

Solving Cleanup Challenges Through Risk Reduction

Cleanup Progress at the Paducah Gaseous Diffusion Plant

Briefing for the
Paducah Citizens
Advisory Board
January 15, 2009



EM Environmental Management

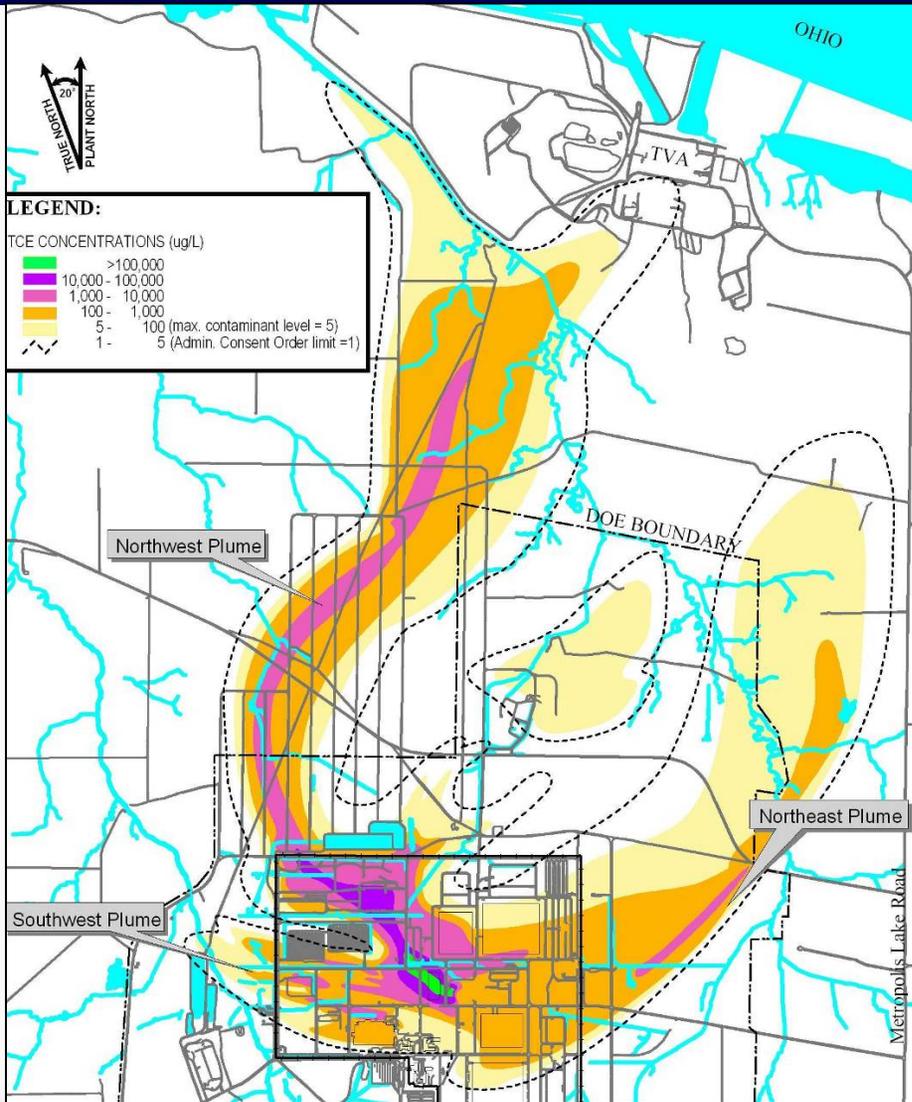
safety ❖ performance ❖ cleanup ❖ closure

Highlights

- C-400 TCE Source Reduction
- Soil Pile Sampling
- Site Walkover Survey
- Rubble Pile Sampling
- Water Tower Demolition
- Other Environmental Projects



C-400 TCE Source Reduction - Background



- In 1988, groundwater contamination discovered beyond DOE property boundary
- Main contaminant is the degreaser TCE

TCE contamination plumes at PGDP

C-400 TCE Source Reduction - Background

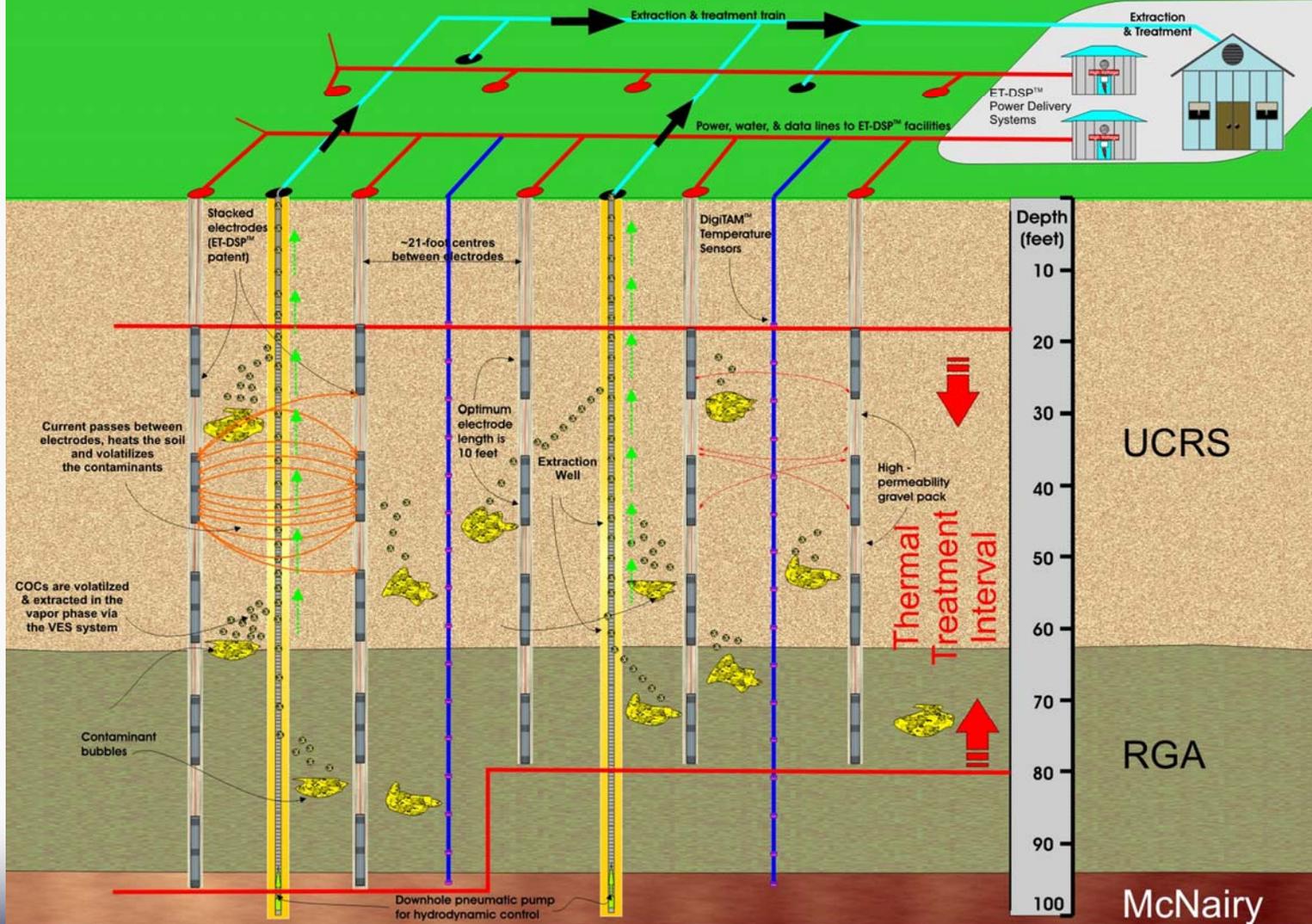


The C-400 Cleaning Building

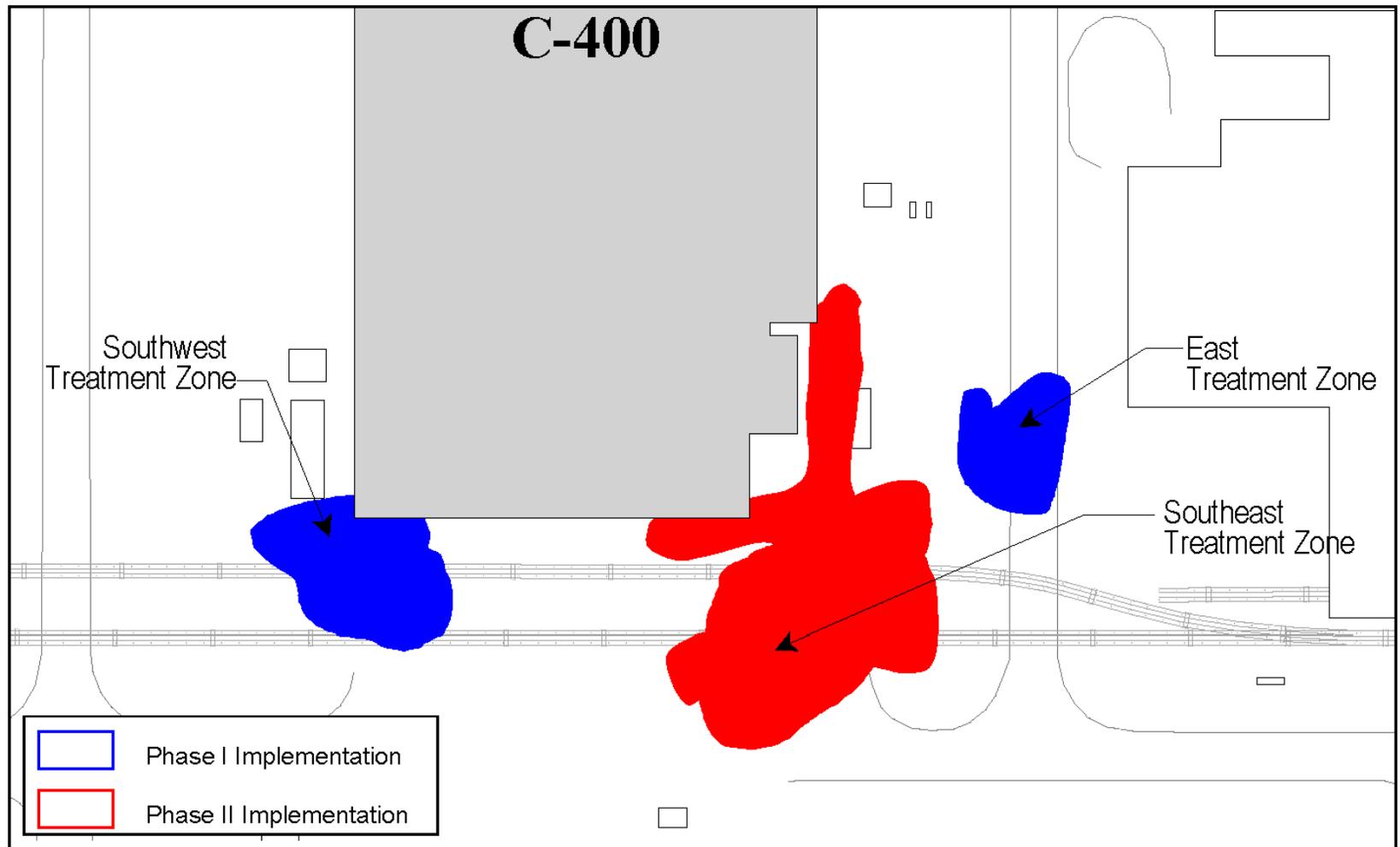
- Largest contamination source is the C-400 Cleaning Building, located near the center of the plant
- In 2005, DOE signed a Record of Decision to use electrical resistance heating to vaporize TCE, which then will be collected by vacuum pumps

C-400 TCE Source Reduction

Cross Section of Conceptual Design for the Paducah Site



C-400 TCE Source Reduction



Here you see the highest concentrations of TCE on the site. We will be treating the area in two phases. The blue zones are Phase, I which is now under construction.



C-400 TCE Source Reduction



- Drilling and electrode insertion began December 10, 2008

Workers prepare to hoist an electrode to place in a boring at C-400.



C-400 TCE Source Reduction



- Phase I borings and electrode installation scheduled for completion in mid-April 2009
- Remainder of treatment system scheduled for completion in early May 2009
- Phase I operations scheduled to begin early June 2009

Construction

Testing Operations

An electrode is inserted into a boring during mid-December 2008.



Soil and Rubble Areas – Background



- In November 2006, technicians performing a routine survey of DOE property discovered elevated levels of contamination in soil piles outside the security fence

One of the soil areas on the east side of the plant.

Soil and Rubble Areas – Background



A technician takes a soil sample.

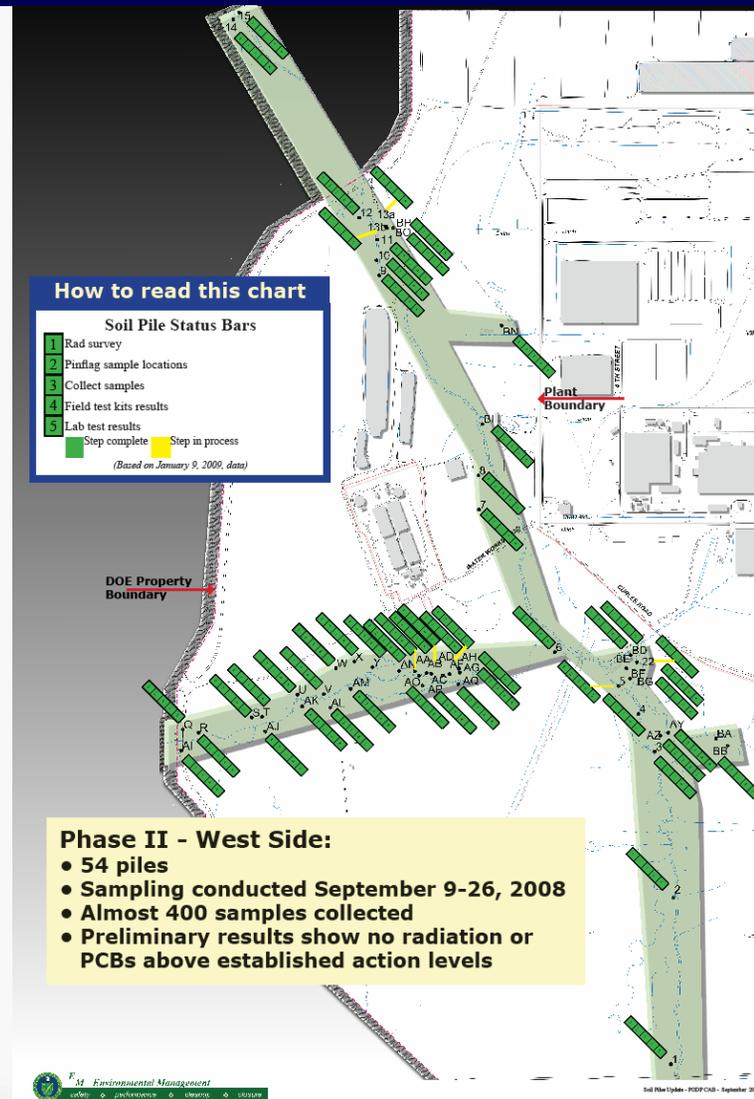
- Piles resulted from maintenance actions, such as creek dredging, in the 1970s and 1980s
- 104 soil areas and 51 concrete rubble areas
- Immediately upon discovery, DOE began a surveying effort to evaluate risk
 - 1st area sampling completed July 2007
 - Remaining areas divided into 3 phases for additional sampling



West Side Soil Pile Sampling

West Side Sampling

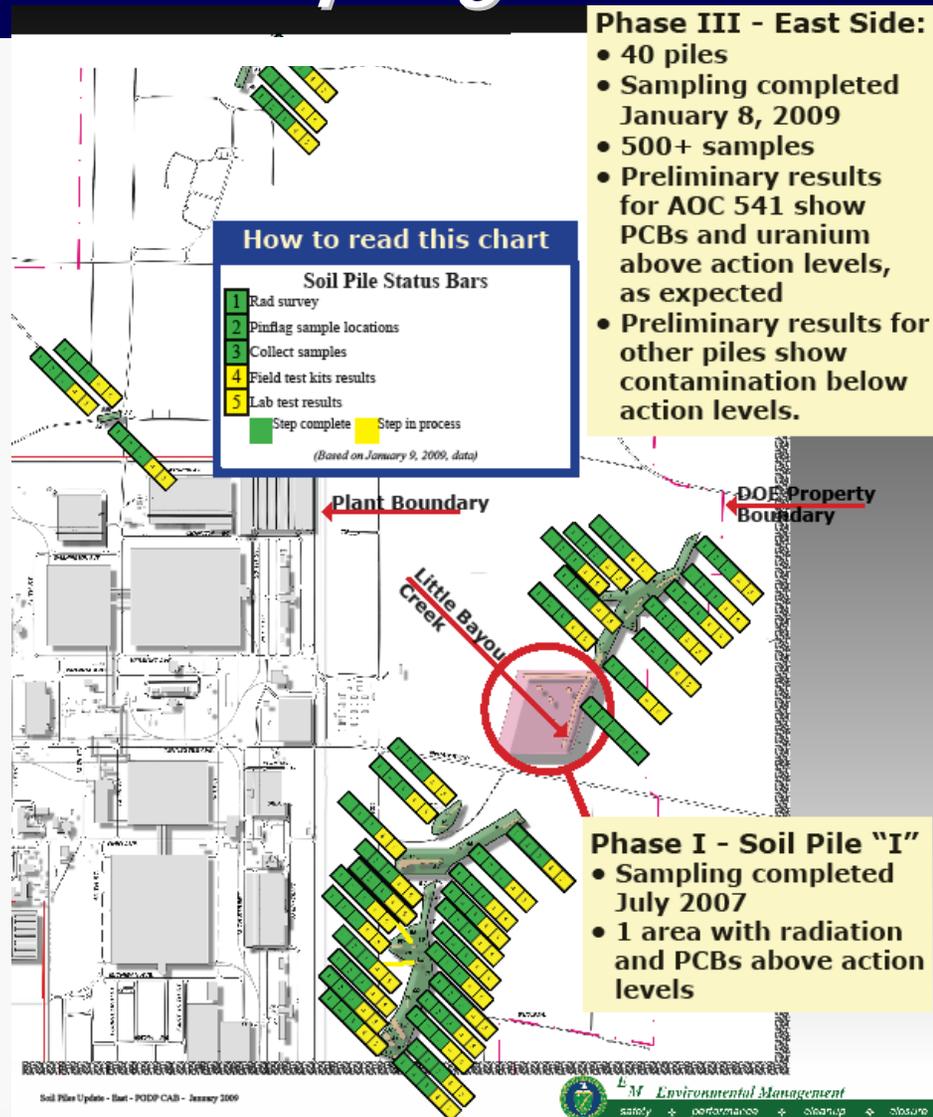
- West side soil pile sampling completed September 2008
 - Site Evaluation Report scheduled for February 2009
 - Results show no PCBs
 - Results show uranium at or below background level



East Side Soil Pile Sampling

East Side Sampling

- All sampling completed
- Preliminary data currently under review



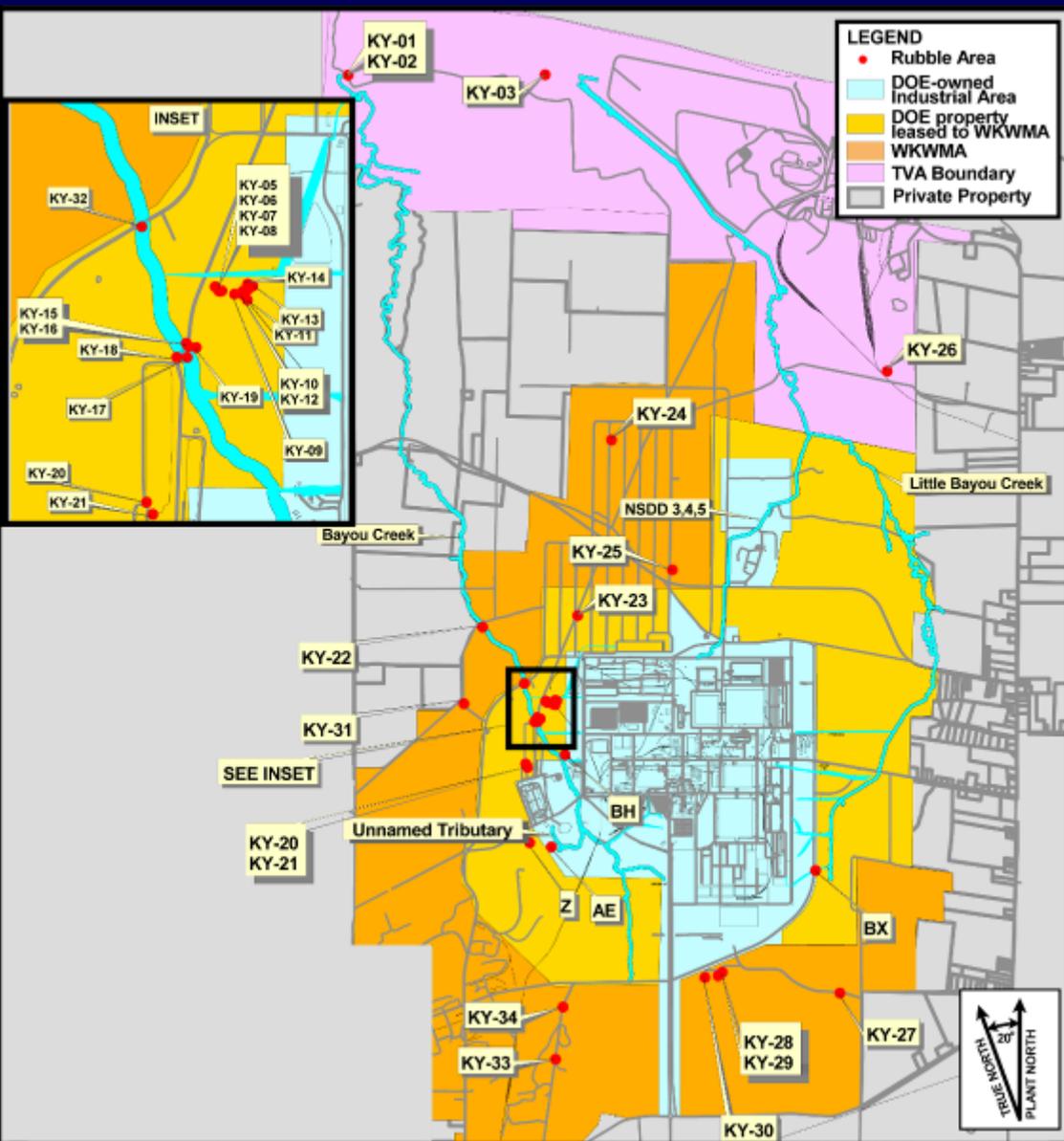
Phase III - East Side:

- 40 piles
- Sampling completed January 8, 2009
- 500+ samples
- Preliminary results for AOC 541 show PCBs and uranium above action levels, as expected
- Preliminary results for other piles show contamination below action levels.

Phase I - Soil Pile "I"

- Sampling completed July 2007
- 1 area with radiation and PCBs above action levels

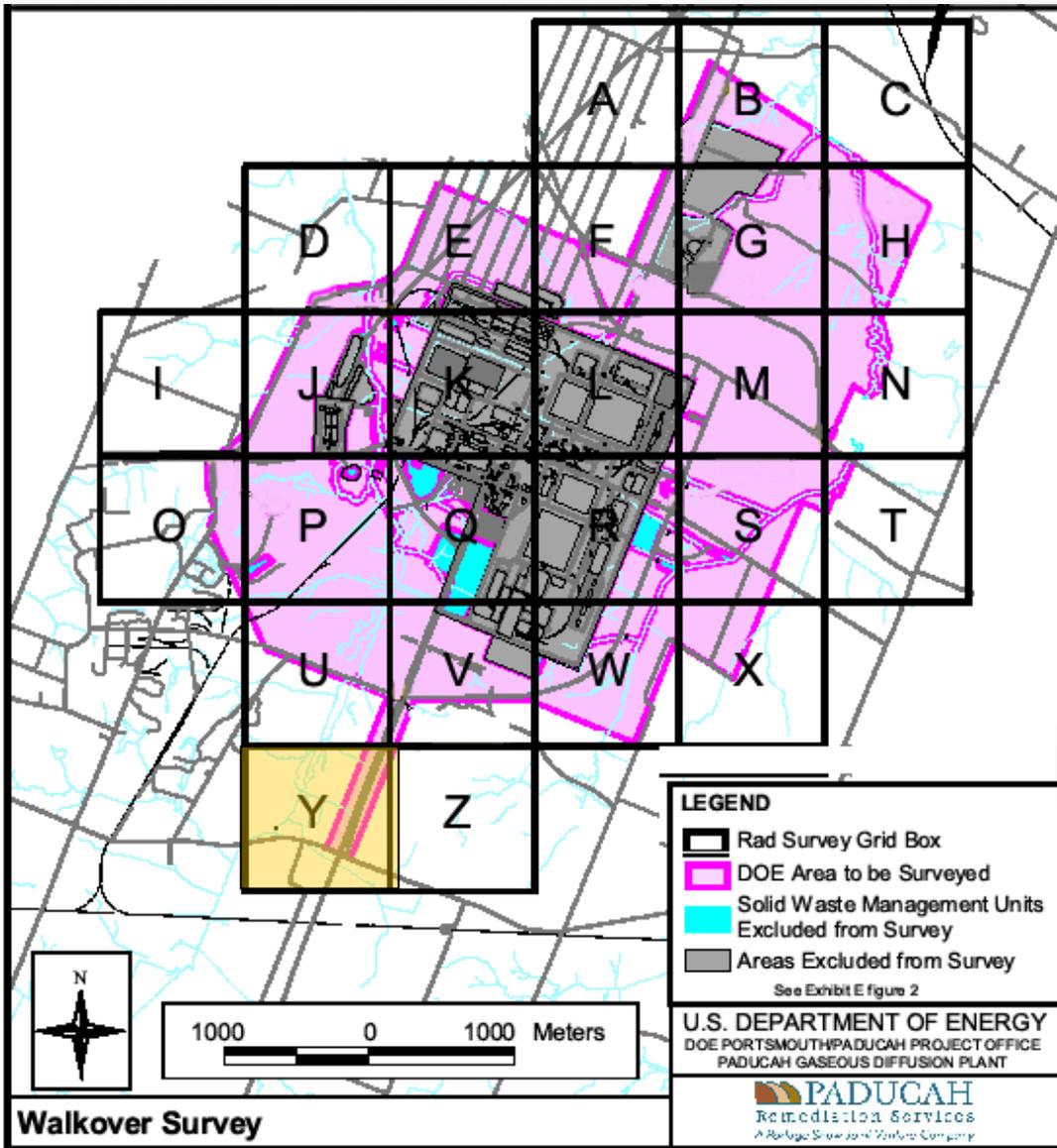
Rubble Area Sampling



- Final Sampling and Analysis Plan approval from KY and EPA received December 2008
- Sampling to begin late January or early February 2009

Site Walkover Radiological Survey

- Survey began January 7, 2009
- Completion scheduled April 2009



Grid completed



Site Walkover Radiological Survey



- Radiological survey will be performed on any area where materials appear to have been placed or removed
- 100% visual inspection of ~2,500 acres

A radiation control technician performs a radiological survey in Grid Y earlier this week.

C-611 M&N Water Tower Demolition



North Tower



South Tower

- 66-year-old towers once used for water storage at Kentucky Ordnance Works
- Later used to support plant fire suppression system
- Demolition scheduled in February 2009
- Metal and concrete being salvaged and reused

Other Environmental Projects

Soils Inactive Facilities

- Developing D2 Action Memorandum in consultation with KY and EPA
- Field start depends on approval of AM & Removal Action Work Plan

Surface Water “Hot Spot” Removal

- Developing D2 Action Memorandum and D1 Removal Action Work Plan
- Field start depends on approval of AM & Removal Action Work Plan

Groundwater Operable Unit

- Southwest Plume D1 Focused Feasibility Study tentatively scheduled for January 30, 2009

Burial Grounds Operable Unit

- Additional sampling to support Remedial Investigation scheduled to begin Spring 2009





DOE Portsmouth/Paducah Project Office