



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
SOLID AND HAZARDOUS WASTE MANAGEMENT SECTION

89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

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**FACT SHEET**  
**August 1, 2018**

Hercules LLC (Hercules)

Location Address: 500 Hercules Road  
Wilmington, DE 19808-1599  
DED001315647; File Code: 16

Corrective Action Permit:

The Department of Natural Resources and Environmental Control (DNREC) issues corrective action permits to authorize the implementation of corrective actions as necessary to protect human health and the environment. DNREC issued Corrective Action Permit No. HW-07A14 (the Permit) for Hercules LLC to implement corrective action at the former Hercules Research Center in Wilmington, Delaware, using elements of the RCRA FIRST approach and Toolbox. DNREC proposes to issue a new permit to continue hazardous waste corrective action activities at the locations of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at this facility.

Facility Location and Activity Description:

Hercules LLC, is located approximately five miles west of Wilmington, Delaware at 500 Hercules Road, in New Castle County, Delaware and is surrounded to the north, west and south by residences or proposed residences. To the east are the Red Clay Creek and a small railroad operated by the Wilmington and Western Railroad (WWR). DNREC proposes to issue a new permit to continue hazardous waste corrective action activities at the locations of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at this facility. The Facility subject to this permit consists of approximately 162 acres of contiguous Hercules LLC property comprising the Hercules Research Center plant and Aqualon Laboratory areas, namely tax parcels 0802000116, 0802700002, 0802700008, and 0802700009. See attached Figure.

The grounds surrounding the Facility buildings are composed of well-maintained lawns and paved areas. The grounds are fenced and monitored with security cameras and intermittent security-personnel site walks. Drinking water is currently obtained by direct pipeline connection to Artesian Resources, the local private water-supply company. The Facility has been in use as a research center since it opened in the 1930s. Due to the varied nature of the research activities, a wide variety of chemical wastes were generated. Records do not exist for wastes generated in the early years; however, historically, the facility was used for developing agricultural and paper chemicals, rosin-based resins, water-soluble polymers and

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coatings, and the blending of pesticides and herbicides. Small-batch pesticide and herbicide blending for customer evaluation was discontinued in 1979, and development of agricultural chemicals was discontinued in 1986. Bulk production of agricultural chemicals, including pesticides and herbicides, has never been conducted at the facility.

Many SWMUs and AOCs subject to corrective action are located on the western side of the WWR, in the low-lying flat area adjoining Red Clay Creek. SWMUs 1/9B/13, 7, 8/9C, 10, and 13 are located on the eastern side of the WWR. The 100-year flood line of Red Clay Creek extends into the study area, encompasses SWMU 12, SWMU 9A/15, SWMU 4, AOC B, the eastern edge of AOC E and a majority of AOC F.

The Aqualon Pharmaceutical Laboratory (Aqualon Laboratory) was located to the northwest of the research center proper and occupied approximately 25 acres. This laboratory was used for development and research chemistry studies for Hercules' agricultural pesticides and herbicides. Interviews with Site personnel conducted during the Phase 1 RCRA Facility Investigation (RFI) in 1993 indicated a potential drum-burial area adjacent to the Aqualon Laboratory. As a result of the allegations in the interviews, the area adjacent to the Laboratory was identified as a SWMU and designated as SWMU 16. AOCs G, H, I, and J were then established based on the results of several phases of soil sampling in the area. All structures associated with the Aqualon Laboratory were subsequently removed from this parcel and the parcel is currently fenced and vacant.

#### Statutory and Regulatory Basis:

On July 2, 1991, the Site was issued RCRA Part B Permit ID# HW01A06 (the Part B Permit) for hazardous waste storage greater than 90 days. Prior to renewal of the Part B Permit, Hercules revised their operating procedures so that they no longer store waste greater than 90 days. As a result, the RCRA Part B Permit was terminated in 2004, and Hercules was issued RCRA Corrective Action (CA) Permit ID#HW07A14, dated August 31, 2004. The CA Permit was subsequently extended by DNREC until August 20, 2016. At the time the 1991 RCRA Part B Permit was issued, Hercules owned the adjoining property known formerly known as the Hercules Country Club. This adjoining property was sold in 2001 and the new property owner was notified regarding the status of the Part B Permit, including the corrective action terms of the permit.

With this permit renewal, DNREC is approving the removal of the 190-acre former Hercules Country Club parcels (tax parcels 0703100001, 0802700001, and 0802700007) and 155-acre undeveloped parcels (tax parcels 0702800004, 0702800213, 0802100022, 0802100023, 0802100025, and 0802730064) from the Facility property that was subject to the requirements of the previous Permit. The undeveloped parcels were not included in the RCRA Facility Assessment (RFA) since they were reportedly not used for industrial purposes or management of hazardous waste nor was there any evidence of such activity noted during the Visual Site Inspection (VSI). With the exception of the Waste Oil Storage Tank (SWMU 11) used for Country Club vehicle maintenance, the Country Club parcels were reportedly not used for industrial purposes or management of hazardous waste, nor was there any evidence of such activity noted during the VSI. The Waste Oil Storage Tank was removed under the purview of DNREC-Tank Management Section (TMS), with No Further Action (NFA) required.

DNREC proposes to issue a new permit to continue hazardous waste corrective action activities at the locations of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at this facility.

Seven Del. C., Chapters 60 and 63 and DRGHW provide the legal and regulatory basis for this permitting action.

## Hazardous Waste Corrective Action Activities

Corrective actions are continuing at the facility, including investigating the extent of hazardous waste or hazardous constituents, assessing potential risks, and performing clean-up as warranted. Currently a RCRA Facility Investigation (RFI) is being performed for potential or suspected releases of hazardous waste or hazardous constituents. The RFI is being performed in two phases. The purpose of the Phase I RFI was to evaluate the nature and extent of potential or suspected releases from SWMUs and AOCs, to screen SWMUs and AOCs from further investigation, to focus the investigation, and to determine whether interim remedial measures are necessary. The purpose of the Phase II RFI is to thoroughly evaluate the nature and extent of hazardous waste and hazardous constituents, based upon the findings of the Phase I RFI. The Phase II RFI includes the collection of site-specific data and an evaluation of potential impacts to human health and the environment. Based on the findings of the Phase II RFI, supplemental soil samples will be collected to fill in data gaps. Human Health and Ecological Risk Assessments will be updated, and DNREC will determine whether an Interim Remedial Measure (IRM), a Corrective Measures Study (CMS), a limited CMS, or a presumptive remedial approach is required. Remedial action objectives and an appropriate remedy will be developed for any releases from SWMUs and AOCs that threaten human health or the environment beyond an acceptable risk level.

### Public Participation:

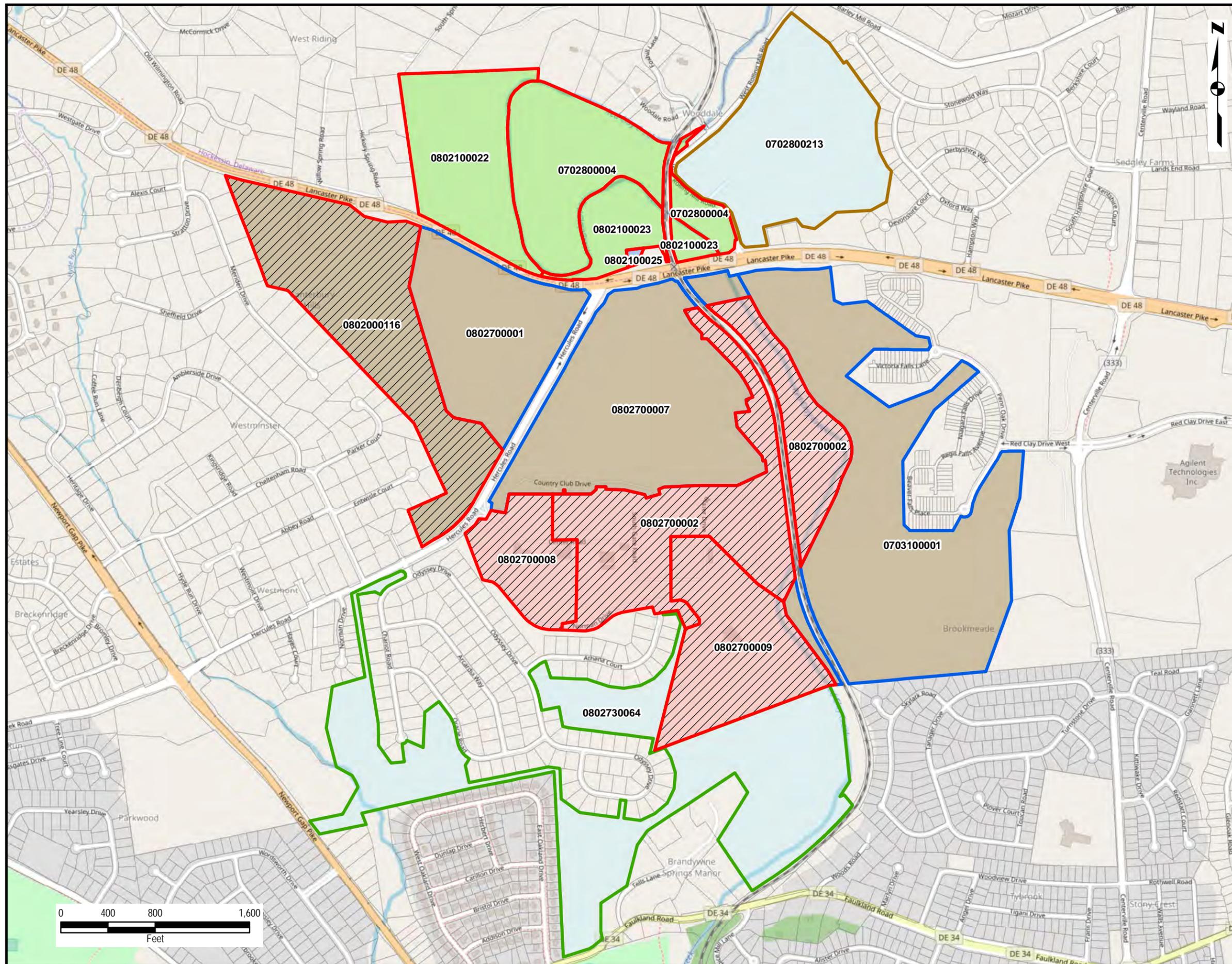
Persons wishing to submit comments, or request a public hearing, are required to submit same in writing no later than September 17, 2018, which is 45-days after this notice is published. The Secretary shall hold a public hearing whenever he finds, on the basis of the requests, a significant degree of public interest, or at the Department's discretion. Written comments must be sent to:

Christopher L. Brown, P.G.  
Department of Natural Resources and Environmental Control  
Division of Waste and Hazardous Substances  
Solid and Hazardous Waste Management Section  
89 Kings Highway  
Dover, DE 19901

RE: DED001315647; File 16

To schedule an appointment to review this material or to obtain additional information on this project, contact Mr. Christopher L. Brown of the DNREC at (302) 739-9403.

**Public Notice Date: August 1, 2018**



- Legend**
- Parcel included in the permit
  - Parcels Currently Owned by Ashland
  - "Divested" parcels:**
  - Golf Course Assoc LLC (2009)
  - Greenville Outlook Maintenance Corp.
  - Mt. Cuba Center, Inc (2000)
  - Property Class (per county):**
  - Industrial
  - Commercial
  - Farmland
  - Residential
  - Exempt Residential

**FIGURE**  
 Hercules LLC  
 RCRA Permit (HW28A09)  
 EPA ID Number: DED001315647  
 Fact Sheet Figure  
 July 2018

