

**SOLID AND HAZARDOUS WASTE MANAGEMENT SECTION
LONG-TERM STEWARDSHIP INSPECTION**

FACILITY: American Air Liquide, Inc. - Delaware Research and
Technology Center
200 GBC Drive
Newark, DE 19702

EPA ID: DED042263764

DATE OF ASSESSMENT: July 18, 2017

SHWMS REPRESENTATIVES: Benjamin Mack - Environmental Scientist *BM 8/1/2017*
Lawrence Matson - Hydrologist *LM 8/1/2017*

EPA REPRESENTATIVES: Joel Hennessy - Region 3, Land and Chemicals Division
John Hopkins - Region 3, Land and Chemicals Division

SITE REPRESENTATIVES: Ed Allen - Senior Facility Manager
Theodore Rekart - HSE Manager/IRMR International Expert
Henri Chevrel - Vice President R&D, Americas

REPORT SUBMITTED TO: Jason Sunde, Program Manager *JS 8/1/17*

REFERENCE: Air Liquide, File Code: 70
17 0718 70 Air Liquide LTS Report

BACKGROUND:

The Air Liquide Delaware Research and Technology Center (DRTC) is a research and development facility that provides technical support to Air Liquide's businesses. Their 22-acre campus is located in Newark, DE. Benjamin Mack is the project officer for the facility.

DuPont purchased this property in 1996. The property was used for the manufacture of medical instruments and reverse osmosis filters (Permasep process) until 1997 when DuPont sold its Medical Products business. In June 2000, the Statement of Basis (SB) describing the initial remedy for the property was released. The initial remedy for one Solid Waste Management Unit (SWMU) and one Area of Concern (AOC) were completed in 2000 and 2002, respectively. Bi-annual groundwater monitoring was performed from 2000-2010 within SWMU 13, which was the site of the former Permasep Building. In February 2010, EPA issued an Explanation of Significant Differences and Corrective Action Completed Report, which removed the groundwater monitoring and deed notice requirements that had been implemented as part of the site's initial remedy. In April 2010, a Groundwater Management Zone (GMZ) that limited groundwater use within SWMU 13 was established in place of the deed restriction. EPA also issued a No Further Corrective Action letter that certified that DuPont had completed its Corrective Action requirements.

In 2007, the Air Liquide DRTC was constructed. As part of the terms of purchase for the site, Air Liquide was obligated to follow the initial deed restriction on the property, as well as the GMZ that was implemented in 2010. The GMZ stated that no new water supply wells were allowed, and that any non-potable wells that were installed must be approved by DNREC's Divisions of Water Resources and Air

and Waste Management. DNREC-SHWMS and EPA representatives conducted a Long-Term Stewardship (LTS) inspection on July 18, 2017 to determine the efficacy of all Institutional Controls (ICs), as well as compliance with all other conditions of the GMZ.

For the purpose of this inspection, steel-toed shoes and insect repellent were deemed appropriate personal protection equipment for the areas in which the inspection took place.

On July 18, 2017, the weather was sunny with the temperature in the high 80's. An aerial photograph with outlined property and GMZ boundaries is **Attachment #1**. Photographs of the GMZ (as determined by the Memorandum of Understanding (MOU) that established the GMZ) are in **Attachment #2**.

INSTITUTIONAL CONTROLS AND CONDITIONS OF DEED-RESTRICTED AREA:

GMZ AREA/SWMU 13: The GMZ encompasses the entirety of SWMU 13 (Attachment 1). Information regarding former site activities was obtained during the inspection. SWMU 13 is the site of the former Permasep building, which was part of a manufacturing facility for medical instruments and reverse osmosis filters. Potential Contaminants of Concern (COCs) in the groundwater include various Volatile Organic Compounds (VOCs), including tetrachloroethylene (PCE). A Sampling, Analysis, Monitoring, and Reporting Program was completed by DuPont to ensure that conditions at the DRTC did not pose a threat to human health or the environment. DuPont was notified that no further Corrective Action was needed on April 13, 2010. A MOU was also enacted to establish a GMZ as the Institutional Control at the DRTC.

Observations: There are currently no groundwater wells within the GMZ. All groundwater wells were abandoned as required in Delaware's *Regulations Governing the Construction and Use of Wells*. The majority of the GMZ is in a heavily forested area that is rarely accessed by anyone. Mr. Allen (Senior Facility Manager) also said that Air Liquide had no long-term plans to use any of the area restricted by the GMZ for any purpose other than its current use. No violations of the GMZ were observed.

CONCLUSIONS/RECOMMENDATIONS:

A letter of compliance is recommended for the GMZ conditions inspected on July 18, 2017.

Attachment 1:



Map of Air Liquide GMZ. Yellow line = Property boundary. Red line = GMZ boundary. Blue line = Walking route. Photographs are numbered in the order they appear in Attachment 2.

Attachment 2: GMZ Photographs



Photograph 1. NE Corner of GMZ looking north



Photograph 2. SW corner of GMZ looking west.



Photograph 3. SW corner of GMZ looking northwest.



Photograph 4. SW corner of GMZ looking north.



Photo 5

Photograph 5. Midpoint of S edge of GMZ looking NE.



Photo 6

Photograph 6. SE corner of GMZ looking W.



Photograph 7. SE corner of GMZ looking NW.



Photograph 8. SE corner of GMZ looking N/NE.

