Tin</u>	<u>&lt;50.*</u>	
3. <u>Selenium</u>	<u>15.</u>		7. <u>Silver</u>	<u>&lt;20.</u>	
4. <u>Thallium</u>	<u>&lt;10.</u>				

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

\*Interference, did not allow normal detection limit.

RECEIVED EEB  
AUG 7 1980

AR100604

INORGANICS ANALYSIS DATA SHEET

585-11

LABORATORY NAME Versar SAMPLE NO. MC8044  
LAB SAMPLE ID NO. 4496 QC REPORT NO. 3 ORIGINAL (Red)

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>200.</u>	10. <u>Nickel</u>	<u>150.</u>
2. <u>Chromium</u>	<u>&lt;10.</u>	11. <u>Manganese</u>	<u>690.</u>
3. <u>Barium</u>	<u>150.</u>	12. <u>Zinc</u>	<u>5,050.</u>
4. <u>Beryllium</u>	<u>&lt; 2.</u>	13. <u>Boron</u>	<u>&lt; 10.</u>
5. <u>Cadmium</u>	<u>45.</u>	14. <u>Vanadium</u>	<u>&lt; 10.</u>
6. <u>Cobalt</u>	<u>20.</u>	15. <u>Calcium</u>	<u>82,600.</u>
7. <u>Copper</u>	<u>40.</u>	16. <u>Magnesium</u>	<u>34,500.</u>
8. <u>Iron</u>	<u>1,240.</u>	17. <u>Sodium</u>	<u>52,200.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>&lt;10.</u>	5. <u>Mercury</u>	<u>&lt; 1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100605



INORGANICS ANALYSIS DATA SHEET

585-11

LABORATORY NAME Versar SAMPLE NO. MC8045  
LAB SAMPLE ID NO. 4497 QC REPORT NO. 3 *02/11/91*  
*(100)*

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>&lt;50.</u>	10. <u>Nickel</u>	<u>&lt;20.</u>
2. <u>Chromium</u>	<u>&lt;10.</u>	11. <u>Manganese</u>	<u>80.</u>
3. <u>Barium</u>	<u>70.</u>	12. <u>Zinc</u>	<u>980.</u>
4. <u>Beryllium</u>	<u>&lt; 2.</u>	13. <u>Boron</u>	<u>&lt;10.</u>
5. <u>Cadmium</u>	<u>&lt; 5.</u>	14. <u>Vanadium</u>	<u>&lt;10.</u>
6. <u>Cobalt</u>	<u>&lt;10.</u>	15. <u>Calcium</u>	<u>7,800.</u>
7. <u>Copper</u>	<u>20.</u>	16. <u>Magnesium</u>	<u>3,900.</u>
8. <u>Iron</u>	<u>&lt;20.</u>	17. <u>Sodium</u>	<u>6,300.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>&lt;10.</u>	5. <u>Mercury</u>	<u>&lt; 1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100606

INORGANICS ANALYSIS DATA SHEET

585-15

REC'D 11/10/74

LABORATORY NAME Versar SAMPLE NO. MC0078  
LAB SAMPLE ID NO. 4643 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. Aluminum	<50.	10. Nickel	<20.
2. Chromium	<10.	11. Manganese	<10.
3. Barium	40.	12. Zinc	50.
4. Beryllium	<2.	13. Boron	10.
5. Cadmium	<5.	14. Vanadium	<10.
6. Cobalt	<10.	15. Calcium	8,800.
7. Copper	100.	16. Magnesium	6,900.
8. Iron	120.	17. Sodium	4,400.
9. Lead	<40.		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. Arsenic	<10.	5. Mercury	<1.
2. Antimony	<20.	6. Tin	<20.
3. Selenium	<10.	7. Silver	<20.
4. Thallium	<10.		

TASK 3 (Elements to be identified and measured)

1. Ammonia	mg/l	4. Cyanide	mg/l
2. Fluoride	mg/l	5. pH	Units
3. Sulfide	mg/l	6. TOC	mg/l

COMMENTS:

AR100607

INORGANICS ANALYSIS DATA SHEET

585-15

ORIGINAL  
(Red)  
ORIGINAL  
(Red)

LABORATORY NAME Versar SAMPLE NO. MC0079  
LAB SAMPLE ID NO. 4644 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>&lt;50.</u>	10. <u>Nickel</u>	<u>&lt;20.</u>
2. <u>Chromium</u>	<u>&lt;10.</u>	11. <u>Manganese</u>	<u>30.</u>
3. <u>Barium</u>	<u>40.</u>	12. <u>Zinc</u>	<u>&lt;10.</u>
4. <u>Beryllium</u>	<u>&lt;2.</u>	13. <u>Boron</u>	<u>70.</u>
5. <u>Cadmium</u>	<u>&lt;5.</u>	14. <u>Vanadium</u>	<u>&lt;10.</u>
6. <u>Cobalt</u>	<u>&lt;10.</u>	15. <u>Calcium</u>	<u>6,900.</u>
7. <u>Copper</u>	<u>&lt;20.</u>	16. <u>Magnesium</u>	<u>2,090.</u>
8. <u>Iron</u>	<u>17,300.</u>	17. <u>Sodium</u>	<u>6,470.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>&lt;10.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100608

Task 1: Elements to be Identified and Measured by Inductively Coupled Argon Plasma Spectrometer or comparable alternate from Appendix F

*ORIGINAL*

	<u>Minimum Reporting Level, (ug/l)</u>
1. Aluminum	50
2. Chromium	10
3. Barium	10
4. Beryllium	2
5. Cadmium	5
6. Cobalt	10
7. Copper	20
8. Iron	20
9. Lead	40
10. Nickel	20
11. Manganese	10
12. Zinc	10
13. Boron	10
14. Vanadium	10
15. Calcium	100
16. Magnesium	100
17. Sodium	100

Task 2: Elements to be Identified and Measured by Flame/Flameless Atomic Absorption Spectrometer or comparable alternate from Appendix F

	<u>Minimum Reporting Level, ug/l</u>
1. Arsenic	10
2. Antimony	20
3. Selenium	10
4. Thallium	10
5. Mercury	1
6. Tin	20
7. Silver	20

Task 3: Inorganic Parameters to be Identified and Measured by Procedures Specified in Appendix E. and/or Appendix F.

	<u>Minimum Reporting Level, ug/l</u>
1. Ammonia	100
2. Fluoride	200
3. Sulfide	50
4. Cyanide	10
5. pH	within 0.1 pH units
6. TOC	2,000

ORIGINAL  
(Red)

ORIGINAL  
(Red)

INORGANIC ANALYSIS DATA SHEETS  
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7/14/80

AR100610

INORGANICS ANALYSIS DATA SHEET

AUG

ORIGINAL  
(Red)

585-16

LABORATORY NAME Versar SAMPLE NO. MC0092  
LAB SAMPLE ID NO. 4656 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. Aluminum	45,700.	10. Nickel	80.
2. Chromium	420.	11. Manganese	1,590.
3. Barium	140.	12. Zinc	510.
4. Beryllium	6.	13. Boron	250.
5. Cadmium	5.	14. Vanadium	320.
6. Cobalt	30.	15. Calcium	12,100.
7. Copper	100.	16. Magnesium	13,800.
8. Iron	325,000.	17. Sodium	2,500.
9. Lead	<40.		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. Arsenic	130.	5. Mercury	<1.
2. Antimony	<20.	6. Tin	<20.
3. Selenium	<10.	7. Silver	<20.
4. Thallium	<10.		

TASK 3 (Elements to be identified and measured)

1. Ammonia	mg/l	4. Cyanide	mg/l
2. Fluoride	mg/l	5. pH	Units
3. Sulfide	mg/l	6. TOC	mg/l

COMMENTS:

AR100611

ORIGINAL  
(Red)

585-16

INORGANICS ANALYSIS DATA SHEET

LABORATORY NAME Versar SAMPLE NO. MC0093  
LAB SAMPLE ID NO. 4657 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>14,100.</u>	10. <u>Nickel</u>	<u>60.</u>
2. <u>Chromium</u>	<u>150.</u>	11. <u>Manganese</u>	<u>200.</u>
3. <u>Barium</u>	<u>80.</u>	12. <u>Zinc</u>	<u>100.</u>
4. <u>Beryllium</u>	<u>2.</u>	13. <u>Boron</u>	<u>70.</u>
5. <u>Cadmium</u>	<u>&lt;5.</u>	14. <u>Vanadium</u>	<u>80.</u>
6. <u>Cobalt</u>	<u>10.</u>	15. <u>Calcium</u>	<u>5,900.</u>
7. <u>Copper</u>	<u>60.</u>	16. <u>Magnesium</u>	<u>4,800.</u>
8. <u>Iron</u>	<u>35,000.</u>	17. <u>Sodium</u>	<u>4,800.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>30.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>30.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100612

INORGANICS ANALYSIS DATA SHEET

CALCULATED  
(mg)

585-16

LABORATORY NAME Versar SAMPLE NO. MC0094  
LAB SAMPLE ID NO. 4658 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>&lt;50.</u>	10. <u>Nickel</u>	<u>&lt;20.</u>
2. <u>Chromium</u>	<u>&lt;10.</u>	11. <u>Manganese</u>	<u>20.</u>
3. <u>Barium</u>	<u>10.</u>	12. <u>Zinc</u>	<u>30.</u>
4. <u>Beryllium</u>	<u>&lt;2.</u>	13. <u>Boron</u>	<u>20.</u>
5. <u>Cadmium</u>	<u>&lt;5.</u>	14. <u>Vanadium</u>	<u>&lt;10.</u>
6. <u>Cobalt</u>	<u>&lt;10.</u>	15. <u>Calcium</u>	<u>6,400.</u>
7. <u>Copper</u>	<u>&lt;20.</u>	16. <u>Magnesium</u>	<u>1,100.</u>
8. <u>Iron</u>	<u>100.</u>	17. <u>Sodium</u>	<u>2,300.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>&lt;10.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

ARI00613



INORGANICS ANALYSIS DATA SHEET

585-16

LABORATORY NAME Versar SAMPLE NO. MC0095  
LAB SAMPLE ID NO. 4659 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>11,900.</u>	10. <u>Nickel</u>	<u>40.</u>
2. <u>Chromium</u>	<u>100.</u>	11. <u>Manganese</u>	<u>50.</u>
3. <u>Barium</u>	<u>40.</u>	12. <u>Zinc</u>	<u>100.</u>
4. <u>Beryllium</u>	<u>2.</u>	13. <u>Boron</u>	<u>80.</u>
5. <u>Cadmium</u>	<u>&lt;5.</u>	14. <u>Vanadium</u>	<u>90.</u>
6. <u>Cobalt</u>	<u>10.</u>	15. <u>Calcium</u>	<u>4,800.</u>
7. <u>Copper</u>	<u>40.</u>	16. <u>Magnesium</u>	<u>4,500.</u>
8. <u>Iron</u>	<u>58,100.</u>	17. <u>Sodium</u>	<u>2,200.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>20.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>60.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100614

INORGANICS ANALYSIS DATA SHEET

ORIGINAL  
(Red)

585-16

LABORATORY NAME Versar SAMPLE NO. MC0096  
LAB SAMPLE ID NO. 4660 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>123,000.</u>	10. <u>Nickel</u>	<u>120.</u>
2. <u>Chromium</u>	<u>1,140.</u>	11. <u>Manganese</u>	<u>1,000.</u>
3. <u>Barium</u>	<u>260.</u>	12. <u>Zinc</u>	<u>770.</u>
4. <u>Beryllium</u>	<u>16.</u>	13. <u>Boron</u>	<u>1,000.</u>
5. <u>Cadmium</u>	<u>15.</u>	14. <u>Vanadium</u>	<u>890.</u>
6. <u>Cobalt</u>	<u>70.</u>	15. <u>Calcium</u>	<u>12,500.</u>
7. <u>Copper</u>	<u>300.</u>	16. <u>Magnesium</u>	<u>33,900.</u>
8. <u>Iron</u>	<u>539,000.</u>	17. <u>Sodium</u>	<u>3,300.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>190.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100615

ORIGINAL  
(Red)

INORGANICS ANALYSIS DATA SHEET

585-16

LABORATORY NAME Versar SAMPLE NO. MC0097  
LAB SAMPLE ID NO. 4661 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>35,900.*</u>	10. <u>Nickel</u>	<u>120.*</u>
2. <u>Chromium</u>	<u>220.*</u>	11. <u>Manganese</u>	<u>340.*</u>
3. <u>Barium</u>	<u>160.*</u>	12. <u>Zinc</u>	<u>655.*</u>
4. <u>Beryllium</u>	<u>12.*</u>	13. <u>Boron</u>	<u>135.*</u>
5. <u>Cadmium</u>	<u>&lt;5.*</u>	14. <u>Vanadium</u>	<u>290.*</u>
6. <u>Cobalt</u>	<u>60.*</u>	15. <u>Calcium</u>	<u>11,800.*</u>
7. <u>Copper</u>	<u>40.*</u>	16. <u>Magnesium</u>	<u>8,450.*</u>
8. <u>Iron</u>	<u>125,000.*</u>	17. <u>Sodium</u>	<u>2,000.*</u>
9. <u>Lead</u>	<u>&lt;40.*</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>50.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

\*Mean of 2 determinations.

AR100616

585-16

INORGANICS ANALYSIS DATA SHEET

ORIGINAL  
(Red)

LABORATORY NAME Versar SAMPLE NO. MC0098  
LAB SAMPLE ID NO. 4662 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>16,000.</u>	10. <u>Nickel</u>	<u>180.</u>
2. <u>Chromium</u>	<u>120.</u>	11. <u>Manganese</u>	<u>2,890.</u>
3. <u>Barium</u>	<u>710.</u>	12. <u>Zinc</u>	<u>270.</u>
4. <u>Beryllium</u>	<u>4.</u>	13. <u>Boron</u>	<u>3,460.</u>
5. <u>Cadmium</u>	<u>&lt;5.</u>	14. <u>Vanadium</u>	<u>80.</u>
6. <u>Cobalt</u>	<u>20.</u>	15. <u>Calcium</u>	<u>74,500.</u>
7. <u>Copper</u>	<u>20.</u>	16. <u>Magnesium</u>	<u>27,100.</u>
8. <u>Iron</u>	<u>70,100.</u>	17. <u>Sodium</u>	<u>93,700.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>30.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100617

(Red)

INORGANICS ANALYSIS DATA SHEET

585-16

LABORATORY NAME Versar SAMPLE NO. VC0099  
LAB SAMPLE ID NO. 4663 QC REPORT NO. 4

TASK 1 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Aluminum</u>	<u>550.</u>	10. <u>Nickel</u>	<u>&lt;20.</u>
2. <u>Chromium</u>	<u>&lt;5.</u>	11. <u>Manganese</u>	<u>100.</u>
3. <u>Barium</u>	<u>20.</u>	12. <u>Zinc</u>	<u>&lt;10.</u>
4. <u>Beryllium</u>	<u>&lt;2.</u>	13. <u>Boron</u>	<u>20.</u>
5. <u>Cadmium</u>	<u>&lt;5.</u>	14. <u>Vanadium</u>	<u>&lt;10.</u>
6. <u>Cobalt</u>	<u>&lt;10.</u>	15. <u>Calcium</u>	<u>1,200.</u>
7. <u>Copper</u>	<u>&lt;20.</u>	16. <u>Magnesium</u>	<u>900.</u>
8. <u>Iron</u>	<u>6,080.</u>	17. <u>Sodium</u>	<u>2,000.</u>
9. <u>Lead</u>	<u>&lt;40.</u>		

TASK 2 (Elements to be identified and measured)

	ug/l		ug/l
1. <u>Arsenic</u>	<u>&lt;10.</u>	5. <u>Mercury</u>	<u>&lt;1.</u>
2. <u>Antimony</u>	<u>&lt;20.</u>	6. <u>Tin</u>	<u>&lt;20.</u>
3. <u>Selenium</u>	<u>&lt;10.</u>	7. <u>Silver</u>	<u>&lt;20.</u>
4. <u>Thallium</u>	<u>&lt;10.</u>		

TASK 3 (Elements to be identified and measured)

1. <u>Ammonia</u>	<u>mg/l</u>	4. <u>Cyanide</u>	<u>mg/l</u>
2. <u>Fluoride</u>	<u>mg/l</u>	5. <u>pH</u>	<u>Units</u>
3. <u>Sulfide</u>	<u>mg/l</u>	6. <u>TOC</u>	<u>mg/l</u>

COMMENTS:

AR100618

AL  
(100)

Task 1: Elements to be Identified and measured by Inductively Coupled Argon Plasma Spectrometer or comparable alternate from Appendix F

Minimum Reporting Level, ug/l

1.	Aluminum	50
2.	Chromium	10
3.	Barium	10
4.	Beryllium	2
5.	Cadmium	5
6.	Cobalt	10
7.	Copper	20
8.	Iron	20
9.	Lead	40
10.	Nickel	20
11.	Manganese	10
12.	Zinc	10
13.	Boron	10
14.	Vanadium	10
15.	Calcium	100
16.	Magnesium	100
17.	Sodium	100

Task 2: Elements to be Identified and Measured by Flame/Flameless Atomic Absorption Spectrometer or comparable alternate from Appendix F

Minimum Reporting Level, ug/l

1.	Arsenic	10
2.	Antimony	20
3.	Selenium	10
4.	Thallium	10
5.	Mercury	1
6.	Tin	20
7.	Silver	20

Task 3: Inorganic Parameters to be Identified and Measured by Procedures Specified in Appendix E. and/or Appendix F.

Minimum Reporting Level, ug/l

1.	Ammonia	100
2.	Fluoride	200
3.	Sulfide	50
4.	Cyanide	10
5.	pH	within 0.1 pH units
6.	TOC	2,000

ORIGINAL  
(Red)

DUPONT - QUARTERLY  
ANALYSIS 6/24/83  
TO 1/22/85

AR100620



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
NEWPORT, DELAWARE 19804

CHEMICALS AND PIGMENTS DEPARTMENT

ORIGINAL  
(Red)

February 21, 1984

Mr. William G. Razor, Supervisor  
Solid Waste Branch  
Department of Natural Resources  
and Environmental Control  
State of Delaware  
Box 1401  
Dover, Delaware 19901

Dear Mr. Razor:

Newport Pigments Plant  
Groundwater Report - Second and Third Quarters 1983

Attached are our groundwater reports for the second and third quarters of 1983.

For further information, please contact me at 999-6104.

Very truly yours,

George H. Hull  
Environmental & Energy Coordinator

GHH:jcb

Attachments

RECEIVED  
FEB 27 1984  
STATE OF DELAWARE  
OFFICE OF SOLID WASTE

AR100621



Newport Pigments Plant  
Groundwater Monitoring  
Sampled 6-24-83 and 6-27-83

Depths and River Levels Measured 6-23-83

(All Results in mg/l, Except pH)

ORIGINAL  
(P. 100)  
Tide Gauge  
Reading (Ft.)

Well	Barium	Cadmium	Zinc	Sulfate As SO <sub>4</sub>	pH	Depth (Ft.) Ground to Water	Tide Gauge Reading (Ft.)
SM-1	55	<0.01	<0.05	<33	8.0	17.4	+1.5
M-2	0.3	<0.01	0.16	37	7.0	4.0	+1.3
M-3	0.2	<0.01	11.5	60	7.1	10.5	+1.0
SM-4	<0.1	1.16	225	210	6.4	0.7	+1.3
M-5	<0.1	0.01	0.60	85	7.4	4.7	+1.5
DM-5	0.2	0.01	0.38	430	6.1	6.1	+2.0
M-6	0.1	0.01	1.00	16	6.3	-2.7	+1.3
MU-7	0.3	<0.01	0.46 <sup>(1)</sup>	9	6.6	4.8	+2.3
DML-7	0.2	<0.01	0.43 <sup>(1)</sup>	22	6.1	7.1	+2.3
M-8	0.1	0.26	7.0	65	6.0	6.7	+1.8
WW-11	<0.1	<0.01	0.08	36	6.7	1.7 <sup>(2)</sup>	+2.0
WW-13	<0.1	<0.01	0.13	<5	6.9	7.9 <sup>(3)</sup>	+2.0

100

- (1) - Readings not confirmed by Third Quarter analyses of 0.16 mg/l and 0.14 mg/l, respectively.
- (2) - Production Well WW-11 not pumping.
- (3) - Production Well WW-13 not pumping.

Where the symbol < appears, this indicates the lower detection limit.

Third Quarter 1983

Newport Pigments Plant  
Groundwater Monitoring  
Sampled 9-20-83 and 9-21-83

ORIGINAL  
(100)

Depths and River Levels Measured 9-19-83

(All Results in mg/l, Except pH)

<u>Well</u>	<u>Barium</u>	<u>Cadmium</u>	<u>Zinc</u>	<u>Sulfate As SO<sub>4</sub></u>	<u>pH</u>	<u>Depth (Ft.) Ground to Water</u>	<u>Tidal Gauge Reading (Ft.)</u>
SW-1	85	<0.01	0.09	<5.0	8.2	17.4	+1.0
SW-2	0.2	0.024	7.0 <sup>(1)</sup>	45	6.0	7.0	+3.5
SW-3	0.4	<0.01	10	52	7.4	20.5	+1.0
SW-4	<0.2	0.8	220	190	6.0	-0.3	+3.0
SW-5	<0.2	0.002	0.34	120	6.6	6.7	+2.0
SW-5	<0.2	0.004	0.44	380	6.3	4.1	+3.5
SW-6	<0.2	0.002	0.10	6.0	5.8	-2.7	+3.0
SW-7	0.3	0.003	0.16	7.4	5.8	8.8	+3.5
SW-7	<0.2	0.001	0.14	35	7.2	8.1	+3.5
SW-8	<0.2	0.20	7.0	67	5.7	7.7	+3.5
SW-11	<0.2	<0.01	0.09	11	5.8	3.7 <sup>(2)</sup>	+3.5
SW-13	<0.2	<0.01	0.11	<5.0	6.1	10.9 <sup>(3)</sup>	+3.5

(1) - Suspect analytical error. Retained sample was unavailable for retest. Result not confirmed by Fourth Quarter result of 0.21 mg/l.

(2) - Production Well WW-11 not pumping.

(3) - Production Well WW-13 not pumping.

Where the symbol < appears, this indicates the lower detection limit.

AR100623



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
NEWPORT, DELAWARE 19804

CHEMICALS AND PIGMENTS DEPARTMENT

April 10, 1984

Mrs. Linda N. Shanley, Resource Control Specialist II  
Solid Waste Branch  
Water Resources Section  
Department of Natural Resources  
& Environmental Control  
State of Delaware  
Box 1401  
Dover, Delaware 19901

Dear Mrs. Shanley:

NEWPORT PIGMENTS PLANT

GROUNDWATER REPORT - FOURTH QUARTER 1983 & FIRST QUARTER 1984

Attached are our groundwater reports for the fourth quarter 1983 and first quarter 1984.

On or around April 12, 1984, program responsibility will transfer to Mr. John C. Chaney at the Plant, from the writer. Mr. Chaney can be reached on 999-6004.

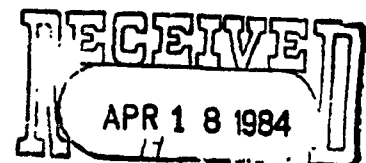
For further information, please contact me at 999-6104, or contact Mr. Chaney.

Very truly yours,

George H. Hull  
Environmental & Energy Coordinator

GHH/hl

Attachments



STATE OF DELAWARE  
OFFICE OF SOLID WASTE

AR100624

FOURTH QUARTER 1983

NEWPORT PIGMENTS PLANT

GROUNDWATER MONITORING

SAMPLED 11/29/83

Depths and River Levels Measured 11/28/83

(All Results in mg/l, except pH)

<u>Well</u>	<u>Barium</u> <sup>(4)</sup>	<u>Cadmium</u>	<u>Zinc</u>	<u>Sulfate</u> <u>As SO<sub>4</sub></u>	<u>pH</u>	<u>Depth (Ft.)</u> <sup>(1)</sup> <u>Ground to Water</u>	<u>Tidal Gauge</u> <u>Reading (Ft.)</u>
SM-1	130	< 0.01	0.09	< 5	7.8	16.9 (neu)	+1.6
SM-2	0.8	< 0.01	0.21	40	5.8	5.0	+1.7
SM-3	10	< 0.01	4.0	13	7.7	18.5	+1.7
SM-4	< 0.5	0.65	165	200	6.1	-0.6	+0.1
SM-5	0.5	< 0.01	0.33	91	6.9	6.7	+1.5
DM-5	< 0.5	< 0.01	0.19	430	6.2	8.1	+1.1
DM-6	< 0.5	0.01	1.2	20	6.0	-2.7	+2.4
DMU-7	1.0	< 0.01	0.06	5	6.3	8.3	+1.1
DML-7	< 0.5	< 0.01	0.13	320 <sup>(5)</sup>	6.5	8.1	+1.1
DM-8	< 0.5	0.29	10.5	110	5.8	7.7	+1.5
WW-11	< 0.5	< 0.01	0.14	9	6.0	3.7 <sup>(2)</sup>	+1.5
WW-13	0.8	< 0.01	0.22	< 5	6.3	10.4 <sup>(3)</sup>	+1.3

(1) - Where a minus sign appears, water is in the well pipe above ground level.

(2) - Production well WW-11 not pumping.

(3) - Production well WW-13 not pumping.

(4) - All barium results are high compared to previous results. Suspect analytical error. Retained samples were unavailable for retest. Results not confirmed by previous quarters or by First Quarter results.

(5) - Result not confirmed by First Quarter result of 32 mg/l.

Where the symbol < appears, this indicates the lower detection limit.

AR100625

NEWPORT PIGMENTS PLANT  
GROUNDWATER MONITORING  
SAMPLED 1/9/84 & 1/10/84

Depths and River Levels Measured 1/9/84

(All Results in mg/l, except pH)

ORIGINAL  
(Red)

<u>Well</u>	<u>Barium</u>	<u>Cadmium</u>	<u>Zinc</u>	<u>Sulfate As SO<sub>4</sub></u>	<u>pH</u>	<u>Depth (Ft.)(1) Ground to Water</u>	<u>Tidal Gauge Reading (Ft.)</u>
SM-1	46	< 0.01	1.5	< 5	7.5	16.4	+1.1
SM-2	0.14	< 0.01	1.3	36	5.4	5.0	-0.5
SM-3	17	< 0.01	1.2	7	7.3	19.5	+1.1
SM-4	0.28	0.55	150	130	6.5	-0.1	-0.8
SM-5	0.23	< 0.01	0.32	87	5.6	6.7	+1.3
DM-5	< 0.10	0.01	0.46	400	5.6	6.1	-0.4
DM-6	0.20	< 0.01	1.2	16	5.3	-2.7	-1.0
DMU-7	0.36	< 0.01	0.10	10	5.4	7.8	-0.4
DML-7	0.46	< 0.01	0.10	31	6.1	8.1	-0.4
DM-8	0.17	0.25	8.4	100	5.6	8.7	+1.5
WW-11	0.15	< 0.01	0.10	5	5.2	3.7(2)	-0.8
WW-13	< 0.10	< 0.01	0.13	< 5	5.4	10.9(3)	-0.5

- (1) - Where a minus sign appears, water is in the well pipe above ground level.
- (2) - Production well WW-11 not pumping.
- (3) - Production well WW-13 not pumping.

Where the symbol < appears, this indicates the lower detection limit.

**RECEIVED**  
APR 18 1984

AR100626



E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
CHAMBERS WORKS  
DEEPWATER, NEW JERSEY 08023

ORIGINAL  
(Red)


November 21, 1984

Mrs. Linda N. Shanley,  
Resource Control Specialist II  
Solid Waste Branch  
Water Resources Section  
Department of Natural Resources  
& Environmental Control  
State of Delaware  
Box 1401  
Dover, DE 19901

Dear Mrs. Shanley:

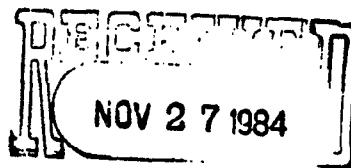
HOLLY RUN PLANT\*  
GROUNDWATER REPORT - Third Quarter 1984

Attached is our groundwater report for the third quarter of 1984. For futher information, please contact me at (609) 540-2173.

  
Peter E. Kress  
Environmental Health Chemist

\*formally the Newport Pigments Plant

PEK/lrw  
Attachment  
0393W/0394W



STATE OF DELAWARE  
OFFICE OF SOLID WASTE

RECEIVED  
NOV 23 1984  
NUS CORPORATION  
REGION III  
SENT TO

AR100627

Third Quarter 1984  
 HOLLY RUN PLANT  
 Goundwater Monitoring  
 Sampled 8/6/84, 8/14/84, and 9/24/84

ORIGINAL  
 (Red)

Depths and River Levels Measured 8/6/84 and 8/14/84  
 (all results in mg/l, except PH)

<u>Well</u>	<u>Barium</u>	<u>Cadmium</u>	<u>Zinc</u>	<u>Sulfate As So<sub>4</sub></u>	<u>PH</u>	<u>Depth (Ft.) Ground to Water</u>	<u>Tidal Guage Reading (Ft.)</u>
SM-1	35	<0.01	0.06	14	7.3	14.82	+1.40
SM-2	0.13	<0.01	0.12	34	5.8	5.17	-0.10
SM-3	14	<0.01	0.57	51	8.0	18.75	+1.40
SM-4 <sup>(1)</sup>	<0.10	0.75	200	160	5.7 <sup>(1)</sup>	-0.47	-0.60
SM-5	<0.10	0.01	.48	56	5.7	5.46	-0.14
DM-5	0.25	<0.01	3.6	630 <sup>(2)</sup>	5.7	5.52	+1.50
DM-6	0.19	0.03	4.3	46	3.2 <sup>(3)</sup>	-2.7	-0.25
DMU-7	0.32	<0.01	0.09	13	6.3	7.94	+1.50
DML-7 <sup>(1)</sup>	0.21	<0.01	0.07	14	7.4	7.38	+1.60
DM-8	<0.10	0.17	6.0	69	5.4	6.58	-0.16
WW-11	0.28	<0.01	0.18	6	5.6	1.78	-1.00
WW-13	<0.10	<0.01	0.09	8	5.7	9.65	-0.45

- (1). Well not yielding enough to give three volumes of water.
- (2). Suspected analytical problem with 8-14-84 sample, resampled on 9-24-84 and Sulfate was 980 mg/l. This is believed to be an analytical aberration and will be reevaluated in the fourth quarter.
- (3). Suspected analytical problem with 8-14-84 PH, resampled on 9-24-84 and PH was 5.3.

PEK/lrw  
 0394W  
 11/21/84

AR100628



ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED

WILMINGTON, DELAWARE 19898

CHEMICALS AND PIGMENTS DEPARTMENT

AL  
(Red)

June 27, 1985

Mr. Garth Glenn  
Manager, FIT III  
NUS Corporation  
992 Old Eagle School Road  
Suite 916  
Wayne, PA 19087

Dear Mr. Glenn:

RE: DU PONT NEWPORT LANDFILL

Enclosed are copies of the last four quarters of groundwater monitoring data you requested in your May 21, 1985 letter to Peter Kress. I am also enclosing maps showing general locations of the monitoring wells and their relationship to the Potomac and Pleistocene aquifers.

We are satisfied, based on the measured data, that there has been minimal migration from this landfill. If you have any further questions on this site, please feel free to call me (302-774-9350) or Mr. Kress.

Sincerely,

*Allen*

A. B. Palmer, Manager  
Safety, Health & Environment

ABP:pah

AR100629



Second Quarter 1984  
 HOLLY RUN PLANT  
 Goundwater Monitoring  
 Sampled 6/21/84

ORIGINAL  
 (Red)

→ Depths and River Levels Measured 6/21/84  
 (all results in mg/l, except PH)

Well	Barium	Cadmium	Zinc	Sulfate As SO <sub>4</sub>	PH	Depth (Ft.) Ground to Water	Tidal Guag Reading (F)
SM-1	43	<0.01	0.15	<5	7.05	16.4	(1)
SM-2	0.13	<0.01	0.41	37	5.55	7.54	+1.15
SM-3	3.0	<0.01	8.0	45	6.70	18.54	(1)
SM-4	0.18	0.84	200	190	6.21	-1.09 (2)	+2.15
SM-5	0.40	0.01	1.4	58	5.12	5.94	+0.47
DM-5	0.25	<0.01	3.5	490	5.81	-0.42(2)	(1)
DM-6	0.26	0.03	8.8(3)	43	5.41	-2.7(4)	+1.7
DMU-7	0.20	<0.01	0.18..	<10	6.12	7.6	(1)
DML-7	0.24	<0.01	0.69	32	6.79	7.05	(1)
DM-8	<0.15	0.19	6.5	33	5.34	6.7	+0.75
WW-11	<0.10	<0.01	0.12	<5	5.22	3.89(5)	+2.9
WW-13	<0.10	<0.01	0.15	<5	5.57	10.65(6)	+2.6

PEK/lrw  
 0394W  
 8/22/84

AR100630

1. Reading was lower than + 0.47 feet on tidal guage, which <sup>ORIGINAL</sup> was below the setting on the recording device. (Red)
  2. Reading not confirmed by third quarter measurements of -0.47 feet and 5.52 feet, respectively.
  3. Reading not confirmed by third quarter analysis of 4.3 PPM
  4. Overflowing pipe above ground.
  5. Production Well WW-11 not pumping
  6. Production Well WW-13 not pumping
- o Where the symbol < appears, this indicates the lower detection limit.
- o Where a minus sign appears in the column Depth (FT.) Ground To Water, water in the well pipe was recorded above ground level.

AR100631

Third Quarter 1984  
 HOLLY RUN PLANT  
 Goundwater Monitoring  
 Sampled 8/6/84, 8/14/84, and 9/24/84

ORIGINAL  
 (Red)

Depths and River Levels Measured 8/6/84 and 8/14/84  
 (all results in mg/l, except PH)

Well	Barium	Cadmium	Zinc	Sulfate As SO <sub>4</sub>	PH	Depth (Ft.) Ground to Water	Tidal Guag. Reading (F)
SM-1	35	<0.01	0.06	14	7.3	14.82	+1.40
SM-2	0.13	<0.01	0.12	34	5.8	5.17	-0.10
SM-3	14	<0.01	0.57	51	8.0	18.75	+1.40
SM-4 <sup>(1)</sup>	<0.10	0.75	200	160	5.7	-0.47	-0.60
SM-5	<0.10	0.01	.48	56	5.7	5.46	-0.14
DM-5	0.25	<0.01	3.6	630 <sup>(2)</sup>	5.7	5.52	+1.50
DM-6	0.19	0.03	4.3	46	3.2 <sup>(3)</sup>	-2.7	-0.25
DMU-7	0.32	<0.01	0.09	13	6.3	7.94	+1.50
DML-7 <sup>(1)</sup>	0.21	<0.01	0.07	14	7.4	7.38	+1.60
DM-8	<0.10	0.17	6.0	69	5.4	6.58	-0.16
WW-11	0.28	<0.01	0.18	6	5.6	1.78	-1.00
WW-13	<0.10	<0.01	0.09	8	5.7	9.65	-0.45

- (1). Well not yielding enough to give three volumes of water.
- (2). Suspected analytical problem with 8-14-84 sample, resampled on 9-24-84 and Sulfate was 980 mg/l. This is believed to be an analytical aberration and will be reevaluated in the fourth quarter.
- (3). Suspected analytical problem with 8-6-84 PH, resampled on 9-24-84 and was 5.3.

Fourth Quarter 1984  
 HOLLY RUN PLANT  
 Goundwater Monitoring  
 Sampled 10/15/84 & 12/20/84

ORIGINAL  
 (Red)

Depths and River Levels Measured 10/15/84  
 (all results in mg/l, except PH)

<u>Well</u>	<u>Barium</u>	<u>Cadmium</u>	<u>Zinc</u>	<u>Sulfate As SO<sub>4</sub></u>	<u>PH</u>	<u>Depth (Ft.) Ground to Water</u>	<u>Tidal Guage Reading (Ft.)</u>
SM-1	55	<0.01	0.05	<5	7.55	16.23	+4.83
SM-2	<0.10	0.01	2.1	35	5.82	6.17	+0.42
SM-3	3.1	<0.01	9.1	45	6.97	18.33	+4.25
SM-4 <sup>(1)</sup>	0.17	0.71	180	220	5.94	-0.38	+0.50
SM-5	<0.10	0.01	0.55	74	5.41	6.38	+1.42
DM-5	<0.10	<0.01	6.0 <sup>(2)</sup>	535	6.14	4.35	+2.75
DM-6	0.18	0.02	2.8	44	5.77	-2.37	(3)
DMU-7	0.11	<0.01	<0.05	21	6.56	7.44	+2.58
DML-7 <sup>(1)</sup>	0.30	<0.01	0.14	19	6.86	8.13	+2.58
DM-8	<0.10	0.15	4.8	63	5.58	7.41	+1.42
WW-11 <sup>(1)</sup>	0.19	<0.01	0.14	<5	6.25	2.53	+5.16
WW-13	0.20	<0.01	0.38	16	5.69	10.23	+5.67

(1). Well not yielding enough to give three volumes of water.

(2). Resampled well DM-5 on 12/20/84 for zinc and the result was 11 PPM.

(3). This tidal guage reading was not taken due to the fact that the tide recording instrument, although installed, was not yet operational when the DM-6 (depth from ground to water level) was taken.

EK/lrw  
 0394W  
 1/16/85

AR100633

First Quarter 1985  
 HOLLY RUN PLANT  
 Goundwater Monitoring  
 Sampled 1/15/85, 1/16/85, & 1/22/85

(Red)

Depths and River Levels Measured 1/15/85  
 (all results in mg/l, except PH)

<u>Well</u>	<u>Barium</u>	<u>Cadmium</u>	<u>Zinc</u>	<u>Sulfate As SO<sub>4</sub></u>	<u>PH</u>	<u>Depth (Ft.) Ground to Water</u>	<u>Tidal Guage Reading (Ft.)</u>
SM-1✓	49	<0.01	0.06	<5	7.79	17.07	-0.50
SM-2✓	0.10	<0.01	0.47	37	6.46	5.58	-0.18
SM-3✓	1.1	<0.01	10.4	45	7.06	18.75	-1.16
SM-4✓(1)	0.10	0.70	180	180	6.67	-0.55	+0.42
SM-5✓	<0.10	0.01	0.62	72	6.47	6.79	-0.83
DM-5✓	<0.10	0.01	13	590	6.01	6.77	-1.67
DM-6✓	0.16	0.01	2.8	43	6.65	-2.7	+0.42
DMU-7✓	0.18	<0.01	0.08	11	7.26	8.69	-2.
DML-7✓	<0.10	<0.01	<0.07	26	7.64	7.30	-2.67
DM-8✓	<0.10	0.13	4.8	67	6.95	7.99	-0.67
WW-11✓	<0.10	<0.01	0.10	6	6.09	3.53	-2.50
WW-13✓	<0.10	<0.01	0.12	<5	6.24	11.07	-2.50

*WW-11      WW-13*

(1). Well not yielding enough to give three volumes of water.

*DML-7*

PEK/lrw  
 0394W  
 4/1/85

AR100634

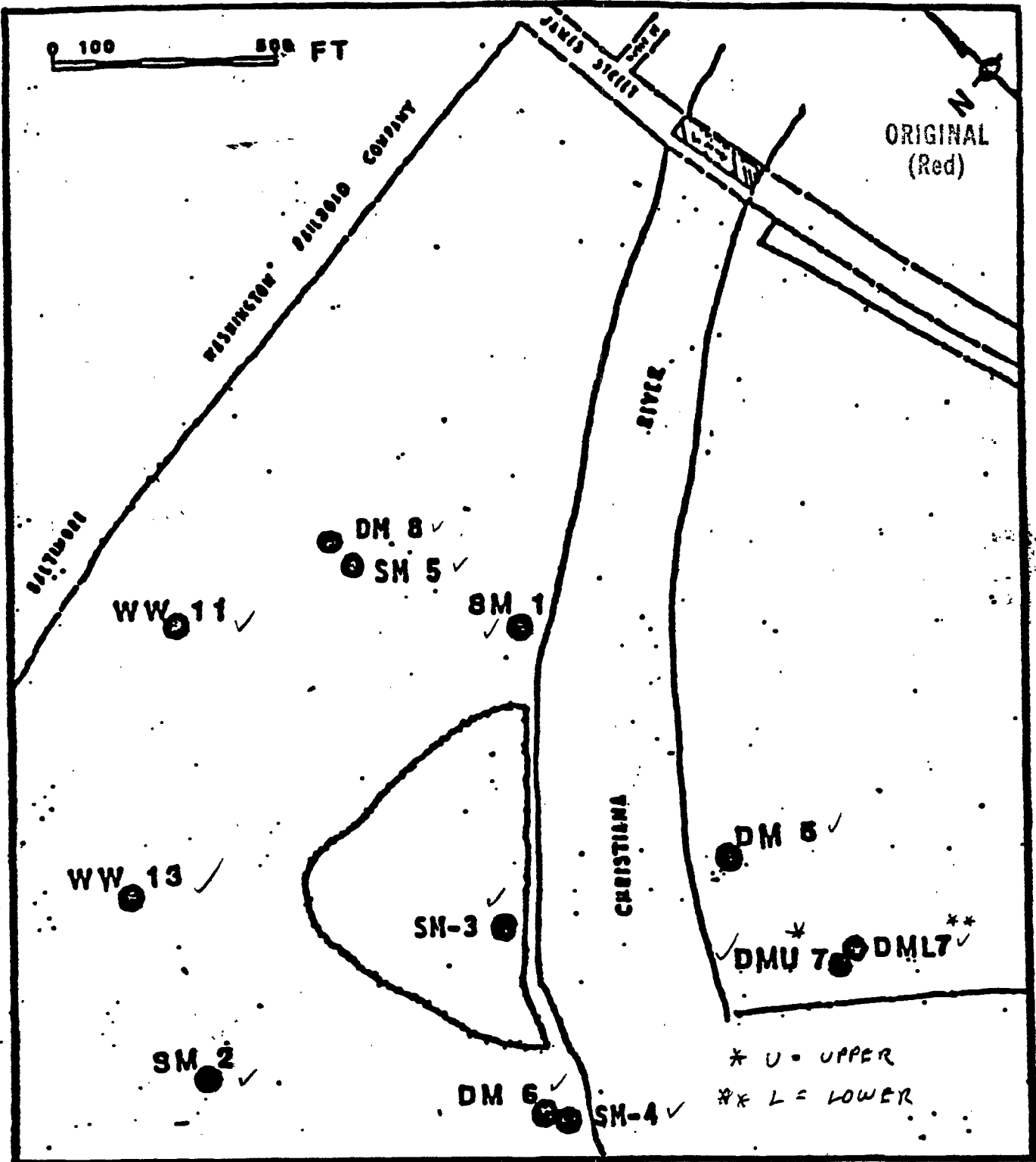


FIGURE 1

HOLLY RUN PLANT

GROUND WATER MONITORING PROGRAM

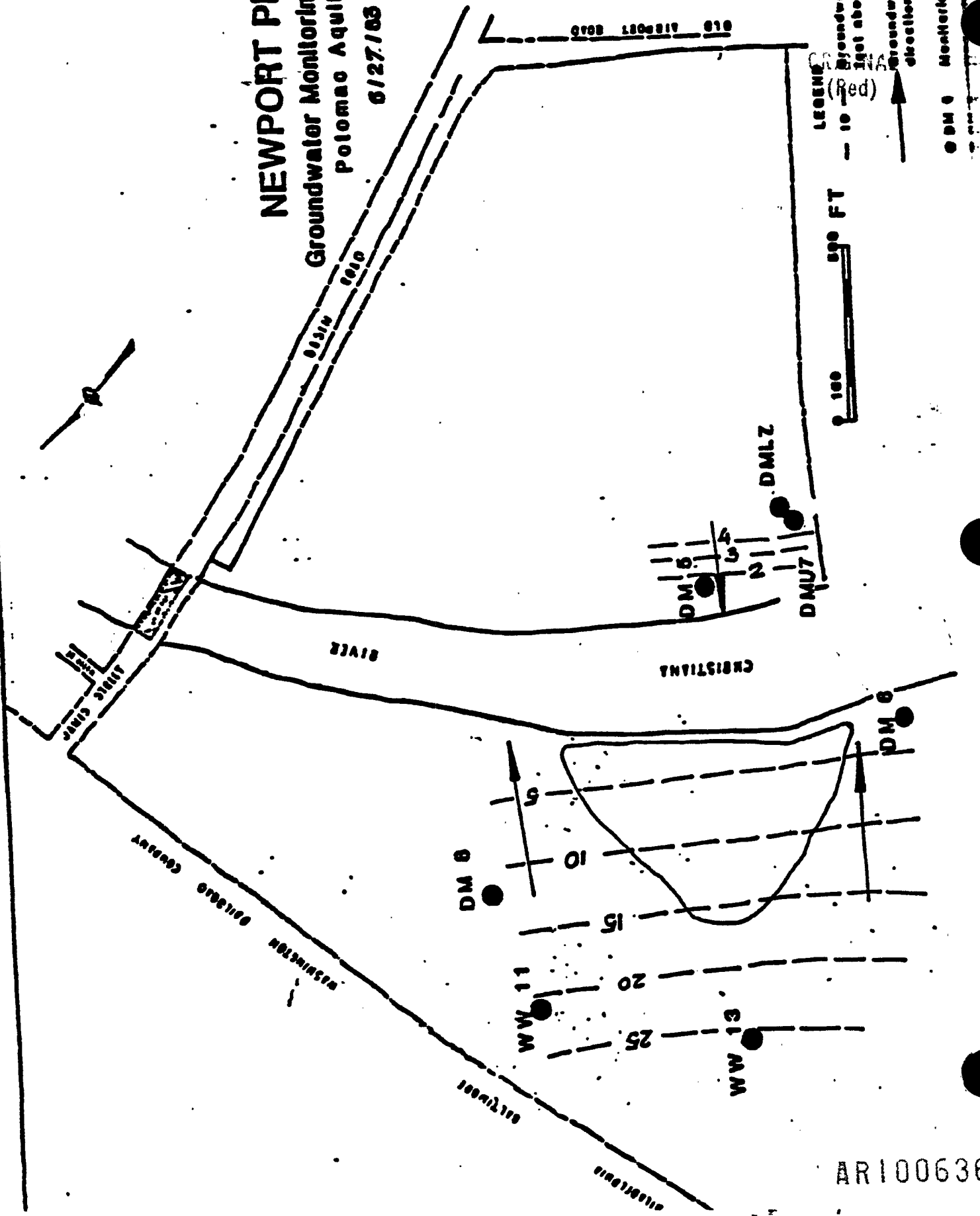
CURRENT

AR100635

# NEWPORT PLANT

Groundwater Monitoring Program  
Potomac Aquifer

6/27/83



LEGEND  
Groundwater elevation in feet above MBL (Red)

Groundwater flow direction in Potomac aquifer

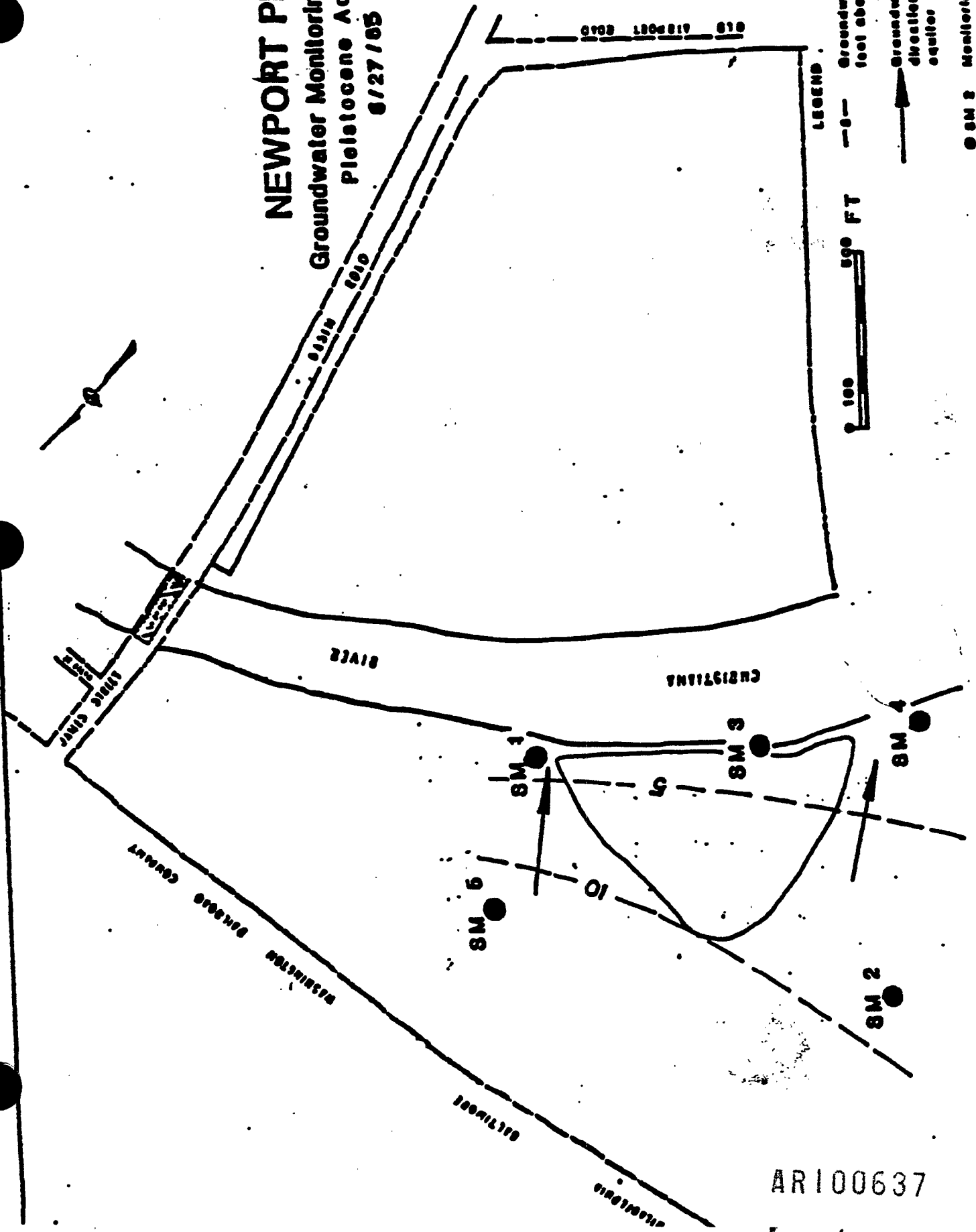
DM 9 Monitoring well



AR100636

# NEWPORT PLANT

Groundwater Monitoring Program  
Pleistocene Aquifer  
8/27/05



AR100637



ORIGINAL  
(Red)

APPENDIX E

AR100638



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
& ENVIRONMENTAL CONTROL  
DIVISION OF ENVIRONMENTAL CONTROL  
WATER RESOURCES SECTION  
EDWARD TATNALL BUILDING  
P.O. BOX 1401  
DOVER DELAWARE 19901

ORIGINAL  
(Red)

TELEPHONE (302) 678-4761

May 20, 1980

Mr. Anthony S. Bartolomeo  
Environmental Engineer  
Hazardous Waste Development Task Force  
U. S. E.P.A. - Region III  
6th and Walnut Streets  
Philadelphia, Pennsylvania 19106

Dear Anthony:

Enclosed are copies of information from our publication Public Water Systems in Delaware (now out of print). I have added the locations of the Du Pont-Newport and Artesian Water Company's Wilmington Airport wells to the map of the Newport area and color coded them as to the screened aquifer. A tabulation of the ground water withdrawals of the wells in the area for our last water year of record has also been included.

Get in touch if you have any questions.

Sincerely,

*William L. Osburn*

William L. Osburn  
Geohydrologist  
Water Supply Branch

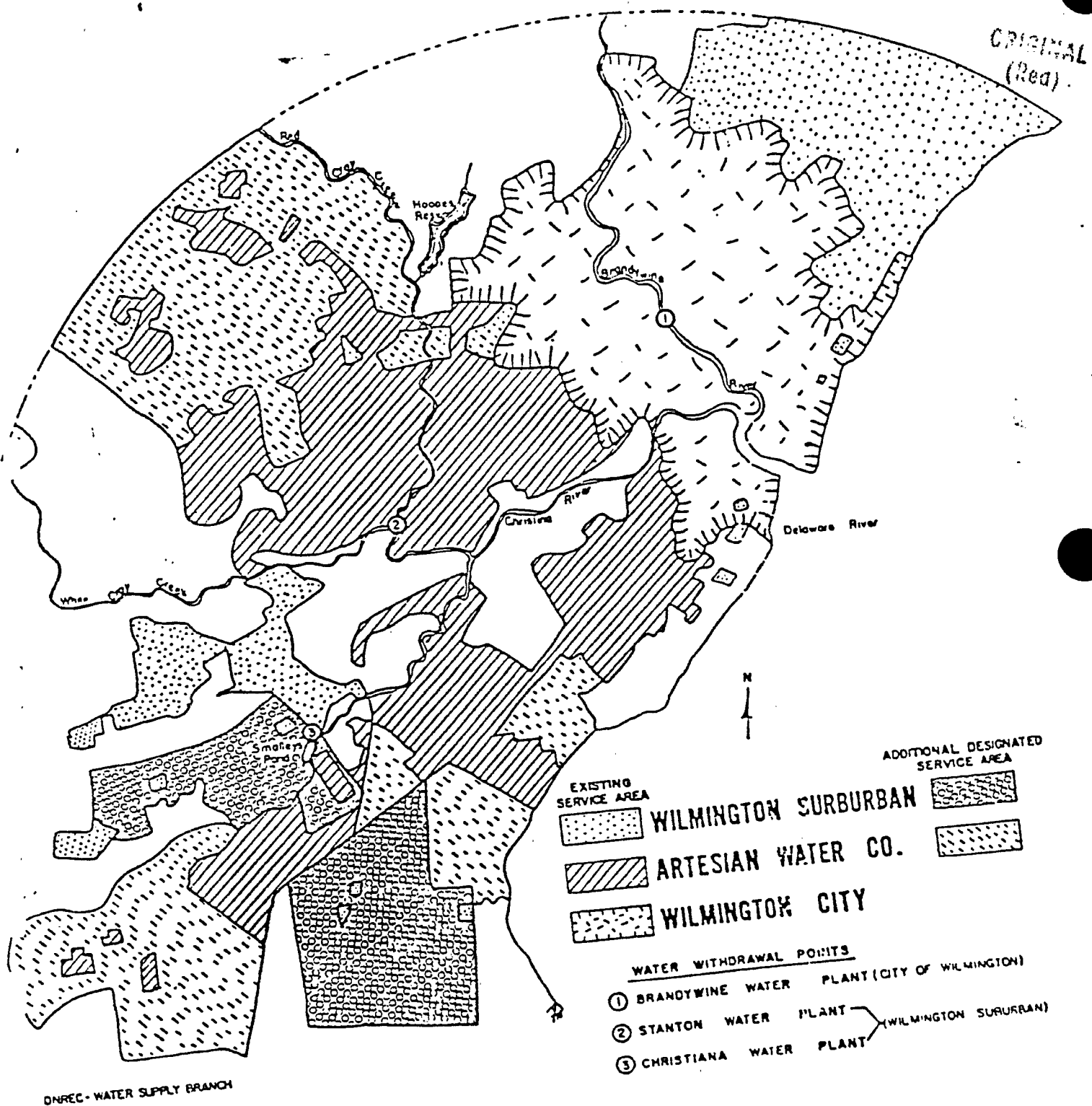
WLO:lg

Enclosures

cc: Michael A. Apgar

AR100639

# MAJOR WATER UTILITY SERVICE AREAS NEW CASTLE COUNTY



AR100640

NEWPORT

LOCATION: North Central New Castle County

POPULATION: 1366

NUMBER MAJOR INDUSTRIAL CUSTOMERS: ---

WATER USE:

Estimated	Average day -----	.09 mgd
	Average day in peak month ---	
	Peak day -----	

DISTRIBUTION MAIN SIZES: ---

STORAGE: 1 - 100,000 Gallon Elevated Tank

WATER QUALITY: ---

WATER TREATMENT: ---

SUSTAINABLE PUMPING CAPACITY: ---

COMMENTS: ~~\_\_\_\_\_~~

WATER SOURCES:

Well #	Date Drilled	Depth (feet)	Diameter (inch)	Screen Interval (feet)	Aquifer	Pumping Capacity (gpm)
<del>1</del>	<del>1940's</del>	<del>100</del>	<del>8</del>	<del>-----</del>	<del>Potomac</del>	<del>-----</del>
<del>2</del>	<del>1944</del>	<del>63</del>	<del>8</del>	<del>-----</del>	<del>Potomac</del>	<del>-----</del>
<del>3</del>	<del>1963</del>	<del>98</del>	<del>8</del>	<del>67.87</del>	<del>Potomac</del>	<del>-----</del>
<del>4</del>	<del>1960's</del>	<del>-----</del>	<del>8</del>	<del>-----</del>	<del>Potomac</del>	<del>-----</del>

Note: Newport wells no longer used. See appendix C, telecon between Thomas Pearce and Peter Sheats on 5/15/85.

ORIGINAL  
(Red)

AR100641

Wilmington Airport

Artesian Water Co.  
(302) 453-6900

Well #	Date Drilled	Depth (feet)	Diameter (inch)	Screen Interval (feet)	Aquifer ORIGINAL (Red)	Pumping Capacity (gpm)
1	1944	198	8	187-197	Lower Potomac	200
2	1944	222	8	211-221	Lower Potomac	200
3	1944	159	8	134-154	Lower Potomac	200

Wilmington Manor Gardens

Well #	Date Drilled	Depth (feet)	Diameter (inch)	Screen Interval (feet)	Aquifer	Pumping Capacity (gpm)
1	1949	55	17	-	Columbia	150
2	1949	49	17	-	Columbia	100
3	1956	72	17	-	Columbia	300

AR100642



STATE OF DELAWARE  
 DEPARTMENT OF NATURAL RESOURCES  
 & ENVIRONMENTAL CONTROL  
 DIVISION OF ENVIRONMENTAL CONTROL  
 WATER RESOURCES SECTION  
 EDWARD TATNALL BUILDING  
 P.O. BOX 1401  
 DOVER, DELAWARE 19901

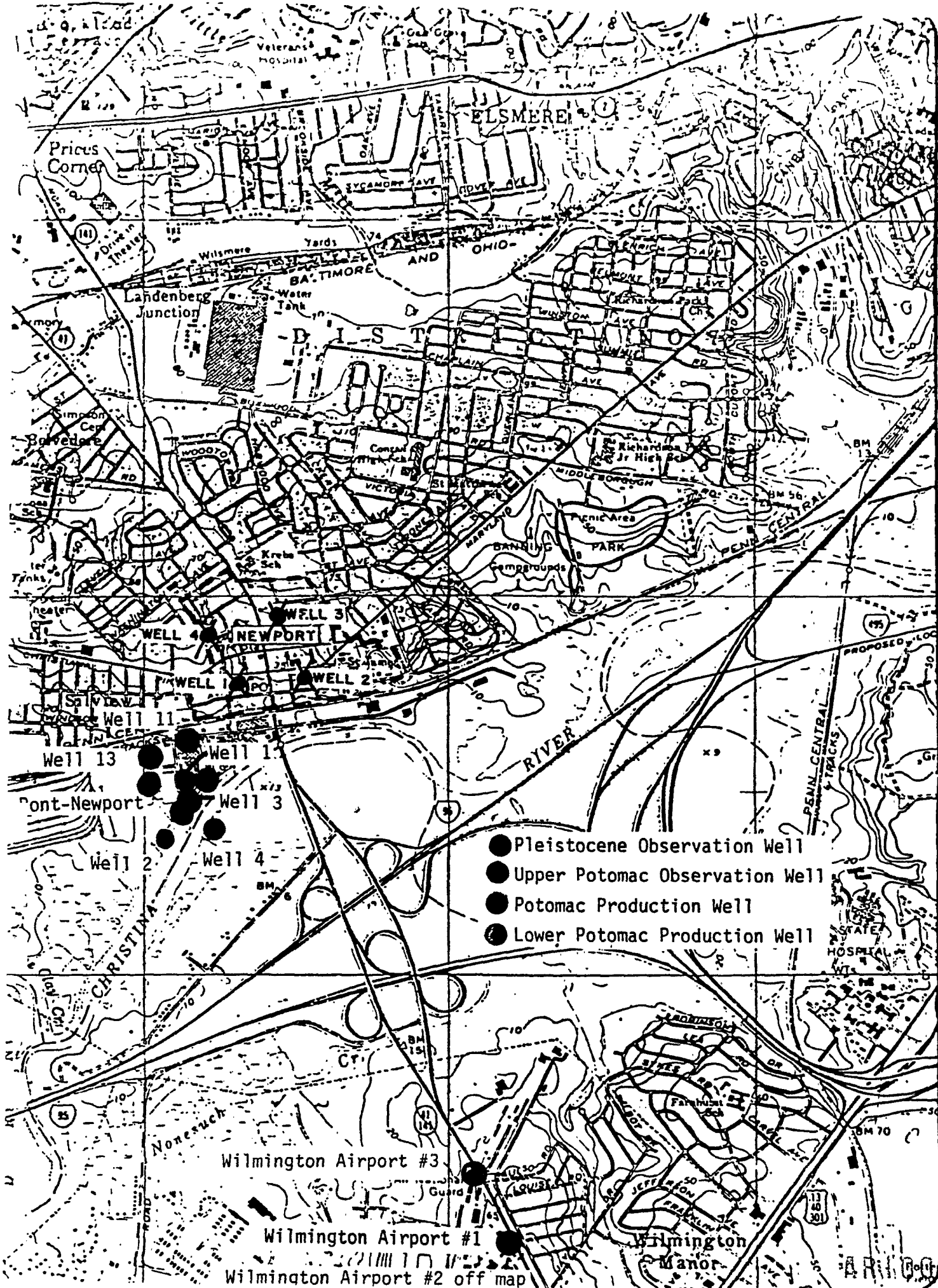
ORIGINAL  
 (RJD)

TELEPHONE: (302) 678-4761

GROUND WATER WITHDRAWALS FOR WATER YEAR 1979  
 (millions of gallons)

NAME	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sept.
Du Pont- Newport												
#11	-	-	-	-	-	-	-	-	-	-	-	-
#13	1.6	1.1	1.1	1.1	.980	1.1	1.1	1.1	1.1	.735	1.7	1.7
Newport (City of)	(1978-#4 only-Estimated)											
	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
AWC- Wilm. Airport												
#1	-	-	-	-	-	-	-	-	-	-	-	-
#2	-	-	-	-	-	-	-	-	-	6.9	-	11.2
#3	1.5	-	-	-	-	-	-	3.5	-	5.1	4.0	9.5

AR100643



- Pleistocene Observation Well
- Upper Potomac Observation Well
- Potomac Production Well
- Lower Potomac Production Well

Wilmington Airport #3

Wilmington Airport #1

Wilmington Airport #2 off map

ORIGINAL  
(Red)

APPENDIX F

AR100645



All - This is your  
copy, but

L. J. ...

FROM  
Al. Montague's  
file 10/81

1 copy each to Bill Ambrose  
Bill Seligman done

~~ERR~~

THE RELATION OF  
SOLID WASTE DISPOSAL  
TO WATER QUALITY

Prepared By the  
New Castle County  
Areawide Waste Treatment Management Program

August 1, 1975

AR100646

is underlain by sandy sediments as attested by the borrow pit adjacent to the landfill. Leachate seeps which discharge to the Christina River are visible. ORIGINAL

E.I. DUPONT DE NEMOURS & CO., NEWPORT

The DuPont landfill is located in the southwest corner of the pigment plant site at James and Water Streets in Newport (Figure 2). About seven acres was used for filling between 1945 and 1974 when the landfill operation was terminated. The disposal site, which has been raised 15 feet by filling, was originally marshland adjacent to the Christina River. The fill received industrial wastes, characterized as primarily paper, cardboard, construction debris, plastic shutters, as well as magnetic tape, low-radioactivity wastes, waste pigment batches, and other inorganic wastes of an undetermined nature, in the amount of 3000 tons/year. While in use, the fill was covered twice weekly with common borrow material from the surrounding area.

This landfill was operated until after the promulgation of the new solid waste regulations and is, therefore, subject to the groundwater quality and gas monitoring requirements contained therein if leachate production is occurring. Any leachate produced would move into the Christina River because of the underlying impermeable marsh soils and the water table gradient sloping to the river. A program for monitoring the groundwater quality in the vicinity of the landfill has been initiated by the Department of Natural Resources and Environmental Control.

GETTY OIL COMPANY

The Getty industrial landfill is located west of State Route 9 in a low area adjacent to the Diamond Shamrock property and north of Delaware City (Figure 3). The landfill area is 37 acres, with the fill completed to a depth of 10 feet in some areas. Reportedly, excavation was accomplished up to 12 feet below the original ground surface in some areas. The waste material has been characterized as being mixed and varied, including spent catalysts, ceramic tower packing, and some tar-like sludges. Once the new Getty wastewater treatment plant begins full-time operation, approximately 20-40 cu.yds. per day of aerobically treated and concentrated sludge will be placed in the fill area. Cover is applied infrequently and is obtained from the surrounding marsh soils. Little groundcover, except some phragmites communis, exists. The site was licensed in late 1968, and its projected life has not been determined, although it would be at least several years.

It is not possible to characterize the leachate-producing potential of the fill material, primarily because of the heterogeneous and partially unknown composition of the wastes and the lack of information concerning their leachability properties. Its proximity to a major water table aquifer, however,



GENERAL CHEMICALS

E. I. DU PONT DE NEMOURS & COMPANY  
INCORPORATED  
NEWPORT, DELAWARE 19804

CC: F. B. Bredimus - Newport  
Mr. Robert Toughy - DNREC  
C. B. Everett - Legal

CHEMICALS, DYES AND PIGMENTS DEPARTMENT

July 22, 1980

→ Ms. Ruthanne Gordon  
Attorney, Legal Branch (3EN33)  
U. S. EPA Region III  
6th and Walnut Streets  
Philadelphia, Pa. 19106

RE: NEWPORT WASTE DISPOSAL OPERATIONS

Dear Ms. Gordon:

The enclosed is in response to your request to Carl Everett concerning former waste disposal operations at the Newport Plant. As Carl has indicated, much of this information is necessarily general due to the limited availability of records and first-hand information. As a result, many of the "specifics" provided, particularly quantities, should be viewed as approximations.

A. GENERAL

The site of the Newport Plant was originally owned by Henrik J. Krebs and used for the manufacture of Lithipone (a white pigment) beginning in 1902. In 1929, Du Pont purchased the site, continued this manufacturing and subsequently added other product lines. Landfilling on the property was a means of waste disposal used from 1902 until late 1974. In December, 1974 such on plant landfill activities were terminated. The following process descriptions will serve to characterize the type and timing of waste disposed.

*Stage 1.* Lithipone  
*disposal of waste*

Lithipone (a white pigment) was manufactured at the site from 1902 to 1953. In this process, zinc ore (ZnS) was slurried in 78% sulfuric acid, chlorinated and alkaline precipitated to generate zinc sulfate. Barites ore (BaSO<sub>4</sub>) was roasted in a kiln, slurried and leached in hot water to generate barium sulfide. The zinc sulfate and barium sulfide were then combined to form the Lithipone pigment.

AR100648

1. Lithipone (continued)

A byproduct of the zinc treatment was a "red mud" consisting of ferric hydroxide and other insoluble constituents of the zinc ore. A byproduct of the <sup>barites</sup> ~~zinc~~ treatment was a "black mud" consisting of the insoluble <sup>barites</sup> ~~zinc~~ constituents of the barites ore. These were generated in a 1 to 3 ratio, respectively. These byproducts were principally disposed of by pumping them through a pipeline across the Christina River onto the ground south of the river (see map). Some dikes and berms were constructed to contain this material. As best can be determined, approximately 25 thousand tons were deposited over a fifteen acre area. The slurried material hardened to the consistency of sandstone after disposal.

Upon terminating this process in 1953, it is believed that the remaining zinc and barites ores (quantities unknown) were disposed of at the north disposal site. Additionally, several thousand tons of fill dirt containing zinc and barites ore were placed at the north disposal site, from excavations for new facilities at locations which had formerly served as open storage points for piles of these ores.

2. Colored Pigments

Copper Phthalocyanine, a stable and relatively inert blue or green organic pigment, has been manufactured at the site since 1947. Generally, all byproducts of this process have been and are discharged into municipal waste treatment facilities.

Quinacridone, a stable and relatively inert red organic pigment, has been manufactured at Newport since 1958. Byproducts of this process have been and are discharged into municipal waste treatment facilities with the exception of a nonwater soluble, high-melting, tar-like solid which, until 1974, was disposed of at the north disposal site (approximately 1,000 tons total). Since 1974, this material has been landfilled off-site by a contractor.

"Afflair", mica coated with titanium dioxide (a stable and relatively inert inorganic white pigment), was manufactured at Newport from 1964 to 1979. Some "scrap" mica was disposed of at the north disposal site (approximately fifteen tons).

Approximately two hundred tons of off-quality pigment from all three processes were drummed and disposed of at the north disposal site. Additionally, small amounts of pigment would have also been contained on or in discarded filter cloths, press plates, pallets, etc. at this location.

AR100649

3. Metals

From 1950 to approximately 1960, metals and metallic alloys were manufactured at the site including Titanium, Zirconium, and Silicon. Unknown but relatively small amounts of off-grade materials from these processes were disposed of at the north disposal site.

Also, for two years of this period, Thoriated Nickel (Nickel containing 2-5 percent  $\text{ThO}_2$ , which is radioactive but insoluble) was produced. Approximately twenty tons of wastes from this process (predominantly Thoriated Nickel, but also containing some off-grade  $\text{ThO}_2$ ) were segregated and buried in compliance with the Atomic Energy Act.

4. Magnetic Products

Chromium Dioxide (a relatively stable and inert solid) has been manufactured since 1966. A portion of this production is used on site to coat Mylar film for recording tape. Approximately ten tons of off-quality Chromium Dioxide (drummed) and coated Mylar recording tape (bagged) were believed disposed of at the north disposal site.

5. Other

Approximately six tons of off-quality Nylon shutters and Corian (solid sheets similar in appearance to marble) were deposited in the north disposal site.

Approximately 13-15 thousand tons of garbage, trash, empty drums, concrete, steel, rubber refuse, and miscellaneous drummed process wastes generated from 1902-1974 were deposited in the north disposal site.

Approximately five tons of insulating materials containing asbestos are also believed located in the north disposal site. This material was probably not specially contained but disposed of as general refuse.

Small amounts of laboratory wastes in glass containers were packaged in leverpaks and deposited at the north disposal site.

B. CONSTRUCTION

1. South Disposal Site

As indicated earlier, this disposal site operated from approximately 1902-1953. It contains approximately 25 thousand tons of insoluble zinc and barites ore residues and covers an estimated 15 acres which was partly contained by dikes and berms. Following disposal, these residues hardened into something like sandstone.

1. South Disposal Site (continued)

This disposal site was not lined, but soil borings taken on the perimeter indicate it is on a variegated clay soil with some silt. The lower part of this soil demonstrated a vertical hydraulic conductivity in the order of  $1 \times 10^{-7}$  cm/sec. In 1973, the State of Delaware, Department of Highways and Transportation deposited approximately 130,000 cubic yards of soil at this location as a result of highway construction adjacent to the property, covering this disposal area with several feet of soil.

Analyses of groundwater samples collected during soil borings have substantiated the "stability" of this former disposal site. Samples of the Potomac aquifer taken south and southwest of the site have not indicated any metal concentrations in excess of the Primary Drinking Water Standards.

2. North Disposal Site

This site was used for the disposal of general refuse and process wastes (including off-quality product) beginning in the early 1900's and continuing until late 1974. This operation ultimately covered approximately seven acres on the southwestern portion of the developed property and is estimated to contain 25 thousand tons of material.

This disposal site was not lined, but is situated on native clay soil of low permeability. The southern border of this location was built up with the fill material along the Christina River to a height of fifteen feet and later materials were disposed of to the north of this berm which served as an access road. The working depth of the fill area ranged from fifteen feet at the southeastern edge to approximately eight feet in the northwestern portion. This site was operated under a State of Delaware permit from 1968 until its closure on January 1, 1975. Upon closure, the site was "capped" with two foot of clay soil and graded to minimize rain water percolation. Since closure, a total of nine monitor wells have been installed. Geological data from these nine wells and two additional production wells on plant property, have indicated the existence of a shallow (Pleistocene) and deep (Potomac) aquifer underlying the property. Well data indicate a predominantly southerly flow in both aquifer from the disposal site. Water quality data from the eleven wells, which is routinely reported to the State Department of Natural Resources and Environmental Control (DNREC), ~~have not indicated any significant migration of pollutants to the deep aquifer, with the exception of DM-3.~~ This well has consistently reflected elevated analytical results in relation to the other wells.

AR100651

2. North Disposal Site (continued)

As expressed to the State in April, 1978 this is suspected to be due to an ~~improperly installed well~~ which has allowed a ~~localized migration of pollutants into the sampling zone.~~ This is further supported by the location of this well, as it is believed to penetrate a portion of the former disposal site. ~~We feel it strongly advisable to seal this well to minimize its potential for groundwater contamination.~~ We are planning to obtain DNREC concurrence for discontinuing this monitoring well and will be proposing the installation of an additional well or wells to assure effective characterization of groundwater conditions.

This summarizes the available information concerning former waste disposal operations at the Newport Plant. Please contact Carl Everett if you require further assistance.

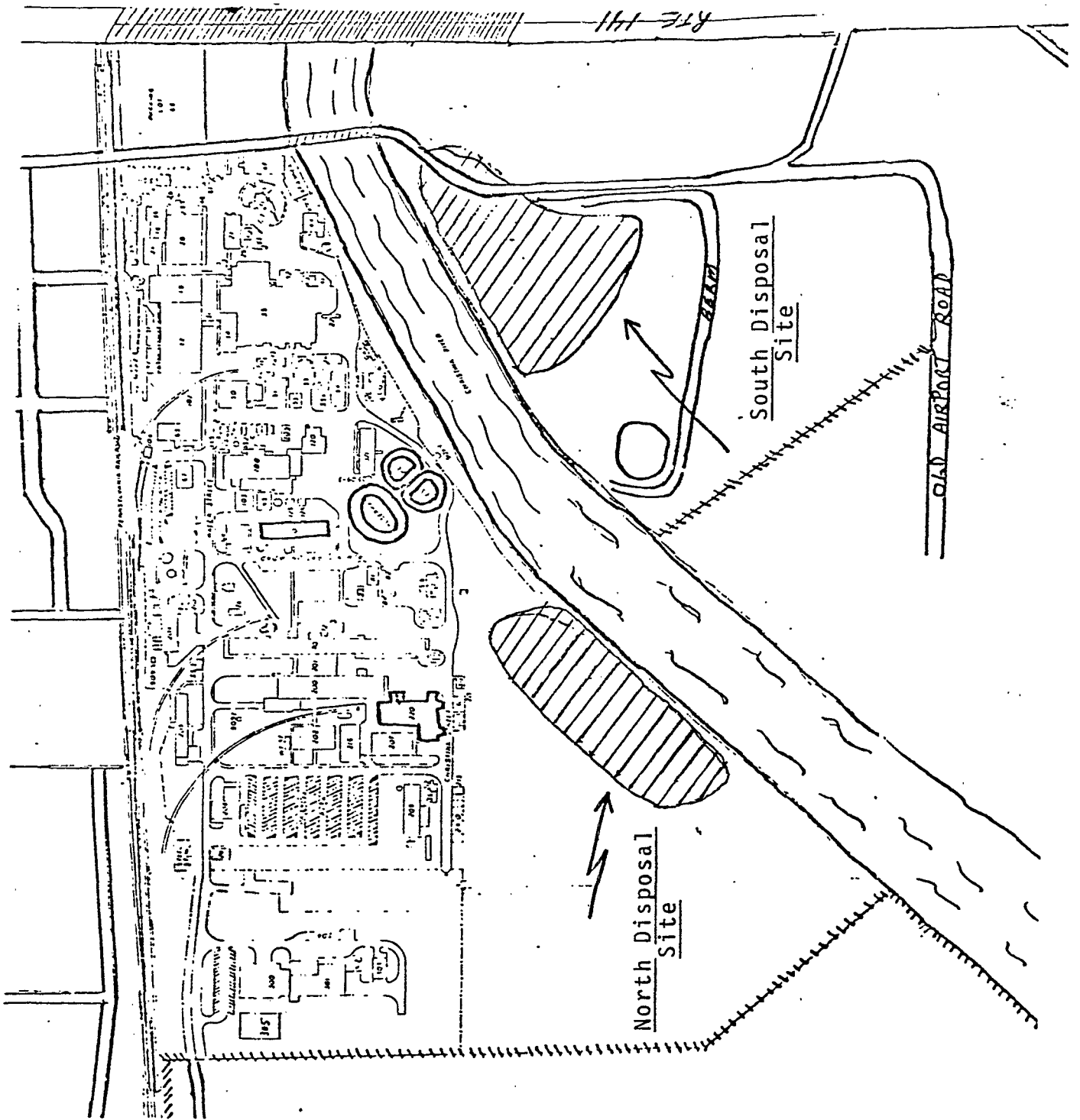


M. BARSZCZ  
SAFETY, HEALTH, AND ENVIRONMENTAL SUPERVISOR

MB:cac

Attachment

AR100652



AR100653



# EPA Notification of Hazardous Waste Site

United States  
Environmental Protection  
Agency  
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981

Please type or print in ink. If you need additional space, use separate sheets of paper, indicate the letter of the item which applies.

R

810608 DES 000 001-013

**A Person Required to Notify:**

Enter the name and address of the person or organization required to notify.

Name E. I. DU PONT DE NEMOURS & COMPANY, INC.  
 Street 1007 Market Street  
 City Wilmington State DE Zip Code 19898

**B Site Location:**

Enter the common name (if known) and actual location of the site.

Name of Site DU PONT DE NEMOURS, E. I. & CO INC  
NEWPORT PIGMENTS PLANT  
 Street JAMES AND WATER STREETS  
 City NEWPORT County N.C. State DE Zip Code 19804

**C Person to Contact:**

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) KRESS, PETER, ENVIRONMENTAL COORDIN.  
 Phone 302-999-6245

**D Dates of Waste Handling:**

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) 1902 To (Year) 1975

**E Waste Type: Choose the option you prefer to complete**

**Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I - Description of Site.**

**General Type of Waste:**  
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

- 1  Organics
- 2  Inorganics
- 3  Solvents
- 4  Pesticides
- 5  Heavy metals
- 6  Acids
- 7  Bases
- 8  PCBs
- 9  Mixed Municipal Waste
- 10  Unknown
- 11  Other (Specify)

**Source of Waste:**  
Place an X in the appropriate boxes.

- 1  Mining
- 2  Construction
- 3  Textiles
- 4  Fertilizer
- 5  Paper/Printing
- 6  Leather Tanning
- 7  Iron/Steel Foundry
- 8  Chemical, General
- 9  Plating/Polishing
- 10  Military, Ammunition
- 11  Electrical Conductors
- 12  Transformers
- 13  Utility Companies
- 14  Sanitary Refuse
- 15  Photofinish
- 16  Lab Hospital
- 17  Unknown
- 18  Other (Specify)

**Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).**

**Specific Type of Waste:**  
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.


EPA Approved Form No. 2000-01-08

AR100654

Notification of Hazardous Waste Site

Side Two

**F Waste Quantity**

Place an X in the appropriate boxes to indicate the facility types found at the site

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres

**Facility Type**

1  Piles  
 2  Land Treatment  
 3  Landfill  
 4  Tanks  
 5  Impoundment  
 6  Underground Injection  
 7  Drums, Above Ground  
 8  Drums, Below Ground  
 9  Other (Specify)

**Total Facility Waste Amount**

cubic feet 6750 C

gallons (10)

**Total Facility Area**

square feet \_\_\_\_\_

acres 7 A

**G Known, Suspected or Likely Releases to the Environment:**

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

Known  Suspected  Likely  None

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so

**H Sketch Map of Site Location: (Optional)**

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

N

**I Description of Site: (Optional)**

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

**J Signature and Title:**

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify. If you are not required to notify check "Other"

Name F. B. BREDIMUS

Street James & Water Streets

City Newport State DE Zip Code 19804

Signature F. B. Bredimus Date 4/15/81

Owner, Present  
 Owner, Past  
 Transporter  
 Operator, Present  
 Operator, Past  
 Other

\* Solvent detected at less than 0.5 ppm in Plant property monitor well, no known level detected at adjacent off-site wells. **ART00655**

ORIGINAL  
(Red)

APPENDIX G

AR100656

Deletable  
HRS

✓ (FC PER 12.15

EPA C

DEPT

(100)

A Preliminary Assessment

of

Du Pont Newport Landfill

EPA No. DE-20

Emergency and Remedial Response Information System

Grant No. X-003282-01-0

March, 1984

Presented to: Mr. P. Shaul, Chief of Waste Enforcement  
U.S. EPA, Region III

Prepared by: Delaware Department of Natural Resources  
and Environmental Control, Solid Waste  
Branch

Andrew Bullen, ERRIS Investigator

Robert Pickert, ERRIS Coordinator

RECEIVED  
JUN 4 1984  
10

STATE OF DELAWARE  
OFFICE OF SOLID WASTE

AR100657

Table of Contents

- I. Introduction
  - II. Site History
  - III. Environmental Setting
  - IV. Preliminary Assessment Form
  - V. Field Trip Summary Report
  - VI. Maps and Drawings
  - VII. Photographs
  - VIII. References
- 

AR100658

ORIGINAL  
(Red)

I. Introduction

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AR100659

## Inquiry Source

Eckhardt Survey, 1979.

## Summary

The du Pont Pigment plant, located at James & Water Street in Newport, Delaware, operated a 7 acre industrial landfill from 1902 until 1975 adjacent to their plant along the Christina River. Wastes disposed of at the landfill included: inorganically and organically bonded metals radioactive residues (with over 50 pCi/g), plant pigments and pigment sludges, organics, magnetic tapes and inert miscellaneous wastes.<sup>1,2,&3</sup> Grass was planted and monitoring wells were installed in and around the landfill after its closure in 1975. Ground water analysis of these wells show iron, zinc, manganese, cadmium and barium levels above drinking water standards in both the Columbia and Potomac aquifers.<sup>4</sup> The quantities of barium have not decreased appreciably since the landfill was closed even though the aquifers beneath the landfill are hydrologically interconnected and unconfined.

## Recommendations

Groundwater monitoring by du Pont Co. and the Delaware Department of Natural Resources and Environmental Control have shown that the landfill has contaminated both the Columbia and Potomac aquifers with heavy metals. Fortunately, this contamination has stayed in the general vicinity of the landfill and has not shown any immediate threat to drinking water supplies. In light of this fact, the DNREC recommends the continued monitoring of the landfill, but no additional action is needed at this time.

AR100660

ORIGINAL  
(Red)

II. Site History

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AR100661



Permits

Du Pont Newport Pigments held state solid waste permits while the Landfill was operational.

Site Owner

E. I. du Pont de Nemours, Inc. owns the landfill at their Newport Pigment plant.

Media Coverage

The News Journal Co. of Wilmington, Delaware had no coverage of the du Pont Newport landfill.

Area Residents

No one resides within one half mile of the du Pont Newport landfill.

Enforcement Status

The du Pont Newport landfill was operated at all times in compliance with state and federal regulations.

AR100662

ORIGINAL  
(Red)

III. Environmental Setting

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AR100663

Water Supply

The City of Newport Water Department serves approximately 4,000 people from 4 wells located 1 mile to the northeast of the landfill. The area surrounding Newport is served by Artisan Water Co. and Wilmington Suburban. The du Pont Pigment Plant is served by Wilmington Suburban Water Co. The Pigment Plant has two production wells on its property which are used in plant processing.

Critical Environment

Tidal wetland, none of which are state wetlands occur immediately to the south, east, and west of the du Pont Newport landfill.

AR100664

ORIGINAL  
(Red)

IV. Preliminary Assessment Form

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AR100665



POTENTIAL HAZARDOUS WASTE SITE  
IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION III SITE NUMBER (to be assigned by HQ) DE-20

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (Preliminary Assessment). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

ORIGINAL  
(Red)

I. SITE IDENTIFICATION

A. SITE NAME DuPont Newport Landfill		B. STREET (or other Identifier) James and Water Streets		
C. CITY Newport	D. STATE DE	E. ZIP CODE 19804	F. COUNTY NAME New Castle	
G. OWNER/OPERATOR (if known) 1. NAME E.I. duPont de Nemours, Inc. George Hull, Env. Coordinator		2. TELEPHONE NUMBER 302-999-6104		
H. TYPE OF OWNERSHIP <input type="checkbox"/> 1. FEDERAL <input type="checkbox"/> 2. STATE <input type="checkbox"/> 3. COUNTY <input type="checkbox"/> 4. MUNICIPAL <input checked="" type="checkbox"/> 5. PRIVATE <input type="checkbox"/> 6. UNKNOWN				

I. SITE DESCRIPTION  
Industrial Landfill

J. HOW IDENTIFIED (i.e., citizen's complaints, OSHA citations, etc.) Eckhardt Survey	K. DATE IDENTIFIED (mo., day, & yr.) 1979
---	--

L. PRINCIPAL STATE CONTACT 1. NAME Solid Waste Branch Bob Pickert DNREC	2. TELEPHONE NUMBER 302-736-4781
---	-------------------------------------

II. PRELIMINARY ASSESSMENT (complete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM  
 1. HIGH    2. MEDIUM    3. LOW    4. NONE    5. UNKNOWN

B. RECOMMENDATION  
 1. NO ACTION NEEDED (no hazard)    2. IMMEDIATE SITE INSPECTION NEEDED  
a. TENTATIVELY SCHEDULED FOR: \_\_\_\_\_  
b. WILL BE PERFORMED BY: \_\_\_\_\_  
 3. SITE INSPECTION NEEDED  
a. TENTATIVELY SCHEDULED FOR: \_\_\_\_\_  
b. WILL BE PERFORMED BY: \_\_\_\_\_  
 4. SITE INSPECTION NEEDED (low priority)

C. PREPARER INFORMATION 1. NAME Andrew Bullen Solid Waste Branch	2. TELEPHONE NUMBER 302-736-4781	3. DATE (mo., day, & yr.) 2/29/84
--	-------------------------------------	--------------------------------------

III. SITE INFORMATION

A. SITE STATUS  
 1. ACTIVE (Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)  
 2. INACTIVE (Those sites which no longer receive wastes.) closed 1/1/75  
 3. OTHER (specify): \_\_\_\_\_ (Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)

B. IS GENERATOR ON SITE?  
 1. NO    2. YES (specify generator's four-digit SIC Code): \_\_\_\_\_

C. AREA OF SITE (in acres) 7 acres	D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES 1. LATITUDE (deg.-min.-sec.) 39° 42' 30" 2. LONGITUDE (deg.-min.-sec.) 75° 36' 50"
---------------------------------------	--

E. ARE THERE BUILDINGS ON THE SITE?  
 1. NO    2. YES (specify): Landfill located next to pigment plant

AR100666

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

<input checked="" type="checkbox"/> A. TRANSPORTER	<input checked="" type="checkbox"/> B. STORER	<input checked="" type="checkbox"/> C. TREATER	<input checked="" type="checkbox"/> D. DISPOSER
1. RAIL	1. PILE	1. FILTRATION	<input checked="" type="checkbox"/> 1. LANDFILL
2. SHIP	2. SURFACE IMPOUNDMENT	2. INCINERATION	2. LANDFARM
3. BARGE	3. DRUMS	3. VOLUME REDUCTION	3. OPEN DUMP
4. TRUCK	4. TANK, ABOVE GROUND	4. RECYCLING/RECOVERY	4. SURFACE IMPOUNDMENT
5. PIPELINE	5. TANK, BELOW GROUND	5. CHEM./ PHYS. TREATMENT	5. MIDNIGHT DUMPING
6. OTHER (specify):	6. OTHER (specify):	6. BIOLOGICAL TREATMENT	6. INCINERATION
		7. WASTE OIL REPROCESSING	7. UNDERGROUND INJECTION
		8. SOLVENT RECOVERY	8. OTHER (specify):
		9. OTHER (specify):	

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

The Industrial landfill was in continuous use, first as a burning dump then as a landfill, from 1902 until 1975. Wastes disposed of include:

V. WASTE RELATED INFORMATION

A. WASTE TYPE

1. UNKNOWN     2. LIQUID     3. SOLID     4. SLUDGE     5. GAS

B. WASTE CHARACTERISTICS

1. UNKNOWN     2. CORROSIVE     3. IGNITABLE     4. RADIOACTIVE     5. HIGHLY VOLATILE  
 6. TOXIC     7. REACTIVE     8. INERT     9. FLAMMABLE

10. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE
<input checked="" type="checkbox"/> (1) PAINT, PIGMENTS	<input checked="" type="checkbox"/> (1) OILY WASTES	<input checked="" type="checkbox"/> (1) HALOGENATED SOLVENTS	<input checked="" type="checkbox"/> (1) ACIDS	<input checked="" type="checkbox"/> (1) FLYASH	<input checked="" type="checkbox"/> (1) LABORATORY PHARMACEUT.
<input checked="" type="checkbox"/> (2) METALS SLUDGES	<input checked="" type="checkbox"/> (2) OTHER (specify):	<input type="checkbox"/> (2) NON-HALOGNTD. SOLVENTS	<input type="checkbox"/> (2) PICKLING LIQUORS	<input type="checkbox"/> (2) ASBESTOS	<input type="checkbox"/> (2) HOSPITAL
<input type="checkbox"/> (3) POTW		<input type="checkbox"/> (3) OTHER (specify):	<input type="checkbox"/> (3) CAUSTICS	<input checked="" type="checkbox"/> (3) MILLING/ MINE TAILINGS	<input checked="" type="checkbox"/> (3) RADIOACTIVE
<input type="checkbox"/> (4) ALUMINUM SLUDGE			<input type="checkbox"/> (4) PESTICIDES	<input type="checkbox"/> (4) FERROUS SMLTG. WASTES	<input type="checkbox"/> (4) MUNICIPAL
<input type="checkbox"/> (5) OTHER (specify):			<input type="checkbox"/> (5) DYES/INKS	<input type="checkbox"/> (5) NON-FERROUS SMLTG. WASTES	<input type="checkbox"/> (5) OTHER (specify):
barium sulfate			<input type="checkbox"/> (6) CYANIDE	<input checked="" type="checkbox"/> (6) OTHER (specify):	<input checked="" type="checkbox"/> (6) OTHER (specify):
zinc sulfide			<input type="checkbox"/> (7) PHENOLS	MICA dust	thoriated nickel
			<input type="checkbox"/> (8) HALOGENS		
			<input type="checkbox"/> (9) PCB		
			<input checked="" type="checkbox"/> (10) METALS		
			<input type="checkbox"/> (11) OTHER (specify):		
			magnetic tape		

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

barium, cadmium, radioactive thorium

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

Delaware DNREC has requested remedial action from duPont on the landfill. None has been taken.

ORIGINAL  
(Red)

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				
2. HUMAN HEALTH	X			Due to contamination of a productive aquifer
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY	X			Due to contamination of the Potomac aquifer
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER	X			Has been shown in the Potomac and Columbia aquifers
8. CONTAMINATION OF SURFACE WATER	X			Christina River adjacent to site
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL	X			Due to high water table.
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

1. NPDES PERMIT   
  2. SPCC PLAN   
  3. STATE PERMIT (specify): Solid Waste permit for drying lagoon  
 4. AIR PERMITS   
  5. LOCAL PERMIT   
  6. RCRA TRANSPORTER  
 7. RCRA STORER   
  8. RCRA TREATER   
  9. RCRA DISPOSER  
 10. OTHER (specify): \* for plant discharge

B. IN COMPLIANCE?

1. YES   
  2. NO   
  3. UNKNOWN

4. WITH RESPECT TO (list regulation name & number): \_\_\_\_\_

VIII. PAST REGULATORY ACTIONS

- A. NONE   
  B. YES (summarize below)

Remedial action has been requested by the State due to the extreme contamination of a productive aquifer, no response has been made by the landfill owner.

IX. INSPECTION ACTIVITY (past or on-going)

- A. NONE   
  B. YES (complete items 1, 2, 3, & 4 below)

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION
PA & SI	1/30/80 3/21/80	EPA/State	

X. REMEDIAL ACTIVITY (past or on-going)

- A. NONE   
  B. YES (complete items 1, 2, 3, & 4 below)

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION
Landfill closure	1975	Owner	Landfill was graded, covered and vegetated after abandonment.
Monitoring of groundwater	1975	Owner	Monitoring well were placed in Columbia and Potomac aquifer

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment (Section II) information on the first page of this form.



ORIGINAL  
(Red)

V. Field Trip Summary Report

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AR100670

FIELD TRIP SUMMARY REPORT

This summary should be prepared in conjunction with the Preliminary Assessment Form, (EPA Form T2070-2), so that a proper site rating can be assigned.

Name of Site Du Pont Newport Landfill

EPA Case Number DE -20

TDD Number \_\_\_\_\_

I. If site is active, has owner/operator notified EPA in accordance with Section 3010 of RCRA. Yes      No     

If Yes: a) Note EPA I.D. No. \_\_\_\_\_  
b) Is the site a generator, storer, treater or disposer of hazardous waste? (CIRCLE ONE).

II. If the answers submitted in Part VI (Hazard Description) of EPA Form T2070-2 or observations warrant a more thorough site investigation/sampling, please attach a sketch map showing those areas of concern. (i.e.: lagoons, leachate seeps, drum storage, monitoring wells, etc.).

III. Please list site contacts and accompanying inspectors; include name, title and phone numbers: George Hull Cieba-Gigy  
Peter Kress, duPont Company  
Jack Chaney, duPont Company  
Andrew Bullen, DNREC Solid Waste Branch 302-736-4781

IV. Site observations: (attach a topo map).

A. Population within 1000 ft. of the site is (CIRCLE ONE)

- ① 0-10 people
- 2. 10-100 people
- 3. greater than 100 people

B. List surrounding land use: (wood lot, agricultural, playground, industrial, etc.).

North: duPont Pigment Plant and Newport

South: Christina River and wetlands

East: Christina River and wetlands

West: Wetlands and railroad terminal

AR100671

C. Water supply for area. (CIRCLE ONE)

- 1. Surface intakes (locate on attached map)
- 2. Municipal wells (locate on map)
- 3. Domestic wells:
  - a. Approximate number within 1/4 mile. \_\_\_\_\_
  - b. Locate a minimum of 3 wells on attached map and list below:

Property owner \_\_\_\_\_

Address \_\_\_\_\_

Phone No. \_\_\_\_\_

Well records	YES	NO	YES	NO	YES	NO
Odor Problems	YES	NO	YES	NO	YES	NO
Taste Problems	YES	NO	YES	NO	YES	NO

c. If odor or taste problems are reported please elaborate: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

D. Are surface or subsurface, (leachate), drainage areas from site apparent? YES \_\_\_ NO X. If yes:

- 1. Were unusual odors or stains noted? YES \_\_\_ NO \_\_\_
- 2. Was stressed vegetation noted? YES \_\_\_ NO \_\_\_

E. Are streams or receiving waters adjacent to site? YES X NO \_\_\_  
If yes, list observations: (i.e. - change in benthic community, change in plant density/diversity, change in color, siltation, etc.). \_\_\_\_\_

The Christina River borders the site  
\_\_\_\_\_  
\_\_\_\_\_

F. Site topography: (i.e. - plateau, strip mine ravines, etc.). \_\_\_\_\_  
lowlands  
\_\_\_\_\_

G. Other observations: (i.e. - erosion, located in flood plain, etc.). \_\_\_\_\_  
within the 100 year flood plain  
\_\_\_\_\_  
\_\_\_\_\_

V. Were photographs taken? YES  NO   
If yes: Who has custody of photographs?

Name: \_\_\_\_\_

Agency: Solid Waste Branch - DNREC

Phone No.: 302-736-4781

VI. Is a hydrogeological survey for this site attached? YES  NO   
If no, Section III D of EPA Form T2070-2 must be completed.

VII. Please attach pertinent copies of reports or data reviewed by inspector:  
(i.e. - State monitoring data, consultant reports, etc.).

VIII. Name of Inspector: Andrew Bullen

Agency: Solid Waste Branch - DNREC

Phone No.: 302-736-4781

Time on Site: 1:00 - 3:00 p.m. 5/24/84

Weather Conditions: clear 80°F

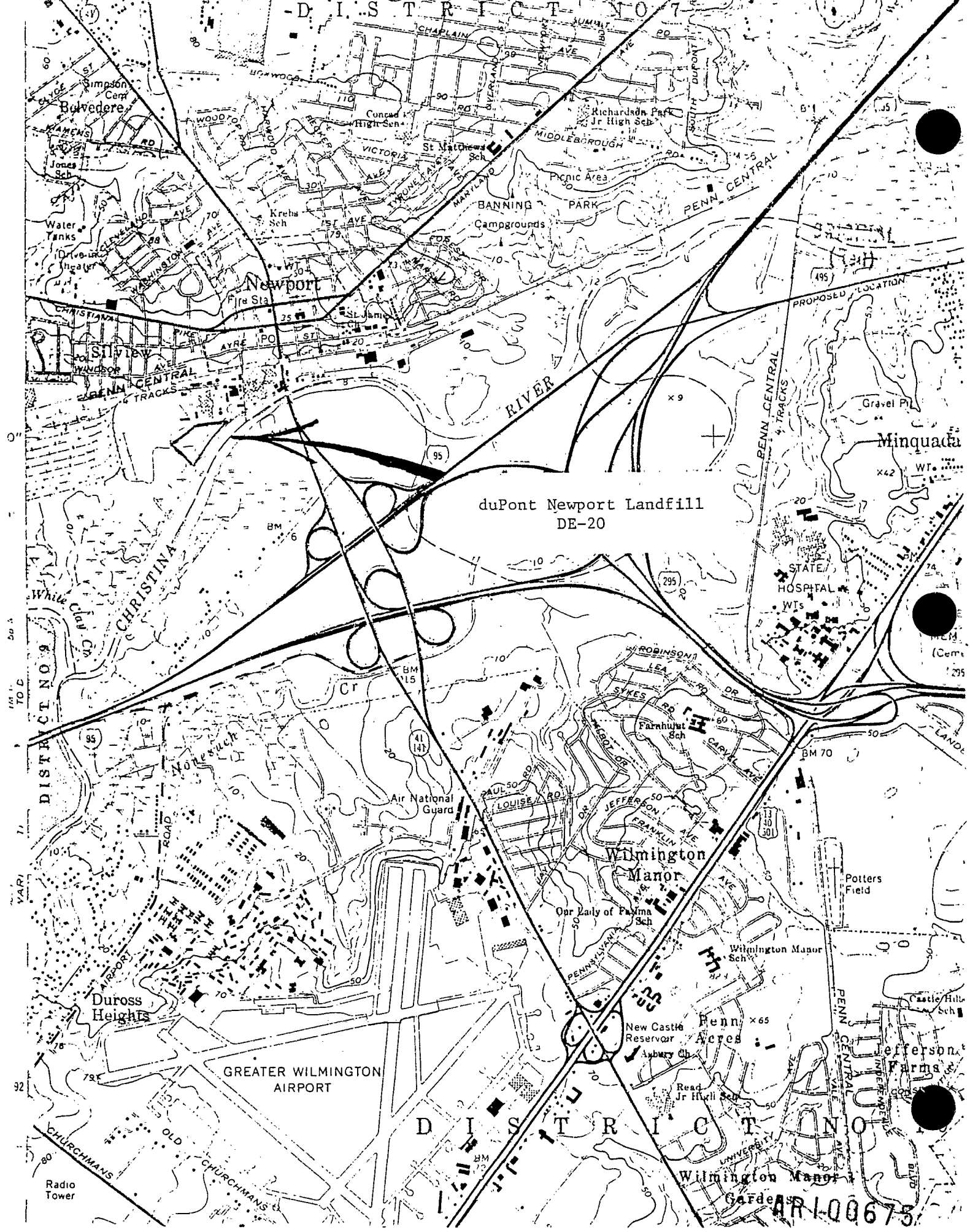
ORIGINAL  
(Red)

VI. Maps and Drawings

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AR100674

D I S T R I C T N O 7

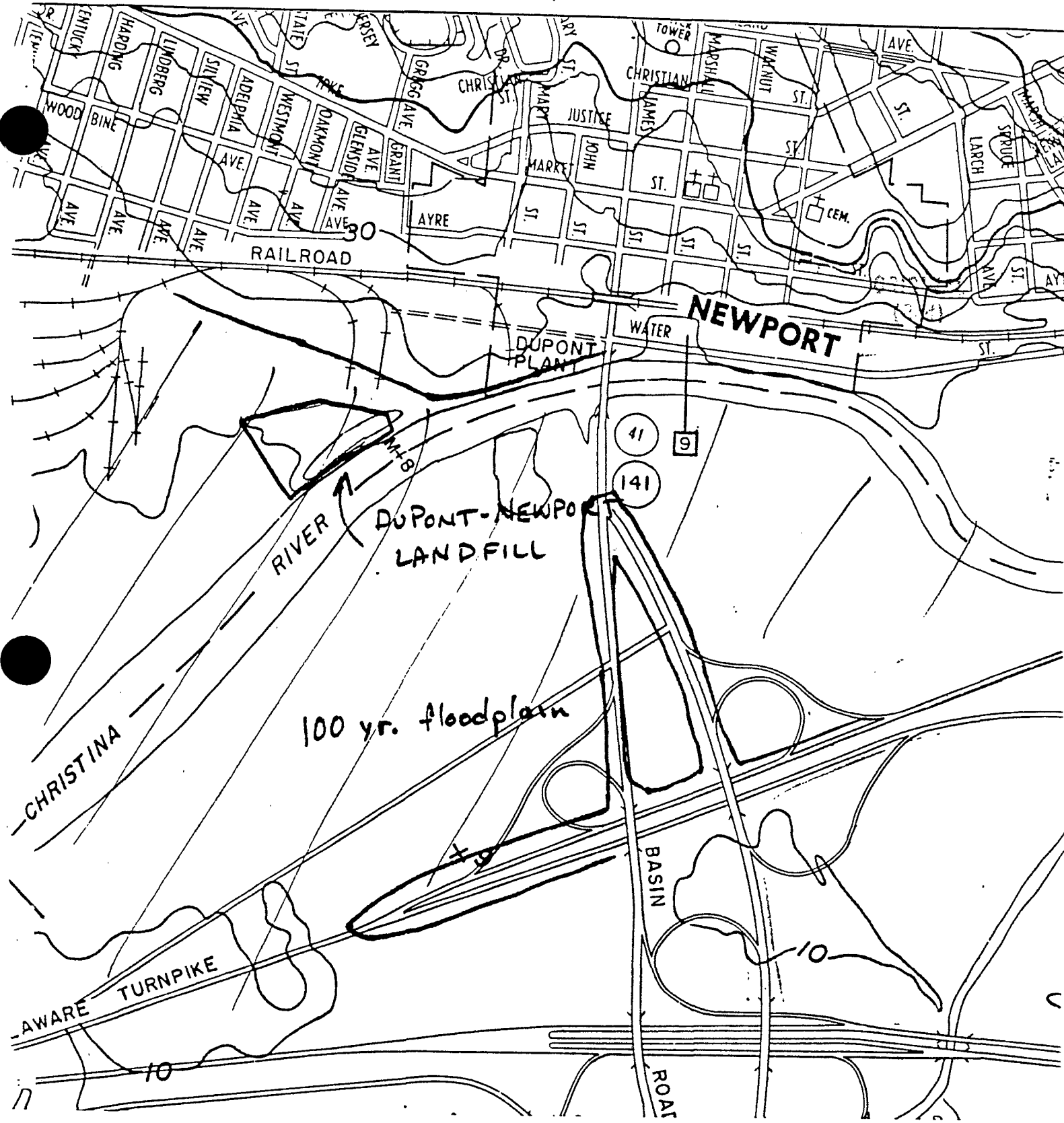


duPont Newport Landfill  
DE-20

D I S T R I C T N O 9

D I S T R I C T N O 10

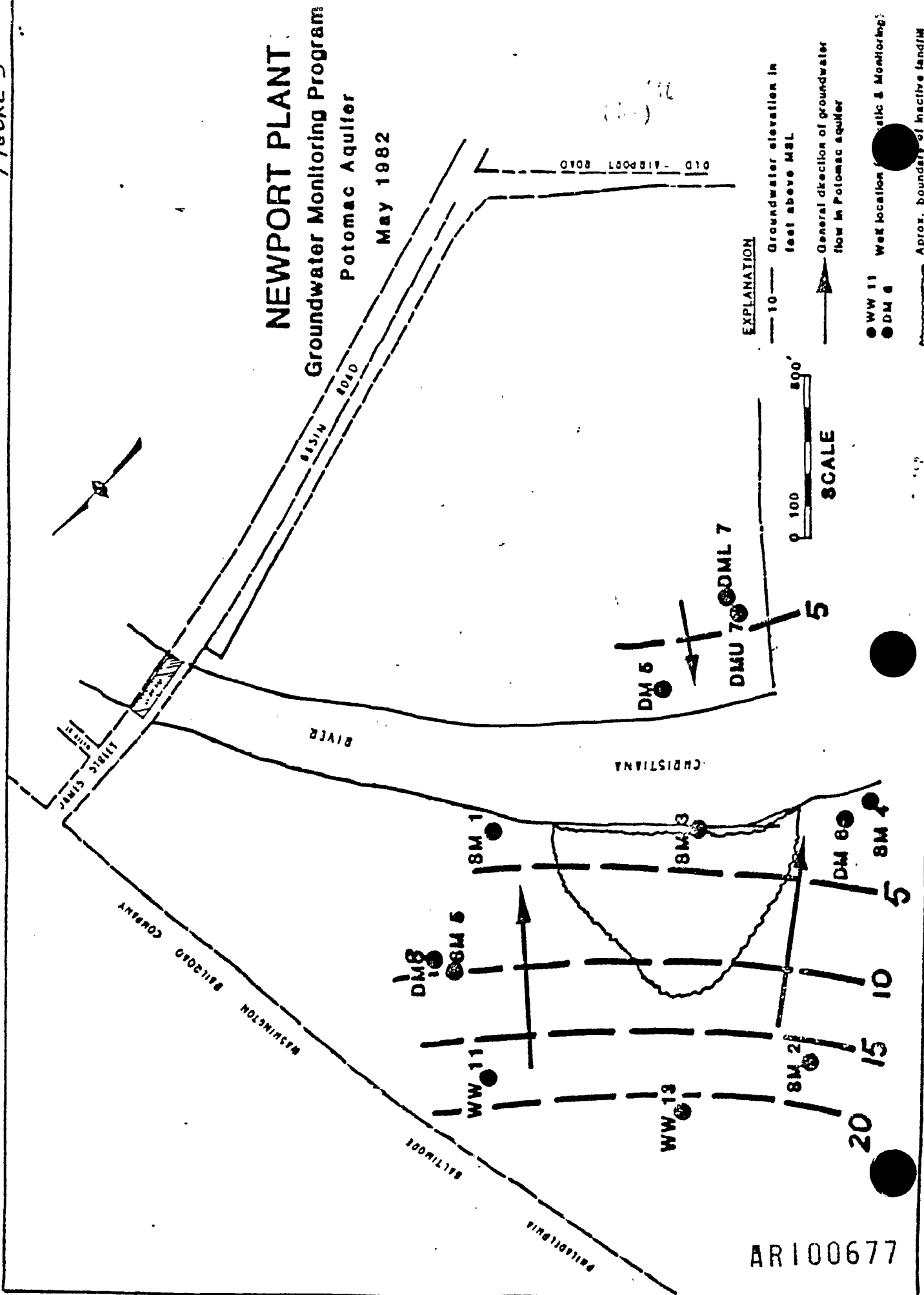
AR 100675



AR100676

FIGURE 3

# NEWPORT PLANT Groundwater Monitoring Program Potomac Aquifer May 1982



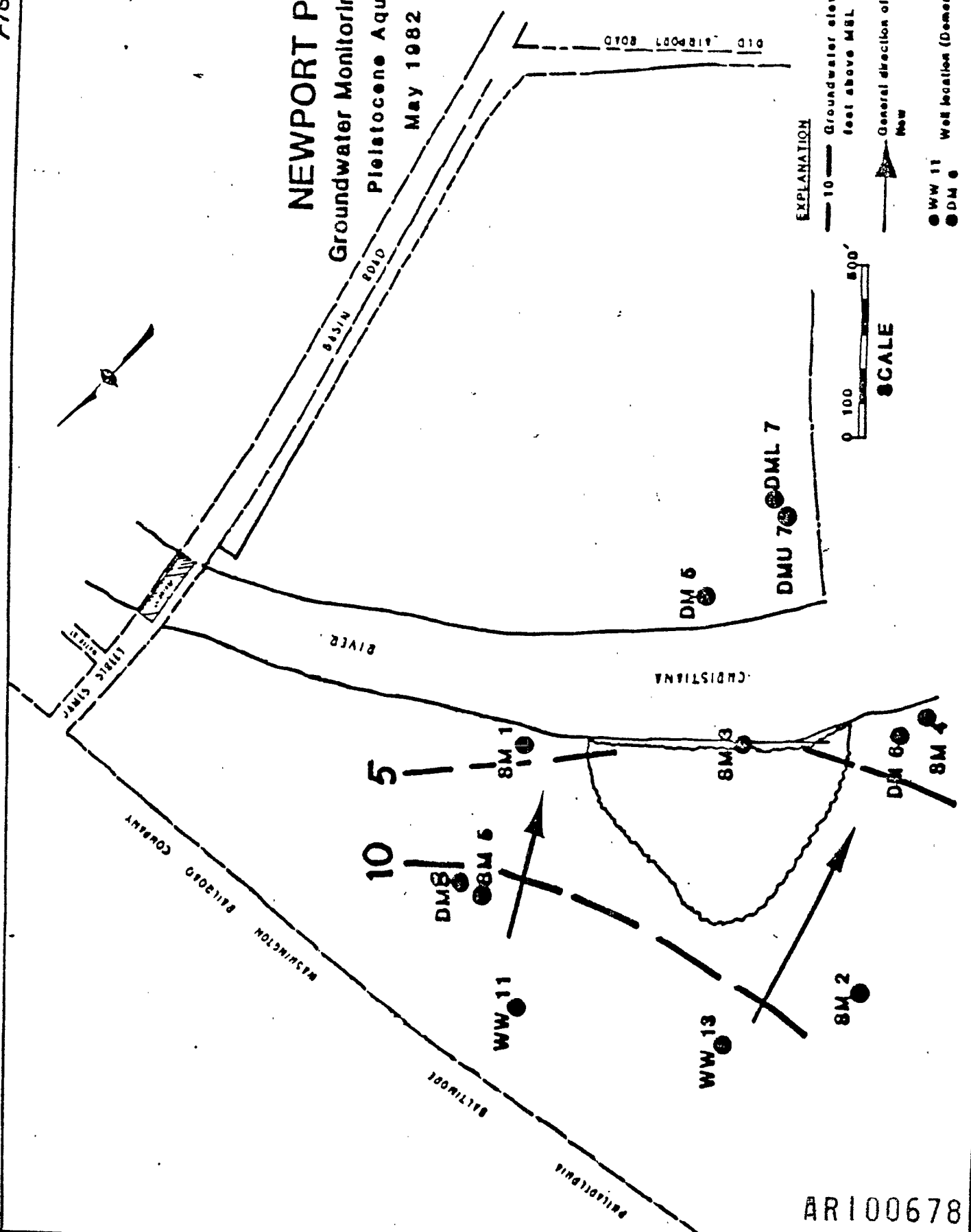
AR100677



FIGURE 2

# NEWPORT PLANT Groundwater Monitoring Program Pleistocene Aquifer May 1982

ORIGINAL  
(2 of 4)

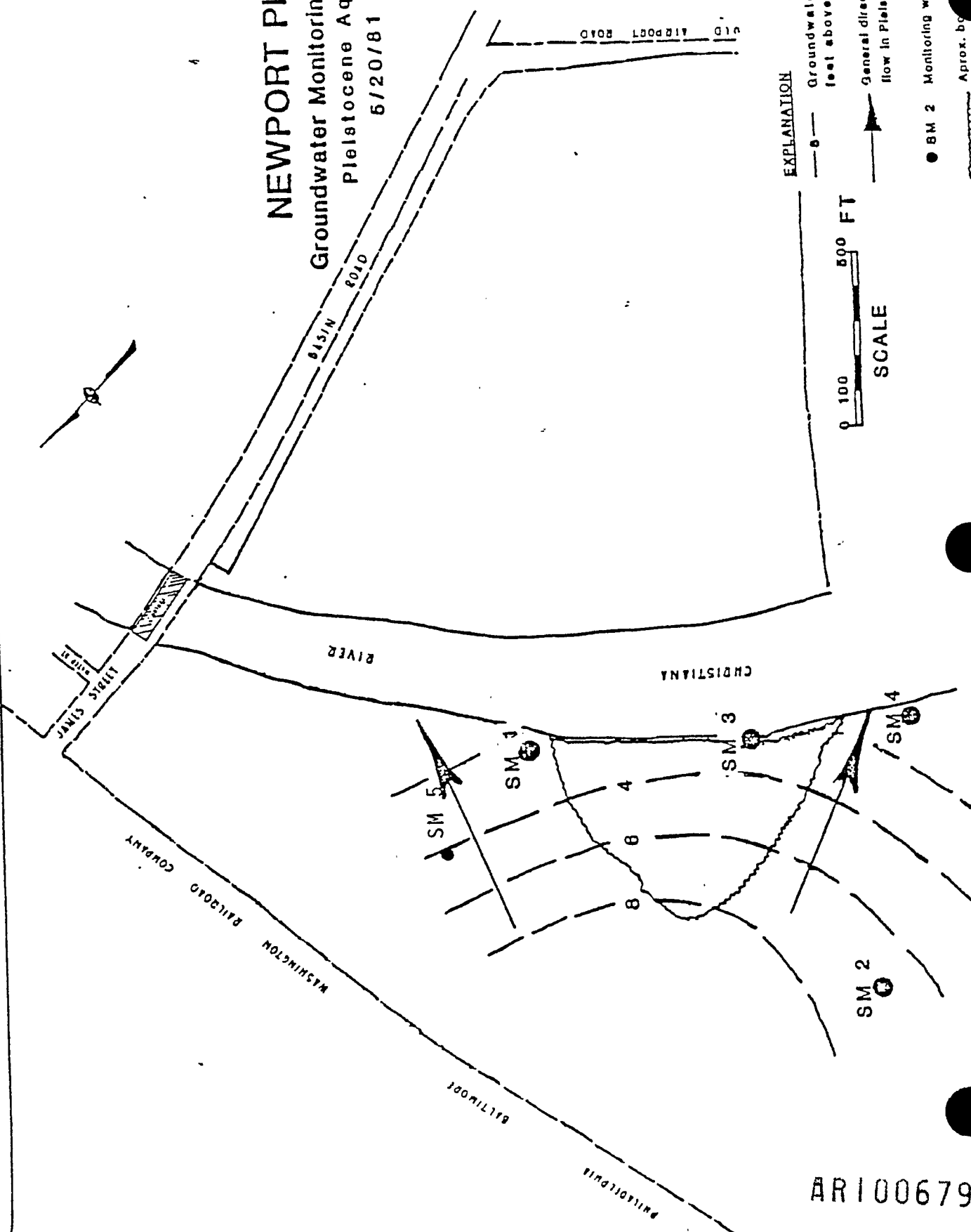


AR100678

Figure 2

# NEWPORT PLANT Groundwater Monitoring Program Pleistocene Aquifer 6/20/81

ORIGINAL  
(160)



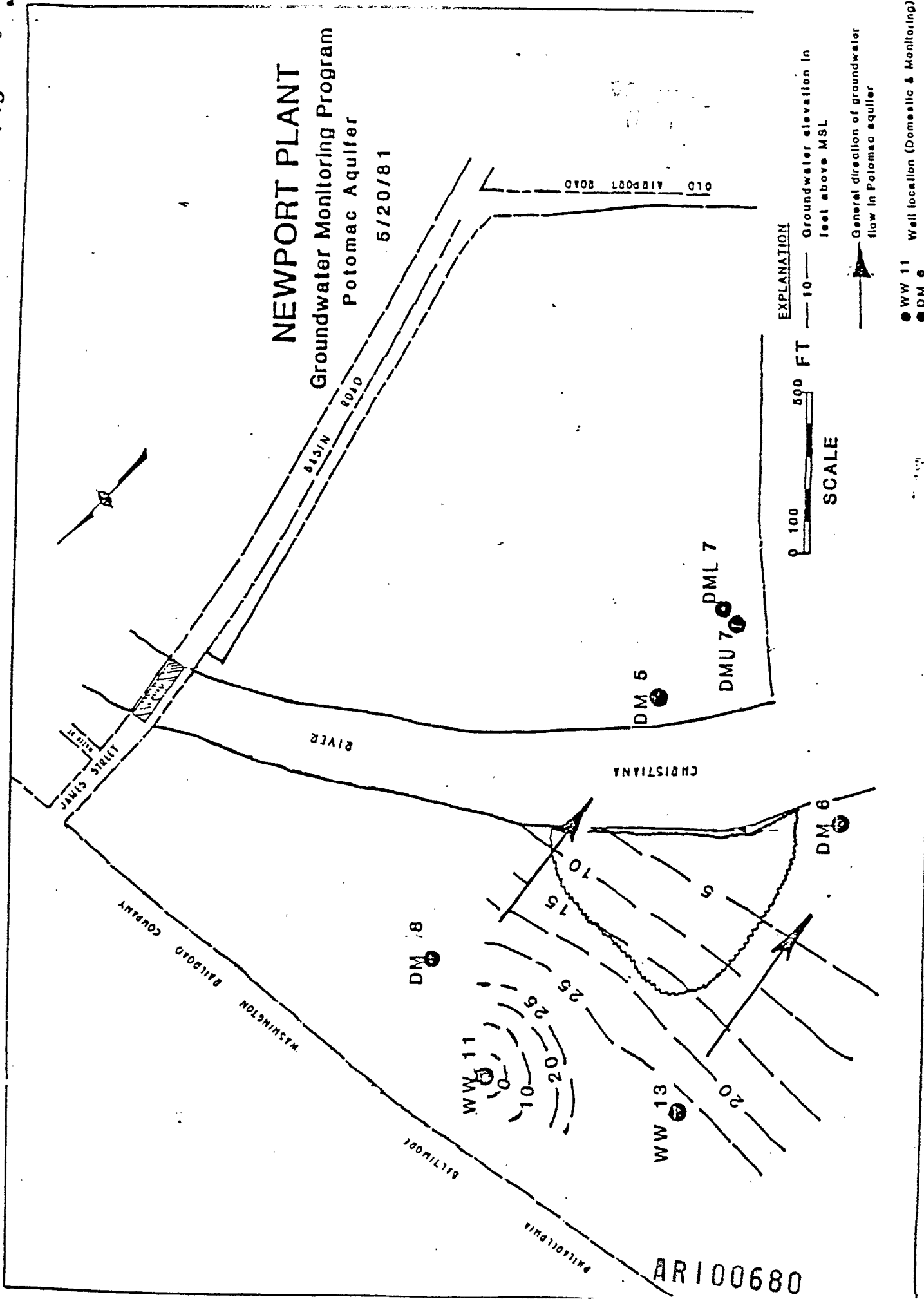
### EXPLANATION

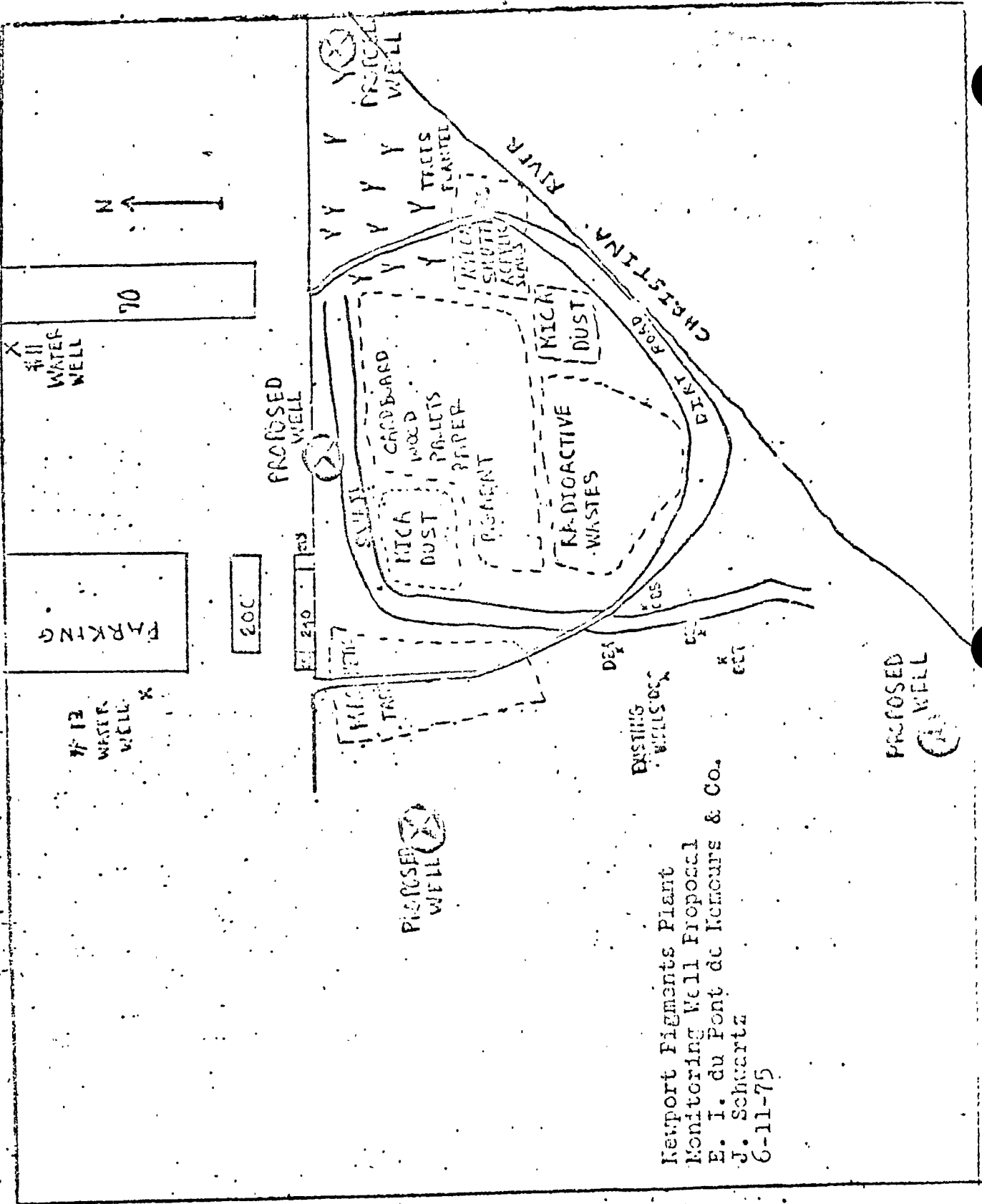
- 0 — Groundwater elevation in feet above MBL
- General direction of groundwater flow in Pleistocene aquifer
- BM 1 Monitoring well location
- BM 2 Monitoring well location
- Approx. boundary of inactive landfill



AR100679

Figure 3





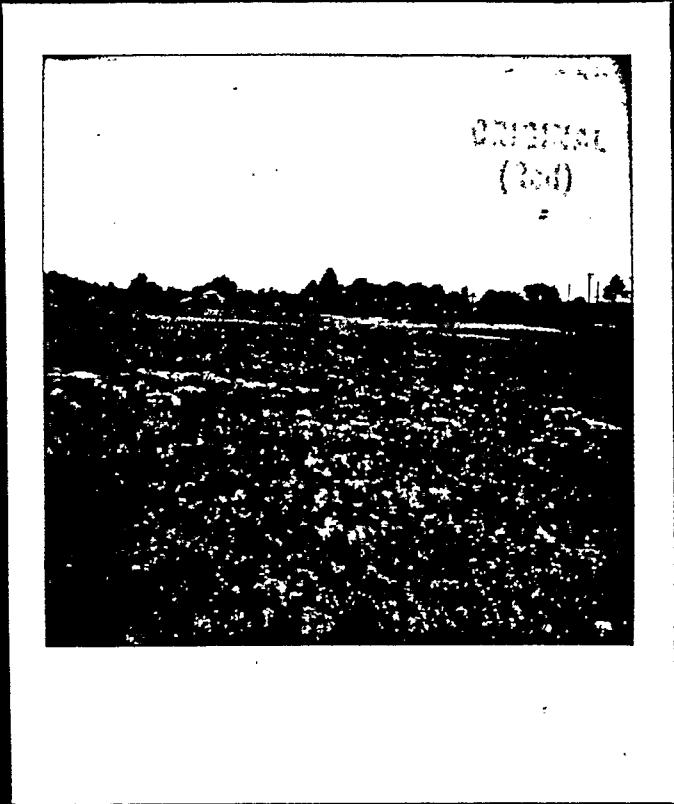
Newport Pigments Plant  
 Monitoring Well Proposal  
 E. I. du Pont de Nemours & Co.  
 J. Schwartz  
 6-11-75

ORIGINAL  
(Red)

VII. Photographs

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AR100682



AR100682

Photographs

Photo "1

The surface of the du Pont Newport landfill is entirely vegetated and well maintained as shown in this photo.

AR100684

References

CONFIDENTIAL  
(007)

1. Eckhardt Survey, 1979
2. Preliminary Assessment of du Pont Newport Landfill, Marc Leonetti, U. S. EPA Region III, Philadelphia, PA, 1/30/80
3. Site Investigation Report of du Pont Newport Landfill, William Thomas, U. S. EPA, Region III, Philadelphia, PA, 3/21/80
4. Landfill files, Water Supply Branch Delaware DNREC, Dover, DE
5. Delaware DNREC Memorandum from Mark Blosser, Water Pollution Section, Delaware DNREC, "Delaware Stream Water Quality Update, October-November, 1983", January 16, 1984
6. Flood Plain Information for the Christina River, prepared for the New Castle County Dept. of Planning by the Corps of Engineers, U. S. Army, Aug. 1970
7. Personal communication, Pete Kress - du Pont co., 5/24/84

AR100685



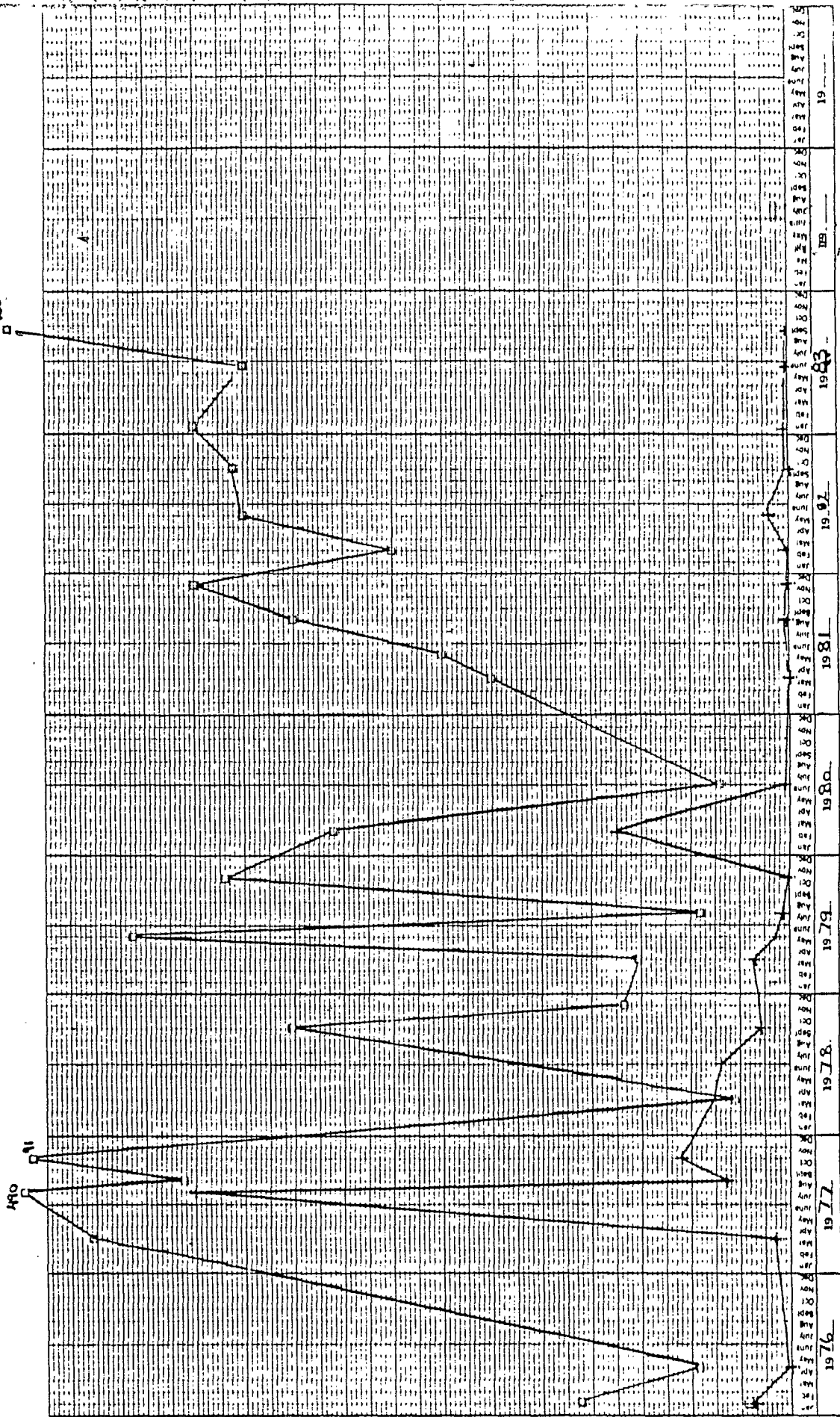
ORIGINAL  
(Red)

Appendix A

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AR100686

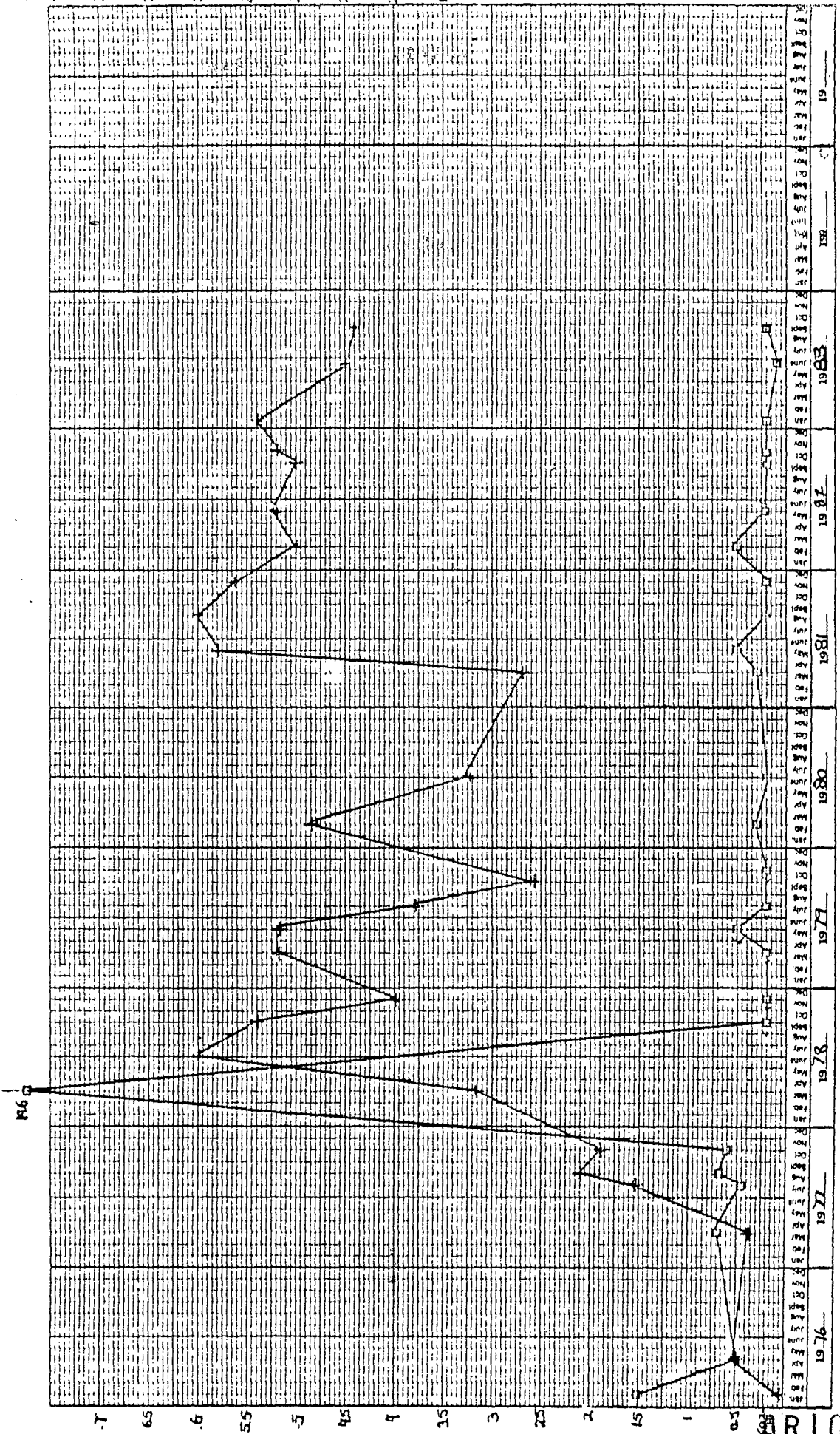
duPont - Newport  
 SM-1 - Pleistocene



□ Barium  
 ○ Zinc

0 20 40 50 60 80 100  
 46 3410  
 0 20 40 60 80 100  
 APR 100687  
 K&S 1 YEAR BY MONTHS X 100 DIVISIONS  
 F. B. ROSEN CO. NEW YORK

011001 - Newport  
 DM-2 (SM-4) Pleistocene



□ Barium  
 + Zinc

AR100688

DuPont - Newport

Sim-4

Pleistocene 106

25-95

.297

.185

.17

.518

.518

1.04

.88

1.16

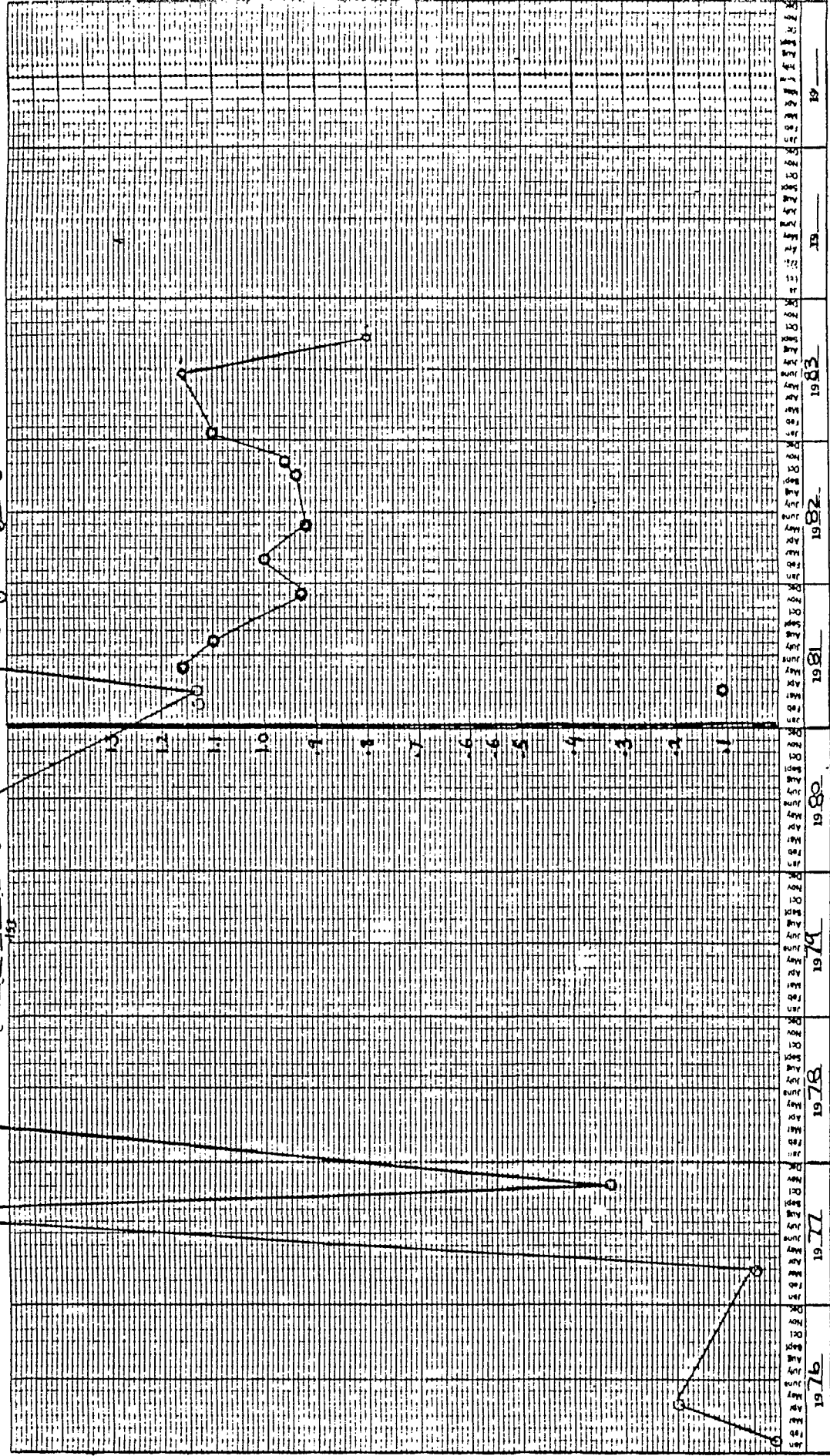
.41

.93

1.0

.92

.942



c Cadmium

46 3410

K-E 3 YEARS BY MONTHS X 100 DIVISIONS  
KUFFEL & BUSH CO. MADE IN U.S.A.

689001RA