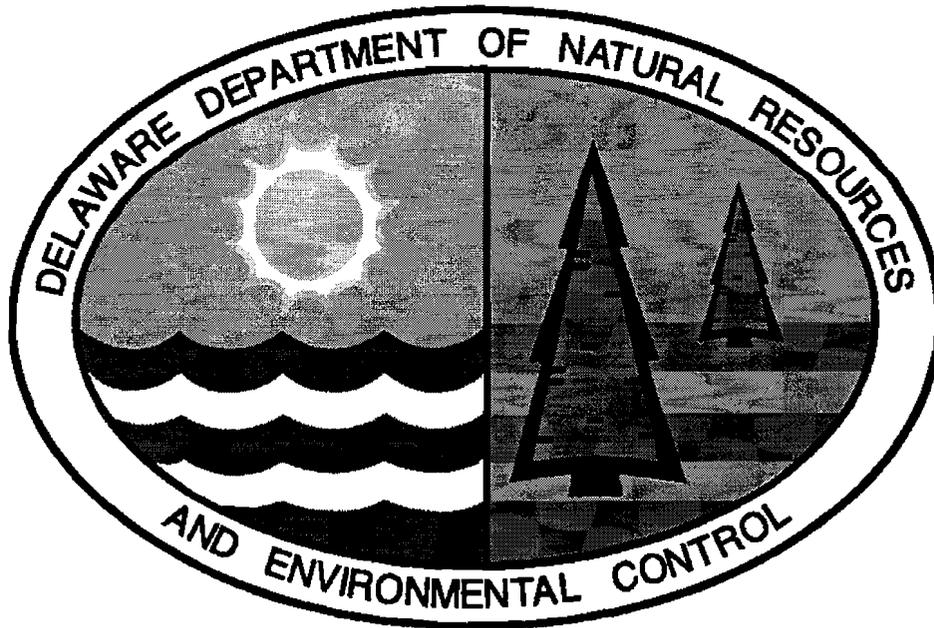


DUPONT STINE-HASKELL RESEARCH CENTER

FINAL PLAN OF REMEDIAL ACTION

SCANNED
FEB 17 2000

File # DE125
B9



JUNE 1996

**Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation & Restoration Branch**

1. INTRODUCTION	1
2. BACKGROUND	1
3. PROPOSED PLAN AND PUBLIC PARTICIPATION	1
4. FURTHER ACTION	2
5. DECLARATION	3

Figure 1. Site Location: DuPont Stine Haskell Research Center

Figure 2. Notice of Proposed Plan

Figure 3. Site Layout with Monitoring Well & Stream Sampling Locations

DUPONT STINE HASKELL RESEARCH CENTER

Final Plan of Remedial Action

1. Introduction

The Department of Natural Resources and Environmental Control ("Department") issues this Final Plan of Remedial Action under the provisions of the Delaware Hazardous Substance Cleanup Act ("HSCA"), § Del. C. Chapter 91 and the Delaware Regulations Governing Hazardous Substance Cleanup ("Regulations"). The Final Plan presents to the public the Department's final selection of remedial activities to occur at the DuPont Stine-Haskell Research Center ("Site"), Newark, New Castle County, Delaware (Figure 1).

2. Background

The Department reached an agreement with DuPont, the potentially responsible party ("PRP"), to perform a Remedial Investigation ("RI") under HSCA. The investigation concluded in March, 1996.

In accordance with the Regulations, the Department set remedial action objectives for land use, resource use, and cleanup levels that are protective of human health and the environment for the Site. The following three (3) objectives were determined to be appropriate for the Site:

- To continue the use of the property by DuPont as a research and development facility for agricultural products,
- To continue the use of supplied public water for all purposes to the surrounding community, and
- To allow routine construction, excavation and maintenance activities without any special chemical hazard protection.

These objectives are consistent with the value of the Site in its current use, the surrounding land use, New Castle County zoning policies, state regulations governing water supply, and worker health and safety.

3. Proposed Plan and Public Participation

The Department drafted a Proposed Plan of Remedial Action for the Site recommending further action limited to institutional controls. The notice of Proposed Plan was published on June 11, 1996 in the Wilmington News Journal Newspaper (Figure 2).

During the public comment period, the Department responded to several inquiries but there were no objections or substantive comments to the Proposed Plan.

4. Further Action

Based on the results of the RI and the results of previous investigations, the risk assessment concluded that no human risk exists because there are no complete exposure pathways. Groundwater contamination is restricted to a few small, isolated areas and appears to be undergoing biodegradation, as evidenced by the apparent decline in concentrations of the chemicals of concern over time. In addition, the sources of contamination (former fuel storage tanks, solvent storage shed, chemical waste handling area) have been eliminated (Figure 3).

The groundwater at and in the vicinity of the site is not used as a drinking water supply. No detectable concentrations of volatile organic compounds were detected in the unnamed tributary to the Christina River which transects the Site. Therefore, all contamination is being naturally attenuated before reaching any potential human receptors.

The ecological risk evaluation determined that there was no risk to receptors in the unnamed tributary. Localized surface water contamination by lead and copper was identified at one location which exceeded the Delaware surface water quality criteria for the protection of aquatic life. However, the qualitative stream survey conducted by DuPont indicated that the stream was not impacted. Sediment lead and copper at this location, although elevated above expected background concentrations, were less than the screening values at which ecological impacts would be expected. Suspected sources of contaminants (a permitted wastewater discharge and parking lot runoff) have been eliminated.

In summary, no human health impacts are expected under the existing and future use scenarios, and no significant ecological effects are expected. Therefore, the final plan is as follows:

- Allow natural attenuation to reduce the concentrations of contaminants found in a few small, isolated areas of groundwater beneath the Site. Sources of the contamination, including old fuel storage tanks, a solvent storage shed, and a chemical waste handling area, have been removed or eliminated. Sampling results to date indicate that the contaminants in the groundwater are biodegrading or discharging at trace levels to surface water, and contaminant concentrations are declining over time.
- Implement deed restrictions requiring that, if the property is sold or converted to a use other than the existing use, additional groundwater monitoring shall be conducted to confirm that contaminant concentrations have continued to decrease over time through natural attenuation and biodegradation. If sampling data indicates that the contaminant concentrations have not decreased, or have increased or migrated significantly, then the need for additional remedial action shall be evaluated.

- Develop a groundwater management zone (“GMZ”) which will restrict groundwater withdrawals in the vicinity of the Site. The GMZ will be administered via a memorandum of understanding between DNREC’s Division of Air & Waste Management and Division of Water Resources.

5. Declaration

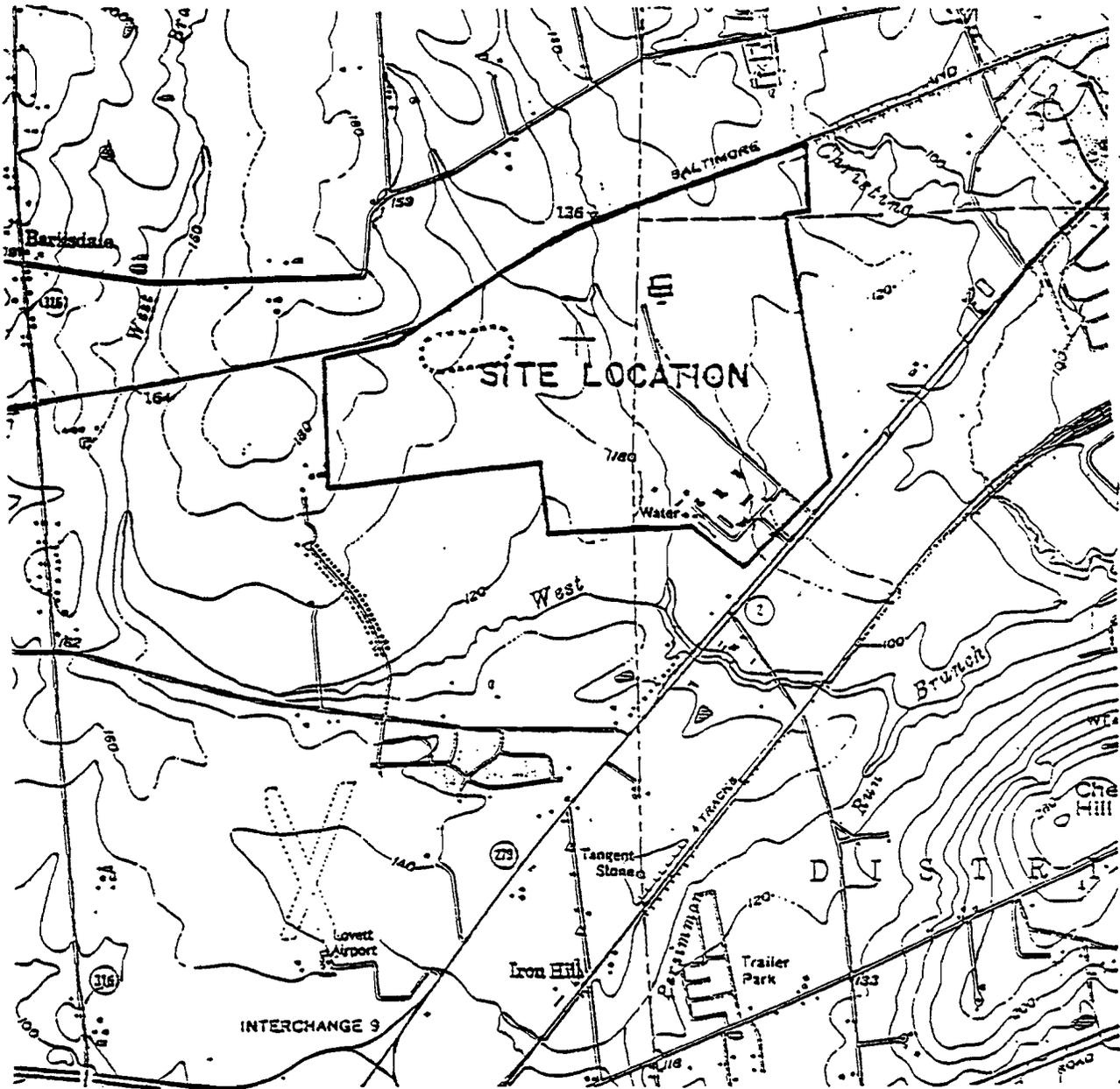
This Final Plan of Remedial Action for the DuPont Stine Haskell Research Center Site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

 7/5/96

Nicholas A. Di Pasquale, Director
Division of Air & Waste Management

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Figure 1 - Site Location: DuPont Stine-Haskell Research Center
Reproduced from Remedial Investigation Report (DERS, 1995)



SOURCE: U.S.G.S. QUADRANGLE
NEWARK WEST, MD.-DEL.-PA.
7.5' SERIES

**PROPOSED PLAN OF
REMEDIAL ACTION
FOR THE
DUPONT STINE
HASKELL
RESEARCH CENTER**

The Delaware Department of Natural Resources and Environmental Control (DNREC) Announces the Release of the Proposed Plan of Remedial Action for the DuPont Stine-Haskell Research Center located in Newark, Delaware under the authority of the Hazardous Substance Cleanup Act (HSCA).

Investigations were conducted by the NUS Corporation on behalf of the U.S. Environmental Protection Agency (EPA) and DNREC (1987) and by Groundwater Technology on behalf of DuPont in 1991 and 1992.

DNREC reviewed the NUS and Groundwater Technology reports and identified several data gaps which required a third phase of investigation.

Based on the results of the remedial investigation and previous investigations, the following actions are proposed for the Stine-Haskell site:

1) Implement deed restrictions requiring that, if the property is sold or converted to a use other than the existing use, additional groundwater monitoring shall be conducted;

2) Development of a groundwater management zone (GMZ) which will restrict groundwater withdrawals in the vicinity of the site.

DNREC believes these institutional controls will be protective of human health and the environment to a degree which is consistent with HSCA and the Regulations.

A copy of the Proposed Plan of Remedial Action for the DuPont Stine-Haskell Research Center is available at the following location:

DNREC's
New Castle Office
715 Grantham Lane
New Castle, De 19720
(302) 323-4540

DNREC invites written comments on this Plan. The comment period begins on Tuesday, June 11, 1996 and ends at 4:30 p.m. on June 30, 1996.

Comments may be submitted in writing to Robert Allen, by 4:30 p.m. On June 30, 1996 at the above address.

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Figure 3: Site Layout with Monitoring Well & Stream Sampling Locations
 Reproduced from Remedial Investigation Work Plan (DERS, 1995)

