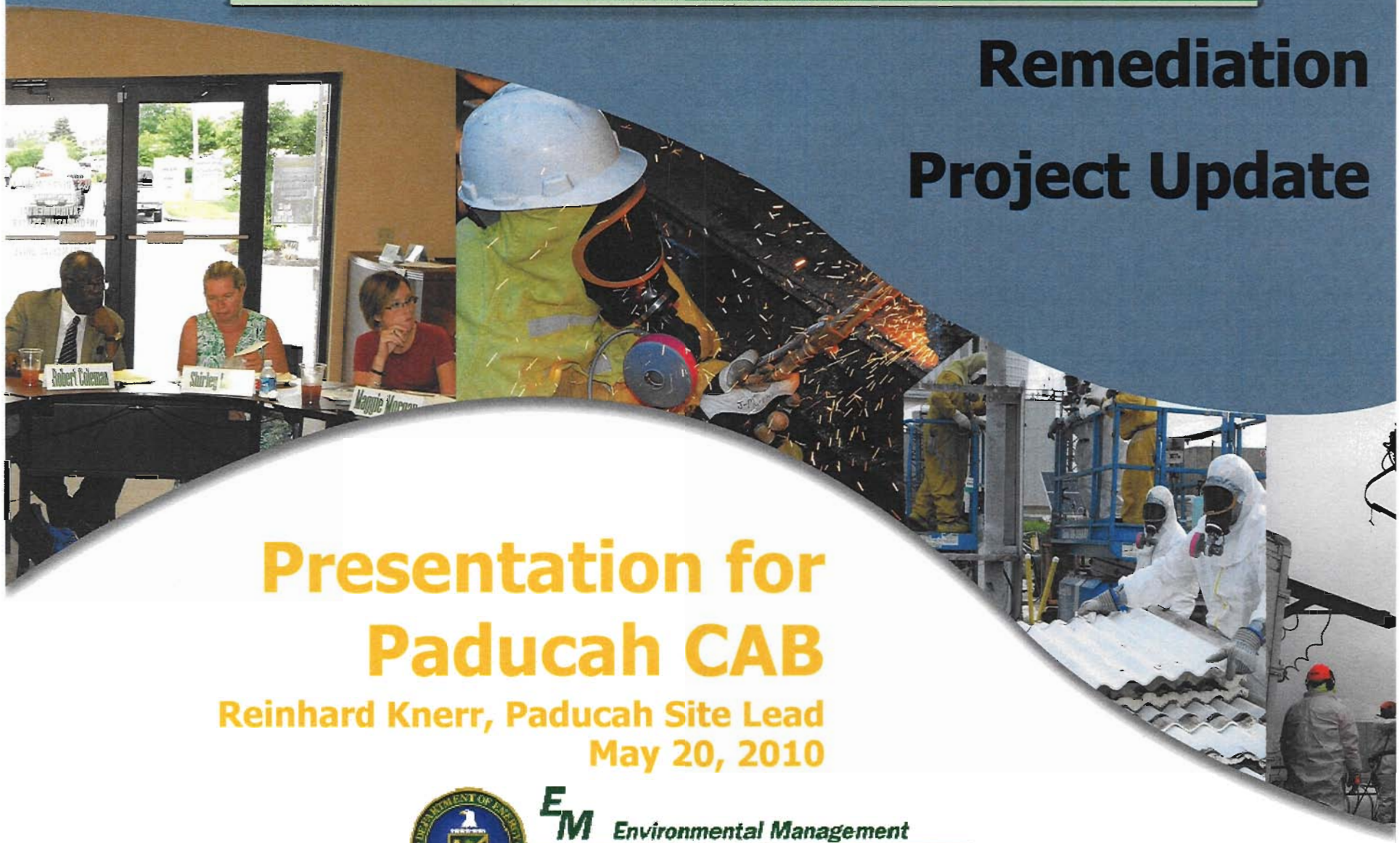
Solving Cleanup Challenges Through Risk Reduction

Remediation Project Update



Presentation for Paducah CAB

Reinhard Knerr, Paducah Site Lead

May 20, 2010

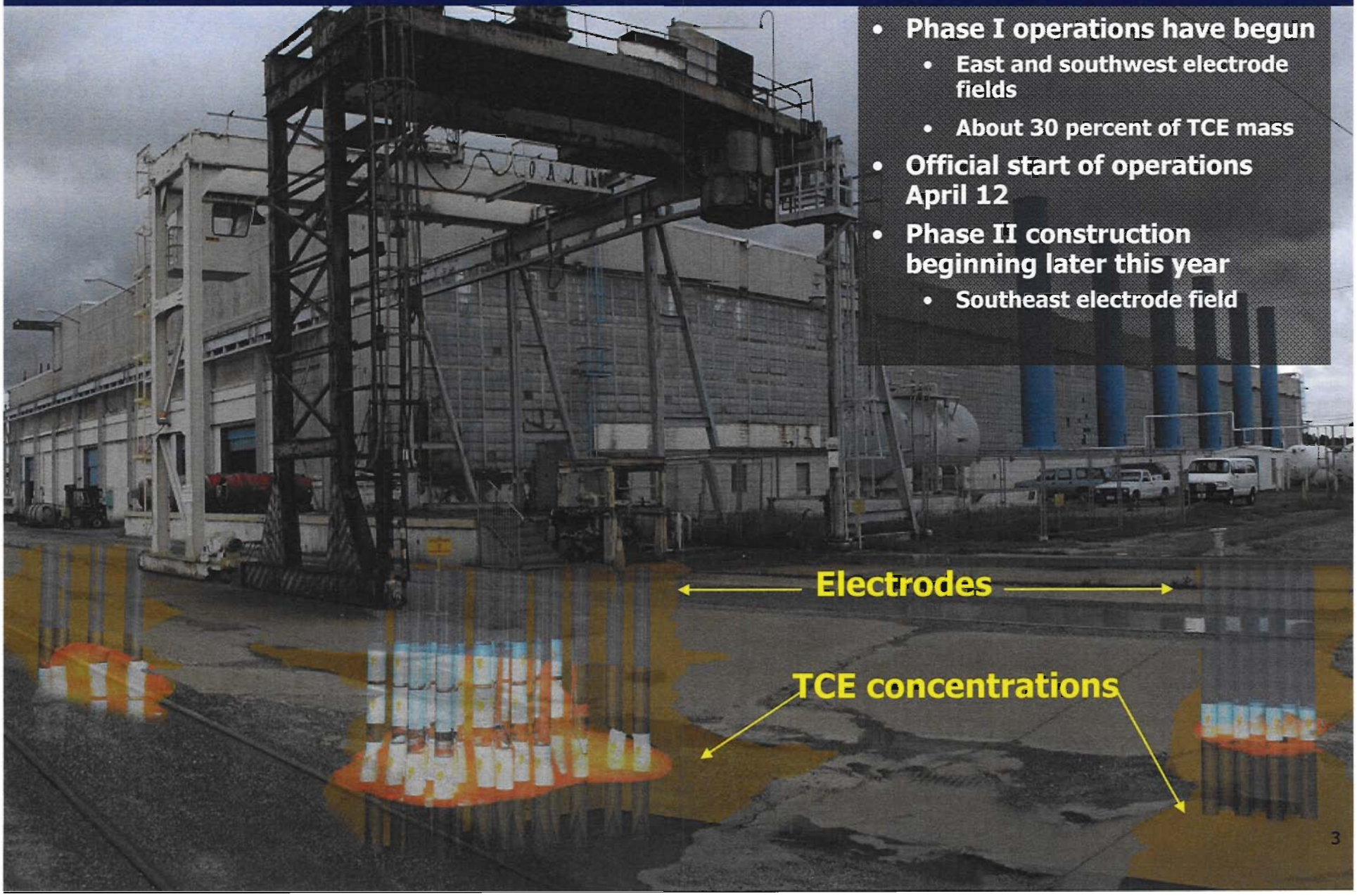
EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

Presentation Highlights

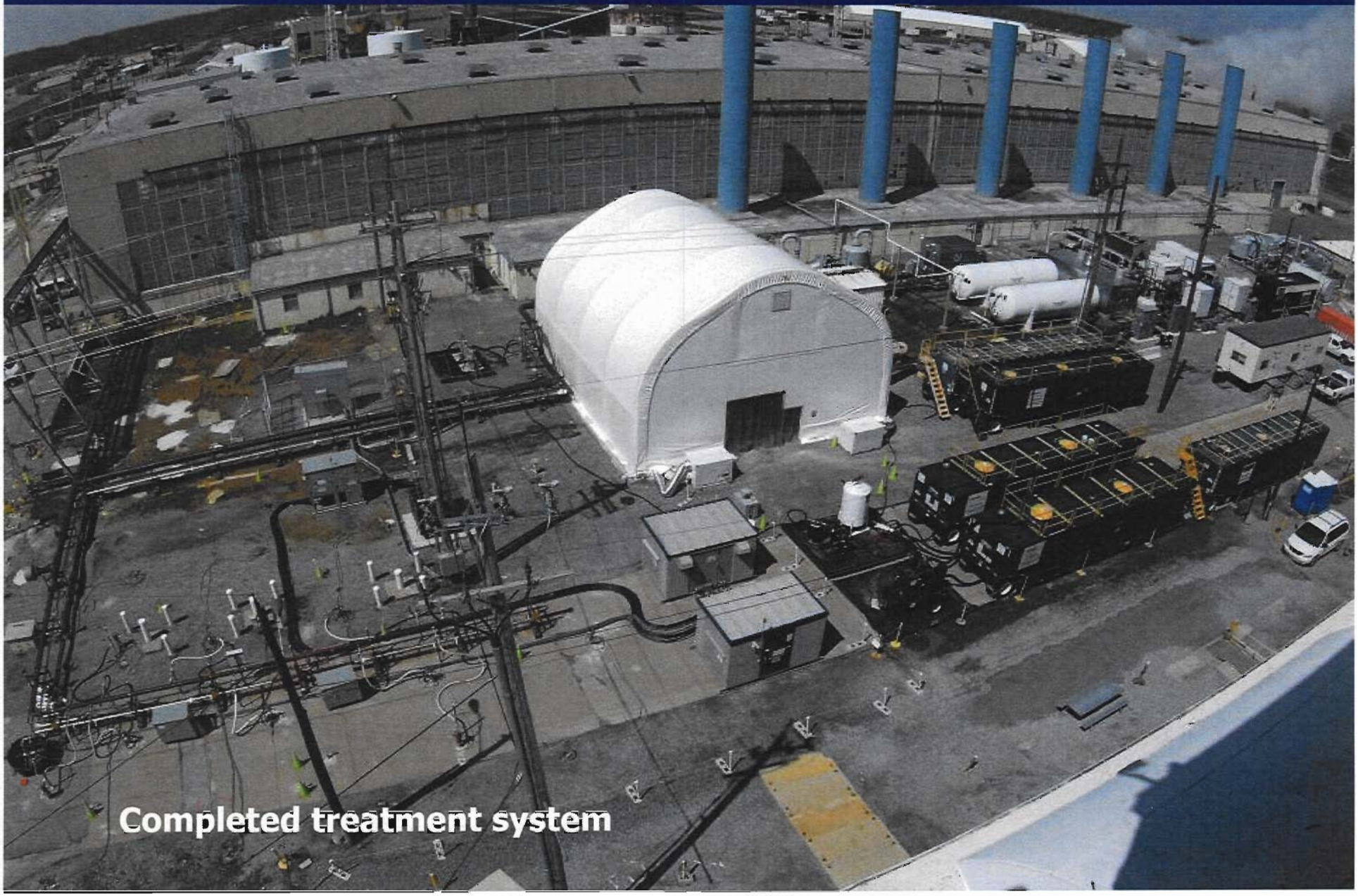
- **Environmental Restoration Projects**
  - C-400 TCE Source Removal
  - Dissolved-Phase Plume
  - Southwest Plume
  - Surface Water "Hot Spot" Removal
  - Soils Remedial Investigation
  - Burial Grounds Feasibility Study
  - CERCLA Waste Disposal Options
- **D&D Projects**
  - C-410 Feed Plant D&D
  - C-340 Metals Plant D&D
  - C-746-A East End Smelter D&D
- **Public Involvement**
  - State and Tribal Working Group
  - EcoFair 2010

C-400 TCE Source Removal

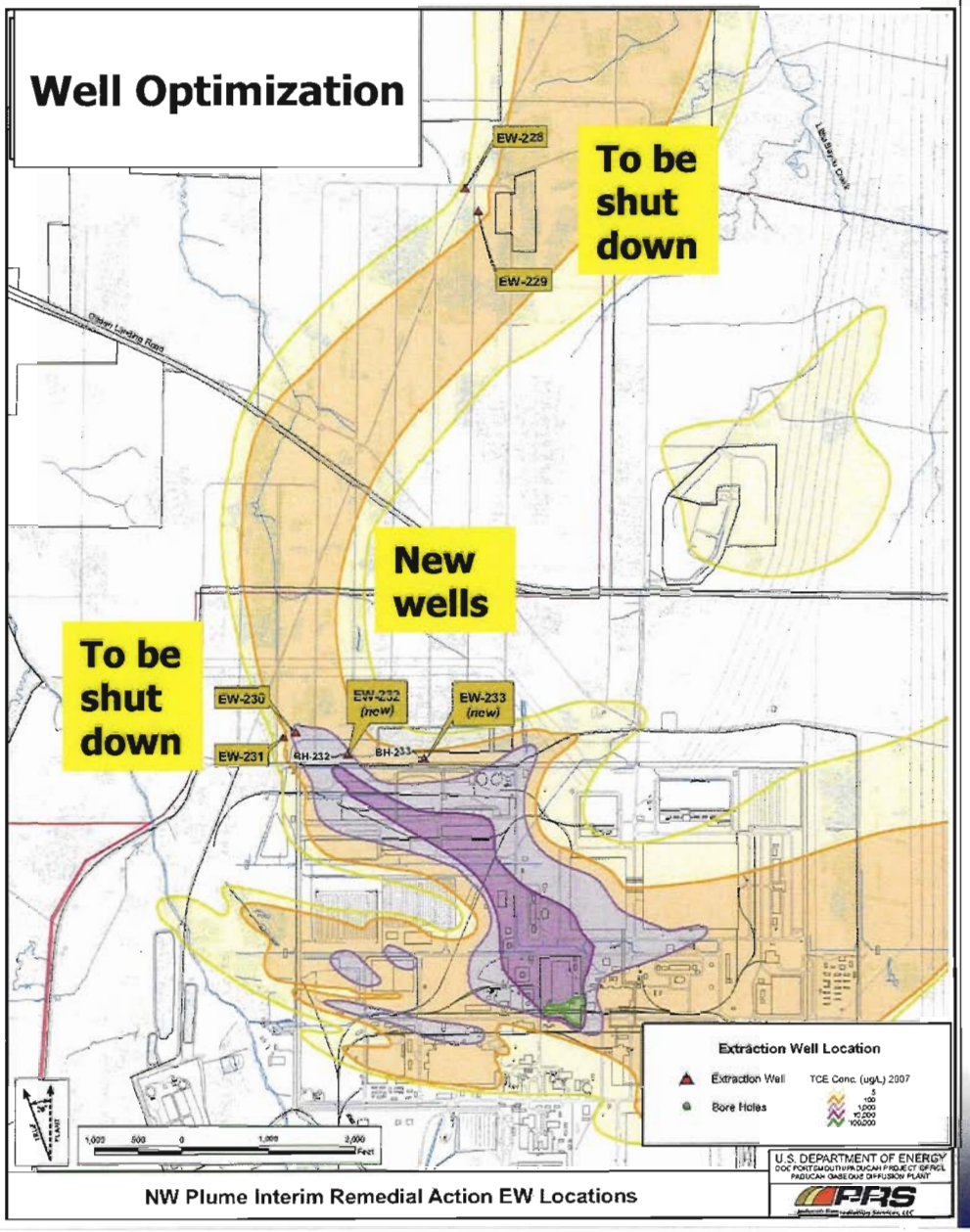


- Phase I operations have begun
  - East and southwest electrode fields
  - About 30 percent of TCE mass
- Official start of operations April 12
- Phase II construction beginning later this year
  - Southeast electrode field

C-400 TCE Source Removal



Groundwater Projects



NW Plume Interim Remedial Action EW Locations

- **Environmental Monitoring System Upgrade**
  - Completed installation/initial sampling of 73 of 79 new wells
  - Working on license agreements for remaining wells
- **Dissolved-Phase Plume**
  - Northwest Plume Optimization
    - 2 new groundwater extraction wells now installed near the fence line to replace existing 4 wells
    - Will enhance system efficiency; goal: remove more TCE mass leaving the fenced area
    - Scheduled for July 2010 startup
  - Dissolved-Phase Scoping
    - DOE, EPA, and Kentucky met last week to continue scoping process

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Groundwater Projects

Installing new extraction wells for Northwest Plume Pump-and-Treat

- **Southwest Plume**
  - Issued D2 Focused Feasibility Study in January 2010
  - Issued D1 Proposed Plan in February 2010
  - Informal dispute process invoked by DOE on D2 FFS on April 12, 2010
  - FFA parties working to resolve
    - Affected work includes D2 Proposed Plan; D1 ROD; D0 RDWP; D0 RDR 30% Design

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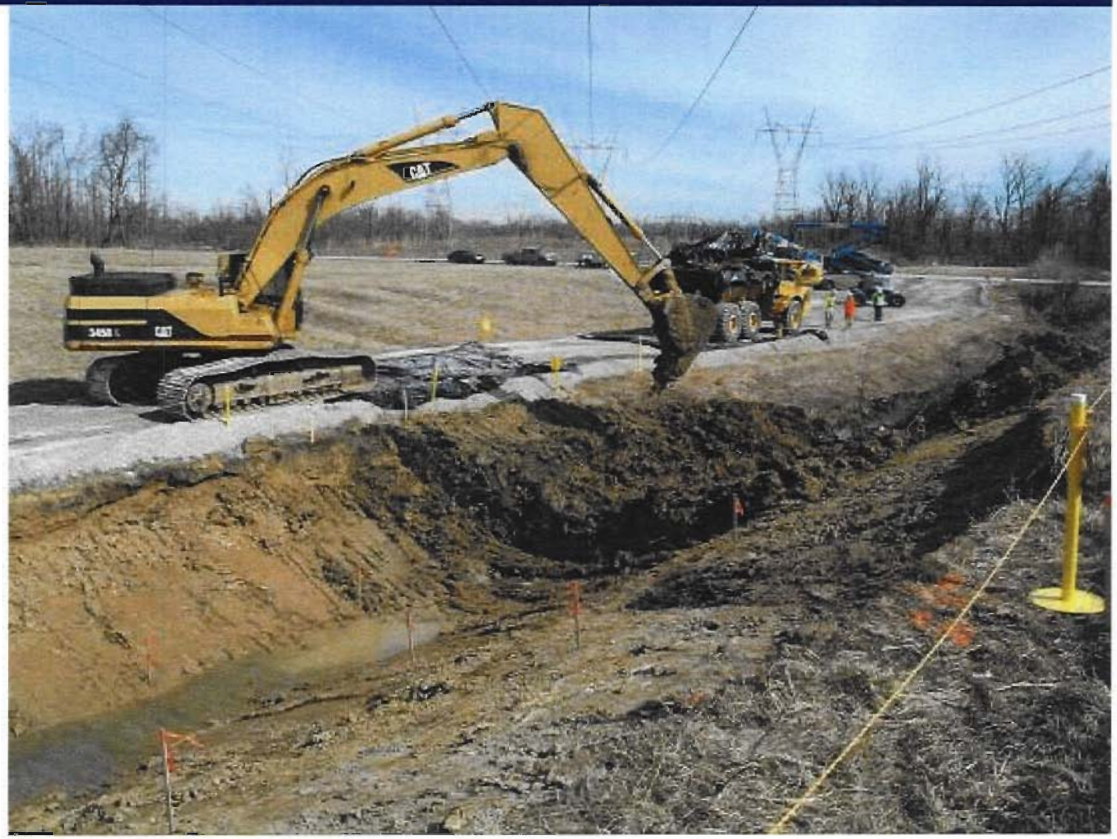
Surface Water

"Hot Spot" Removal

- Removed ~16,000 yd^3 of sediments from internal and outfall ditches
- Approximately 80 percent complete
- Project scheduled for completion in June 2010
- Excavated areas are backfilled and restored

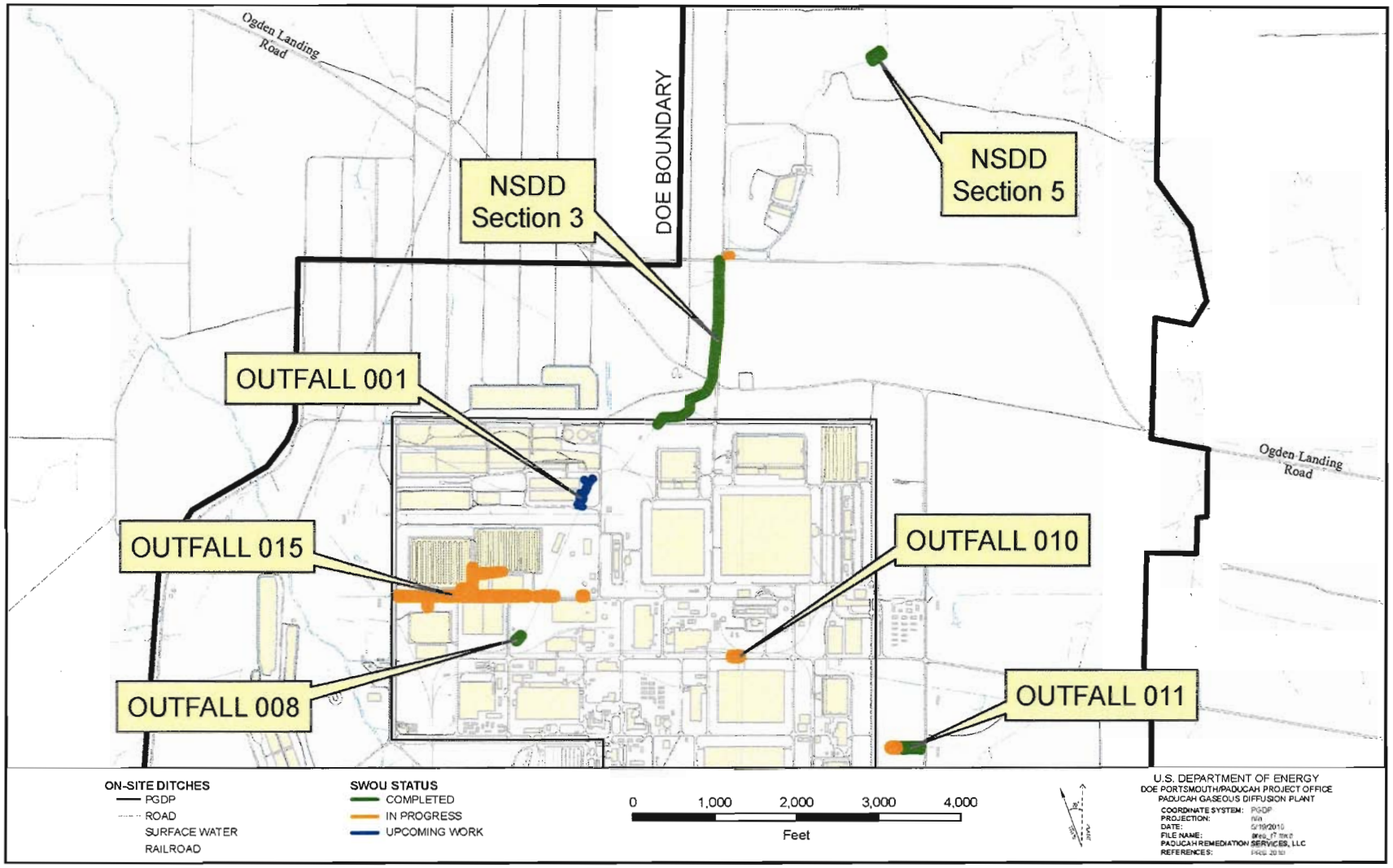
Off-Site Action

- RI/FS scoping has begun
- Also scoping ecological risk assessment with EPA and KY



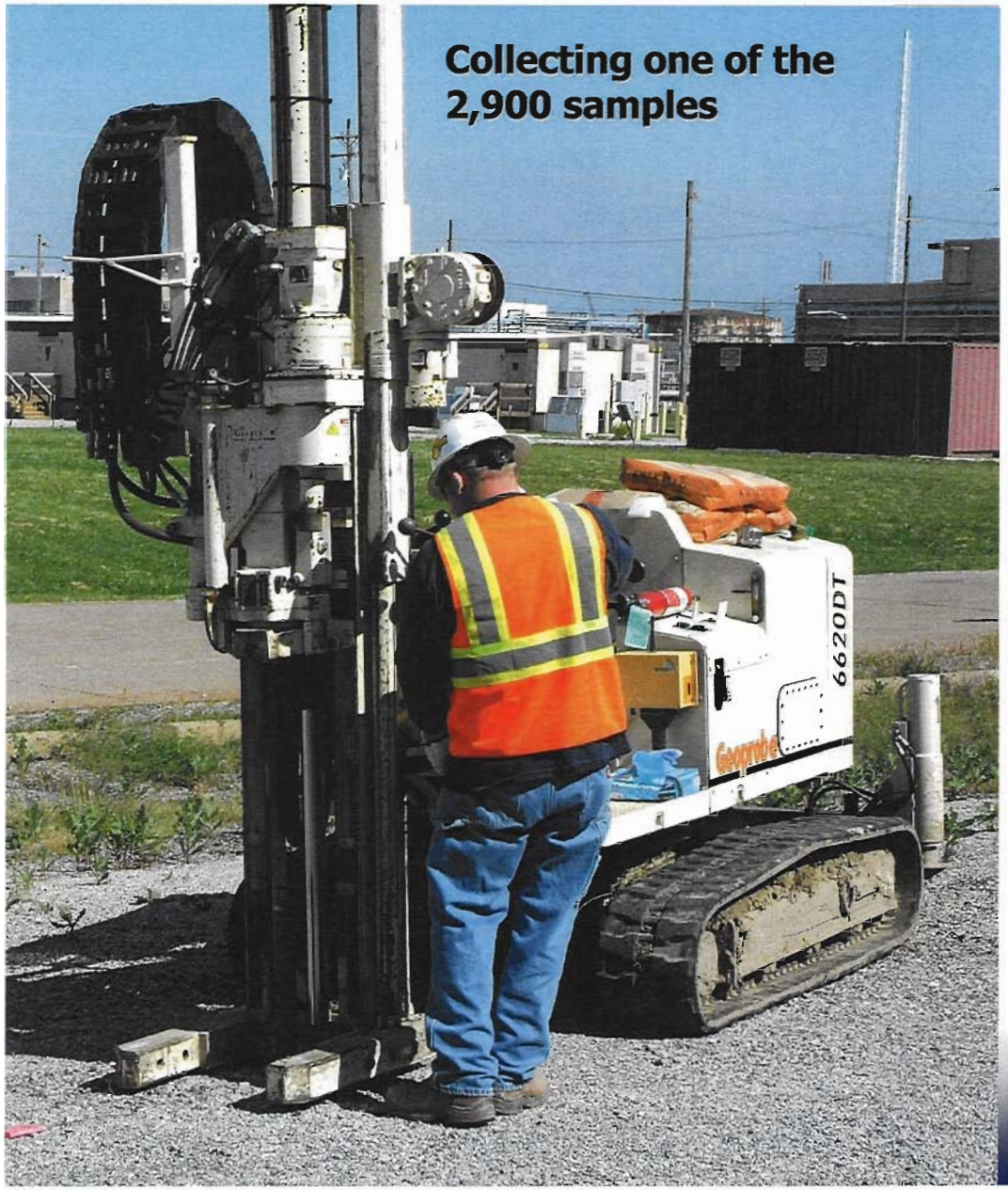
Contaminated soils are removed from the ditch leading to Outfall 015

Surface Water



Surface Water Operable Unit Removal Action

Soils Remedial Investigation



Collecting one of the 2,900 samples

- Responding to KY/EPA comments on D2/R1 Soils RI Work Plan
  - Plan due May 28
- Sampling began in March 2010
- ~2,900 samples to be collected
- More than 1,200 collected to date
- Completion expected by June 30, 2010

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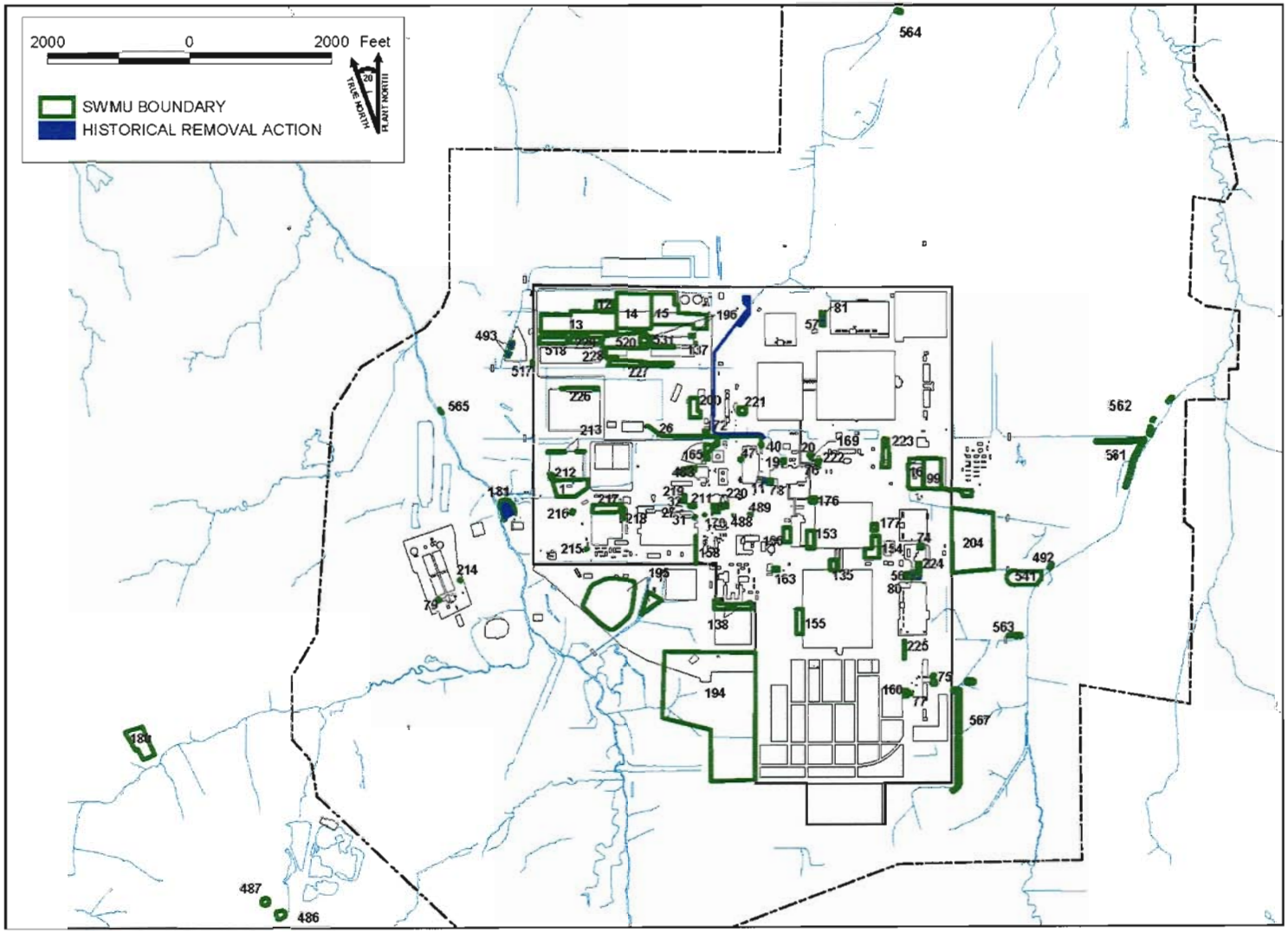


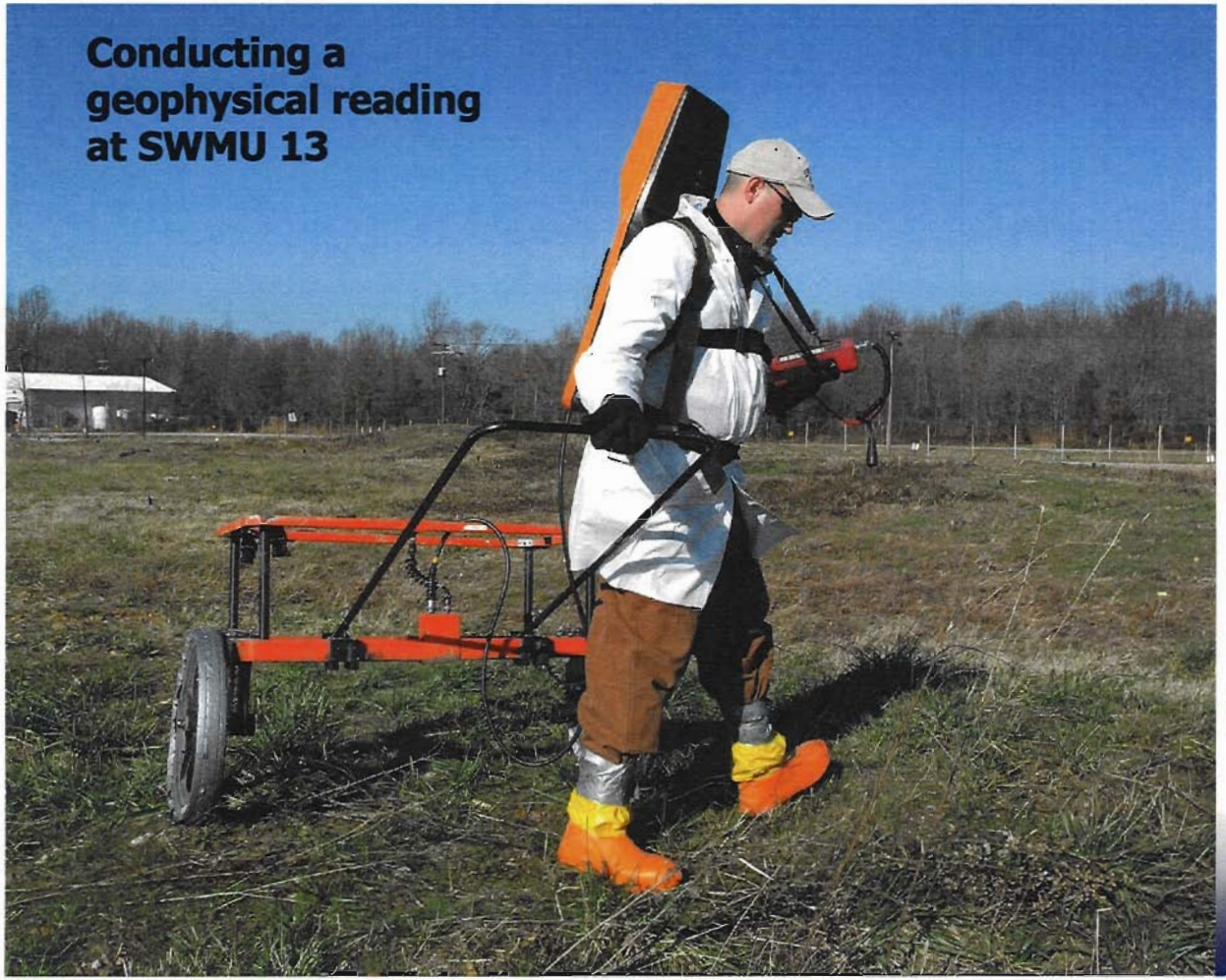
Figure 1.2. Location of SWMUs/AOCs

Figure No. \SoilsOU\SOU_SWMUsR4.apr
DATE 03-11-10

Other Environmental Projects

Burial Grounds Feasibility Study

- Submitted D1 to EPA/KY on April 28, 2010
- Proposed Plan in development



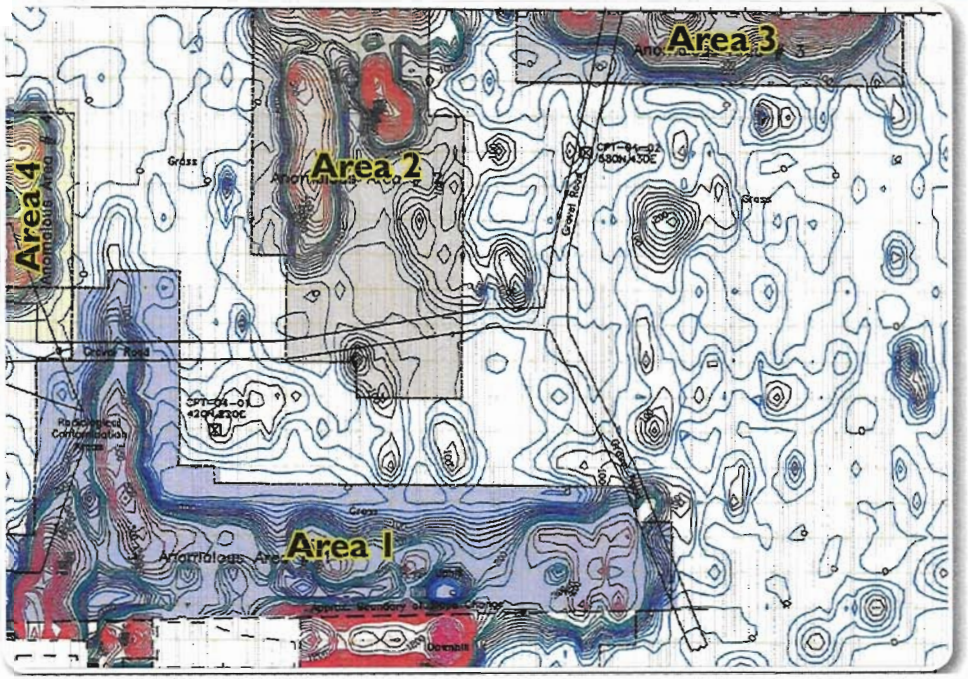
SWMU 13 (burial ground)

- Additional sampling required because of subsurface anomalies detected during BGOU Remedial Investigation
- Investigation scope
  - 17 borings to 18 ft depth
  - 2 composite samples per boring
  - 1 groundwater sample per boring (if groundwater present)
- Work Plan approved by KY/EPA
- Fieldwork scheduled to start in June 2010

Other Environmental Projects

SWMU 4 (burial ground)

- Removal Notification approved by KY/EPA
- Finalizing EE/CA and developing Action Memo



SWMU 4 burial area

CERCLA Waste Disposal Options

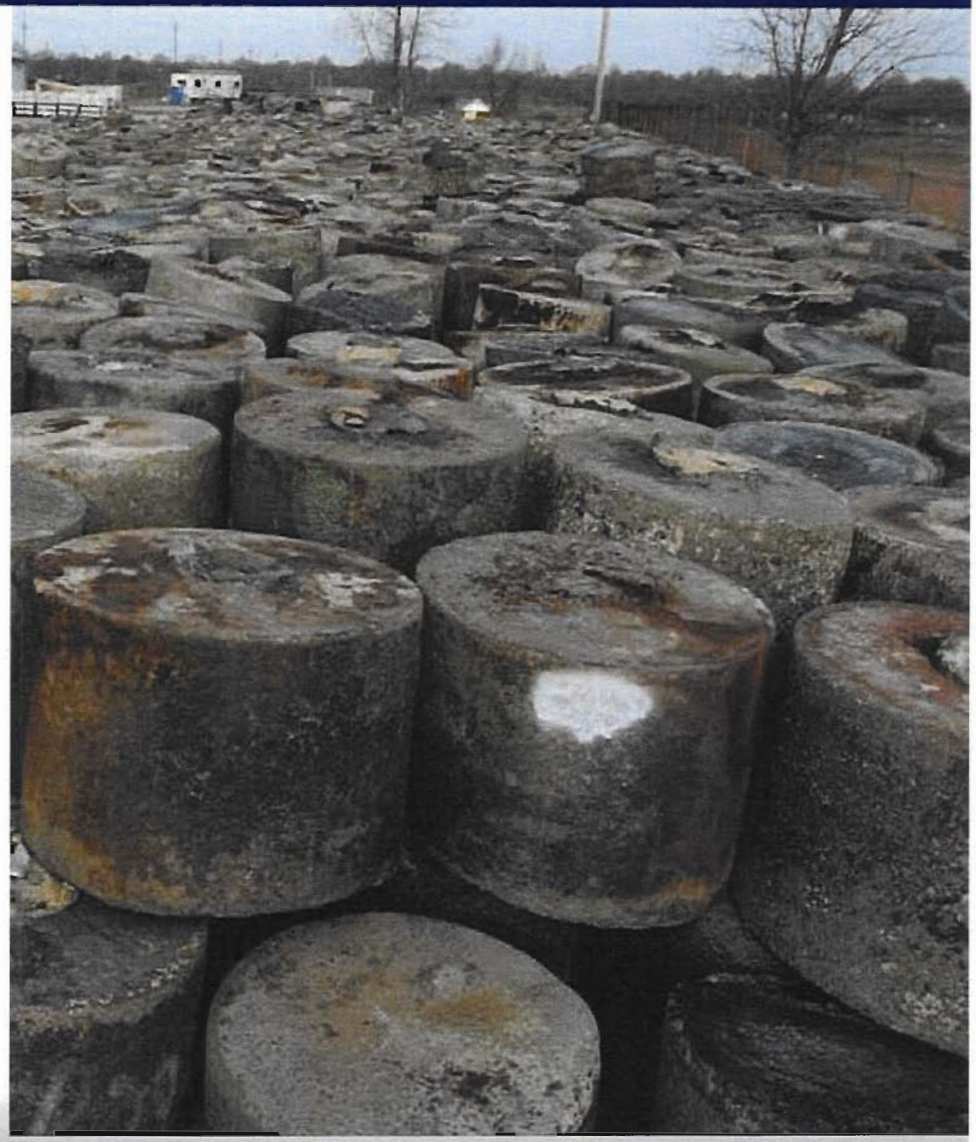
- Meeting with Kentucky regulators in June to discuss waste disposal options
- Finalizing RI/FS
- Public meeting to be scheduled

Contract Transition

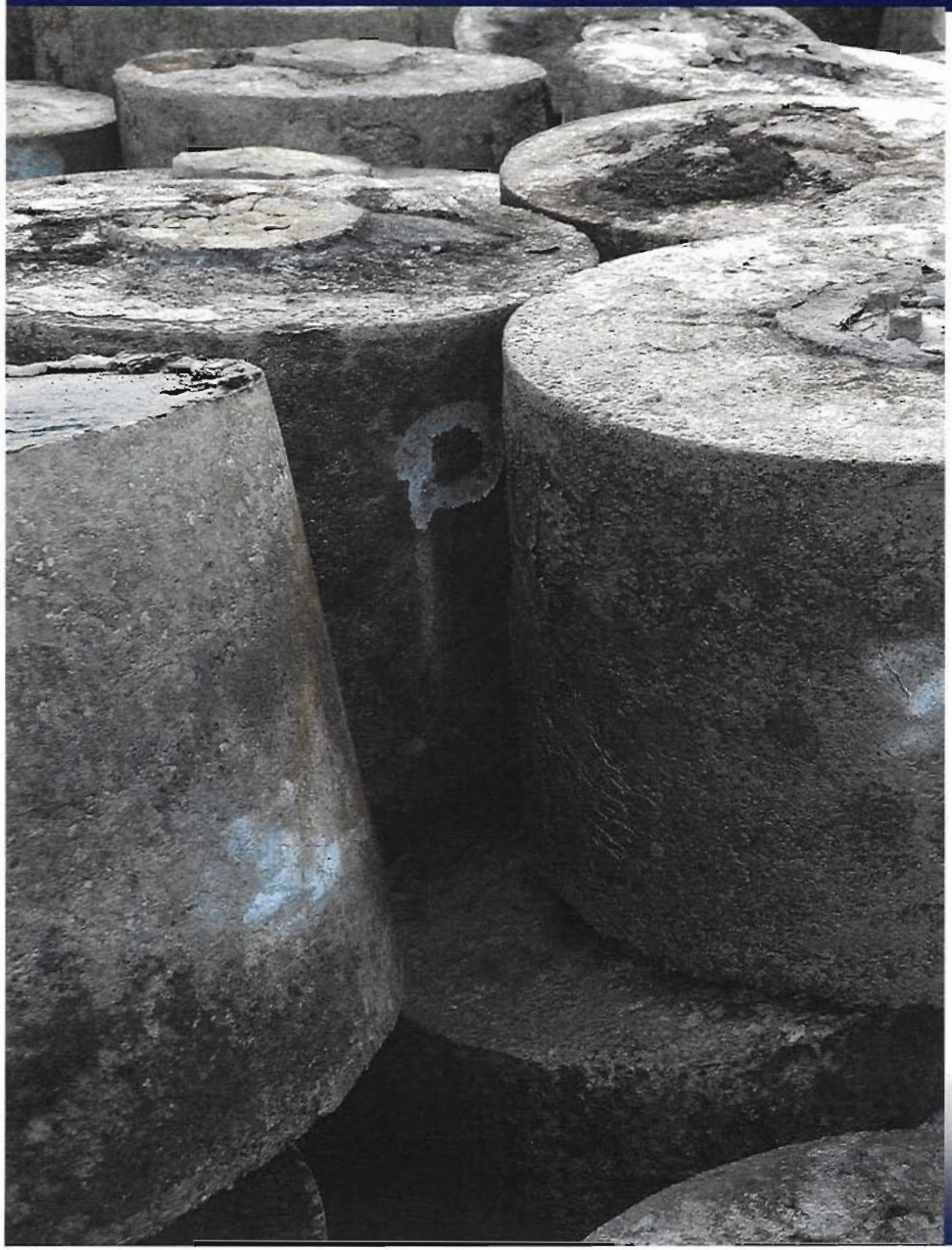
- LATA Environmental Services of Kentucky, LLC, awarded remediation contract
- Transition from PRS has begun
- Transition scheduled for completion late July

Nickel Request for Proposals

- 9,700 tons of nickel at Paducah
- Successful bidder must
  - Have DOE authorization to possess and process classified material
  - Declassify and decontaminate the nickel in an NRC-licensed facility
  - Start processing the nickel within 12 months of award
  - Nickel must be decontaminated to meet IAEA clearance levels
  - RFP responses are due July 28, 2010



Nickel Request for Proposals



- **Award decision factors**
  - **Technical approach and domestic and international controls 40%**
  - **Extent to which end use achieves DOE missions 25%**
  - **Environmental, safety, and health/quality assurance 20%**
  - **Experience and past performance 15%**

Accelerated D&D

C-410 Feed Plant

- Removed 4 of 19 cold traps once used to freeze UF_6 for collection into cylinders
- Hazard removal and elevator refurbishment are continuing

Hazard removal inside C-410

Accelerated D&D

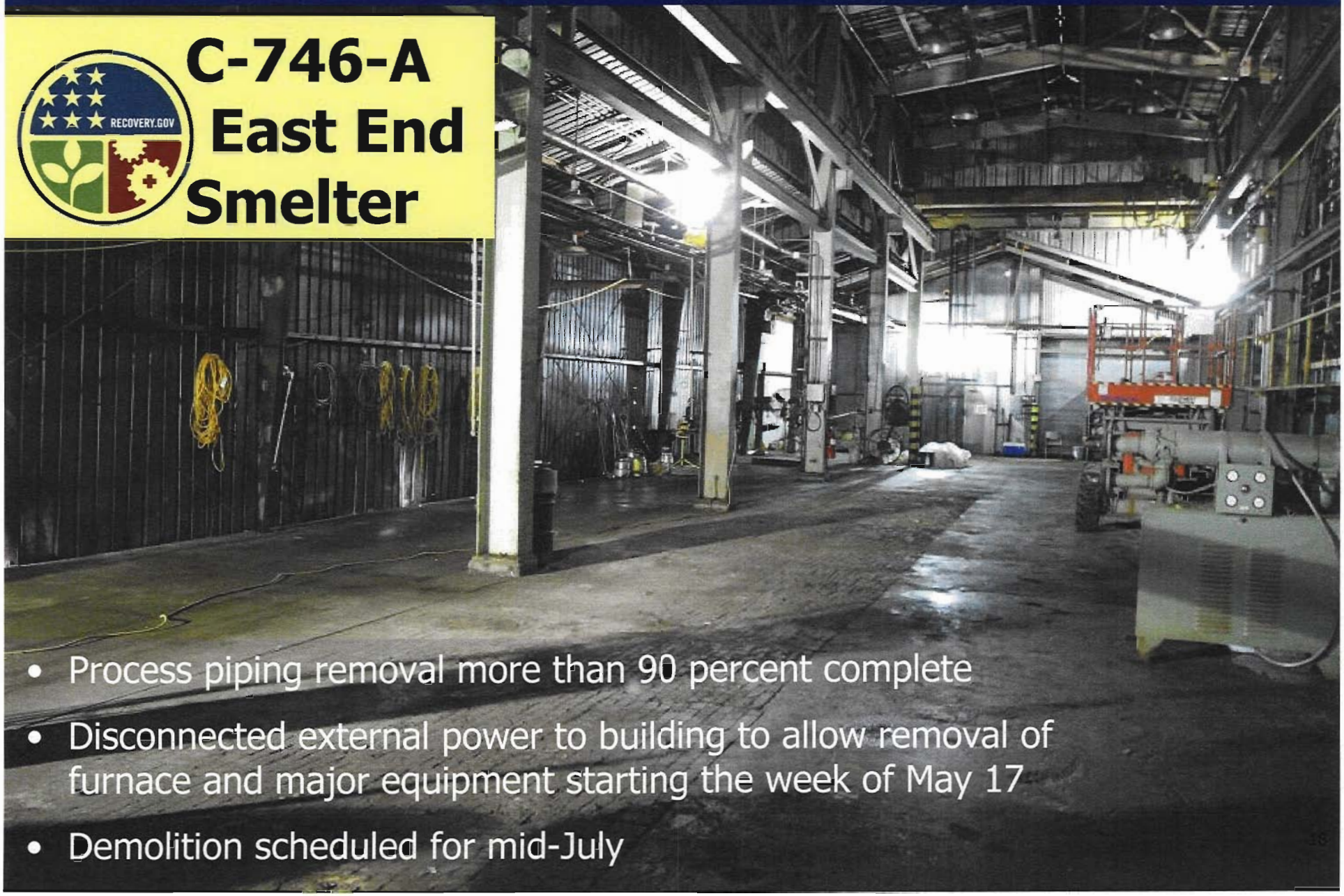
C-340 Metals Plant

- Asbestos abatement approximately 70 percent complete
- Utility systems (air, water, nitrogen lines, steam lines, sprinkler systems) are being drained
- Loose material removal completed

Removing equipment inside C-340

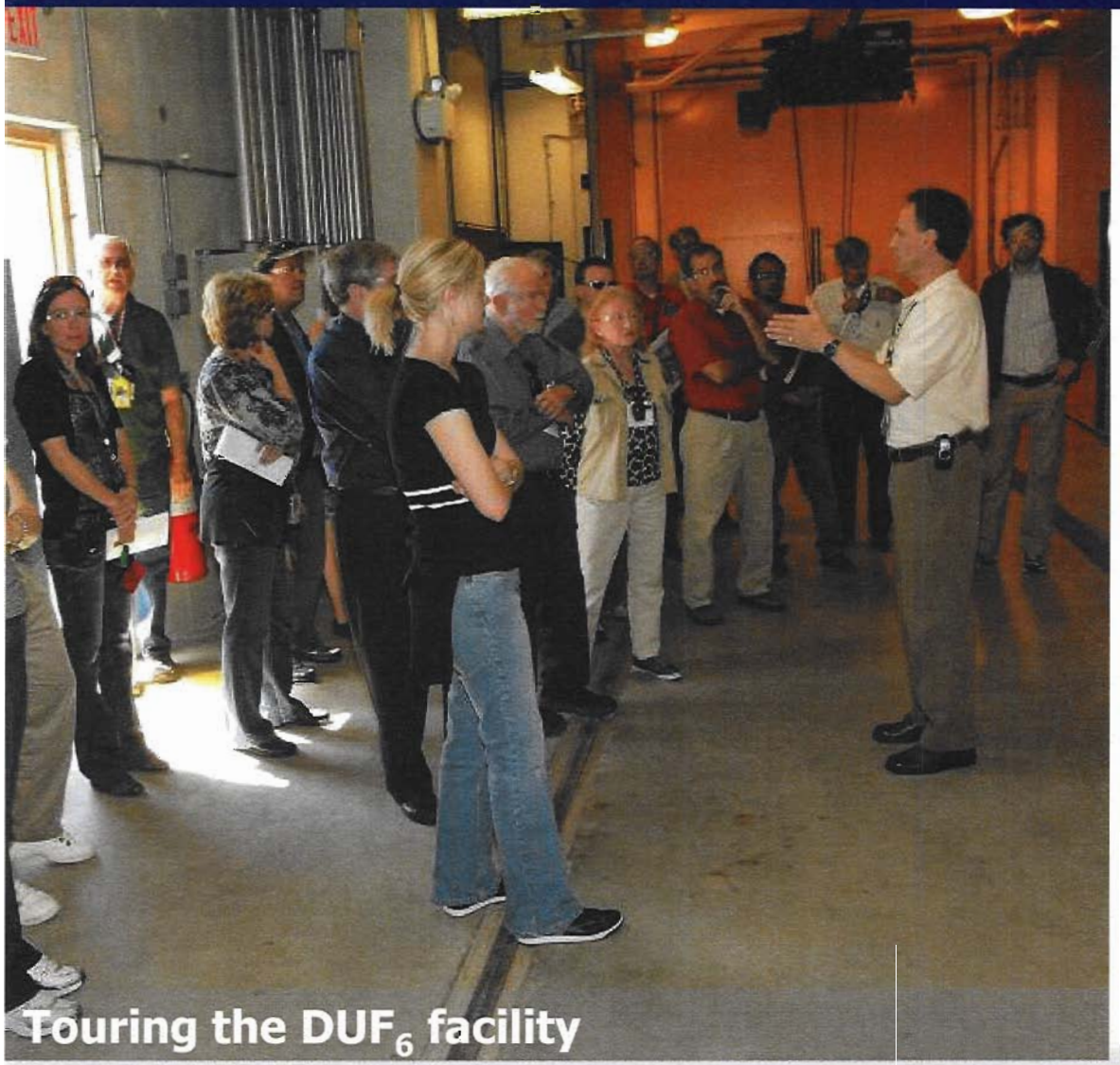
Accelerated D&D

C-746-A East End Smelter



- Process piping removal more than 90 percent complete
- Disconnected external power to building to allow removal of furnace and major equipment starting the week of May 17
- Demolition scheduled for mid-July

Public Involvement – STGWG


Touring the DUF_6 facility

- State and Tribal Government Working Group (STGWG) visited Paducah in early May
- STGWG works with DOE on remediation issues Representatives from the National Governors Association and the National Council of State Legislatures also attended
- Nearly 40 members toured Paducah Site, including stops at
  - C-400
  - DUF_6 Conversion Facility
  - USEC
  - C-410

Public Involvement – EcoFair 2010

Duck banding demonstration by Kentucky Fish and Wildlife

- Held May 11-12 in West Kentucky Wildlife Management Area
- Sponsored by CAB and DOE

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Public Involvement – EcoFair 2010

CPR training by PRS.

- Approximately 500 6th graders attended from 4 McCracken County middle schools

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Public Involvement – EcoFair 2010

Paducah Power solar oven demonstration

Public Involvement – EcoFair 2010

- Presenters included
  - Kentucky Fish & Wildlife
  - Paducah Remediation Services
  - Murray State University
  - Paducah Power System
  - Greater Paducah Sustainability
  - U.S. Coast Guard

DOE Portsmouth/Paducah Project Office