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Oversight News

Newsletter of the Commonwealth's Environmental Oversight Section for the Dept. of Energy's Paducah Site



*Kentucky Department for Environmental Protection
Division of Waste Management
Hazardous Waste Branch
Paducah Site Section*

C-400 Site Investigation Planning

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DOE, EPA Region IV and KYDEP have been meeting since March 2018 to develop a comprehensive investigation of the C-400 area, including seven Solid Waste Management Units (SWMUs) located in the city block occupied by C-400. The first step has been to reach a preliminary common understanding of the conditions and problems at the C-400 complex, called a Conceptual Site Model. This understanding feeds into the development of the comprehensive investigation to fill the data gaps, where information is needed to make an informed decision about how best to clean up the C-400 area.

The C-400 building is the main source of the two four-mile long TCE groundwater contamination plumes, known as the Northeast and Northwest Plumes. The groundwater plumes are the largest known sources of contamination leaving the site and are therefore the main risk to human health and the environment. The C-400 building was constructed early in the PGDP's history and one of its primary missions was to serve as a parts cleaning facility. Soil

and groundwater near the building are contaminated with trichloroethene (TCE), a solvent that for years was used to remove oil and grease from metal parts. The physical properties of this contaminant (e.g., it is denser than water) cause it to migrate downward and dissolve slowly over time, making it difficult to remove or treat once it enters the subsurface.

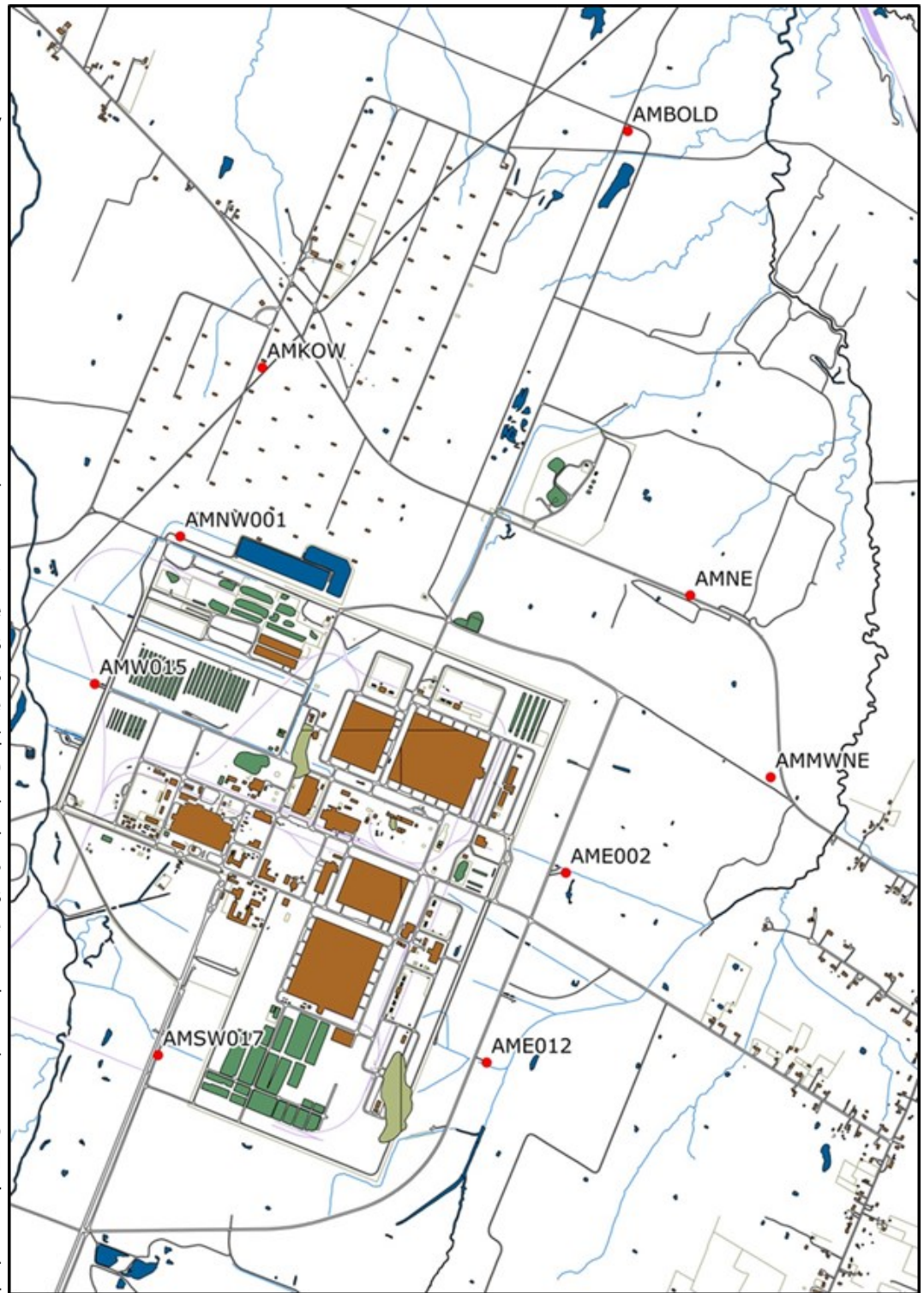
In order to accomplish the comprehensive investigation encompassing the C-400 area, the C-400 building will be demolished to slab by the first quarter of 2019. Once the building is down and the area is accessible to heavy drilling equipment, the remedial investigation (RI) field start date will follow in the first quarter of 2020. The Record of Decision to address all the sources of contamination at the C-400 Complex site is scheduled to be submitted during the 4th quarter of 2022. The ensuing field start date for the remedial action (RA) is planned to occur during the 1st quarter of 2024. It is foreseeable that multiple rounds of RIs and RAs will likely occur to make the best use of cleanup dollars.

CHFS Radiation Health Branch Air Monitoring

The Kentucky Cabinet for Health and Family Services—Radiation Health Branch monitors particulates in air by taking continuous samples at 10 locations surrounding the site collected throughout the year. Samples are collected and analyzed every 21-days. A gross alpha/beta analysis is performed on each filter, and the filters are composited quarterly for isotope specific analyses.

The locations for air monitoring were based primarily on prevailing wind direction and expected release points/types from the plant. The background air monitor is approximately three miles southeast of the plant at the Barkley Regional Airport (not shown on map) and is > 90 degrees offset from prevailing winds. RHB routinely evaluates the results from this activity, along with results from other activities at the site, to determine the need for additional monitoring locations or if any changes in current locations need to occur.

In January of 2012, due to reductions in the federal budget, the frequency of filter collection was reduced from weekly to once every 21 days. The potential consequences of this reduction are an increased probability of overloading the filters in drier months due to increased dust and greater sampled volume, and a 200 percent increase in the time it would take to recognize and respond following a release. Both have yet to be an issue. In 2017, there were no observed abnormal measurements observed at RHB air monitoring stations.



Paducah Site Section File Organization and Digitization Project

At the beginning of 2004, the Cabinet implemented a project management program, called TEMPO (Tools for Environmental Management and Protection Organizations). This allowed the Paducah Gaseous Diffusion Plant (PGDP) Section personnel to scan incoming, outgoing and other relevant documents and correspondence to be organized and available electronically.

In May of 2005, Section personnel saw the need to begin processing an expansive collection of all PGDP-related documents that pre-dated 2004. This effort also included the creation of a document tracking database that required thousands of documents to be prepped and sent for scanning for placement into TEMPO, prior to a final verification and then recycling. This effort included a document round-up of sorts where all files were removed from the Paducah trailer and Regional site office and brought to Frankfort for processing. Files were transported in more than 100 banker boxes, which contained roughly 250 linear feet of documents. In Frankfort, the Section had both formal and informal file rooms, totaling roughly 350 linear feet of documents. Over the next several years, file-related documents in Section employee's offices were processed and incorporated into the master electronic file which created the most comprehensive and accessible electronic file repository to date.

In the winter of 2013, the Radiation Health Branch, which had been receiving DOE documents for nearly 20 years, requested that the Section take possession and process their documents which contributed an additional 100 linear feet. The totals added up to roughly 725 linear feet of documents, nearly two and a half football fields long!

The Document Tracking table, as of June 2018, contains over 15,700 document entries. Each document entry in the table includes eight columns of data that can be queried for easy retrieval.

Work on the electronic filing database was performed intermittently, over the last 13 years, as time constraints permitted. This project was initiated by Brian Baker (who retired in 2008) and Leo W. Williamson, who currently continues to maintain the database.

Complete digitization is expected to take a few more years, as the remaining files consist of hundreds of single page or short letters. The effort has yielded an organized and accessible, comprehensive, electronic filing database that has benefitted anyone in search of Paducah Gaseous Diffusion Plant documents.

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The mission of the Kentucky Division of Waste Management is to protect human health and the environment by minimizing adverse impacts on all citizens of the Commonwealth through the development of fair, equitable, and effective waste management programs.



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