

**C-746-P and C-746-P1 Scrap Yards
Solid Waste Management Unit (SWMU) Assessment Report**

SWMU/AOC NUMBER: 13

DATE OF ORIGINAL SAR: 8/24/1987

DATE OF SAR REVISION: 12/31/07

REGULATORY STATUS: SWMU

LOCATION: SWMU 13 is bounded on the north by Patrol Road 2, on the east by 10th Street, on the west by Patrol Road 1, and by a drainage ditch south of the C-746-B Building. The SWMU includes the C-746-P and the C-746-P1 Scrap Yards located in the northwest section of the Paducah Gaseous Diffusion Plant. C-746-P1 is located to the west of the C-746-P yard.

APPROXIMATE DIMENSION OR CAPACITY: Approximately 294,000 ft² (290 ft by 1076 ft).

FUNCTION: This SWMU was used for scrap metal storage.

BRIEF HISTORY: The two scrap yards, C-746-P and C-746-P1, that comprise SWMU 13 were utilized from the 1950s to 2005. These scrap yards were used for the storage of scrap metal prior to the sale of the clean scrap metal to scrap metal reclaiming vendors. Scrap metal removal for both the C-746-P and C-746-P1 yards began in 2002. In 2005, metal from the C-746-D yard was temporarily staged in the C-746-P1 for shipment to an off-site disposal facility.

The removal of scrap metal aboveground under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was completed for the C-746-P1 yard in September 2005 and for the C-746-P yard in February 2006.

Prompted by a site employee interview in April 2007, geophysical surveys using an ElectromagnetometerTM (EM)-61, were performed on three areas located within the boundaries of the SWMU during April and May 2007. According to the interviewed employee, some metal not reclaimed by outside vendors was buried. The geophysical survey results confirmed the presence of metal in three areas at 2 ft below ground surface (bgs). Within one of those areas, metal also was detected at 4 to 6 ft bgs. (See attached map.)

The interviewed employee also recalled that small piles of metal were spread and covered with gravel in an effort to improve the appearance of the area. This is consistent with the results of the geophysical survey where metal was detected at depths of 2 ft bgs.

PRESENT OPERATIONAL STATUS: Inactive

DATES OPERATED: C-746-P Scrap Yard was in operation from the 1950s to 1999.

C-746-P1 Scrap Yard was in operation from the 1950s to 2002.

SITE/PROCESS DESCRIPTION: This SWMU is a fenced open field that contains two yards, C-746-P and C-746-P1, that were used for the aboveground storage of scrap metal for approximately 50 years. A small amount of buried metal was discovered in April 2007.

WASTE DESCRIPTION: The C-746-P yard currently is empty of aboveground scrap metal. Prior to scrap metal removal, the yard contained switchgears (mostly clean-steam cleaned), a fuel-fired furnace, mounds of wire potentially contaminated with PCBs and/or asbestos-containing material, a small office trailer, railroad spikes in cans, and miscellaneous piles of scrap.

The C-746-P1 yard currently is empty of aboveground scrap metal. Prior to scrap metal removal, the yard contained clean metal scrap, drums, drained transformers, and railroad rails. Waste consisting of circuit boards and relays were discovered and transferred to a CERCLA storage area in January 2005.

WASTE QUANTITY: The following tonnages were generated and removed during the Scrap Metal Removal activities between October 2002 and February 2006 .

C-746-P Scrap Yard

Aboveground Tonnage Removed: 2,280.11 tons

Aboveground Scrap Metal Removal From: October 2002 until February 2006

C-746-P1 Scrap Yard

Aboveground Tonnage Removed: 1,947.93 tons

Aboveground Scrap Metal Removal From: October 2002 until September 2005

An estimate for the buried metal discovered in C-746-P and C-746-P1 in April 2007 is not available.

SUMMARY OF ENVIRONMENTAL SAMPLING DATA: Potential contaminants associated with this SWMU include aluminum, antimony, cadmium, calcium, copper, neptunium-237, nickel, plutonium-239, technetium-99, uranium metal, uranium-234, uranium-238, and zinc.

After the majority of scrap metal had been removed, shallow soil samples were collected in 2004 for further characterization and soil waste profile development. In 2001, prior to scrap removal, samples were collected from surface soils to characterize areas for worker safety and for initial waste characterization. In 1996 as part of a RI for Waste Area Group 22, sediment samples were collected from ditches that drained the scrap yards. (*Remedial Investigation Report for Solid Waste Management Units 7 and 30 of Waste Area Group 22 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/OR/07-1604/V1&D2, U.S. Department of Energy, Paducah, KY*).

Data for all the sampling events indicate the presence of aluminum, antimony, cadmium, calcium, copper, neptunium-237, nickel, plutonium-239, technetium-99, uranium metal, uranium-234, uranium-238, and zinc above background. The principal contaminants are considered to be calcium and cadmium because sample results indicated concentrations greater than 10x the background level.

Calcium results ranged from 781 to 3,000 mg/kg for surface soil and 778 mg/kg to 91,400 mg/kg for subsurface soils. The background level for calcium is 200,000 mg/kg in the surface and 6,100 mg/kg in the subsurface.

Cadmium results ranged from 1.8 mg/kg to 6.78 mg/kg in subsurface soils. The PGDP background level for cadmium in subsurface soil is 0.21 mg/kg.

Sampling results are located in the Paducah OREIS database, under the following data project codes: SY01-C746P, SYSSP04-C746P1, and SYSSP04-C746P.

DESCRIPTION OF RELEASE AND MEDIA AFFECTED:

GROUNDWATER:	None known
SURFACE WATER:	See below
SOIL:	See below
ECOLOGY AFFECTED:	None known

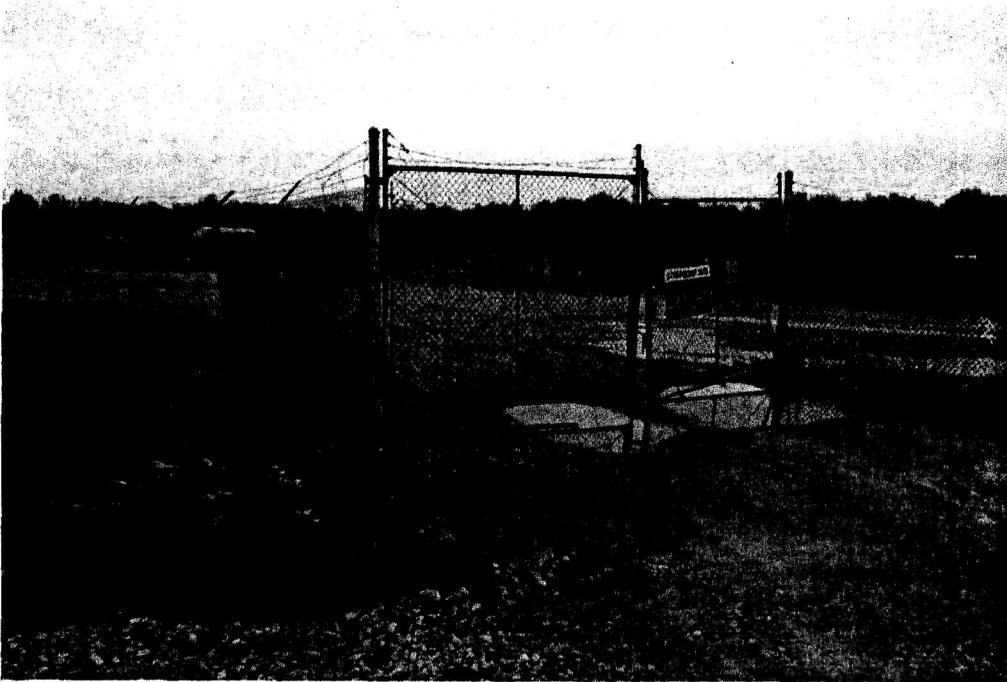
DOCUMENTATION OF NO RELEASE: There are no known releases to groundwater. There are no known effects to ecology (i.e., endangered or threatened species). Data indicate that cadmium and calcium levels in subsurface soil samples are found at concentrations greater than 10 times the background levels. Potential contaminants from the C-746-P and C-746-P1 scrap yards include uranium and asbestos. The scrap yards also contained drums of "heels" of remnant fluids potentially contaminated by petroleum hydrocarbons and TCE. Prior to the removal of the scrap metal, contaminants associated with the scrap metal likely contributed to soils and surface water contamination via storm water runoff.

IMPACT ON OR BY OTHER SWMUS OR AOCs: There is no evidence that this SWMU impacts or is impacted by other SWMUs.

PRG COMPARISON: N/A

RFI NECESSARY: Yes, as identified in the Resource Conservation and Recovery Act permit, conditions AAZZ1 T-99, T-145, and T-159, incorporating Appendix A-1, and the Federal Facility Agreement Site Management Plan, Appendix 4.

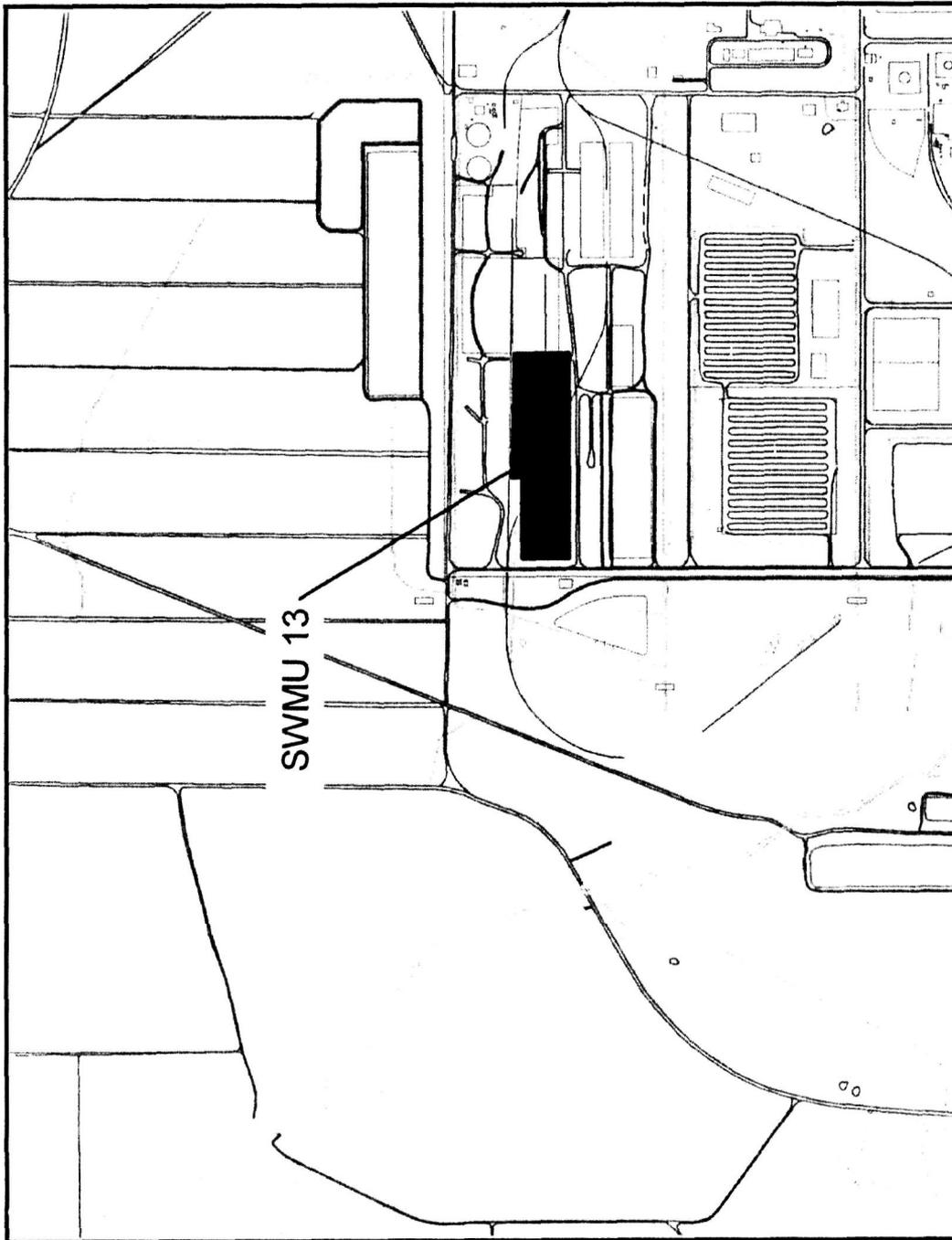
OPERABLE UNIT ASSIGNMENT: Soils Operable Unit (contaminated soils) and Surface Water Operable Unit (scrap metal). Buried metal areas identified during the Burial Grounds Operable Unit Remedial Investigation will be addressed by the Burial Grounds Operable Unit.



C-746-P Scrap Yard

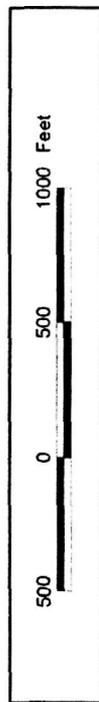
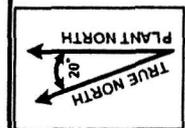


C-746-P1 Scrap Yard

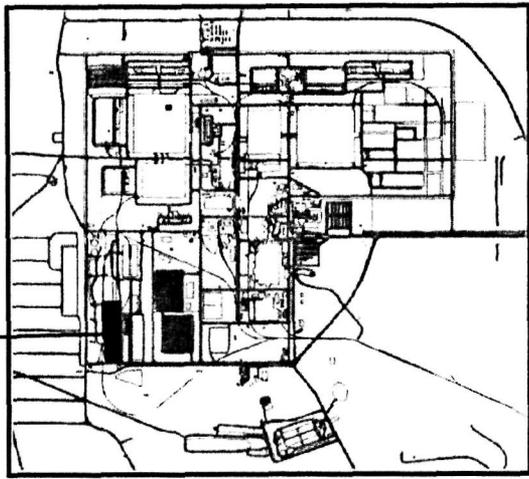


SWMU 13

Paducah Gaseous Diffusion Plant



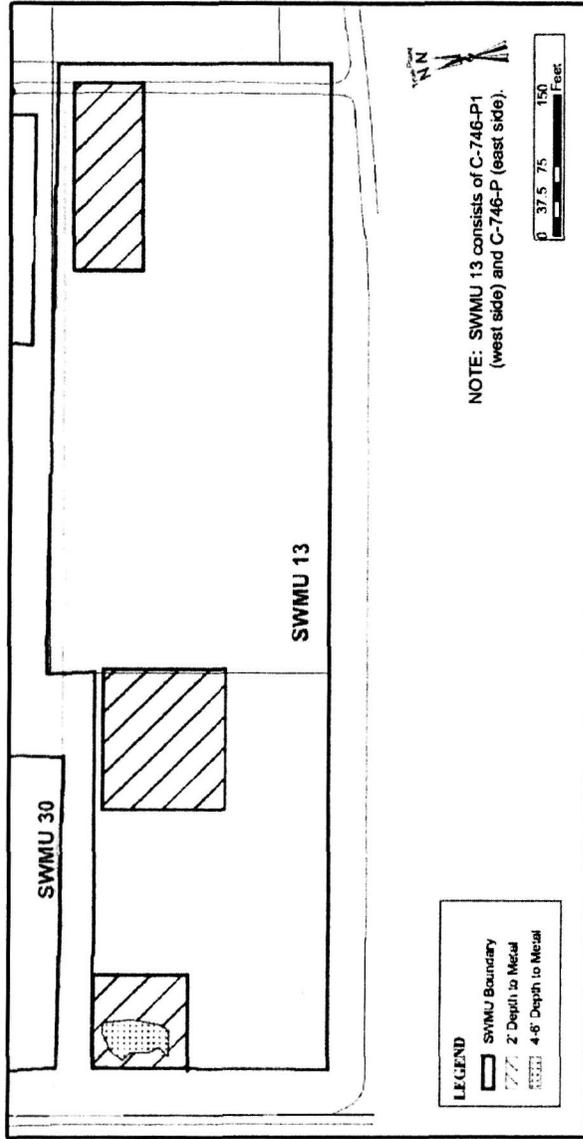
SWMU 13



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

PADUCAH
Remediation Services
A Portage Shaw Joint Venture Company

FIGURE No. c5ac9000sk387.apr
DATE 01-07-06



SWMU 13 Geophysical Results for Buried Metal