

## Region 3 GPRA Baseline RCRA Corrective Action Facility

# Occidental Chemical Corporation

1657 River Road  
New Castle, DE 19720  
Congressional District 1  
EPA ID #: DED003913266  
Last Updated: 06/30/08

## Current Progress at the Site

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This former chlorine manufacturing facility is approximately 38 years old and is located on the banks of the Delaware River, along River Road, just south of Red Lion Creek. The facility is located in a heavily industrialized area, and is situated approximately three miles northwest of Delaware City, Delaware.

In June 1991, EPA issued a RCRA administrative order directing the company to proceed with site investigation and cleanup activities. EPA and the facility are working jointly to complete the requirements of the order, which include:

- Conduct a RCRA Facility Investigation (RFI) of all spills and releases of hazardous waste or hazardous constituents to provide more in-depth information, and to evaluate remedial technologies that may be effective for cleaning up contaminated areas at the facility;
- Complete Interim Measures (short-term actions) to address contaminated soils, sediments, surface water or groundwater that may have been impacted by a release of hazardous waste or hazardous constituents;
- Complete a Corrective Measures Study (CMS) to propose final cleanup actions needed for the facility.

Phase I of the RFI was completed in 1995. Phase II of the RFI was completed in 2000 and EPA issued approval of the Final Phase II RFI Report in May 2001. EPA and Occidental developed a plan to proceed with various interim measures activities based on the findings of the RFI work. Between 2000 and 2004 several interim measures activities were completed at the facility to address specific areas of concern that required further action. These interim measures included:

- Excavation and removal of contaminated sediments and soils from onsite stormwater drainage channels and a sand blasting area in 2000 and 2001.
- Development of a Standard Operating Procedure to prevent worker exposure to mercury contamination in the process area in 2001.
- In situ treatment and excavation activities were completed in the Fall of 2003 to address soil and shallow groundwater contamination from the Standard Chlorine Pipeline.
- Barrier walls (slurry walls) were constructed around the Process Area and Waste Lake 1 between 2003 and 2004 to control migration of contaminated

groundwater. The construction of a groundwater collection and treatment system associated with the groundwater barriers (or slurry walls) was completed in 2004 with operations beginning in the fall of 2004.

- An engineered cap was installed at Waste Lake 1 between October and December 2004.
- Extraction of DNAPL contamination northwest of Waste Lake 1 began in 2004 and is ongoing.

A performance monitoring program for the groundwater containment measures began in January 2004 and is ongoing, including the submission of annual performance evaluation reports. Follow-up investigations/activities have included pump testing in the vicinity of Waste Lake 1, evaluation of the extent of DNAPL in the vicinity of Waste Lake 1 and removal of accumulated DNAPL on a regular basis.

In addition to the above interim measures, additional fieldwork and data collection were completed at the site from 2004 to the present. The primary objectives of the additional field efforts has been to gather data to refine the conceptual site model, address areas that had not previously been investigated, and provide supporting information for the evaluation of final remedial options for the site. For example, data collection to evaluate sediments in the Tributary to Red Lion Creek and Red Lion Creek was completed in the summer and fall of 2004. Results of the data collection and an initial ecological risk assessment for these surface water bodies was summarized in a Tributary Report submitted for EPA's review in late 2004. Additional data collection for these areas was completed in 2006 and 2007 and the results will be used for the Ecological Risk Assessment and Corrective Measures Study. Limited sampling is proposed for 2008 to address some outstanding questions at the Waste Lake 2 portion of the facility. EPA and Occidental continue to work together to evaluate the interim measures already implemented, and to prepare a Corrective Measures Study, Ecological Risk Assessment, and Human Health Risk Assessment which will be used to support the evaluation and selection of an appropriate final remedy for the site.

## **Site Description**

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Since 1965, when the facility was built and operated by Diamond Shamrock, it has manufactured chlorine, hydrogen, sodium hydroxide, and potassium hydroxide by the electrolysis of sodium chloride and potassium chloride brines. The facility also operated an adjacent polyvinylchloride (PVC) plant which manufactured resins between 1966 and 1982, at which point it was sold. Additional activities conducted onsite include groundwater monitoring for the New Brine Sludge Landfill (regulated by Delaware Department of Natural Resources and Environmental Control) and wastewater treatment operations. As of December 2007, all manufacturing operations at the facility have been discontinued, however, wastewater treatment operations and remedial operations continue. Over the next several years Occidental will proceed with demolition of plant structures with the ultimate goal of making the property suitable for redevelopment.

## **Site Responsibility**

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RCRA Corrective Action activities at this facility are being conducted under the direction of EPA Region 3 with assistance from the State.

## **Contaminants**

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The main contaminants that are present in the soils, surface water, sediments, and groundwater are volatile organics such as benzene, chlorobenzene, vinyl chloride; heavy metals such as mercury, manganese; and polycyclic aromatic hydrocarbons (PAHs).

## **Community Interaction**

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The Occidental Chemical Corporation Site borders the Delaware River and Red Lion Creek and is situated in a heavily industrialized area north of the intersection of Delaware Routes 72 and 9 (River Road). The facility is adjoined by several industrial operations: Valero Refinery (former Motiva and former Texaco refinery) to the south and southwest; Standard Chlorine of Delaware Superfund Site (former Standard Chlorine and former Metachem facility) to the west; TRI (former Kaneka and Delaware City Industries) to the southwest; and, Kuehne (commercial packaging and transport companies) to the northwest. To date, there has been little interest expressed in this site by the local community.

## **Government Contacts**

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## **Facility Contact**

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For more information about EPA's corrective action webpage, including Environmental Indicators, please visit our site at: [www.epa.gov/reg3wcmd/correctiveaction.htm](http://www.epa.gov/reg3wcmd/correctiveaction.htm)