

**Contaminated Soil Area North of Soil Pile I on the West Bank of Little Bayou Creek  
Solid Waste Management Unit (SWMU) Assessment Report**

**SWMU/AOC NUMBER:** 562

**DATE OF SAR:** 06/10/09

**REGULATORY STATUS:** Area of Concern (AOC)

**LOCATION:** Soil Piles D, H, and J in subunit 1 are north of soil pile I on the west bank of Little Bayou Creek. See enclosed map.

**APPROXIMATE DIMENSION OR CAPACITY:** Soil Pile D consists of two soil piles separated by a distance of 8 ft. The larger of the two piles is shaped like a saddle having two peaks, one at either end and is approximately 60 ft long by 30 ft wide. The first peak represents an approximate cone-shaped sub-pile that is 45 ft by 30 ft by 12 ft high. The second peak represents an approximate cone-shaped sub-pile that is 15 ft by 30 ft by 8 ft high. The second discrete pile is approximately 7.5 ft by 7.5 ft by 4 ft high. Soil Pile H consists of one small pile approximately 8 ft by 2 ft by 1 ft high. Soil Pile J consists of two soil piles. The first pile is approximately cone shaped and is 25 ft by 25 ft by 6 ft high. The second pile is shaped like an "L" on the ground and a saddle vertically, having two peaks, one at either end of the "L" covering an area of approximately 62.5 ft by 37.5 ft with a maximum height at both high points of 5 ft.

**FUNCTION:** No known use.

**BRIEF HISTORY:** This area was discovered between November 2006 and March 2007, when soil piles with elevated radiological readings were identified. The area contained soil piles that likely were generated as a result of past construction activities at Paducah Gaseous Diffusion Plant. This area was characterized in October 2008 during the Soil Pile Addendum 1-B investigation. Soil Piles D, H, and J are grouped as one AOC because of their proximity to one other and similarities in contaminant content possibly indicating a common source.

**PRESENT OPERATIONAL STATUS:** Inactive

**DATES OPERATED:** Unknown

**SITE/PROCESS DESCRIPTION:** Unknown

**WASTE DESCRIPTION:** Contaminated Soil

**WASTE QUANTITY:** Soil Pile D waste quantity is estimated to be 795 yd<sup>3</sup>, Soil Pile H waste quantity is estimated to be 1 yd<sup>3</sup>, and Soil Pile J waste quantity is estimated to be 295 yd<sup>3</sup>; therefore, the total waste quantity estimated for the AOC is approximately 1,091 yd<sup>3</sup>.

**SUMMARY OF ENVIRONMENTAL SAMPLING DATA:** The area was surveyed upon initial discovery in 2006. Gamma measurements were recorded at greater than twice the background levels in Soil Piles D and J and less than twice the background levels in Soil Pile H. Alpha, beta and gamma scans were performed during the October 2008 soil sampling event and all readings were less than detectable levels. As a result of the December 2008 sampling event, risk screening determined the following chemicals of potential concern in the soil piles:

Soil Pile D

COPC	Depth	Soil Pile	Maximum Value Detected
<i>Metals (mg/kg)</i>			
Uranium	Subsurface	D	5.23E+01
<i>Total PCBs (mg/kg)</i>			
	Subsurface	D	2.01E+00

Soil Pile H

COPC	Depth	Soil Pile	Maximum Value Detected
<i>Metals (mg/kg)</i>			
Uranium	Surface	H	5.89E+01
<i>Radionuclides (pCi/g)</i>			
Uranium-238	Surface	H	1.09E+01
<i>Total PCBs (mg/kg)</i>			
	Surface	H	2.40E-01

Soil Pile J

COPC	Depth	Soil Pile	Maximum Value Detected
<i>Metals (mg/kg)</i>			
Uranium	Surface	J	2.08E+02
	Subsurface	J	1.11E+02
<i>Radionuclides (pCi/g)</i>			
Uranium-238	Surface	J	3.73E+01
<i>Total PCBs (mg/kg)</i>			
	Surface	J	6.20E-01
	Subsurface	J	6.90E-01

**DESCRIPTION OF RELEASE AND MEDIA AFFECTED:**

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

**DOCUMENTATION OF NO RELEASE:** No documentation identified.

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

**PRG COMPARISON:** Uranium and Total polychlorinated biphenyls (PCBs) exceeded the preliminary remediation goals (PRGs) (no-action levels for screening criteria) in the subsurface soil sample from location LBCD01 at Soil Pile D. Uranium and PCBs exceeded the PRGs in the surface soil sample from location LBCH01 at Soil Pile H and uranium and PCBs exceeded the PRGs in both the surface and subsurface sample from location LCBJ01 from Soil Pile J.

**RFI NECESSARY:** Yes, as identified in the Hazardous Waste Facility Permit (KY8-890-008-982).

**OPERABLE UNIT ASSIGNMENT:** Soils Operable Unit

**PHOTOGRAPHS OF SOIL PILES AOC 562**



**Soil Pile D: May 19, 2009**



**Soil Pile D: May 19, 2009**



**Soil Pile D: May 19, 2009**



**Soil Pile H: May 19, 2009**



**Soil Pile J: May 19, 2009**



**Soil Pile J: May 19, 2009**

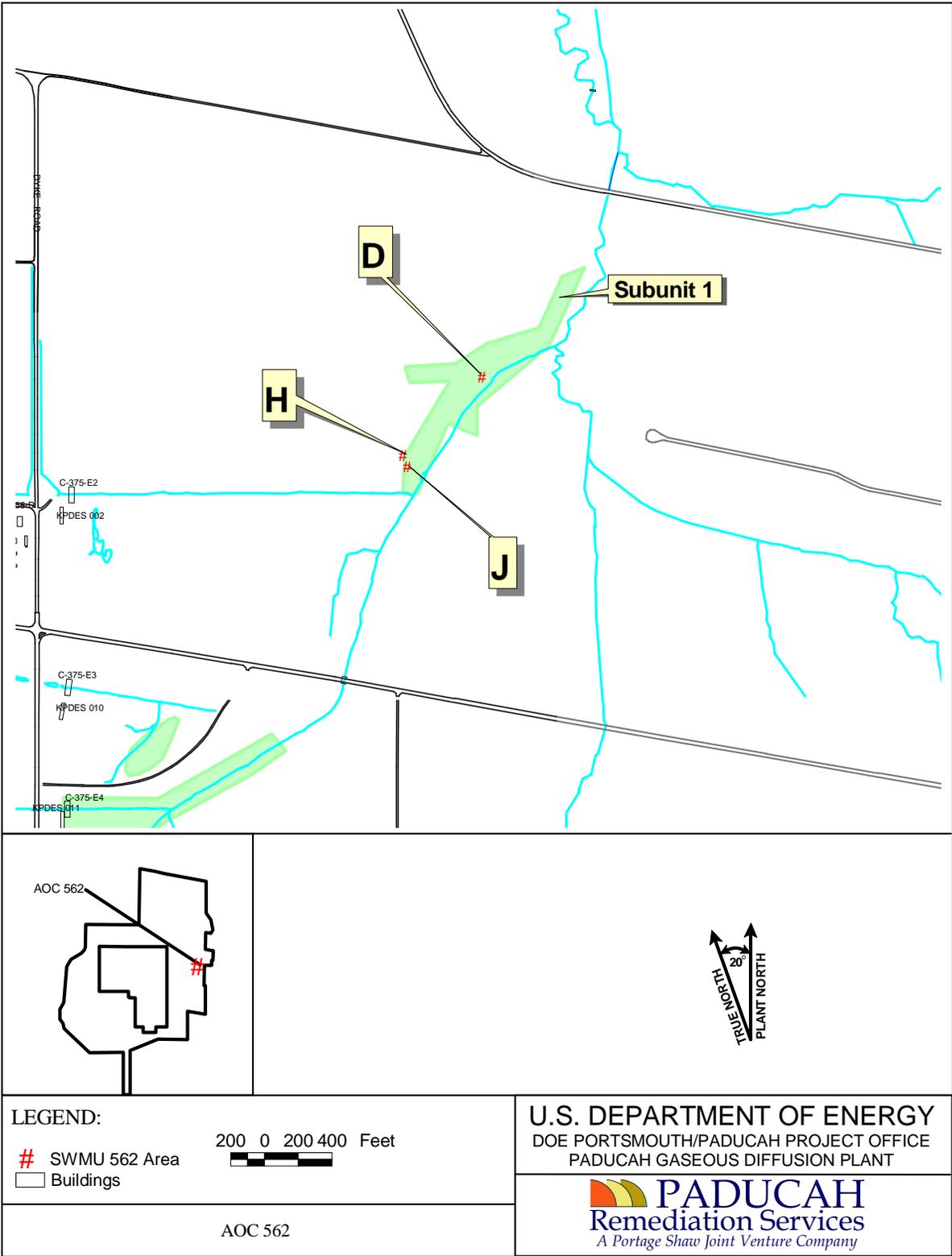


FIGURE No. 562\_SAR\_MAP.apr  
 DATE 05-27-09