

Hercules Research Center

**500 Hercules Rd.
Wilmington, DE 19808-1599
EPA ID #: DED001315647
Last Updated: March 6, 2007**

Current Progress at the Site

On July 2, 1991, the EPA issued a RCRA Corrective Action Permit to Hercules Inc. and identified areas of interest at the facility that required more investigation to determine if corrective measures would be necessary. On December 1, 2004, DNREC reissued the Corrective Action Permit (No. HW-07A14), and became the lead agency for completion of the corrective action activities at this facility.

Some of these areas of interest are discussed in more detail below:

- SWMU-9A is a former drum storage area, presently used for salvaged equipment storage. This regulated unit is located within a larger area, designated as SWMU-15. Sampling showed that past releases from experimental pesticide formulation in a nearby building had impacted this area. Hercules completed investigations at SWMUs-9A and 15 as part of the Corrective Action Permit requirements. Soil sampling results of SWMUs-9A and 15 showed soil contaminated with pesticides, metals and volatile organic compounds, including chlorobenzene. The groundwater results indicated that soil contaminants have not impacted the groundwater. DNREC's Solid and Hazardous Waste Management Branch (SHWMB) closed SWMU-9A and modified the permit to include corrective measures for these two units. The corrective measures included excavation of the contaminated soil "hot spots" and capping the area with a low permeability asphalt cover. In January 1999, DNREC issued the Closure Certification letter for SWMU-9A. Hercules currently samples groundwater semi-annually as part of the Post-Closure Care Groundwater Monitoring program.
- Hercules completed a Corrective Measures Study for SWMUs-8 and 9C, a former dump and drum storage area. Investigation results found polychlorinated biphenyls (PCBs), select pesticides and metals in the soils and some sediment. Hercules proposed to excavate drainage swale sediments, place an engineered cover system with flood protection, and maintain institutional controls, (e.g. deed restriction) as the remediation alternative for these SWMUs. EPA approved this proposed remedy, and required additional sediment sampling to evaluate if contamination from this SWMU had impacted Red Clay Creek. EPA approved the plan for additional sediment sampling in September 2000 and completed sediment sample collection in October 2000. Hercules submitted the Red Clay Creek Sediment Sampling Report to EPA in March 2001. The results presented in the report, showed that DDT and DDD hotspots in the downstream portion of

the Red Clay Creek. EPA conducted limited confirmation sampling in these areas in September 2001, but the results indicate that contaminants in Red Clay Creek cannot be definitively linked to the Hercules site. EPA and DNREC have reviewed the engineered cover system design. At this time, approval of the Remedial Design is pending.

- SWMU-6 is a RCRA regulated, greater-than-90-day container storage pad used for hazardous waste storage. The RCRA Pad includes a small container shed and three smaller diked areas within the Pad, designated for storage of corrosive, toxic, and reactive wastes. Hercules proposed to “clean close” the container storage area and then to reuse the area for storage of less-than-90-day hazardous waste, as well as for continued storage of non-hazardous waste. DNREC approved the Closure Plan in August 2004 and closure activities commenced June 2005. Hercules completed closure of the RCRA Pad in December 2005. The RCRA Closure Certification Report was approved May 2006.
- The Agricultural Chemical Laboratory (ACL) also known as SWMU 16 was formerly an agricultural research and development center from 1953 to 1976. On August 12, 2005 a meeting was held between Hercules Incorporated and DNREC/EPA representatives regarding Hercules’ plan to implement a Revitalization Plan which entails the relocation of all operations from the floodplain area, consolidation of all operations/buildings uphill, and building of new pilot facilities and a powerhouse. Consequently, Hercules compiled and submitted a report presenting a summary of existing data pertaining to the ACL. Also, included in the report was a conceptual corrective action work plan. Analytical results of soil and sediment samples collected at the ACL facility, thus far, revealed that most of the analytes were either non-detect or present at concentrations below their levels for Delaware Uniform Risk-Based Remediation Standards for Unrestricted Use (URU URBRS). The pesticide toxaphene and a few metals have exceeded the URU URBRS. Hercules has recently completed the demolition of the buildings/structures, removal of underground storage tanks (UST) and their appurtenances, and collection of post-excavation samples at the ACL. DNREC has not received the analytical results of the post-excavation samples. Hercules proposed to conduct additional sampling in the area to delineate the extent of the metals with elevated results. The Remedial Design for this SMWU has not been approved.
- Hercules completed a RCRA Facility Investigation at the other SMWUs and AOCs. EPA and DNREC anticipate that there may be a need for some remediation at some of the other areas of interest. In July 2001, Hercules submitted a Final RFI Report, incorporating all conclusions reached during the RFI data review process. In June 2002, Hercules submitted a plan to conduct a Phase II RFI Investigation to gather additional information. EPA and DNREC approved the Phase II Workplan on November 26, 2003 and field work began thereafter. EPA and DNREC will use the Phase II data to determine if there are any risks to human health and further remedial action at the other SWMUs and AOCs. Preliminary results should be available in 2007.

The Environmental Indicator forms (found on the website referenced below), discuss that current human exposure to site contaminants is under control, and that further data is needed to determine whether migration of contaminated ground water is under control.

Site Description

The Hercules Research Center is a 45-acre facility, located about five miles west of Wilmington, Delaware. Hercules used the majority of the facility for research and development chemistry studies for their worldwide chemical operations. The Research Center consists primarily of research and product development laboratories.

A Country Club surrounds the facility on the north, south, and west sides. The Red Clay Creek and a small railroad operated by the Wilmington and Western Railroad are located to the east of the facility.

Site Responsibility

DNREC administers the RCRA Corrective Action program for the Hercules facility under Corrective Action Permit HW-07A14, in accordance with Title 7 of the Delaware Code, and the *Delaware Regulations Governing Hazardous Waste*, with support provided by the EPA.

Contaminants

The main contaminants in the soil, groundwater, sediments and surface water are PCBs, pesticides, chlorinated solvents, and metals.

Community Interaction

EPA has released public notices for public information about the remediation activities performed at Hercules. There has been minor public interest regarding the site.

Institutional Controls

No institutional controls are currently in place at the Hercules Research Center.

Government Contacts

Michael Macheska
Environmental Scientist
Delaware Department of Natural Resources and Environmental Control
Solid and Hazardous Waste Management Branch
89 Kings Highway
Dover, DE 19901
Phone: (302) 739-9403
Email: Michael.mancheska@state.de.us

Barbara Smith
Project Manager – 3WC23
U.S. Environmental Protection Agency - Region III
1650 Arch Street
Philadelphia, PA 19103
Phone: (215) 814-5786
Email: smith.barbara@epa.gov

Facility Contact

John Hoffman
Site Project Manager Safety, Health, Environment and Regulatory Affairs
Hercules, Incorporated
Research Center – Bldg. 8139/8
500 Hercules Road
Wilmington, DE 19808-1599
Phone: (302) 995-3233
Email: jhoffman@herc.com

For more information about EPA's corrective action web page, including Environmental Indicators, please visit: www.epa.gov/reg3wcmd/correctiveaction.htm