

STATE OF DELAWARE

**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
SITE INVESTIGATION AND RESTORATION BRANCH**

Final Plan of the Remedial Action for DuPont Hay Road Sludge Drying “Iron Rich” Site (DE 0024)



January 2009

INTRODUCTION

On January 16, 2009, the Department of Natural Resources and Environmental Control (DNREC or the Department) issued Secretary’s Order No. 2009-A-0005 under 7 *Del. C. §6003*, which adopted the Proposed Plan of Remedial Action (Proposed Plan) as the Final Plan of Remedial Action (Final Plan) for the DuPont Hay Road Sludge Drying “Iron Rich” Site (Site). DNREC issues this Final Plan under the authority of the Hazardous Substance Cleanup Act (HSCA), 7 *Del. C. Chapter 91*.

SITE DESCRIPTION

The Site is located at 1200 Hay Road in Wilmington, Delaware. The Site has been used for stockpiling or storage of a byproduct of DuPont’s Titanium Dioxide (TiO₂) manufacturing process which DuPont calls *Iron Rich*® material (“IRM”). Approximately 500,000 tons of IRM remain on the Site and is underlain by Dredge Material (DM).

SITE EVALUATION

The site has been thoroughly investigated and evaluated through a number of investigations and evaluations. DNREC issued the Proposed Plan on December 14, 2004 based on the *Remedial Investigation/Risk Assessment Report, May 14, 2004* and *Feasibility Study Report, June 18, 2004*. A public hearing was held on March 2, 3 and 9, 2005 and most of the comments received proposed extracting the IRM and transporting it to a suitable disposal site based on the belief by some that the IRM was “hazardous waste.” The Delaware General Assembly passed House Concurrent Resolution No. 22, which sought an independent study of the Site in order to assist in determining whether the Proposed Plan should be adopted or modified. The Department retained Schnabel Engineering North LLC (“Schnabel”). Schnabel performed an extensive review and submitted its *Independent Study Report December 20, 2006*. The Schnabel report noted

deficiencies in DuPont's remedial investigation/risk assessment report for the Site and recommended collection of additional data for the complete evaluation of the Site and risk assessment. The follow on technical work, including significant field sampling and data analysis occurred during 2007 and 2008, resulting in a *Remedial Investigation/Risk Assessment Addendum report, December 8 2008*. Schnabel reviewed the RI/RA Addendum and provided some minor comments. DNREC reviewed this report and Schnabel's comments and public comments and approved this report with certain conditions. DNREC prepared a Technical Response to Public Comments addressing the public comments based on all these studies and review to the hearing officer.

These studies found that the Site presents a lower risk than initially believed, and that the proposed remedy is a fully protective remedy based on the most conservative assumptions about the Site and potential risks. The assessment did, however, raise questions about the potential environmental impact from the Dredge Material under the IRM and from other nearby locations along the Delaware River and Shellpot Creek. These questions will be addressed in an investigation of DM at this and other sites along the Shellpot Creek and Delaware River. *DNREC's Technical Response to Public Comments* includes the details regarding the findings.

Overall, the proposed remedy will ensure, with an ample margin of safety, that the Site will not pose any significant risk to the environment or public health, with the possible exception of ecological impacts from the underlying dredge material located throughout the area.

PUBLIC PARTICIPATION

DNREC issued the Proposed Plan on December 14, 2004 and held a public hearing on March 2, 3 and 9, 2005 to receive comments on the Proposed Plan. Most of the comments proposed extracting the IRM and transporting it to a suitable disposal site based on the belief by some that the IRM was "hazardous waste." The Delaware General Assembly passed House Concurrent Resolution No. 22, which sought an independent study of Property in order to assist in determining whether the Proposed Plan should be adopted or modified. The Department retained Schnabel Engineering North LLC ("Schnabel"), which submitted its independent study in a report dated December 20, 2006. On February 1, 2007, the Department published notice that the public comment period was extended to allow comments on the Report. The follow-up technical work, including significant field sampling and data analysis occurred during 2007 and 2008, resulting in a Remedial Investigation/Risk Assessment Addendum report in December 2008.

A copy of the Final Plan and the Secretary's Order with Hearing officers Report and DNREC's Technical Response to Public Comments are available at the Wilmington Public Library. These reports along with the Remedial Investigation/Risk Assessment Addendum report are available at the office of DNREC-SIRB, 391 Lukens Drive, New Castle, DE 19720 and are also posted on DNREC-SIRB's website at <http://www.dnrec.state.de.us/DNREC2000/Brownfields.asp> Pursuant to 7 Del. C. § 9110 (b)(1), the public may appeal this Final Plan within twenty (20) days following the date of this notice. For additional information, please contact Wilmer Reyes at (302) 395-2600.

FINAL PLAN OF REMEDIAL ACTION

DNREC is requiring the following remedial actions for the Site, based on the Secretary's Order, Hearing Officer's Report, DNREC's Technical Response to Public Comments, Remedial Investigation/Risk Assessment Addendum report, and all other related documents:

- Construct a capping system over the Iron Rich Material consisting of a multilayer geosynthetic liner system pursuant to a DNREC approved remedial design plan.
- Place an Environmental Covenant (EC) consistent with the Delaware's Uniform Environmental Covenants Act (UECA) (Title 7, Del. Code Chapter 79, Subtitle II) that will a) prohibit current and future residential or unrestricted use of the property; b) prohibit any digging, drilling, excavating, grading, constructing, earth moving, or any other land disturbing activities on the property without the prior written approval of DNREC; and c) prohibit the installation of any water wells on, or use of groundwater at, the site without the prior written approval of DNREC.
- Develop a DNREC-approved Operation and Maintenance (O&M) Plan to maintain the cap to prevent exposure to site soil contamination and monitoring of on-site wells to evaluate the groundwater contamination. Additional remedial actions may be required based on the results of the on-site monitoring program and the area-wide groundwater investigation.
- Develop and implement a broader area-wide groundwater monitoring program to allow increased evaluation of the hydrogeology and chemistry of the underlying dredge material and groundwater to determine the potential impact to the surrounding environment, including Shellpot Creek. The site-related contaminants present in the Shellpot Creek along with the contaminants from other sources will be addressed through the Shellpot Creek initiative, Delaware Estuary Program and DNREC's Natural Resource Damage Assessment.

WMR:sbk
WMR09003.doc
DE 0024 II B 9

DECLARATION

The final plan of remedial action for the DuPont Hay Road Sludge Drying “Iron Rich” Site is protective of human health, welfare and the environment, and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

s/Kathleen M. Stiller
Kathleen M. Stiller

Date