

**DMSA C-400-05**  
**Solid Waste Management Unit (SWMU) Assessment Report**

**SWMU/AOC NUMBER:** 351

**DATE OF ORIGINAL SAR:** 12/01/00

**DATE OF SAR REVISIONS:** 08/05/02, 12/20/02, 01/26/04, 03/01/05, 06/14/10

**REGULATORY STATUS:** SWMU

**LOCATION:** Center of the C-400 Chemical Operations Facility between columns C7-13 and D7-13.

**APPROXIMATE DIMENSION OR CAPACITY:** 12,500 ft<sup>2</sup>

**FUNCTION:** Temporary storage of materials.

**BRIEF HISTORY:** The area initially was utilized as an enrichment compressor test loop. The test loop was initiated in the early 1950s, when the facility was constructed. Uranium hexafluoride was valved into the test loop and sent to a mock converter/cooler (no enrichment barrier inside) to test various compressor configurations. There also was a stabilization stand, similar to the ones in building C-409 that was used to treat converters with fluorine prior to use in the enrichment cascade. The loop no longer is physically connected to the cascade. Once operations ceased in the mid 1970s, this area was used to store miscellaneous equipment/materials and supplies.

On December 31, 1996, the area was deleased by the United States Enrichment Corporation to the U.S. Department of Energy (DOE) as a DOE Material Storage Area (DMSA). In October 2001, DOE began characterization and remediation of materials in this DMSA in accordance with the DMSA Characterization/Remediation Plan, which was incorporated as Appendix E of the 2003 Agreed Order. Hazardous wastes and hazardous constituents were identified by process knowledge and/or analytical results of the waste materials located in the area. The test loop system was characterized and remains in-place in the DMSA. A *Final Inventory and Characterization Report* (FI/CR) was submitted December 16, 2003, to Kentucky Division of Waste Management (KDWM). KDWM approved the FI/CR on April 15, 2004.

Resource Conservation and Recovery Act (RCRA) closure activities were performed as set forth in the *Closure Plan, Post-Closure, and Financial Requirements for SWMU 351 (DMSA C-400-05), Paducah Gaseous Diffusion Plan, Paducah, Kentucky, BJC/PAD-487/R2*, submitted on December 30, 2004, and approved on April 21, 2006. The RCRA Closure Certification Report was submitted to KDWM on October 18, 2006, and was approved on February 13, 2007.

Packaging and disposition activities of the remaining materials (i.e., non-RCRA waste) began in October 2007 and were completed in March 2009.

**PRESENT OPERATIONAL STATUS:** Inactive

**DATES OPERATED:** Early 1950s until 2009.

**SITE/PROCESS DESCRIPTION:** An inside DOE storage area located at the center of the C-400 Chemical Operations Facility.

**WASTE DESCRIPTION:** Newly discovered, RCRA hazardous/mixed waste formerly stored included one tube of gasket sealant, seventeen fuses, three capacitors, three circuit boards, sixteen vacuum tubes, thirty-two incandescent light bulbs or fluorescent light bulbs, ¼ gallon of nitric acid, five aerosol cans, and one mercury manometer. The low-level waste formerly stored included a Freon evacuation Kinney pump, actuators, pressure transmitters, a copper vessel with two copper tubing, two seal exhaust Kinney pumps, a welding electrode, a hydraulic ram, a water control valve, iron pipe, mop heads, control valves, silicone, a micro pulverizer rotating unit, a stand-up desk, hydraulic lift carts, a pulverizer housing, carts, chairs, ladders, hoists, one 0.5 ton electronic chain hoist, floor scrubber and sweep, a fan, a concrete vibrator, axels, shovels, and miscellaneous parts, supplies, and equipment. A detailed description of the characterization can be found in the FI/CR.

**WASTE QUANTITY:** Currently 0 ft<sup>3</sup>; waste quantity removed 4,341 ft<sup>3</sup>

**SUMMARY OF ENVIRONMENTAL SAMPLING DATA:** Health Physics surveys include smears, direct readings, and air samples. Air samples normally were taken only in contamination area and/or when opening containers with unknown contents. The highest total alpha reading from the radiological surveys was 40,631 disintegrations per minute (dpm) per 100 square centimeters (cm<sup>2</sup>) from a two inch flanged pipe. The highest total beta/gamma reading was 4.5 million dpm/100 cm<sup>2</sup> from a valve enclosed in a radiological bag.

**DESCRIPTION OF RELEASE AND MEDIA AFFECTED:** None Known

<b>GROUNDWATER:</b>	None Known
<b>SURFACE WATER:</b>	None Known
<b>SOIL:</b>	None Known
<b>ECOLOGY AFFECTED:</b> (i.e., threatened/endangered species):	None Known

**DOCUMENTATION OF NO RELEASE:** The *Closure Plan, Post-Closure, and Financial Requirements for SWMU 351 (DMSA C-400-05), Paducah Gaseous Diffusion Plan, Paducah, Kentucky, BJC/PAD-487/R2*, approved by KWDM on April 21, 2006, and the Closure Certification for DMSA C-400-05 submitted on October 18, 2006, approved by KDWM on February 13, 2007, documents that no signs of spill and release were found. There have been no known spills or releases of materials from this SWMU to the environment.

**IMPACT ON OR BY OTHER SWMU/AOC:** There is no evidence that this SWMU impacts or is being impacted by other SWMUs.

**PRG COMPARISON:** N/A

**RFI NECESSARY:** No. This SWMU is inside an operational process building with a concrete floor. The unit is being proposed for no further action because it no longer is active, has no evidence of releases to the environment, and is not believed to pose a risk to human health or the environment. The test loop system was characterized and remains in-place in the DMSA to be addressed as part of the decontamination and decommissioning of the gaseous diffusion plant.

**OPERABLE UNIT ASSIGNMENT:** N/A



**SWMU 351  
DMSA C-400-05  
Test Loop System  
November 2003**



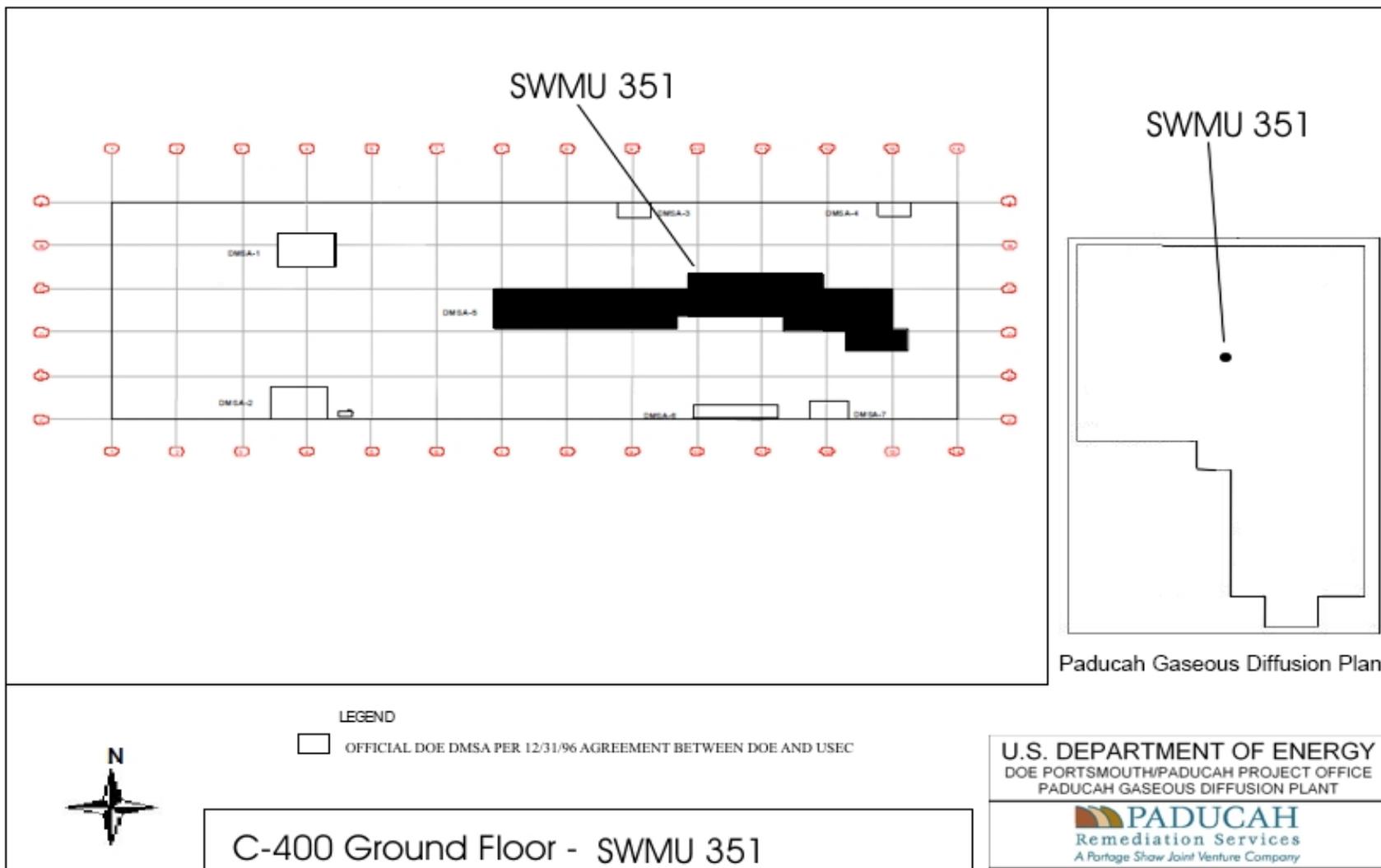
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SWMU 351

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LEGEND

□ OFFICIAL DOE DMSA PER 12/31/96 AGREEMENT BETWEEN DOE AND USEC



C-400 Ground Floor - SWMU 351

U.S. DEPARTMENT OF ENERGY  
DOE PORTSMOUTH/PADUCAH PROJECT OFFICE  
PADUCAH GASEOUS DIFFUSION PLANT

