

PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

111 Memorial Drive • Paducah, Kentucky 42001 • (270) 554-3004 • PaducahCAB@bellsouth.net • www.pgdpcab.org

Chair

Rhonda McCorry

Chair-Elect

Chad Kerley

Board Members

John Anderson

Allen Burnett

Barry Eadens

Ricky Ladd

Shirley Lanier

Bobby Lee

Linda Long

Janet Miller

Gary Reside

John Russell, Ph.D.

Jim Smart, Ph.D.

**Deputy Designated
Federal Official**

William Murphie, DOE
Ex-officio member

Ex Officio Members

Mike Hardin
Fish and Wildlife Resources
(Kentucky)

David Williams
Environmental Protection
Agency

Eric Scott
Radiation/Environmental
Monitoring Section
(Kentucky)

Jon Maybriar
Division of Waste Management
(Kentucky)

DOE Federal Coordinator

David Dollins

*Additional information
about contacting board
members directly can be
obtained by contacting
the board office at
(270) 554-3004.*

Tentative Agenda for the July 21, 2005 Meeting:

5:30

Informal discussion

6:00

Call to order, introductions

Review of agenda

Approval of May minutes

Approval of June minutes

DDFO's Comments

-- 20 minutes

Federal Coordinator Comments

-- 5 minutes

Ex-officio Comments

-- 10 minutes

Public comments and questions

-- 10 minutes

Task Forces/Presentations

-- 60 minutes

- Waste Disposition Task Force
 - 3D Model Presentation
 - Burial Grounds RI/FS Review
- Water Quality Task Force
- Long Range Strategy/Stewardship Task Force
 - DUF6 Project Overview
- Community Outreach Task Force

Public comments and questions

-- 10 minutes

Break

-- 10 minutes

Administrative Issues

-- 10 minutes

- Review of Workplan
- Review Next Agenda

Review of Action Items

-- 5 minutes

Subcommittee Reports

-- 15 minutes

- Executive Committee
 - Chairs Meeting Recap

Final Comments

Adjourn



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Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes July 21, 2005

The Citizens Advisory Board (CAB) met at the CAB office in Paducah, Kentucky July 21, 2005, at 6 p.m.

Board members present: John Anderson, Barry Eadens, Chad Kerley, Bobby Lee, Linda Long, Rhonda McCorry, Janet Miller, John Russell, and Jim Smart

Board members absent: Allen Burnett and Shirley Lanier

Ex Officio members and related regulatory agency employees present: Jon Maybriar, Kentucky Division of Waste Management; David Williams, Environmental Protection Agency; Doug Dawson, Kentucky Department Fish and Wildlife Resources; Stephanie Brock and Eric Scott, Radiation Health Branch

Deputy Designated Federal Official present: Rachel Blumenfeld

DOE Federal Coordinator present: David Dollins

DOE-related employees present: Jeannie Brandstetter, Tracey Brindley, Kim Crenshaw, Jim Ethridge, Greg Felts, Bruce Ford, Bob Giroir, Lester Hurst, Steve Kay, Adam Locke, Scott Smith, Glenn VanSickle, and John Young

Five members of the public attended the meeting.

Agenda

Kay asked for proposed modifications to the agenda. Kerley said the Depleted Uranium Hexafluoride (DUF₆) Conversion Facility project overview is postponed until August. McCorry asked to remove the chairs meeting recap. **The Board adopted the modified agenda by consensus.**

Minutes

Kay asked for proposed modifications to the draft May minutes. There were none. **The Board approved the minutes as submitted by consensus.** Kay asked for proposed modifications to the draft June minutes. There were none. **The Board approved the minutes as submitted by consensus.**

Deputy Designated Federal Official's Comments

Progress of the Paducah Project

Blumenfeld reported June progress:

- Swift & Staley Mechanical Contractors Inc. assumed responsibility for infrastructure on June 27, 2005. Uranium Disposition Services assumed responsibility for cylinder inspections, maintenance and relocations to improved storage on the same date. The Source Evaluation Board released the amended Request for Proposals (RFP) on June 20, 2005 for the remediation contract. Bidders identified by the Department of Energy (DOE) as being within the competitive range have until Aug. 4, 2005 to submit proposals. For purposes of construction cost proposals, offerors have been instructed to assume a Nov. 1, 2005 contract award date. DOE has notified Bechtel Jacobs Company LLC (BJC) of intent to extend the BJC contract through Jan. 29, 2006.
- Field work began the week of July 18, 2005 on the warehouse foundation at the DUF₆ conversion facility site. The warehouse building contract was awarded July 1, 2005 and completion is expected by February 2006. The facility 90% design work was completed in March and is under review by DOE.
- A recertification from the Nevada Test Site was received on July 15, allowing scrap metal shipments to start by the week of July 25. D-yard field crews continue to downsize scrap; over 3,000 tons are backlogged and ready to be loaded for shipment. On July 19, crews began overpacking 221 SeaLand containers of scrap metal into gondola railcars for shipment to Envirocare. Over 3,100 drums of machine turnings (300 tons) are processed and ready for disposal. Shipments to Envirocare began July 11 and are scheduled to be completed by October of this year.
- The first shipment of UF₄ drums left the site on June 27. Processing has confirmed contents are acceptable for disposal at Envirocare. Final shipments are to be completed within fiscal year 2005.
- A landfill disposal package was approved for 17 roll-off bins of crushed empty drums and debris of outdoor low-level waste. Planning is under way to ship approximately 2,900 ft³ of floor sweep to Envirocare. Data is being reviewed to determine the best disposal method for 5,300 ft³ of soils. The remaining 7,000 ft³ of 24,400 total accelerated outdoor legacy waste inventory is being identified.
- At the C-410 Decontamination and Decommissioning complex, asbestos removal and sampling in Zone 21 has allowed downposting to "clean" status, permitting further work without mandatory respiratory protection. Shipments of low-level waste scrap metal from the HF Tank Farm to Envirocare are complete. The contract to remove the nitrogen facility as a Maintenance Action has been awarded. Comments were received on July 11 from the Environmental Protection Agency (EPA) and the Commonwealth of Kentucky

on the Engineering Evaluation/Cost Analysis (EE/CA) for the Limehouse, Contaminated Item Incinerator, and West End Smelter. DOE will submit the D2 EE/CA by mid-August.

- Drummed material at the DOE Material Storage Area (DMSA) is being removed, sorted, characterized, segregated, and repackaged. 641,000 of 860,000 ft³ of DMSA material has been characterized. 269,000 ft³ has been packaged and 252,000 ft³ has been shipped.
- In Legacy Waste disposition, 1,500 ft³ of Agreed Order waste was disposed of in the C-746-U Landfill and 1,995 ft³ of Agreed Order waste was shipped to Envirocare. DOE continues to process Agreed Order waste for the landfill and Envirocare.
- The Commonwealth of Kentucky approved the C-400 Source Removal Record of Decision (ROD) on July 19. The ROD signature is expected in early August. A Federal Facilities Agreement modification was submitted to the regulators to realign milestones due to extensions for document review. Under the revised milestone schedule, the Proposed Plan will be submitted to the regulators by September 7, 2005.
- Fieldwork began on the Surface Water Operable Unit (SWOU) on June 20, 2005. More than 3,000 screening samples and 400 lab samples will be collected from soils and sediments of the North-South Diversion Ditch (NSDD) Sections 3, 4 and 5, outfalls and internal ditches, and storm sewer discharge water. The Site Investigation/Baseline Risk Assessment will be submitted to the regulators during the Summer of 2006.
- 88 tons of waste went to the C-746-U Landfill in June. On July 6 Kentucky withdrew modifications for S, T, and U landfills, including the leachate facility, due to internal procedural issues. Re-issuance of the permit modification is expected following completion of the comment period. Completion of the leachate treatment facility is now anticipated in September 2005.
- On June 30, the Burial Grounds Operable Unit (BGOU) Remedial Investigation/Feasibility Work Plan was submitted to regulators, who have 90 days to review and comment.

Comments

Russell said the C-400 ROD-signing is a major event and a ceremony should be arranged to which CAB members are invited. Blumenfeld said DOE does want to celebrate the significant event, and the agency will coordinate with EPA and Kentucky when the ROD is ready for signature to ensure the CAB will be invited.

Miller asked how long it would take to dispose of the 3,000 tons of backlogged scrap metal. Blumenfeld said four months.

Lee asked if sampling continued during the recent heavy rainfall periods for the SWOU. Blumenfeld said the sampling is ahead of schedule. Maybriar said according to the SWOU Sampling and Analysis Plan, wet periods are needed for sampling of the storm sewers.

Ex-Officio Comments

Williams said EPA is working with DOE to get the C-400 ROD signed. He said there is a General Accounting Office (GAO) audit of all RODs involving the EPA over the last year to ensure land use control on property records are part of any remedy. All property records will include a clause for future buyers or users notification of the contaminant levels that are present there and that all of these records are maintained. He said amendments are being made for national consistency in land use controls.

Maybriar said Brad Holland is no longer with the Commonwealth of Kentucky; his position remains open.

Scott said the Radiation Health Branch (formerly referred to as the Radiation Control Branch) is attempting to re-establish a presence at the CAB meetings. He said a representative from the branch will be attending all Board meetings. Maybriar said Scott and the branch are very active at the Paducah site.

Public Comments

English said there is a verbal agreement that Active Citizens for Truth (ACT) will receive notification when documents become available for public comment. She said they have not received any notification on any document in over a year. Blumenfeld said Dollins would contact Greg Cook, Bechtel Jacobs, to ensure ACT receives notification of public comment periods.

English said News Channel 6 incorrectly reported that the government is considering the purchase of 120 plant-area homes whose wells are contaminated. In reality, a proposed Senate energy bill requires DOE to “undertake a study of the potential purchase of property of options to purchase property that is located above the plume of contaminated groundwater near the facility site.” English said the news station has not made a clarification or correction, and said she knows plant neighbors who assume their homes will be purchased. She said The Paducah Sun ran an article with the correct information but several of the plant neighbors do not subscribe to the paper. Blumenfeld said the Senate’s Appropriation Bill specifically asked DOE to evaluate the possibility of a property acquisition. She said this bill would be added to the CAB Web site. English said the neighbors need a clarification from DOE to address the confusion. Blumenfeld said she would take English’s request for a clarification from DOE back to the agency for discussion.

English asked Williams if land use controls and deed restrictions will be included on DOE property or private property. Williams said he was referring to the C-400 property. Jurka asked if land use controls would eventually include private property. Blumenfeld said Williams was addressing Records of Decision, which are remedial actions; the Water Policy was implemented as a removal action.

Jurka asked Scott if the Radiation Health Branch has sampled any vegetation at private properties around the plant. Scott said he knew sampling took place in 2000, and possibly more recently. Jurka asked if the data could be made available to ACT. Scott said yes. Jurka said a Garden Vegetable Study was completed by ACT at private properties around the plant and they asked the state to perform additional sampling. She said DOE and the DOE Reading Room were copied on the information. She asked what the DOE Reading Room was and why a copy of private information was sent there. Maybriar said all correspondence is submitted to the DOE reading “file” but it is for state use only and can not be opened via FOIA. He said all personal information in the electronic data base is blacked out. Jurka asked why a copy of that information was given to DOE. Maybriar said DOE, EPA and Ky. Fish and Wildlife all receive a copy of sampling sites.

Eadens asked that Community Outreach work with DOE on the land study information to keep ACT and other community members updated. Blumenfeld said DOE will meet with the CAB when it is determined how the study will be structured.

Task Forces/Presentations

Waste Disposition Task Force

Burial Grounds Operable Unit RI/FS Workplan

Russell provided a presentation on the BGOU RI/FS Workplan and the 3-D modeling used to measure contamination.

Lee said one of the conclusions that should be made is that the landfill could be a source of contamination for the Southwest Plume. Dollins said the Southwest Plume is a potential source. Russell said the next step is for the Water Quality task force to review the data and work with the Waste Disposition task force. Brindley said these models quickly educate the readers on the data that is available. Dollins complimented Williams on suggesting the modeling and believes the modeling has been a very valuable tool.

Water Quality Task Force

Smart said the Water Quality task force discussed the Kentucky Pollutant Discharge Elimination System permit, the state permit which sets limits on contaminant levels in discharge waters to outfalls around the plant. He said the permit expired on April 1, 2003. He said Larry Sowder, state permit writer, has committed to attend the next task force meeting to discuss the proposed revision.

Smart said comments on the Southwest Plume Risk Assessment are due back to the state by August 8. He said a presentation will be provided to the Board in September.

Smart said signing of the C-400 ROD is scheduled for August 2. CERCLA requires that ground must be broken on the project within 15 months after the ROD is signed.

Long-Range Strategy/Stewardship

Kerley said the task force received an update on the DUF₆ project and will provide a presentation to the Board in August.

Kerley said a compact disc is provided in the packet of Oak Ridge's Education Resource Kit for review. He said the task force is still discussing preparing a similar kit for local educators to review and support.

Kerley asked Board members to submit their preference for the site tour to be held on a weekday or a Saturday. He said a letter was in the packet from David Kipping, INEEL Chair, to decide who will attend the September Chairs Meeting in Idaho Falls.

Community Outreach

Eadens said a press release in the packet was sent to six radio stations, 14 newspapers and three TV stations and newspapers for membership recruitment. He said a newspaper ad has been drafted to send to nine newspapers. He said the ads will cost approximately \$2,000 and will be reviewed by the Executive Committee before the ads are placed. Eadens said the commercial will cost approximately \$500 to produce.

Eadens said a questionnaire is included in the packet to be handed each time the Speakers Bureau presentation is given. He said the CABfare is included in the packet for review.

Administrative Issues

Review of Workplan

Kay said the DUF₆ project overview has been postponed until August. Smart said the Southwest Plume Proposed Plan presentation should be moved to October as a place holder. Lee said the Water Quality and Waste Disposition task forces are overlapping on projects. McCorry suggested the chairs of the two task forces meet 30 minutes before the Board meeting to identify the overlap. Lee suggested inviting members of the other task forces when DOE has presentations on projects.

Review of August Agenda

Kay said the DUF₆ presentation would be moved to the August Board meeting agenda.

Action Items

All action items are closed.

Miller said she asked last month which two outfalls the United States Enrichment Corporation (USEC) is currently using to discharge the processed water from the USEC Water Treatment Facility and what outfalls would be used after the construction of the

leachate treatment facility. She said USEC is currently using Outfalls 4 and 8 to discharge the process water. The leachate treatment facility will be using Outfall 19.

Subcommittee Reports

Executive Committee

McCorry said the Chamber of Commerce is being contacted for interest in the site tour. She said the idea for a booth for member recruitment at the Downtown after Dinner and the Summer Festival has been replaced with the radio and television ads. She said the Executive Committee would be discussing the Annual Planning Retreat and the Chairs meeting next week.

McCorry said Ricky Ladd has resigned from the Board and Gary Reside has opted not to remain on the Board.

McCorry requested staff send an e-mail to all Board members for ideas on the Annual Planning Retreat agenda.

McCorry asked who would like to attend the INEEL Chairs Meeting. Russell and Miller said they were interested in attending. She asked staff to send an e-mail to establish if other members are interested in attending.

The meeting adjourned at 8:45 p.m.

Progress at the PADUCAH PROJECT

Update to the Citizens Advisory Board

July 21, 2005



Rachel Blumenfeld
U.S. Department of Energy
Chief Operating Officer
Portsmouth/Paducah Project Office



Contractor Transitions

-- Infrastructure

- Swift & Staley Mechanical Contractors, Inc. assumed full responsibility for infrastructure June 27, 2005

-- DUF₆ Cylinder Management

- Uranium Disposition Services assumed responsibility for cylinder inspections, maintenance and relocations to improved storage on June 27, 2005

-- Remediation

- The Source Evaluation Board released the amended Request for Proposals on June 20, 2005. Offerors identified by DOE as having been within the competitive range have until August 4, 2005 to submit responses to the revised RFP.
- For purposes of constructing cost proposals, offerors have been instructed to assume a November 1, 2005 contract award date.
- DOE has notified Bechtel Jacobs of intent to extend the BJC contract through January 29, 2006.



DUF₆ Conversion Project

- Warehouse foundation fieldwork began week of July 18, 2005
- Warehouse building contract awarded July 1, 2005
- Expect Warehouse completion February 2006
- Facility 90% design work completed in March 2005 and undergoing DOE review and approval



Latest Overview



Scrap Metal Removal

- NTS recertification received July 15; shipments from D-yard to begin by week of July 25
- D-yard field crews continue to downsize scrap; over 3,000 tons backlogged and ready for loading/shipment
- Overpacking of 221 containers of scrap metal already in SeaLand containers into rail gondola cars for shipment to Envirocare began July 19
- Continuing to study cost-effectiveness of additional shipments to Envirocare by rail



Loading SeaLand containers into gondola rail cars July 19, 2005



Scrap Metal Turnings

- All scrap metal turnings (over 3100 drums – approx. 300 tons) are processed and ready for disposal
- First shipment was made on July 11, 2005
- All 300 tons to be disposed at Envirocare by October 2005

First turnings shipment July 11, 2005



Second turnings shipment July 15, 2005



Expedited Cleanup Projects

UF4 Drums

- First shipment offsite on June 27, 2005; shipments to continue week of July 25, 2005
- Processing has confirmed contents are acceptable for disposal at Envirocare
- Final shipment offsite scheduled for completion within FY 2005



UF4 Drums
FY 2007 to FY 2005



Expedited Cleanup Projects

Outdoor Legacy LLW

- Landfill disposal package approved for 17 roll-off bins of crushed empty drums and debris (~ 9,200 cubic feet)
- Planning underway to ship ~ 2,900 cubic feet of floor sweep to Envirocare
- Reviewing data to determine best disposal method for ~ 5,300 cubic feet of soils
- Remaining ~ 7,000 cubic feet of ~ 24,400 total accelerated outdoor legacy waste inventory being identified.

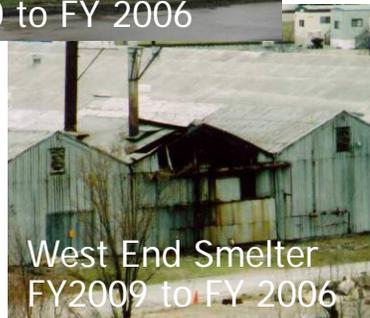
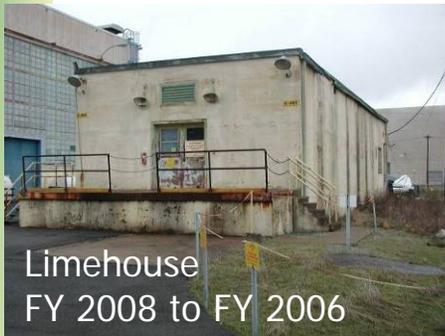
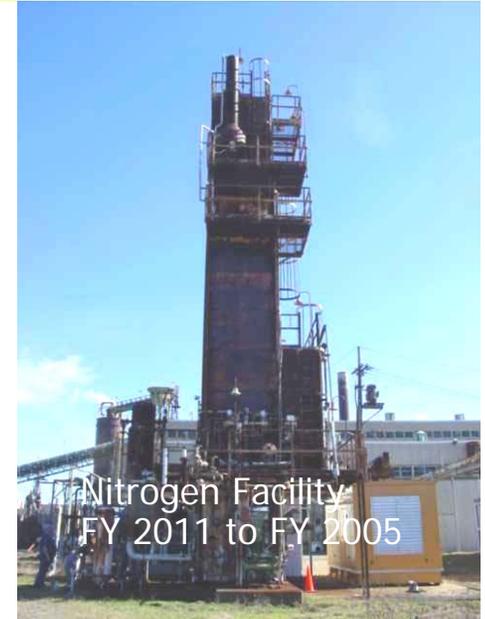




Inactive Facilities D&D

Nitrogen Facility

- To be removed as a Maintenance Action
- Paint sampling conducted July 6
- Contract awarded to API Contactors July 18



Limehouse, Contaminated Item Incinerator, and West End Smelter

- EPA and Kentucky comments on D1 Engineering Evaluation and Cost Analysis received July 11, 2005
- DOE to submit D2 EE/CA by mid-August



C-410 D&D

- Continued asbestos removal and confirmatory sampling in Zone 21 has allowed downposting to “clean” status; permitting further work without mandatory respiratory protection
- Completed shipping low-level waste scrap metal from HF Tank Farm to Envirocare
- Installed a “cool shack” in C-410 to relieve heat stress
- Initiated removal of fluorine cell stands and platforms in Sector 2.



Cool shack



Unbolted fluorine cell stand and platform, with broken pieces of platform in foreground



DMSAs

- Drummed material being removed, sorted, characterized, segregated, and repackaged
- Five coolers from DMSA OS-15 have been shipped for disposal; two additional coolers cut down and packaged in June; eight coolers and one booster remaining

	June	Project Life
• Characterized	2,500 cubic feet	641,000 of 860,000 cubic feet
• Packaged	4,000 cubic feet	269,000 cubic feet
• Shipped	9,600 cubic feet	252,000 cubic feet



DMSA OS-15 before field work



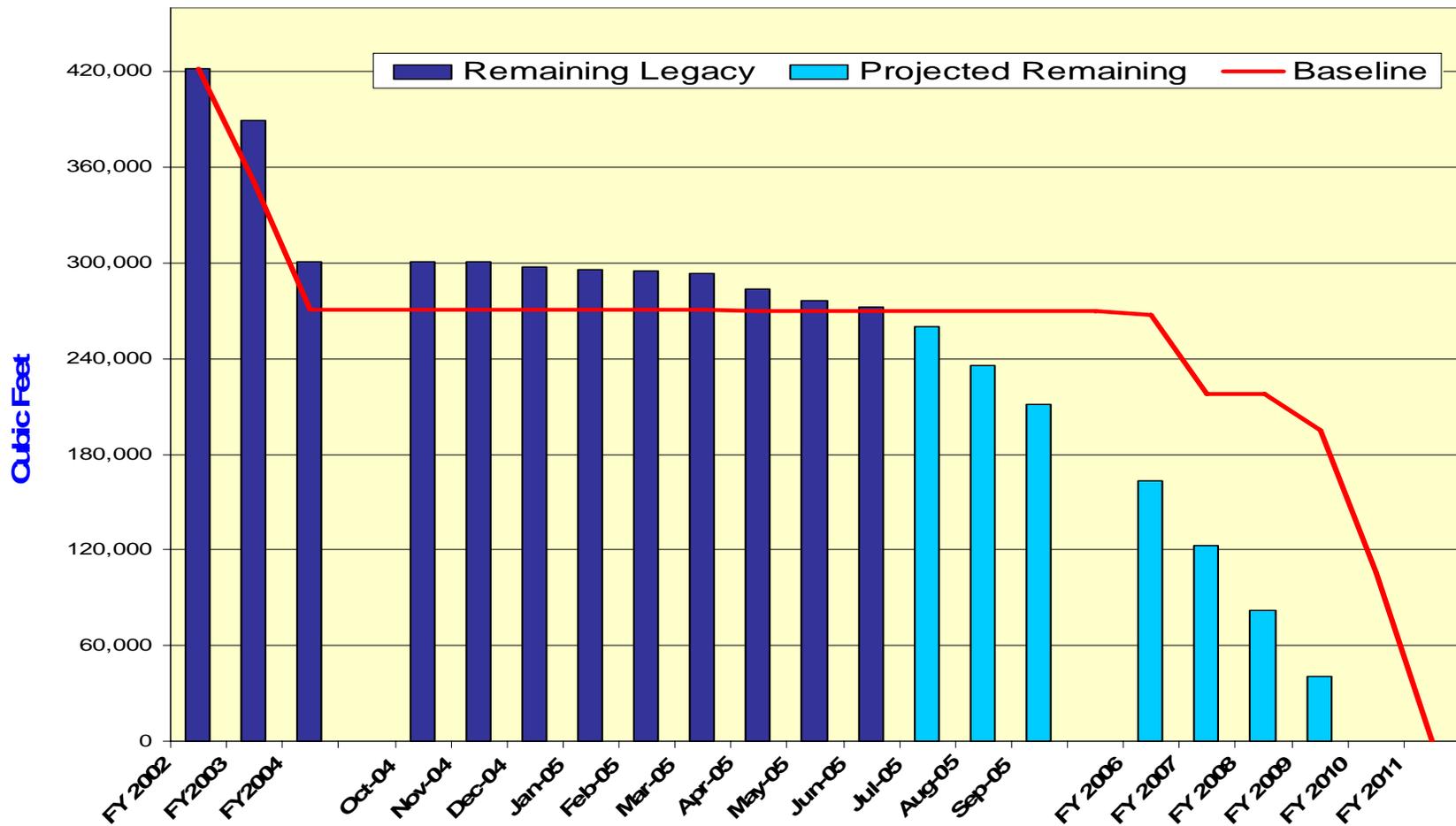
DMSA OS-15 on July 15, 2005



Legacy Waste Disposition

June

- Disposed 1,500 cubic feet of Agreed Order waste in the C-746-U landfill
- Shipped 1,995 cubic feet of Agreed Order waste to Envirocare
- Continued processing Agreed Order waste for landfill and Envirocare

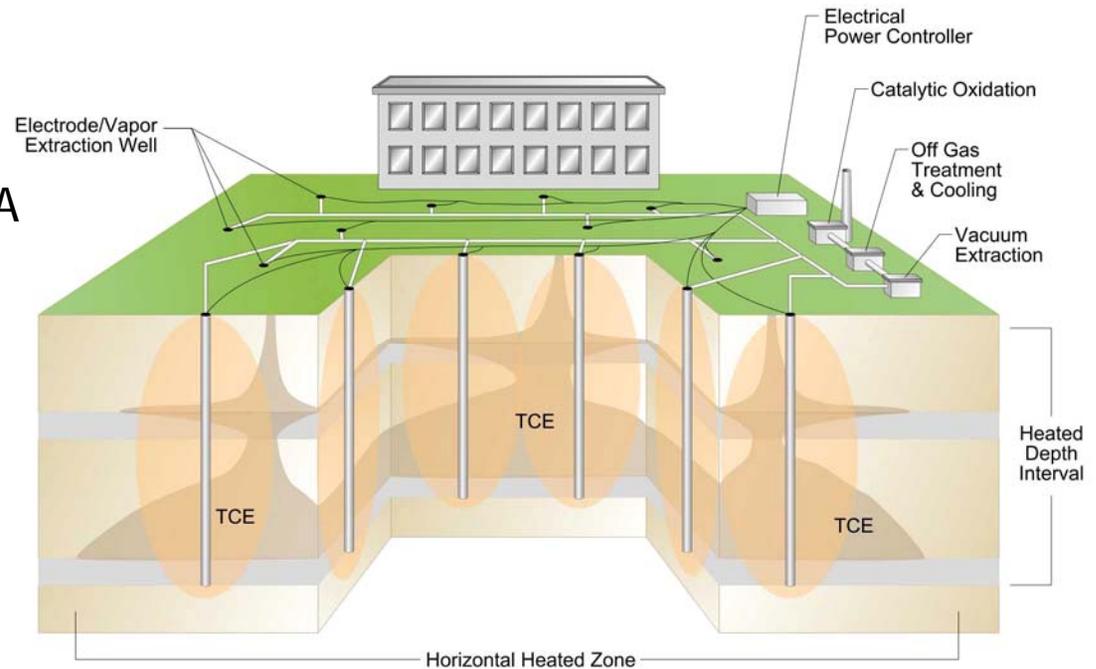




Groundwater Operable Unit

C-400 ROD

- DOE sent D2 ROD to EPA & Kentucky July 12
- Kentucky approved ROD July 19
- ROD signature expected in early August



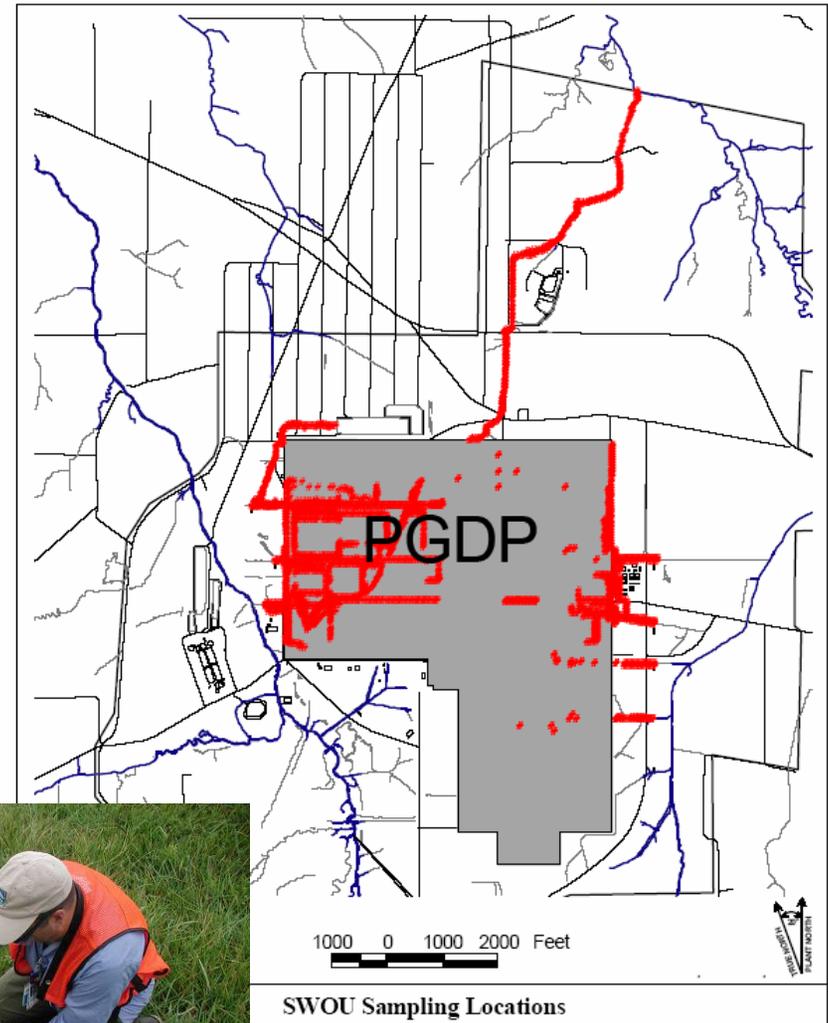
Southwest Plume

- FFA modification submitted to regulators to realign milestones due to extensions for document review
- Under revised milestone schedule, D1 Proposed Plan submittal to regulators by September 7, 2005



Surface Water Operable Unit

- Field work began June 20, 2005
- Over 3,000 screening samples and 400 lab samples are being collected from soils and sediments of NSDD Sections 3, 4 and 5, outfalls and internal ditches, and storm sewer discharge water
- Site Investigation/Baseline Risk Assessment will be submitted to the regulators during the summer of 2006

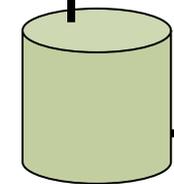




C-746-U Landfill

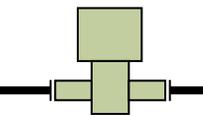
- Disposed of 88 tons of waste in June
- Kentucky withdrew permit modification for S, T and U landfills (including the leachate treatment facility) on July 6 because of internal procedural issues
- Expecting reissuance of permit modification following completion of comment period
- Now anticipating completion of leachate treatment facility in September 2005

From leachate collection

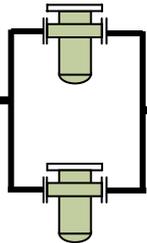


INFLUENT TANK

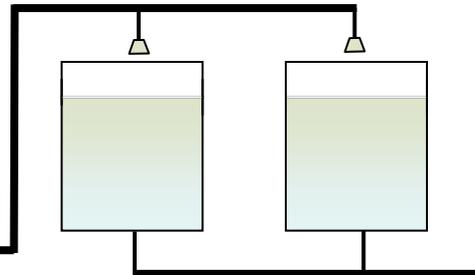
1,500 gallon



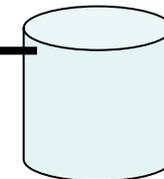
FEED PUMP



FILTERS



FLOWSORB



EFFLUENT TANK

1,500 gallon

To discharge →



Burial Grounds Operable Unit

- DOE submitted D1 RI/FS Work Plan to regulators, meeting June 30, 2005 milestone
- EPA and Kentucky have up to 90 days to review and provide comments.



C-746-F Burial Ground



**Project Status Update for Paducah DOE Citizens Advisory Board
July 14, 2005**

Project: Surveillance/Maintenance & Conversion, Depleted Uranium Hexafluoride (DUF₆)

Contact Persons:

DOE Site Office: John Sheppard
Uranium Disposition Services:
Commonwealth of Kentucky:
U.S. Environmental Protection Agency:
Citizens Advisory Board:

Purpose: Maintain safe storage of DOE DUF₆ cylinder inventory pending disposition.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF₆ inventory, which is a by-product from enriching uranium for nuclear fuel. At Paducah, approximately 36,200 cylinders contain approximately 436,400 metric tons of DUF₆. There are also 182 cylinders of low-enriched UF₆, about 1,500 cylinders of "normal" UF₆ (which has not gone through the enrichment process), and 275 empty cylinders. The DOE inventory at Paducah includes the material generated from 1952 until the establishment of USEC in July 1993, and material transferred from USEC to DOE since that time. **Surveillance and maintenance** involves safely storing DUF₆. Most of the 60-acre DOE cylinder yard complex now consists of concrete yards, which provide for improved storage and inspection. In recent years, DOE cleaned and painted 3,368 cylinders which had surface corrosion. DOE continually monitors and inspects its cylinder inventory to assure safe storage. **Conversion** is expected to begin in 2006. DOE selected Uranium Disposition Services LLC to design, build, and operate facilities in Paducah and Portsmouth to convert DUF₆ to a more stable form for disposal or recycling. DOE is reviewing draft conceptual design reports for the conversion facilities. Construction began in July 2004.

Key Documents for surveillance/maintenance:

- Handling and Inspection of DOE 48-Inch Diameter UF₆ Cylinders at Paducah (PA-2400)
- Agreed Order DWM-31434-030
- Final Environmental Impact Statement for the Construction and Operation of the DUF₆ Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF₆ Conversion Facility
- Documented Safety Analysis for the DOE Cylinder Yards, BJC/PAD-459
- Technical Safety Requirements for the DOE Cylinder Yards, BJC/PAD-461

Issues: (none)

Recent accomplishments/activities:

- Completed 14,220 cylinder inspections in FY 2005 through June (96% of FY total)
- 11,343 radiological surveys completed (82% of FY total)
- 3,227 cylinder skirt cleanings completed (99% of FY total)
- Completed 172 cylinder relocations to improved storage in June; 1,021 in FY2005
- Conversion plant warehouse building foundation and warehouse building contracts awarded
- Cylinder yards transitioned from BJC to UDS on June 27, 2005
- Personnel orientation, signup, training and qualification conducted June 27-29 for 16 employees.
- UDS began S&M operations on June 30.
- Cylinder yards on the south side of the plant have been reconfigured to a Property Protection Area (workers don't require clearance, but UDS controls access)

Activity over next 60 days for surveillance/maintenance:

- Begin warehouse foundation field work
- Remaining cylinder yards being reconfigured for access

Project Status Update for Paducah DOE Citizens Advisory Board
July 14, 2005
Project: Solid Waste Contained Landfill

Contact Persons:

Bechtel Jacobs Company LLC: Steve Davis/Dwight Lamb/Jim Ehlers
Commonwealth of Kentucky: Todd Hendricks
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: The operating landfill and support facilities are located on 60-acres of DOE property near Ogden Landing Road, operating under a permit from the Kentucky Division of Waste Management (KDWM). Landfill disposal operations began in 1997. DOE uses the landfill for disposal of solid waste generated from its operations at the Paducah site. Examples of wastes accepted include non-hazardous soil and debris from environmental cleanup and other DOE projects, protective clothing worn by workers, paper, packaging, and landfill office wastes. No waste classified as hazardous or radioactive is accepted.

Key documents:

- Environmental Assessment for the Construction, Operation and Closure of the Solid Waste Landfill at the Paducah Gaseous Diffusion Plant (DOE/EA-1046)
- Environmental Assessment on the Implementation of the Authorized Limits Process for Waste Acceptance at the C-746-U Landfill (DOE/EA-1414)
- Waste Acceptance Criteria for the Department of Energy Treatment, Storage, and Disposal Units at the Paducah Gaseous Diffusion Plant (BJC/PAD-111R4)
- C-746-U Landfill Solid Waste Disposal Facility Permit Number 073-00045

Issues:

- The Kentucky Division of Waste Management (KDWM) issued a letter of withdrawal on July 6, 2005 for the S, T and U permit modification due to an administrative error. The public comment period had not expired and the permit was issued prematurely. Currently the landfill facility is operating on the existing permit which expires in 2006.

Recent accomplishments/activities:

- Disposed of 91 tons of waste in May
- Received permit modification for construction of a leachate treatment facility May 12, 2005
- Signed subcontract for construction of leachate treatment facility
- Initiated fabrication of leachate treatment unit.

Activity over next 60 days:

- Continue disposal of construction debris and other non-hazardous solid waste streams
- Support the Kentucky Research Consortium for Energy and Environment Holocene Displacement Study
- Construct leachate treatment facility, to be completed in August 2005.

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2005
Project: Waste Disposition

Contact Persons:

Bechtel Jacobs Company LLC: Pat Gourieux/Greg Shaia

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: DOE is responsible for disposal and/or recycling of legacy wastes (wastes generated at the PGDP prior to establishment of USEC on July 1, 1993); wastes generated from ongoing DOE projects; and a limited amount of waste generated by USEC. After characterization to assure selection of the appropriate disposition method, non-hazardous and non-radioactive wastes are disposed of in the DOE Solid Waste Contained Landfill. *(Please see landfill update sheet.)* Hazardous and radioactive wastes are treated if necessary and shipped off-site to approved DOE or commercial disposal facilities. Wastewater (collected from sumps in diked areas in DOE waste storage facilities at PGDP) is treated and discharged in accordance with the Kentucky Pollutant Discharge Elimination System permit.

Key documents:

- Paducah Waste Acceptance Criteria (BJC/PAD-11, Revision 4)
- Final Environmental Assessment for Proposed Disposition of Waste from the Paducah Site (DOE/EA-1339 and Addendum DOE/EA-1339-A) (FONSI)
- Agreed Order DWM-31434-042
- Site Treatment Plan DWM-30039-42

Issues:

- None

Recent accomplishments/activities:

- Made first shipment of UF4 to Duratek on June 27, 2005
- Disposed 1,500 cubic feet of Agreed Order waste in the C-746-U landfill
- Shipped 1,995 cubic feet of Agreed Order waste to Envirocare
- Processing of Agreed Order waste for landfill disposal and shipment to Envirocare continues

Activity over next 60 days:

- Continue shipment of mixed low-level waste to PermaFix facilities and Envirocare
- Continue shipment of UF4 to Duratek and Envirocare
- Continue disposition of solid waste in the C-746-U Landfill
- Continue disposition of ~ 5100 containers of Agreed Order “no-longer contains” waste at Envirocare or the C-476-U Landfill, as appropriate
- Begin disposition of approximately 2000 containers of LLW stored in outside facilities.

**Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2005**

Project: Decontamination & Decommissioning (D&D)

Contact Persons:

Bechtel Jacobs Company LLC: Brad Montgomery
Commonwealth of Kentucky: Jon Maybriar
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board:

Purpose: Environmental Cleanup/Waste Disposition

Description: The D&D project has completed development of Comprehensive Environmental Response, Compensation, and Liability Act regulatory documentation and has initiated actual D&D of the C-410/420 Feed Plant Complex. The current scope of D&D includes infrastructure removal on the C-410/C-420 complex, as well as ongoing surveillance and maintenance of the C-410/C-420 complex and the C-340 Metals Plant complex. Scope also included development of Safety Basis Documentation for the removal of equipment, piping, and stored material from the C-410 Complex. Operations at both complexes ended in 1977.

Key documents (C-410):

- Engineering Evaluation/Cost Analysis (EE/CA)
- Action Memorandum
- Removal Action Work Plan (RAWP)
- Cultural Resources Assessment of C-410 Complex
- Agreed Order DWM-31434-042

Issues:

- None.

Recent accomplishments/activities:

- Continued asbestos removal and confirmatory sampling in Zone 21 has allowed downposting to "clean" status; permitting further work without mandatory respiratory protection
- Completed shipments of LLW waste from C-410 HF Tank Farm to Envirocare
- Installed cool shack to relieve worker heat stress in C-410
- Initiated removal of fluorine cell stands and platforms in Sector 2
- Issued RFP for removal of C-603 Nitrogen Facility as a maintenance action
- Initiated evaluation of response to C-603 RFP from subcontractor
- Received regulator comments on D1 Engineering Evaluation/Cost Analysis (EE/CA) for C-402 Limehouse, C-405 Incinerator and C-746-A West End Smelter.

Activity over next 60 days:

- Continue packaging of loose materials in C-410 Complex
- Complete landfill package and disposition material from C-410-A Hydrogen Holder in landfill
- Submit D2 EE/CA for C402/C-405/C746-A Smelter
- Award contract for C-603 Nitrogen Facility action

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2005
Project: DOE Material Storage Areas (DMSAs)

Contact Persons:

Bechtel Jacobs Company LLC: Rick Keeling
Commonwealth of Kentucky: Jon Maybriar/Mike Guffey
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board:

Purpose: Environmental Cleanup/Waste Disposition

Description: The 160 DMSAs are non-leased areas inside buildings, as well as outdoor areas. DOE accepted the return of the areas that are now the DMSAs, and the material and equipment they contained from USEC on December 31, 1996, to facilitate NRC certification of the gaseous diffusion plants. At that time, most of the contents needed detailed inventory, characterization, and disposition. Since that time, DOE and contractors have been documenting contents, resolving environmental concerns such as draining and disposing of oils from old equipment, and segregating and disposing of wastes.

Key documents:

- PGDP Department of Energy Material Storage Area Characterization/Remediation Plan (BJC/PAD-186/R4), April 2001
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues:

- Because of recent shipment difficulties at Paducah, BJC self-suspended shipments pending a programmatic review. This review included transporting waste to the C-746-U Landfill and off-site disposal facilities. Shipments have now resumed to the Landfill and to off-site facilities except the Nevada Test Site.

Recent accomplishments/activities:

- A total of 2,500 cubic ft. of material was characterized during June, including approximately 480 cubic ft. sampled and awaiting results.
- 4,000 cubic ft. after size reduction packaged for disposal in the month of June.
- 9,600 cubic ft. disposed in June after size reduction.
- Five PG Coolers from DMSA OS-15 have been shipped for disposal; Two additional PG Coolers sized and packaged in June for shipment; Eight PG Coolers and One PG Booster await sizing, packaging, and shipment for disposition

Activity over next 60 days:

- Continue packaging and disposition of DMSA OS-15 material
- Pursue disposition of OS-4 and OS-14 material
- Pursue boundary removal of OS-02, C-331-04, -07, and -20
- Continue characterization of "Priority B" DMSAs under the Agreed Order

**Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2005**

Project: Groundwater Operable Unit

Contact Persons:

Bechtel Jacobs Company LLC: Bryan Clayton/Craig Jones

Commonwealth of Kentucky: Jon Maybriar/Todd Mullins

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board:

Purpose: Environmental Cleanup

Description: This project addresses environmental remediation of groundwater contamination on a site-wide basis at the Paducah Gaseous Diffusion Plant. The main contaminants of concern are trichloroethylene (TCE) and technetium-99 (⁹⁹Tc). Remedial actions will be designed and implemented after completion and signing of Records of Decision (RODs).

Key documents:

- Feasibility Study of the Groundwater Operable Unit at PGDP (DOE/OR/07-1857)
- Agreed Order DWM-31434-042
- Six-Phase Treatability Report (DOE/OR/07-2113)
- Proposed Remedial Action Plan for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2114)
- Southwest Plume Site Investigation Workplan (DOE/OR/07-2094)
- S&T Landfill Site Investigation Workplan (DOE/OR/07-2098)
- Record of Decision for Interim Removal Action for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2150)

Issues: None

Recent accomplishments:

- Continued development of the Southwest Plume Site Investigation Proposed Plan and adjusted submission of the D1 PRAP to September 7, 2005 from its original date of July 2, 2005
- Received Kentucky comments on D2 C-400 ROD June 15, 2005
- Completed and issued on June 20, 2005 Request for Proposal contracting package for selecting a remedial contractor for the implementation of electrical resistive heating/direct heating in the C-400 area
- D2 C-400 ROD submitted to Kentucky and EPA July 12, 2005.

Activity over next 60 days:

- Continue development of the Remedial Design Work Plan to support development of the C-400 Remedial Action design and construction specifications for submission to the State and EPA following the signing of the ROD
- Submit the C-746-S&T Landfill Site Investigation Report
- Obtain C-400 ROD signature in August, 2005

FFA Milestones:

- Submit the D1 C-400 Remedial Design Work Plan within 30 days after signing of ROD
- Submit the D1 S&T Landfill Site Evaluation Report by September 30, 2005 (date to change with proposal for new milestones)
- Submit the D2 Southwest Plume Site Investigation Report by August 11, 2005.

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2005
Project: Surface Water Operable Unit (On-Site)

Contact Persons:

Bechtel Jacobs Company LLC: Dave Guyan/Craig Jones

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board:

Purpose: Environmental Cleanup

Description: The Surface Water Operable Unit (On-Site) Project includes a site investigation to identify hot spots in ditches and outfalls, including Sections 3, 4, and 5 of the North-South Diversion Ditch. The site investigation scope also includes an evaluation of whether additional sediment control measures are needed, as well as actions for potential legacy releases associated with the storm sewer system. The results of the site investigation will be documented in a Site Investigation/Baseline Risk Assessment Report and non-time-critical removal action documentation, as appropriate.

Key documents:

- Sampling and Analysis Plan for Site Investigation and Risk Assessment of the Surface Water Operable Unit (On-Site)

Issues: None

Recent accomplishments:

- EPA issued unconditional approval of the sampling proposed in the D2 SWOU SAP on January 18, 2005; KDEP conditionally approved on February 3, 2005
- Teleconference held April 28, 2005 with DOE, KDEP and EPA to discuss KDEP issues, which were in Formal Dispute
- Formal Dispute issues resolved in meeting on May 4, 2005
- Submitted revised D2/R2 SAP on May 13, 2005
- Received KDEP SAP approval letter on May 13, 2005
- Began preparation for field sampling activities
- Began field mobilization activities on June 13, 2005
- Sampling began June 20, 2005.

Activity over next 60 days:

- Continue sampling.

FFA Milestones:

- Issue Site Investigation/Risk Assessment Report by April 27, 2006
- Issue Removal Notification by June 23, 2006.

Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2005
Project: Scrap Metal Removal Project

Contact Persons:

DOE Site Office:

Bechtel Jacobs Company LLC: Wes Bass/Chris Marshall/Craig Jones

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board:

Purpose: Environmental Cleanup/Waste Disposition

Description: About 54,000 tons of scrap metal exists at the PGDP. This project involves the removal of 26,700 tons of general scrap metal, 2,000 tons of aluminum ingots, and 15,600 tons of classified material. This project does not include the recycling or disposal of 9,700 tons of nickel.

Key documents:

- Engineering Evaluation and Cost Analysis
- Action Memorandum
- Removal Action Work Plans
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues: Several sealand containers packaged for transport of general scrap to NTS leaked moisture prior to shipment. Container inspections identified the presence of circuit boards and other electronic devices that conflict with the NTS waste acceptance criteria. Currently shipments to NTS are suspended and scrap metal waste has not been shipped off site in several months.

Recent accomplishments:

- All turnings (over 3,100 drums, approximately 300 tons) have been processed and packaged for shipment and disposal
- Obtained security approval and made first shipment of turnings to Envirocare on July 11, 2005
- Over 172 tons of D-yard scrap is packaged and ready for shipment.

Activity over next 60 days:

- Complete development of corrective actions and begin implementation to resume scrap metal shipments from C-746-D yard to NTS
- Continue disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Continue shipment of machine turnings waste to Envirocare for treatment and disposal
- Initiate shipment of cargo containers of scrap metal to Envirocare via rail for disposal
- Resume shipment of scrap metal to NTS following recertification of waste disposition program.

**Project Status Update for DOE Paducah Citizens Advisory Board
July 14, 2005
Project: Burial Grounds OU**

Contact Persons:

Bechtel Jacobs Company LLC: John Young/Craig Jones
Commonwealth of Kentucky: Jon Maybriar
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: A Remedial Investigation/Feasibility Study (RI/FS) Scoping Document and the RI/FS Work Plan for the investigation of the Burial Ground Operable Unit (BGOU) at PGDP have been developed. The documents utilize a compilation of sampling information collected on and around the PGDP over the course of the last ten years. The subject of this scoping document is the BGOU (Solid Waste Management Units [SWMUs] 2, 3, 4, 5, 6, 7, 30, and 145).

Key documents:

- D1 Burial Grounds OU Scoping Document
- D1 Burial Grounds RI/FS Work Plan

Issues: None

Recent accomplishments:

- D1 Burial Grounds OU Scoping Document was issued November 2004
- State and EPA comments were discussed in a series of meetings and all comment and concerns will be addressed in the Work Plan.
- D1 Work Plan was completed and distributed on June 30, 2005

Activity over next 60 days:

- D1 Work Plan is in review with the regulators and comments are due September 30.



Burial Grounds Operable Unit

**Presented by John Russell
Waste Operations Task Force
July 21, 2005**



BGOU Strategic Cleanup Initiatives

Scope:

Conduct a RI, baseline risk assessment, evaluation and selection of remedies, and implementation of actions as necessary.

Site Cleanup Objective:

- Protect industrial workers from direct contact exposure to contaminated soil and sediment.
- Protect off-site residents by preventing exposure to contaminated groundwater.

Projected Scope Assumptions:

- In situ stabilization/capping of burial grounds.
- Excavation prohibited and access to some areas restricted, as appropriate.
- Installation of an integrated groundwater monitoring system.
- Re-evaluation of long-term effectiveness of the in situ stabilization/capping remedy as part of D&D of operating gaseous diffusion plant to determine whether additional actions are warranted.



BGOU Site Management Plan Information

Phase I

Accelerate investigation and action at burial grounds posing a current potential off-site groundwater risk as part of Phase I activities. Implement mitigating actions as necessary for protections of plant workers during the ongoing plant operations.

Phase II

Evaluate the long-term effectiveness of existing remedies installed during Phase I and take additional actions as necessary to achieve protectiveness consistent with the future end-state objectives associated with post-shutdown plant conditions.



BGOU RI/FS Goals

- Goal 1: Characterize Nature of Source Zone
- Goal 2: Define Extent of Source Zone and Contamination in Soil and Other Secondary Sources at All Units
- Goal 3: Determine surface and Subsurface Transport Mechanisms and Pathways
- Goal 4: Support evaluation of Remedial Technologies



BGOU Site Management Plan

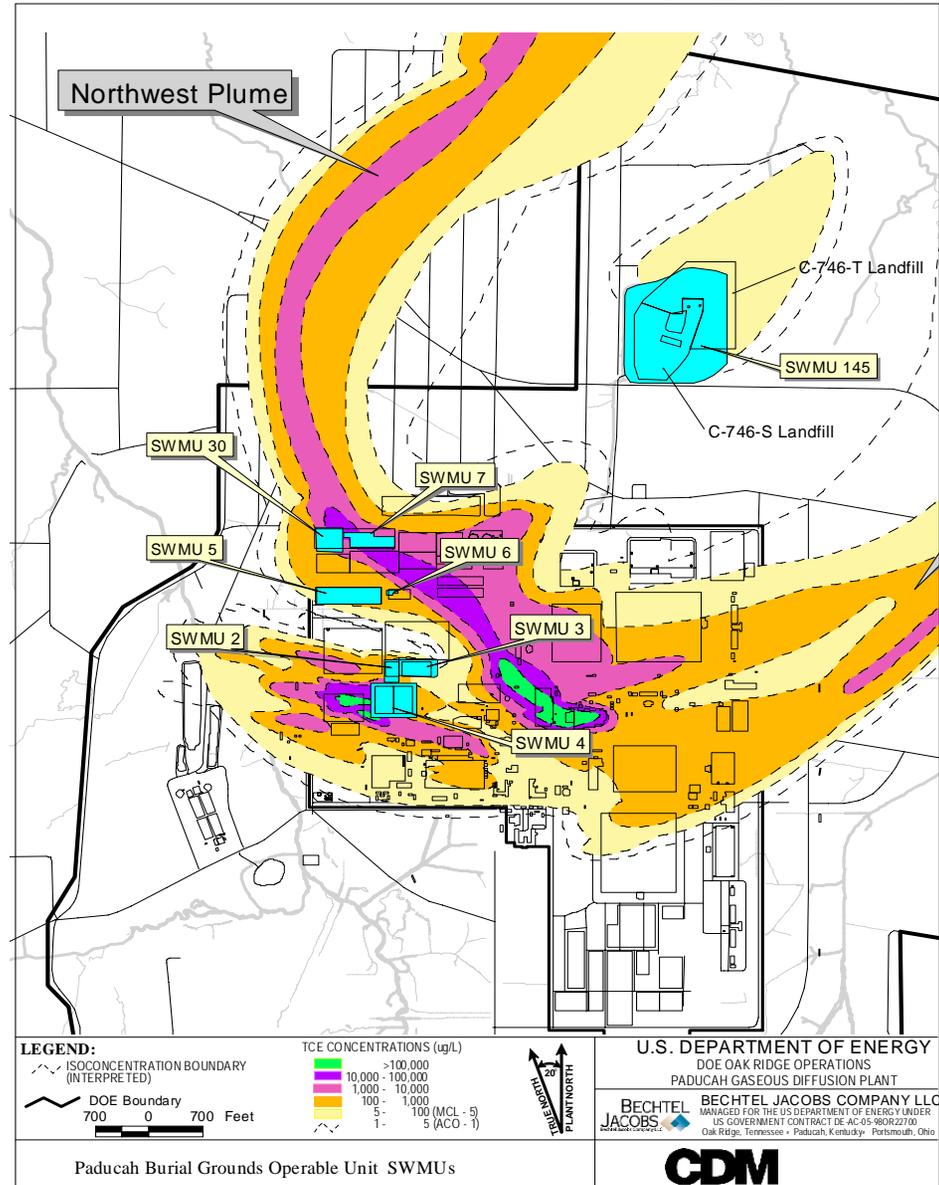
Conduct a RI, baseline risk assessment, evaluation and selection of remedies, and implementation of actions as necessary for the following burial grounds:

- C-749 (SWMU 2),
- C-404 (SWMU 3),
- C-747 (SWMU 4),
- C-746-F (SWMU 5),
- C-747-B (SWMU 6),
- C-747-A (SWMUs 7 and 30, which includes the area beneath SWMU 12),
- The residential/inert borrow area and old North-South Diversion Ditch disposal trench (SWMU 145), and
- Additional disposal areas that might exist beneath the scrap yards.



Burial Grounds Operable Unit SWMUs

DOCUMENT No. DOE/OR/07-2178



Paducah Burial Grounds Operable Unit SWMUs

FIGURE No. c5ac90002sk199.apr
DATE 08-31-04



BGOU Scoping Document Status

- BGOU Scoping Document Submitted November 25, 2004
- Meetings held in December 2004 and January 2005 to discuss initial comments
- Received formal regulator comments on February 28, 2005
- Meeting held with the regulators on March 17, 2005
- Resolved comments – concerns were incorporated into the Work Plan – due June 30, 2005



BGOU RI/FS Schedule

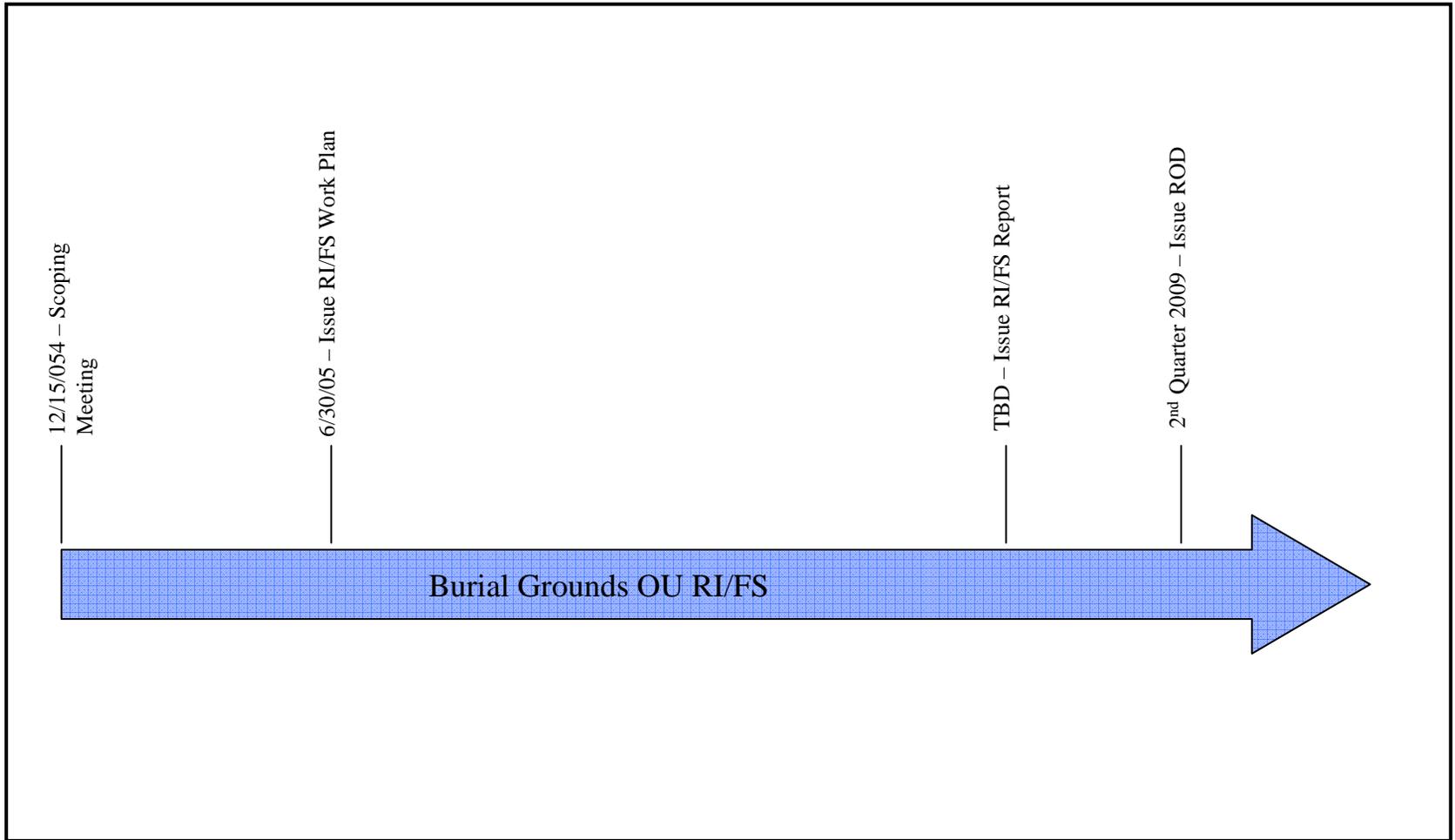


Fig. 2.3. BGOU RI/FS schedule.

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

CDM BECHTEL JACOBS COMPANY LLC
MANAGED FOR THE US DEPARTMENT OF ENERGY UNDER
US GOVERNMENT CONTRACT # AC-05-03OR22980
Oak Ridge, Tennessee • Paducah, Kentucky • Portsmouth, Ohio





SWMU 2

C-749 Uranium Burial Ground

Site Background and History

- Area of approximately 32,000 ft² with dimensions of approximately 160 by 200 ft
- During use, pits were excavated to an estimated depth of 7 to 17 feet
- After use, the area was covered with a 6-inch thick clay cap and a 18-inch thick soil layer covered with vegetation
- Used from 1951 to 1977 for the disposal of uranium and uranium-contaminated wastes. (270 tons of uranium, 59,000 gallons of oil, 450 gallons of TCE, drummed wastes consist primarily of uranium from machine shop turnings, shavings, and sawdust, most waste in the unit is believed to consist of pyrophoric uranium metal.



SWMU 2 Historical Soil Sampling Locations

DOCUMENT No. DOE/OR/07-2179

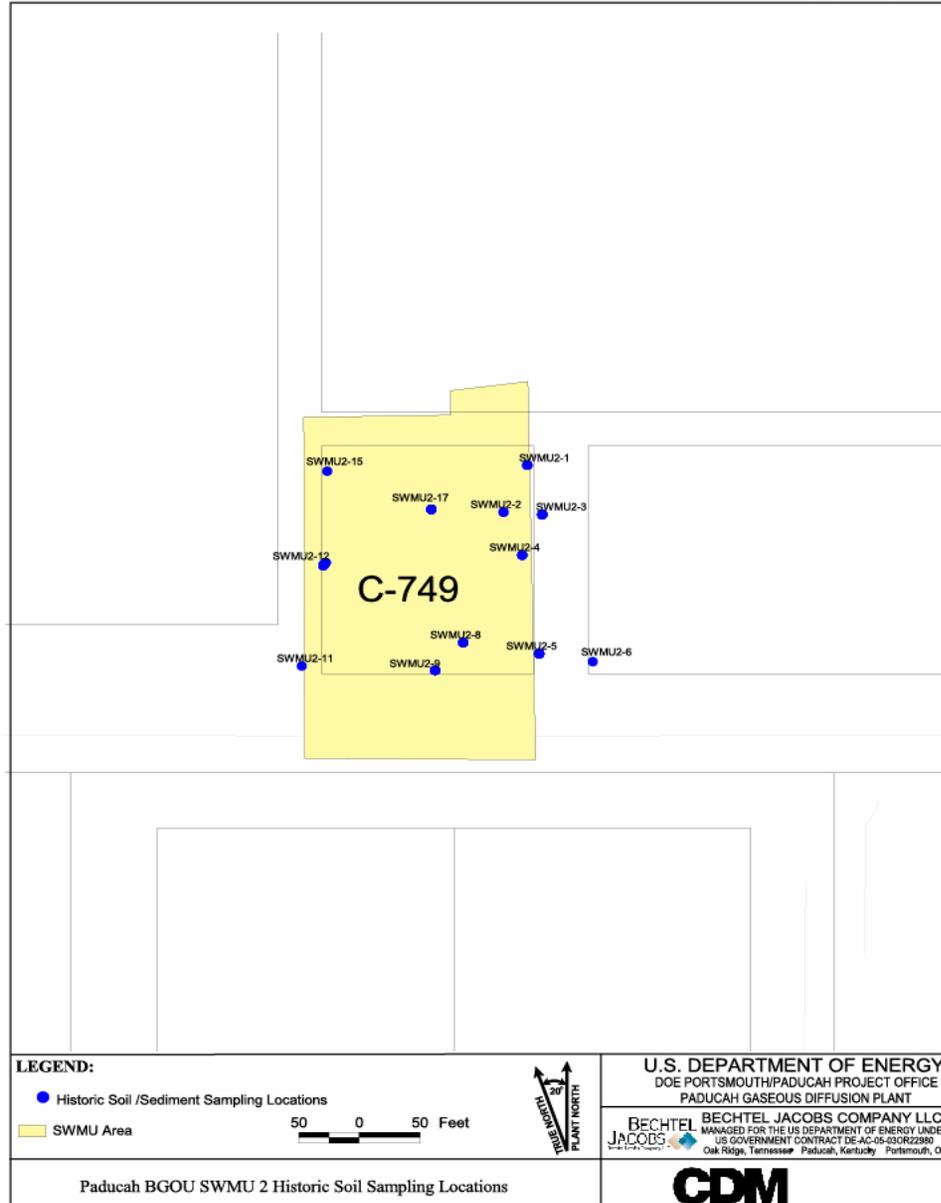


FIGURE No. c5ac90002sk200.apr
DATE 03-31-05



SWMUs 2, 3, and 4 June-July 2004 Groundwater Monitoring Locations

DOCUMENT No. DOE/OR/07-2179

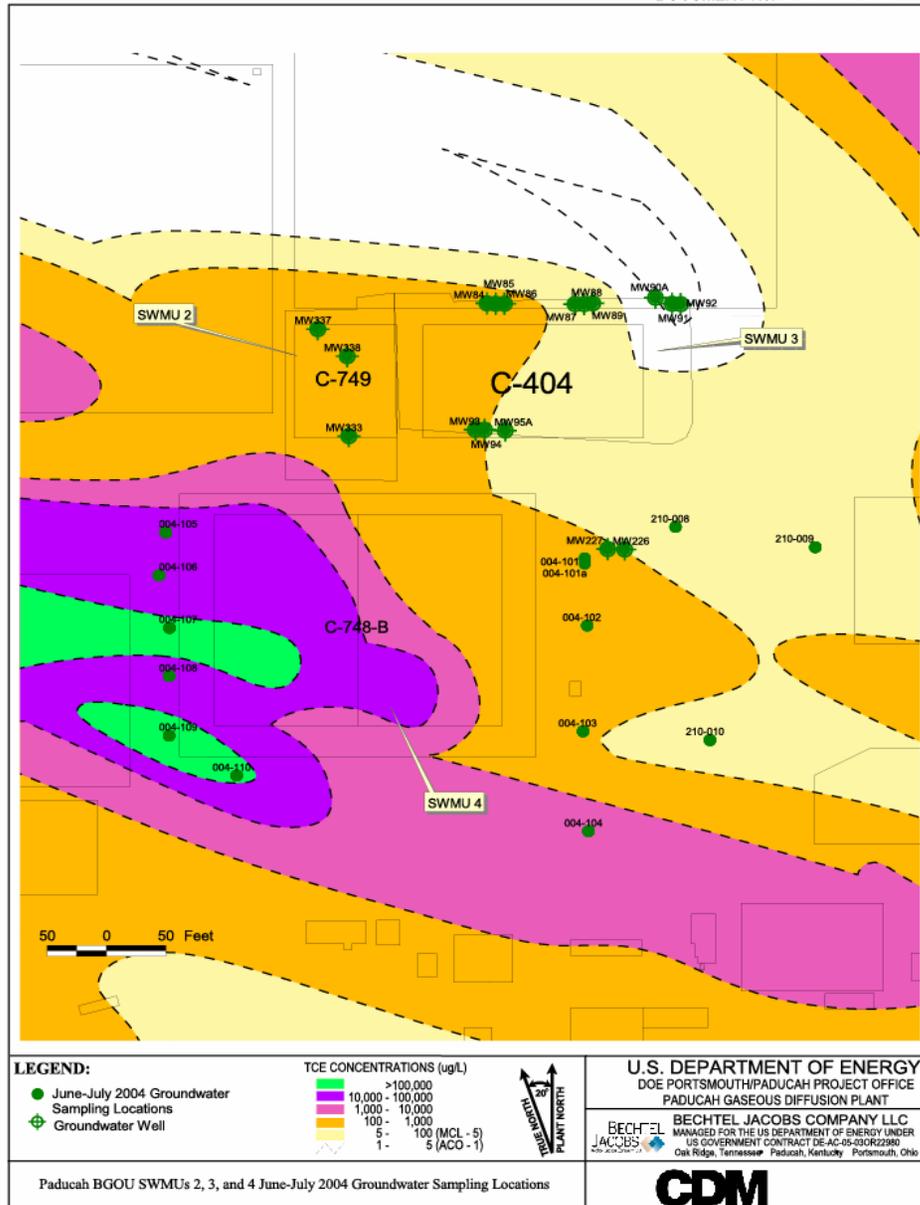


FIGURE No. c5ac90002sk219.apr
DATE 03-31-05



SWMU 2

Summary of Additional Data Needs

Data Gaps

There are no soil data from under the burial area. There is no suitable up-gradient or down-gradient well currently available for which background samples can be collected.

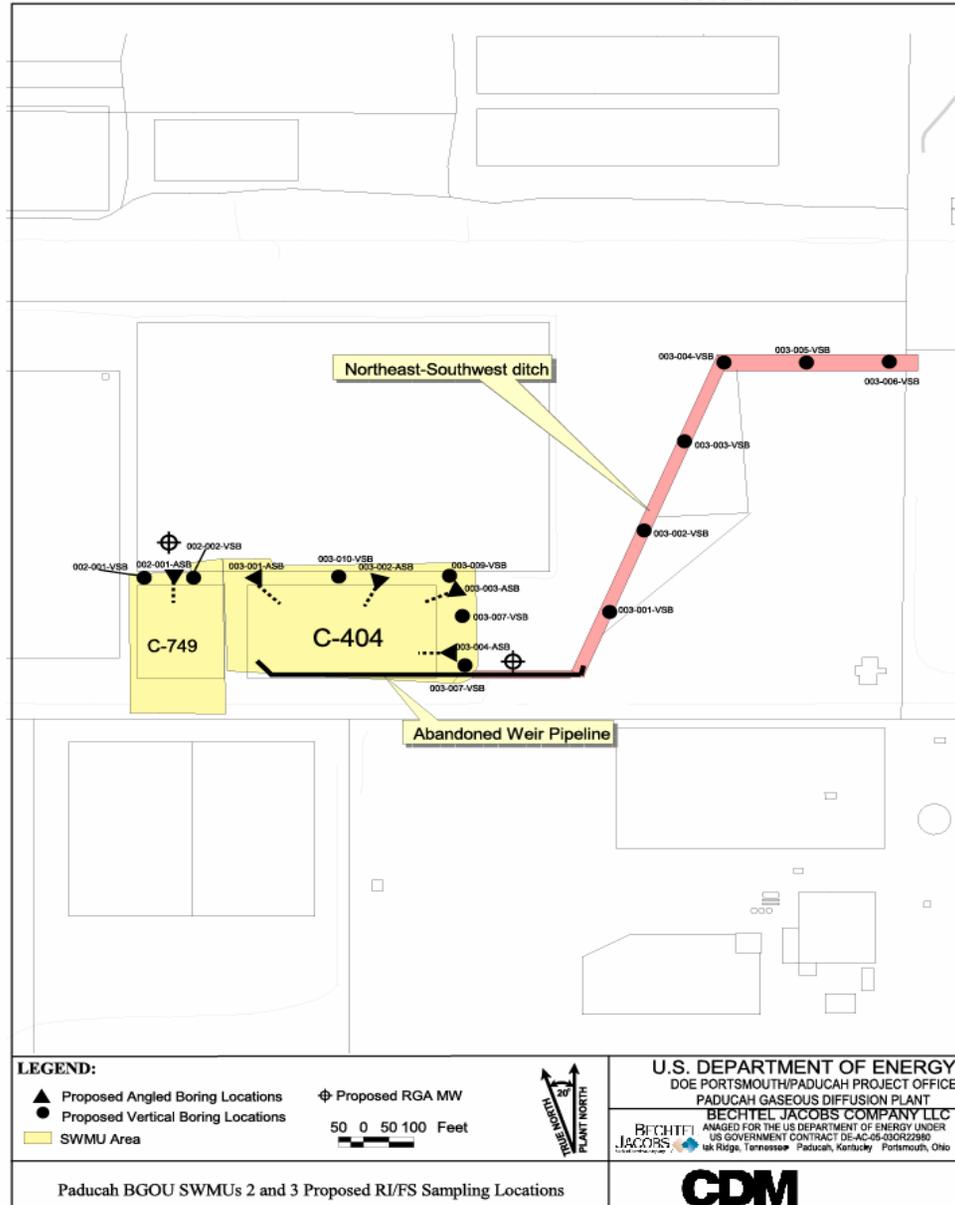
Sampling Strategy

- Drill one angle boring under the burial area and collect soil samples and one UCRS groundwater sample (if possible). Drill two vertical borings down-gradient of SWMU 2.
- Collect two sediment samples.
- Sample existing RGA up-gradient and down-gradient wells, if feasible, or install and sample new up-gradient and down-gradient wells. These wells will be up-gradient and down-gradient to SWMU 2 and 3.



SWMUs 2 and 3 Proposed RI/FS Sampling Locations

DOCUMENT No. DOE/OR/07-2179



LEGEND:

- ▲ Proposed Angled Boring Locations
- Proposed Vertical Boring Locations
- SWMU Area
- ⊕ Proposed RGA MW

50 0 50 100 Feet



U.S. DEPARTMENT OF ENERGY
DOE PORTSMOUTH/PADUCAH PROJECT OFFICE
PADUCAH GASEOUS DIFFUSION PLANT
BECHTEL JACOBS COMPANY LLC
MANAGED FOR THE U.S. DEPARTMENT OF ENERGY UNDER
U.S. GOVERNMENT CONTRACT DE-AC-05-00OR22985
BETHLEHEM JACOBS
Oak Ridge, Tennessee Paducah, Kentucky Portsmouth, Ohio



Paducah BGOU SWMUs 2 and 3 Proposed RI/FS Sampling Locations

FIGURE No. c5ac90002sk225.apr
DATE 03-31-05



SWMU 3

C-404 Low-level Radioactive Waste Burial Ground

Site Background and History

- Approximately 1.2 acres located in the west-central portion of the secured area
- Originally constructed as a rectangular above-ground surface impoundment measuring 387 feet by 137 feet with a floor area of approximately 53,000 ft²
- The floor of the surface impoundment was constructed of well-tamped earth, and clay dikes provided a depth of 6 feet
- In March 2003, an additional 37,000 ft² was added to the SWMU when a ditch area, which ran northeast-southwest and just east of SWMU 3, was included.



SWMU 3

C-404 Low-level Radioactive Waste Burial Ground

Site Background and History

- Operated as a surface impoundment from approximately 1952 until early 1957
- Influent to the impoundment originated from C-400
- Converted to a solid waste disposal facility in 1957 for solid uranium-contaminated wastes
- Contains uranium precipitated from aqueous solutions, UF₄, uranium metal, uranium oxides, and radioactively contaminated trash
- A partial clay cap was installed on the eastern end of the landfill in 1982



SWMU 3

C-404 Low-level Radioactive Waste Burial Ground

Site Background and History

- The landfill was covered with a RCRA multi-layered cap and certified closed in 1987
- Currently regulated under RCRA as a land disposal unit and is required to comply with a RCRA post-closure permit issued in 1992
- Primarily, groundwater monitoring is required

Previous Investigations

- No remedial investigations
- Post closure monitoring for groundwater



SWMUs 2, 3, and 4 June-July 2004 Groundwater Monitoring Locations

DOCUMENT No. DOE/OR/07-2179

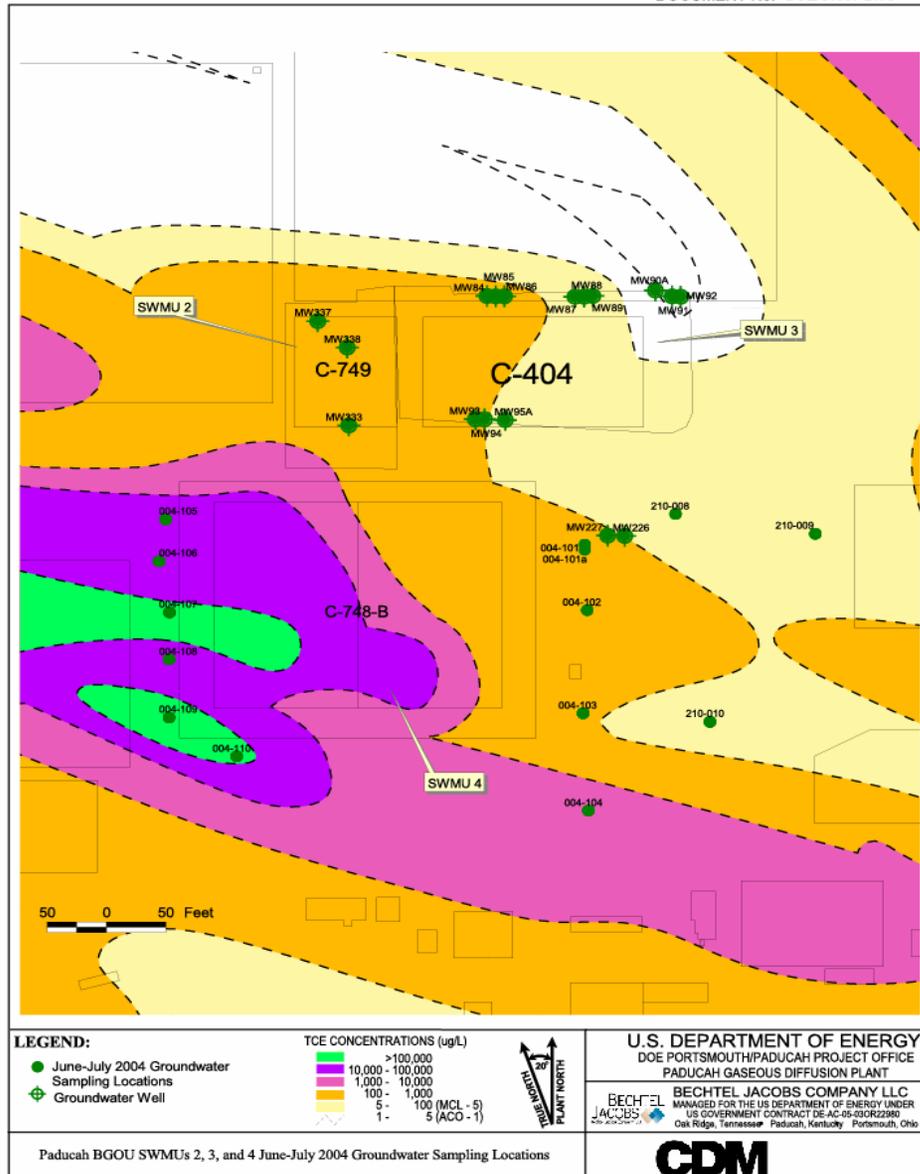


FIGURE No. c5ac90002sk219.apr
DATE 03-31-05



SWMU 3

Summary of Additional Data Needs

Data Gaps

There are no soil data from under the burial area or at depth. There is no suitable up-gradient well currently available from which background samples can be collected. There is potential contamination along ditches and in former ditch area(s).

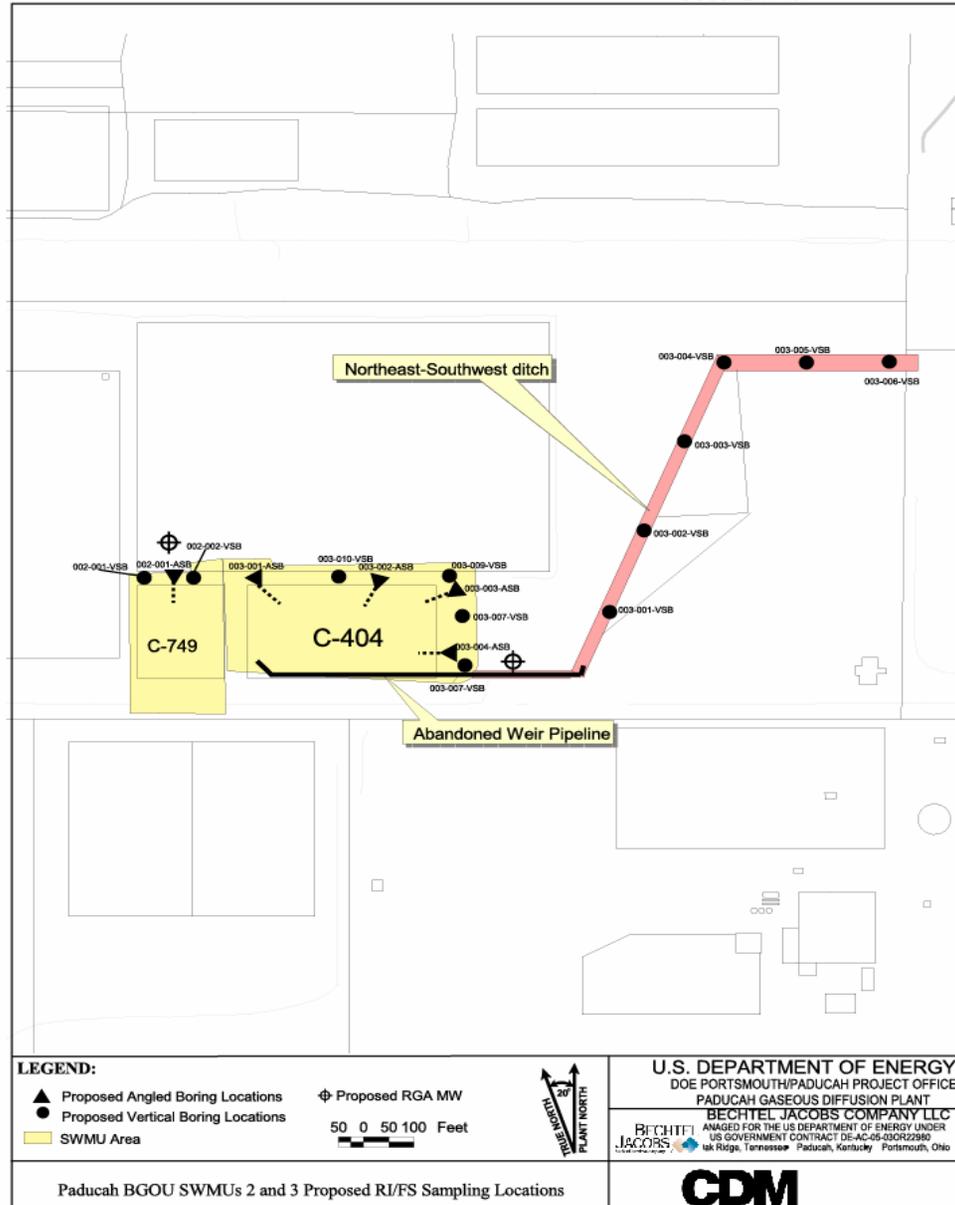
Sampling Strategies

- Drill four vertical and four angle borings around, and under, the burial cell, and collect soil samples and UCRS groundwater samples (if possible).
- Sampling existing RGA up-gradient and down-gradient wells (not part of the current network), if feasible, or install and sample new up-gradient and down-gradient wells. These wells will be up-gradient and down-gradient to SWMUs 2 and 3.
- Collect four sediment samples.
- Collect surface and shallow subsurface soil samples from six vertical borings from the ditches and ditch leading to the NSDD.



SWMUs 2 and 3 Proposed RI/FS Sampling Locations

DOCUMENT No. DOE/OR/07-2179



Paducah BGOU SWMUs 2 and 3 Proposed RI/FS Sampling Locations

FIGURE No. c5ac90002sk225.apr
DATE 03-31-05



SWMU 4

C-747 Contaminated Burial Yard

Site Background and History

- Located in western section of the PGDP
- Operated from 1951 to 1958
- Literature indicates the burial yard consists of two pits measuring 50 ft x 50 ft and 50 ft x 150 ft, which were excavated to a depth of approximately 15 ft below ground surface
- Surface water drains to the north, east, and west with discharge eventually into KPDES Outfall 015
- Pits were used for the disposal of contaminated and uncontaminated debris (e.g., steel, Monel, etc.)
- Contaminated debris was associated with natural and slightly depleted uranium from C-410 UF6 feed plant



SWMU 4

C-747 Contaminated Burial Yard

Site Background and History

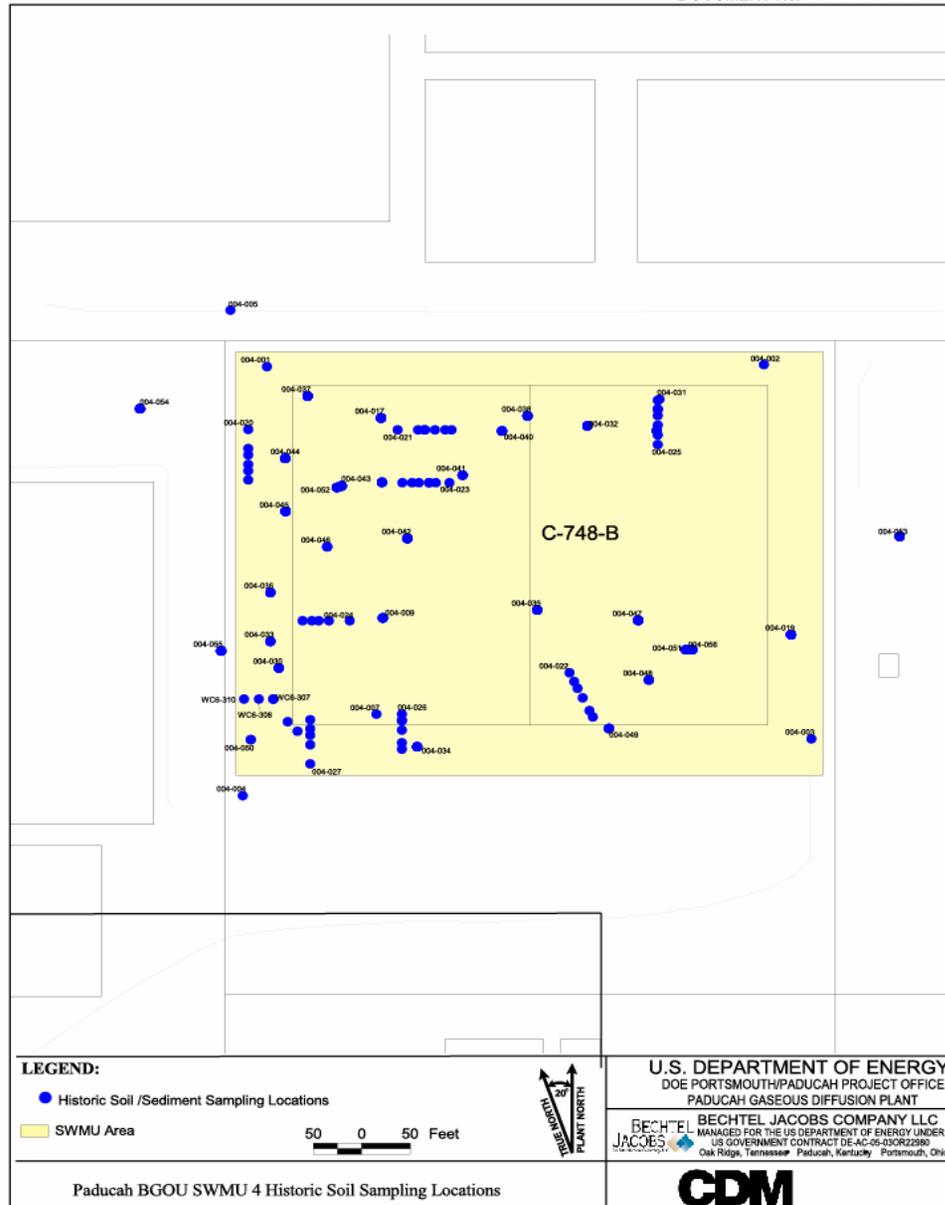
- Specific locations of burial pits are unknown
- Literature indicates that SWMU is a potential source for ^{99}Tc and TCE
- May have received sludges designated for disposal at C-404 burial grounds as well as ^{99}Tc , magnesium fluoride, and uranium-contaminated solid waste
- Total volume of wastes disposed within the SWMU is unknown
- Debris covered with 2 ft to 3 ft of soil, then covered with 6 inches of clay in 1982



SWMU 4

Historical Soil Sampling Locations

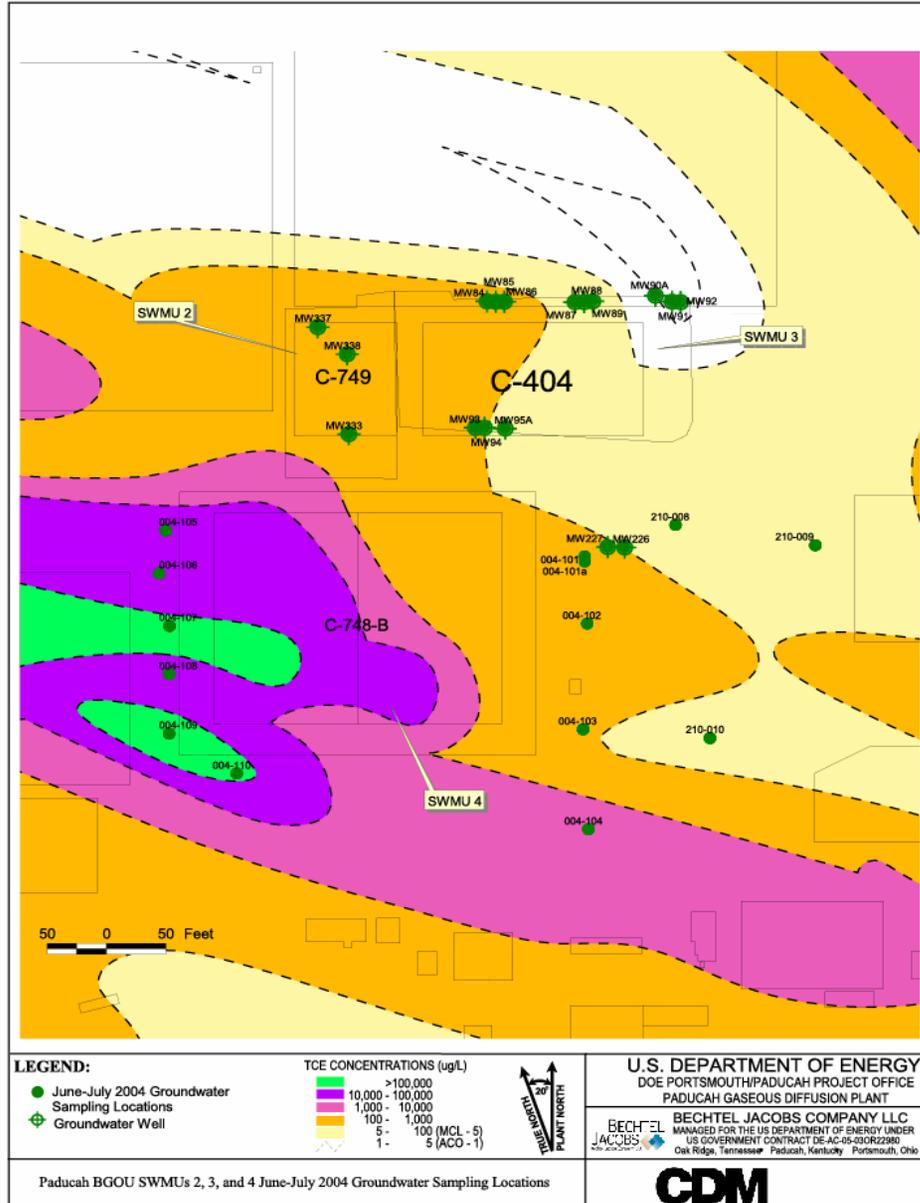
DOCUMENT No. DOE/OR/07-2179





SWMUs 2, 3, and 4 June-July 2004 Groundwater Monitoring Locations

DOCUMENT No. DOE/OR/07-2179





SWMU 4

Summary of Additional Data Needs

Data Gaps

None identified. The site has been characterized sufficiently to meet RI/FS goals.



SWMU 5

C-746-F Classified Burial Yard

Site Background and History

- Located in western section of the PGDP
- Operated from 1965 to 1987
- Literature indicates operating area was approximately 168,000 ft²
- Disposal pits were located on a grid system and consisted of 10 ft x 10 ft cells excavated to depths of 6 to 15 ft below ground surface
- Literature indicates that pits were used for the burial of security-classified weapons components, some radionuclide-contaminated scrap metal, and slag from nickel and aluminum smelters
- Some of the wastes may be chemically unstable and/or incompatible compounds or metals (speculation based on underground fire in SE corner of SWMU boundary which burned for several weeks in 1976)



SWMU 5

C-746-F Classified Burial Yard

Site Background and History

- Waste placed in disposal pits was covered with 2 to 3 ft of soil
- Total quantity and specific types of wastes buried at the yard are unknown
- Surface water drains to the north, west, and south with discharge into KPDES Outfall 001
- Historical records indicate that contaminants associated with SWMU 5 may include ^{99}Tc , uranium, ^{60}Co , tritium, and ^{182}Ta
- Site is not believed to be a source of TCE contamination



SWMU 5 Historical Soil Sampling Locations

DOCUMENT No. DOE/OR/07-2179

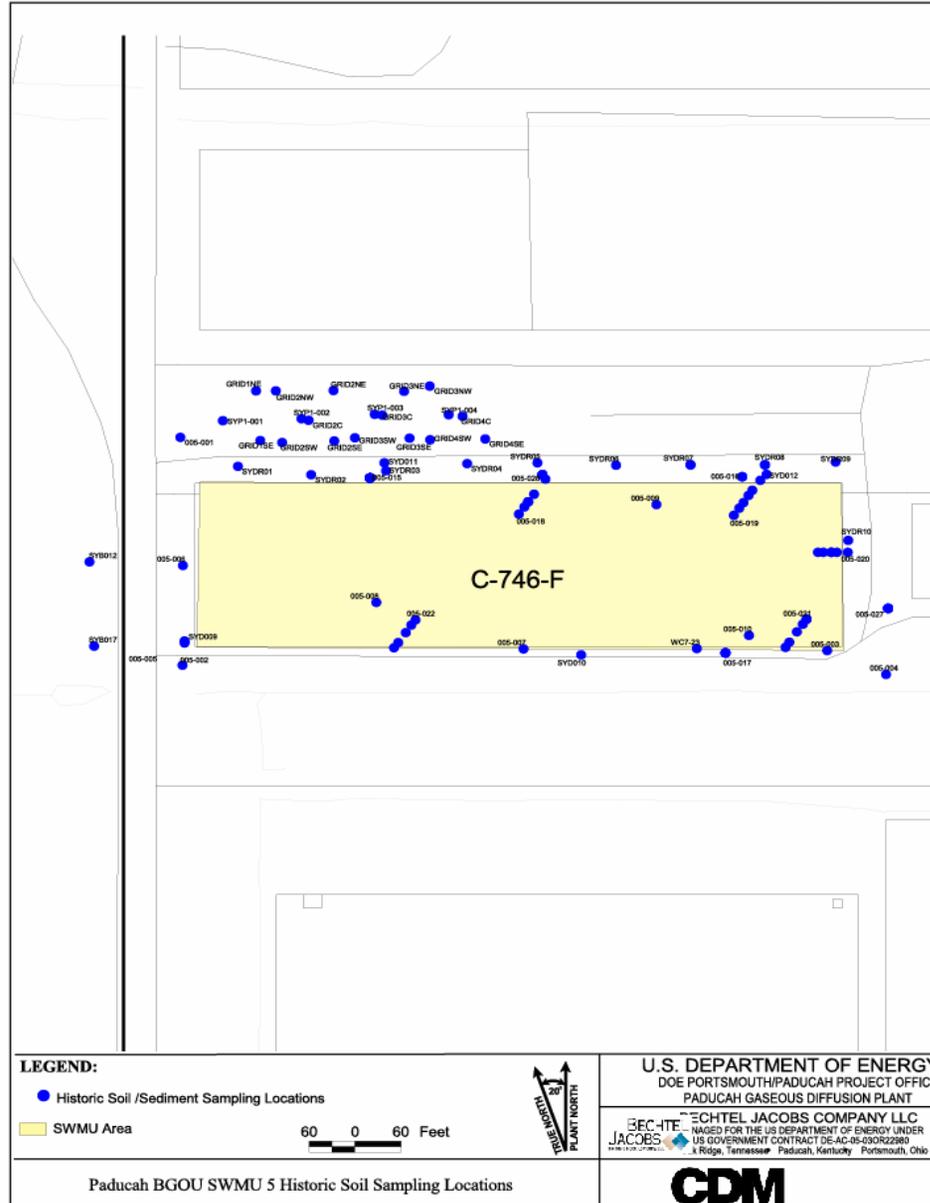
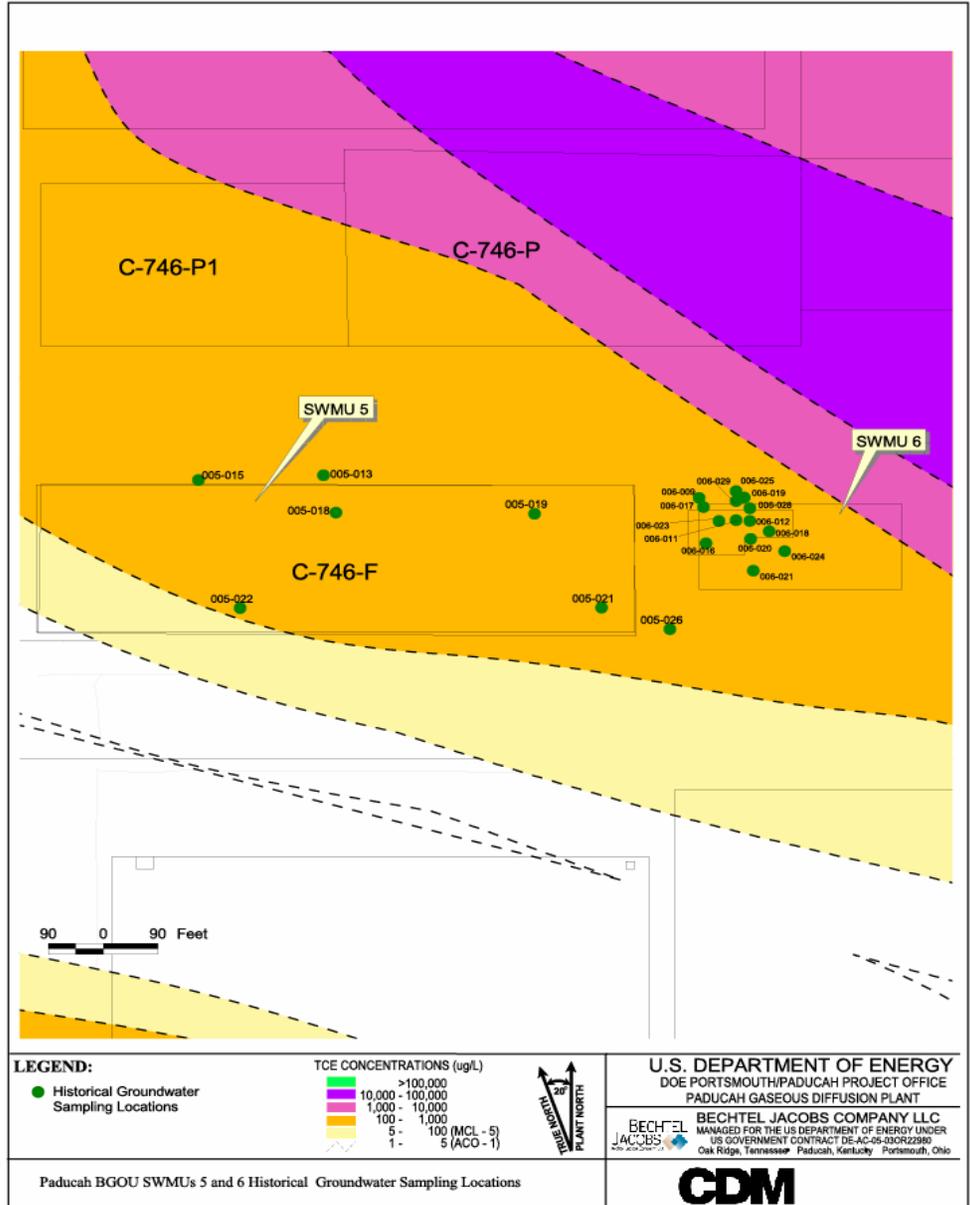


FIGURE No. c5ac90002sk203.apr
DATE 03-31-05



SWMUs 5 and 6 Historical Groundwater Sampling Locations

DOCUMENT No. DOE/OR/07-2179



Paducah BGOU SWMUs 5 and 6 Historical Groundwater Sampling Locations

FIGURE No. c5ac90002sk222.apr
DATE 03-31-05



SWMU 5

Summary of Additional Data Needs

Data Gaps

No field data gaps are identified. Records concerning the environmentally hazardous nature of buried classified material should be supplied during the work plan implementation.

Data Collection Strategy

DOE will provide regulatory agencies with available records related to potential environmental concerns associated with buried wastes.



SWMU 6

C-747-B Burial Ground

Site Background and History

- Located in western section of PGDP east of SWMU 5
- Operated from 1960 to 1976
- Literature indicates that there are five separate burial cells (identified as Areas H, I, J, K, and L) that cover an area of 5200 ft²
- Depth of cells is reported to be 6 ft to 10 ft below ground surface
- No previous investigations have been conducted specifically at SWMU 6



SWMU 6

C-747-B Burial Ground

Site Background and History

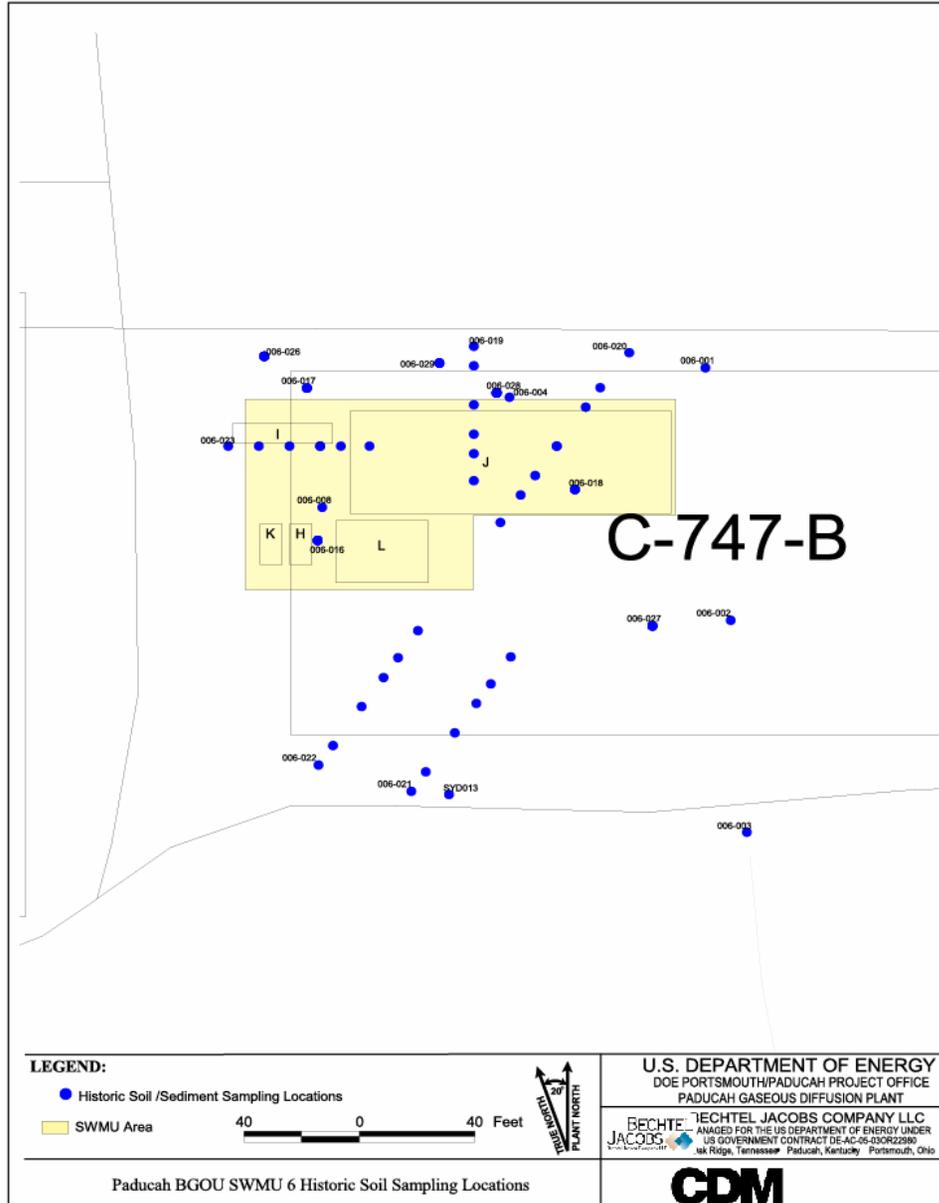
Known Waste Inventories

- Area H: 75 ft³ magnesium scrap
- Area I: 8 exhaust fans contaminated with perchloric acid
- Area J: 1100 ft³ aluminum scrap
- Area K: 150 ft³ magnesium scrap
- Area L: UF₆ condenser



SWMU 6 Historical Soil Sampling Locations

DOCUMENT No. DOE/OR/07-2179



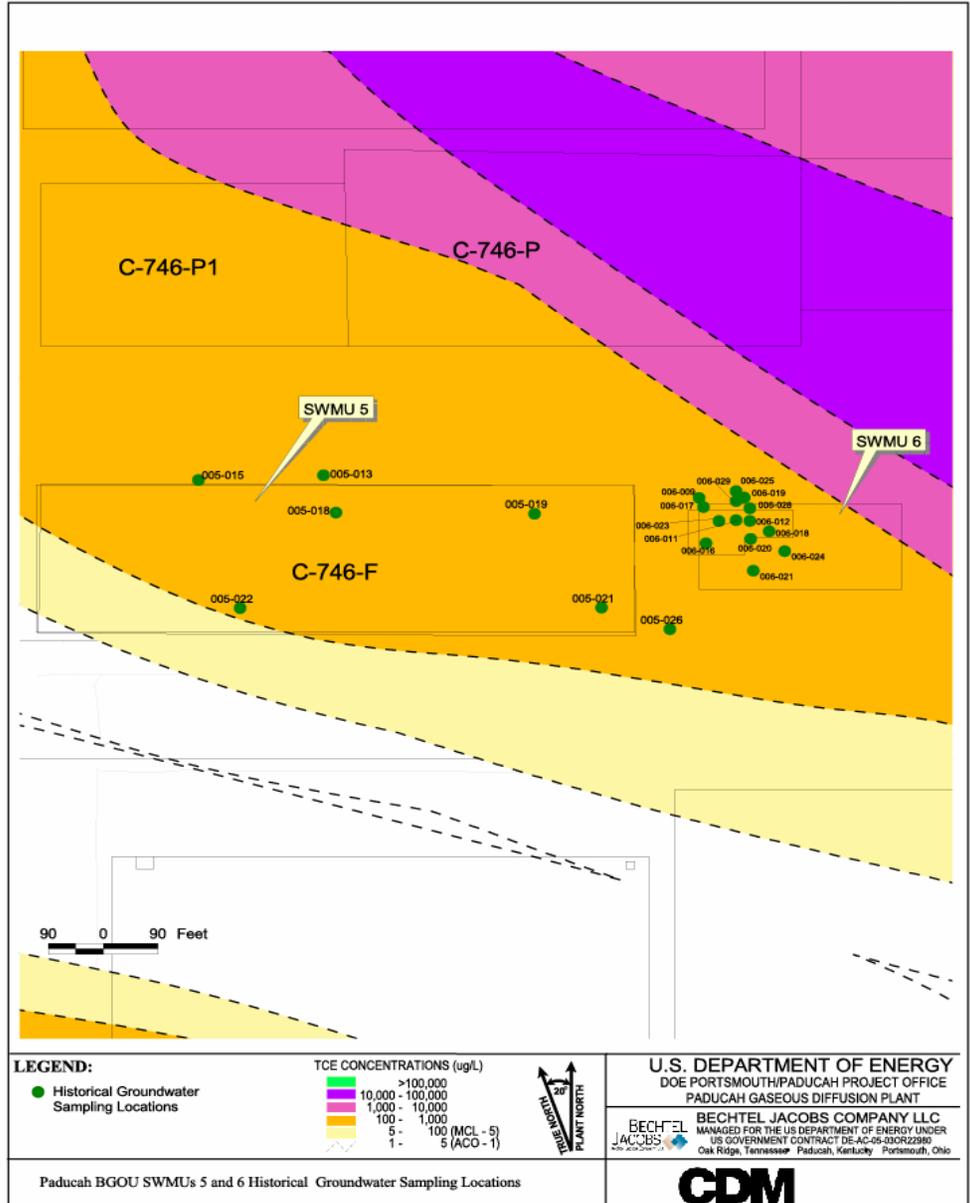
Paducah BGOU SWMU 6 Historic Soil Sampling Locations

FIGURE No. c5ac90002sk204.apr
DATE 03-31-05



SWMUs 5 and 6 Historical Groundwater Sampling Locations

DOCUMENT No. DOE/OR/07-2179



Paducah BGOU SWMUs 5 and 6 Historical Groundwater Sampling Locations

FIGURE No. c5ac90002sk222.apr
DATE 03-31-05



SWMU 6

Summary of Additional Data Needs

Data Gaps

There are no metallic uranium and limited uranium from previous investigations. Some areas under the cells are not well characterized due to a previous inability to access the areas.

Sampling Strategy

Drill four angle borings near the location where the highest contamination was found previously. Collect soil samples and UCRS groundwater samples (if possible).



SWMU 6 Proposed RI/FS Sampling Locations

DOCUMENT No. DOE/OR/07-2179

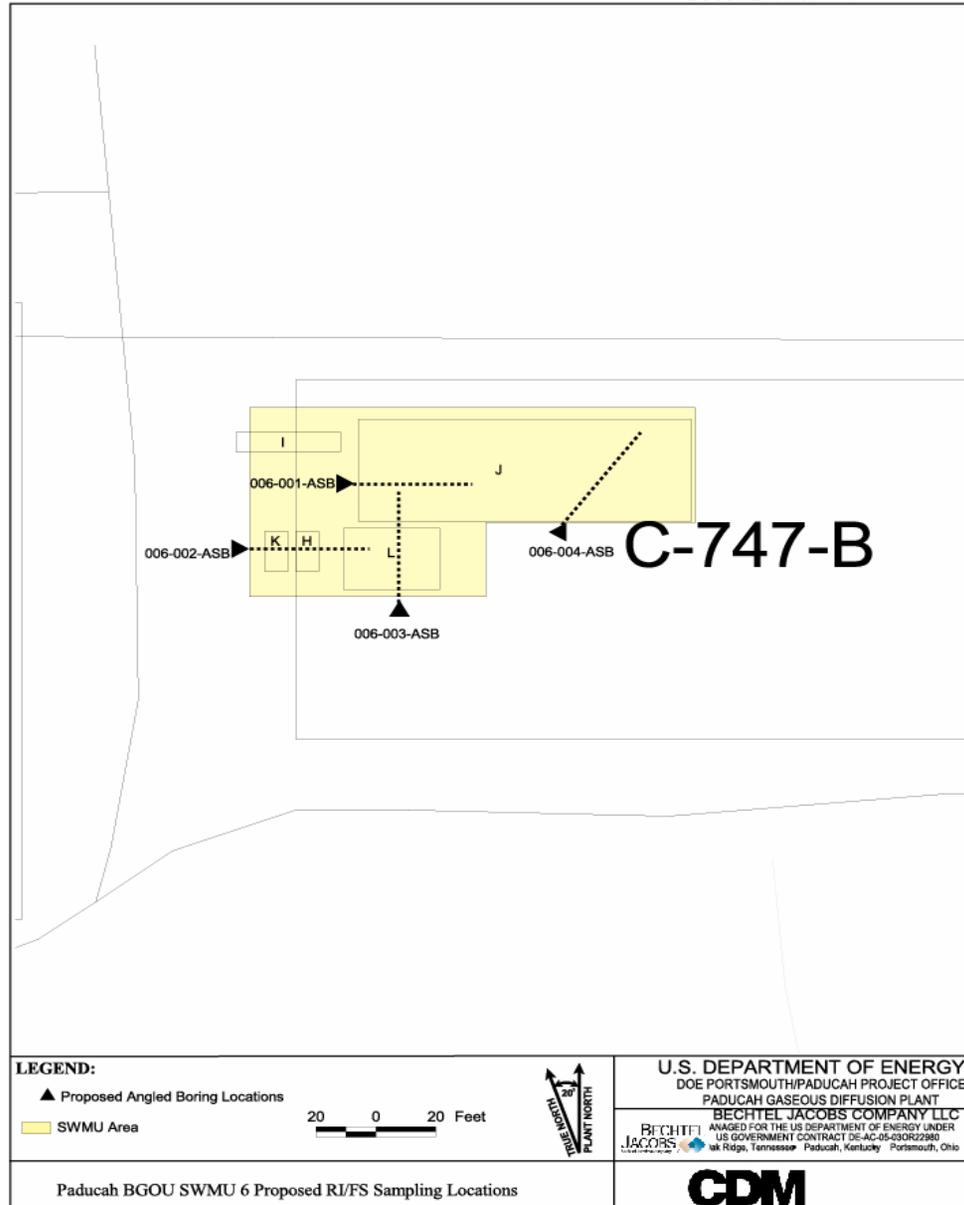


FIGURE No. c5ac90002sk226.apr
DATE 03-31-05



SWMU 7

C-747-A Burial Ground

Site Background and History

- Comprised the eastern two-thirds of C-747-A
- Bounded on the north and south sides by perimeter ditches, on the west side by the C-747-A Burn Area (SWMU 30), and on the east side by the C-746-E Contaminated Scrap Yard
- Covers approximately 240,900 ft² and includes five discrete burial pit areas (Burial Pits B, C, D, F, and G)
 - Pit B: 10,200 ft²
 - Pit C: 9,600 ft²
 - Pit D: 2,100 ft²
 - Pit F: five areas each ≤ 1,800 ft²
 - Pit G: 3,300 ft²



SWMU 7

C-747-A Burial Ground

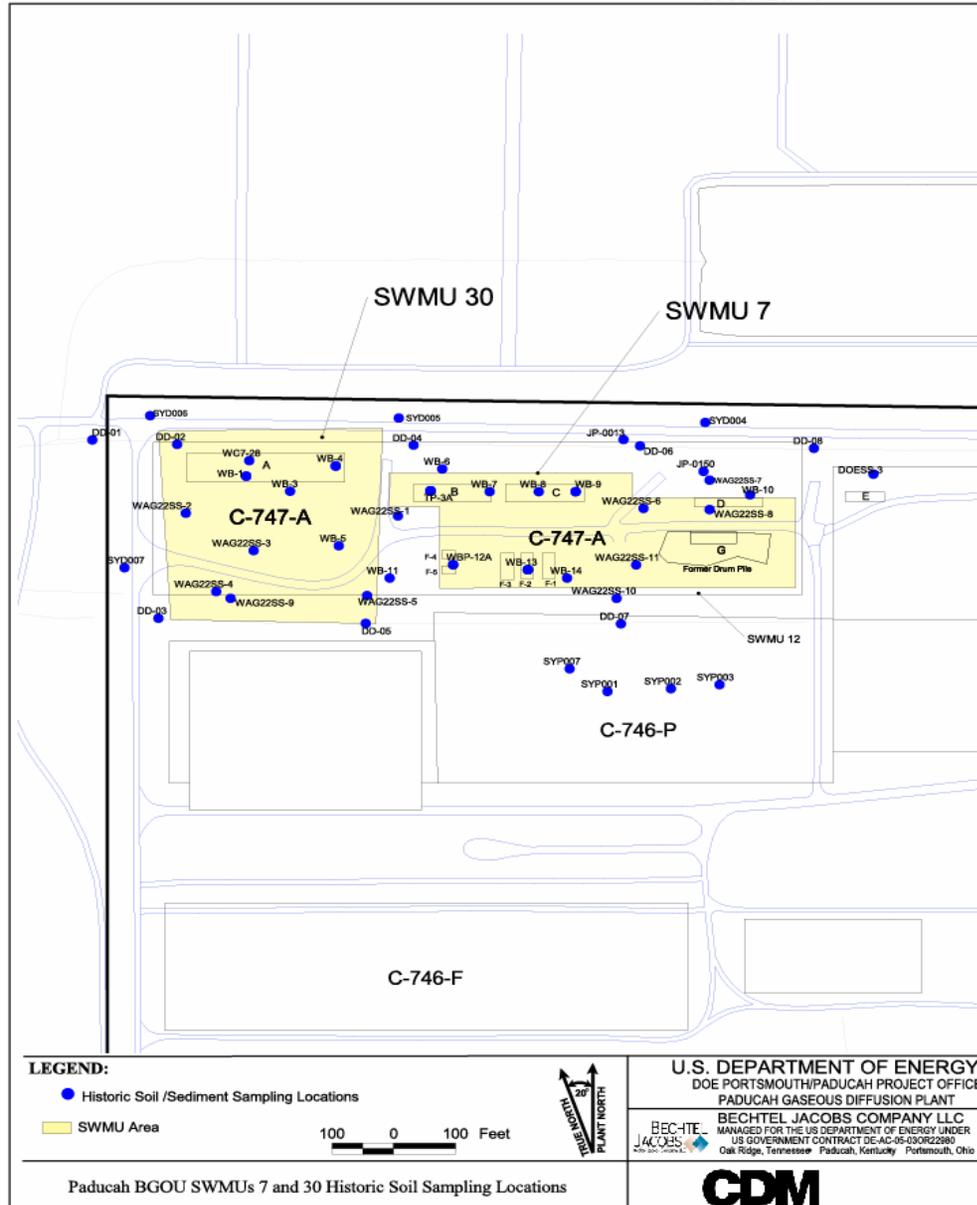
Site Background and History

- Records indicate the burial pits were excavated to a depth of 6 to 7 ft below the surface, filled with wastes, and covered with approximately 3 ft of earth
- TB-3 of Phase II Site Investigation discovered waste to a depth of 10 ft on the west side of Burial Pit B
- Drum Mountain previously removed from area
- Burial Pits B, C, and G were used for disposal of noncombustible, contaminated and uncontaminated trash, material and equipment. Contaminated concrete removed from the C-410 Feed Plant during May and June 1960 was placed in Burial Pit D
- The F Burial Pit was used for disposal of uranium-contaminated scrap metal and equipment. Empty uranium and magnesium powder drums were also reported to have been buried in Burial Pit F



SWMUs 7 and 30 Historical Soil Sampling Locations

DOCUMENT No. DOE/OR/07-2179



Paducah BGOU SWMUs 7 and 30 Historic Soil Sampling Locations

FIGURE No. c5ac90002sk205_apr
DATE 03-31-05



SWMUs 7 and 30 June-July 2004 Groundwater Monitoring Locations

DOCUMENT No. DOE/OR/07-2179

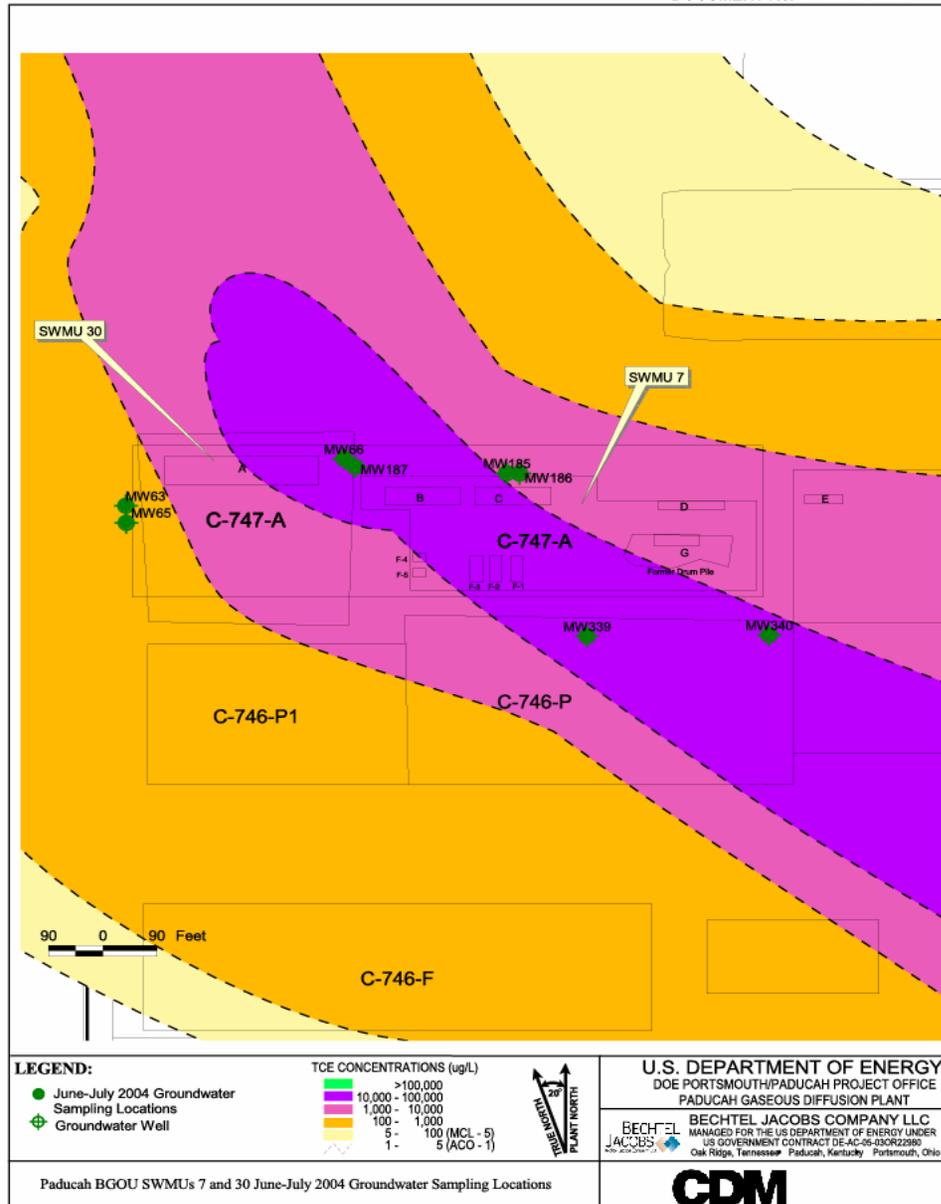


FIGURE No. c5ac90002sk220.apr
DATE 03-31-05



SWMU 30

C-747-A Burn Area

Site Background and History

- Includes the western one-third of C-747-A
- Consists of a historical burn-and-burial pit (Burial Pit A) and the location of a former incinerator
- Bounded on the north and south sides by ditches, on the west side by Patrol Road, and on the east side by SWMU 7
- Encompasses approximately 128,000 ft². The pit is reported to have been excavated to a depth of 12 ft and covered with 4 ft on earth.
- Used from 1951 to 1970 to burn combustible trash which may have contained uranium contamination
- Ash and debris were buried below ground in Burial Pit A beginning in 1962, when use of an on-site incinerator was discontinued
- Research identified images of the incinerator at the location



SWMUs 7 and 30

Summary of Additional Data Needs

Data Gaps

TCE contamination from the burial pits is from an unknown source. No boreholes at depth are sufficient to determine the full extent of contamination under the cells. Boundaries of burial cells need to be better defined – no definitive boundaries – only estimates. Areas under the former Drum Mountain should be characterized. Anomalous areas between SWMUs 7 and 30 and Pit E should be delineated and investigated.

Sampling Strategy

- Conduct a geophysical survey to determine the pit boundaries where uncertainties have been identified and to define the anomalous areas.
- Drill 11 angle borings (one under each pit) and collect soil samples and UCRS groundwater samples (if possible).
- Drill two vertical borings (one in the incinerator area and one at the former Drum Mountain location) and collect soil samples and UCRS groundwater samples (if possible).
- Drill two vertical borings and collect soil samples north of the pits to evaluate TCE contamination in shallow groundwater. Collect soil samples and UCRS groundwater samples (if possible).
- Drill up to three additional contingency vertical borings in any of the areas where the vertical borings identified contamination. Collect soil samples and UCRS groundwater samples (if possible).
- Conduct a radiological surface walkover with up to 20 contingency grab samples for radiological analysis.



SWMUs 7 and 30 Proposed RI/FS Sampling Locations

DOCUMENT No. DOE/OR/07-2179

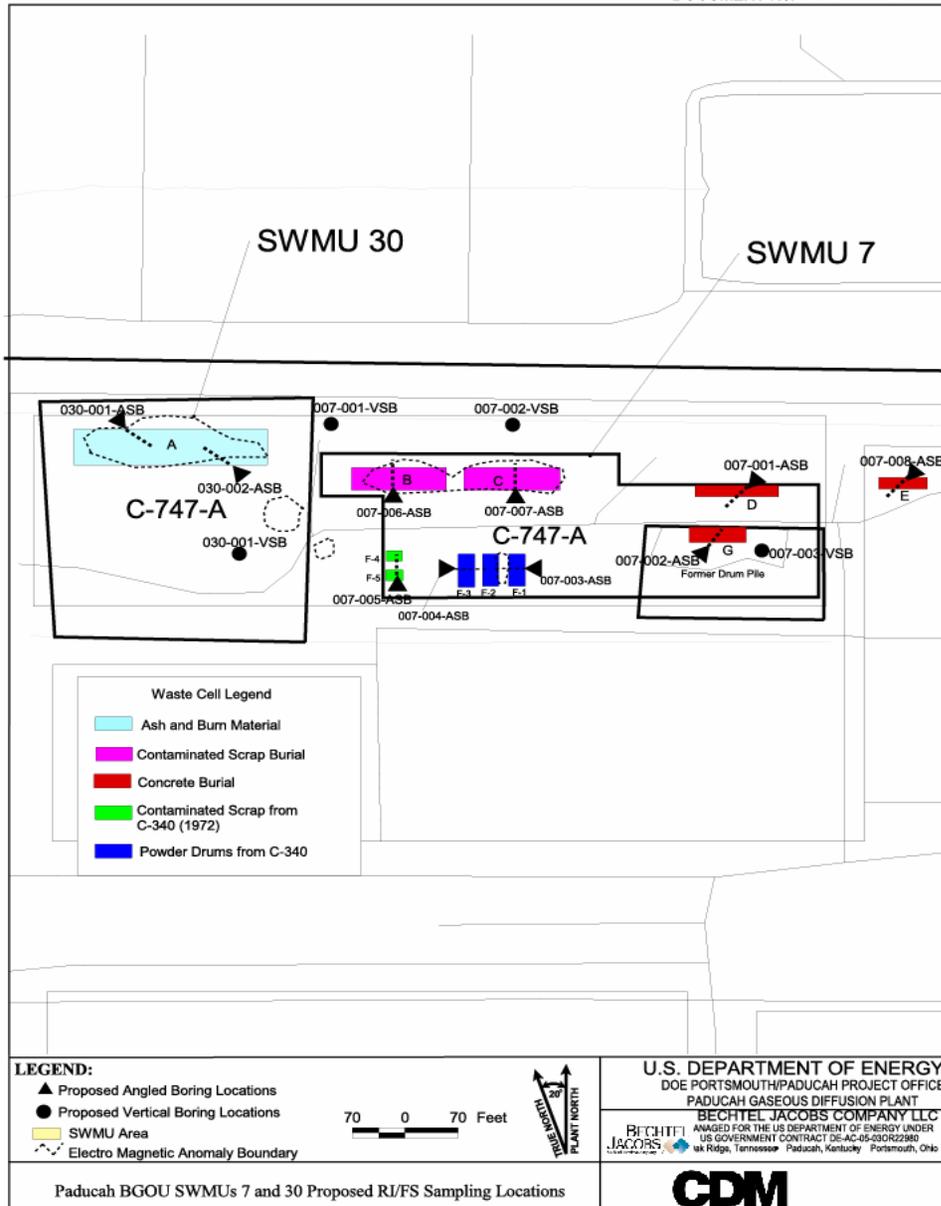


FIGURE No. c5ac90002sk224.apr
DATE 03-31-05



SWMU 145

Residential/Inert Landfill Borrow Area

Site Background and History

- Approximately 44 acres located north of the PGDP security area
- Began operation in the early 1950s
- C-746-S&T Landfills are located on top of SWMU 145
- Area was used by the contractor for the construction of the PGDP to discard all types of scrap and waste materials
- Use of the area for discarding of scrap and waste by subcontractors was continued until the early 1980s
- Construction debris such as concrete, roofing materials, wire, wood, shingles with asbestos, and welding rods are expected to have been disposed of in the area



SWMU 145 Historical Soil Sampling Locations

DOCUMENT No. DOE/OR/07-2179

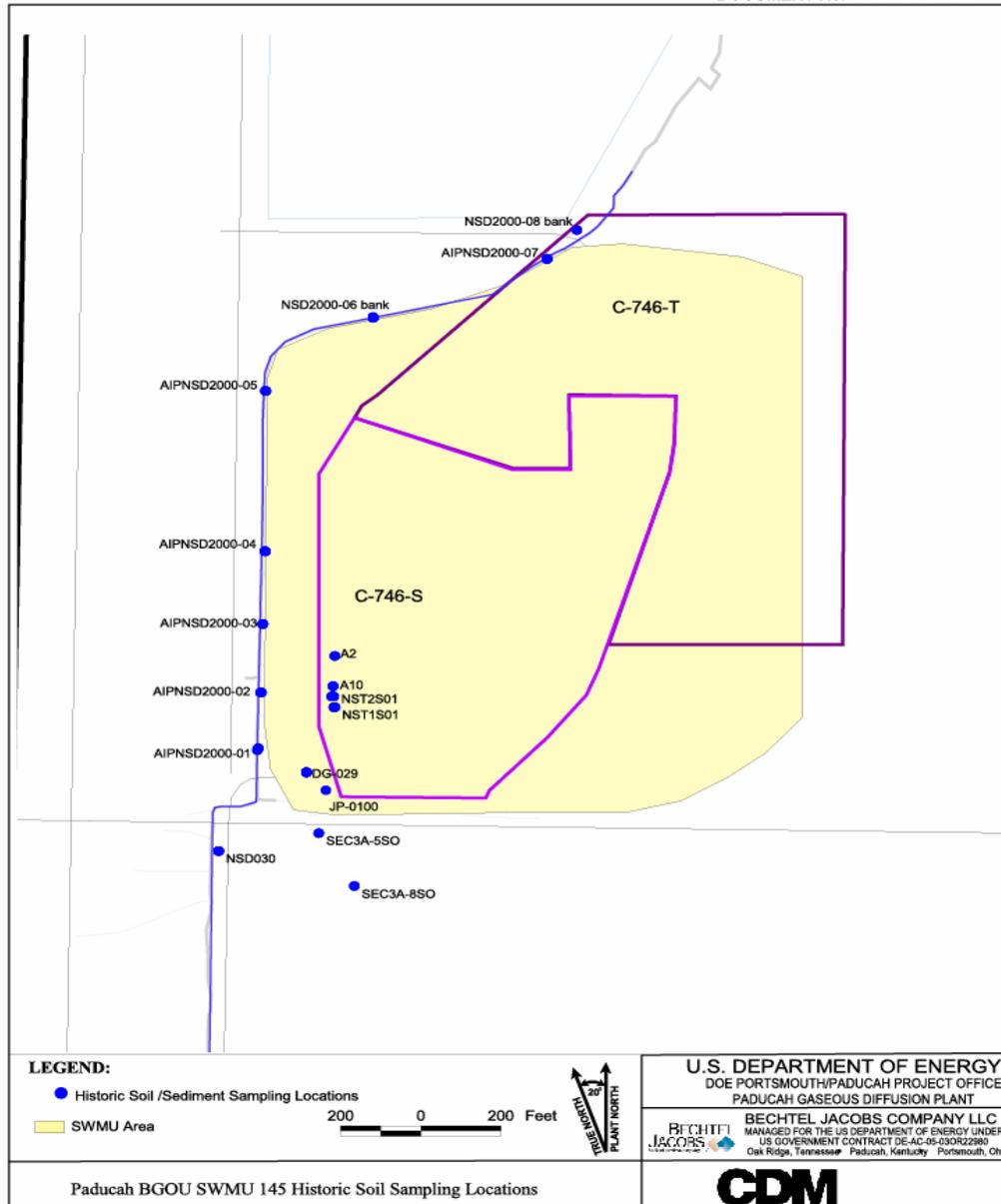


FIGURE No. c5ac90002sk206.apr
DATE 03-31-05



SWMU 145 June-July 2004 Groundwater Monitoring Locations

DOCUMENT No. DOE/OR/07-2179

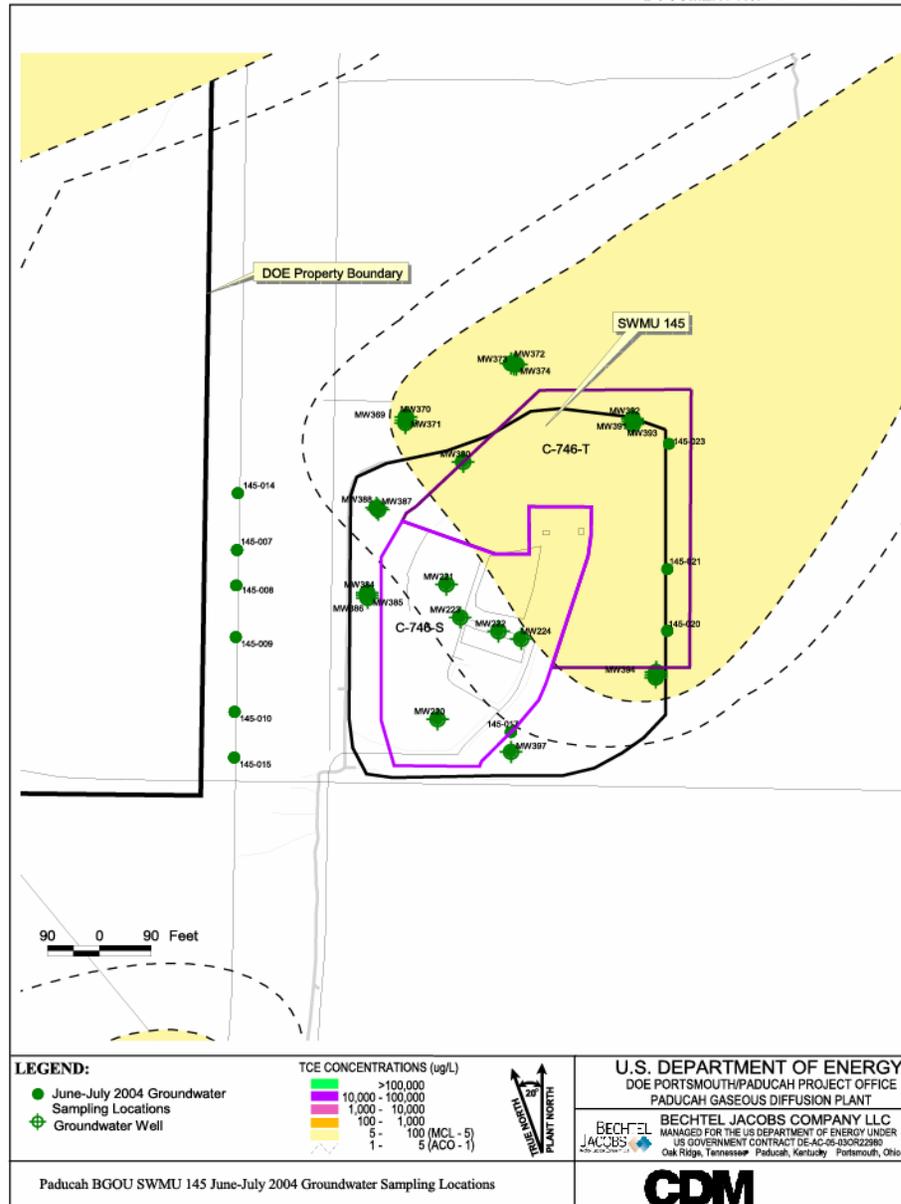


FIGURE No. c5ac90002sk221.apr
DATE 03-31-05



SWMU 145

Summary of Additional Data Needs

Data Gaps

There are no soil data from within or under the burial area. Surface radiological levels are unknown.

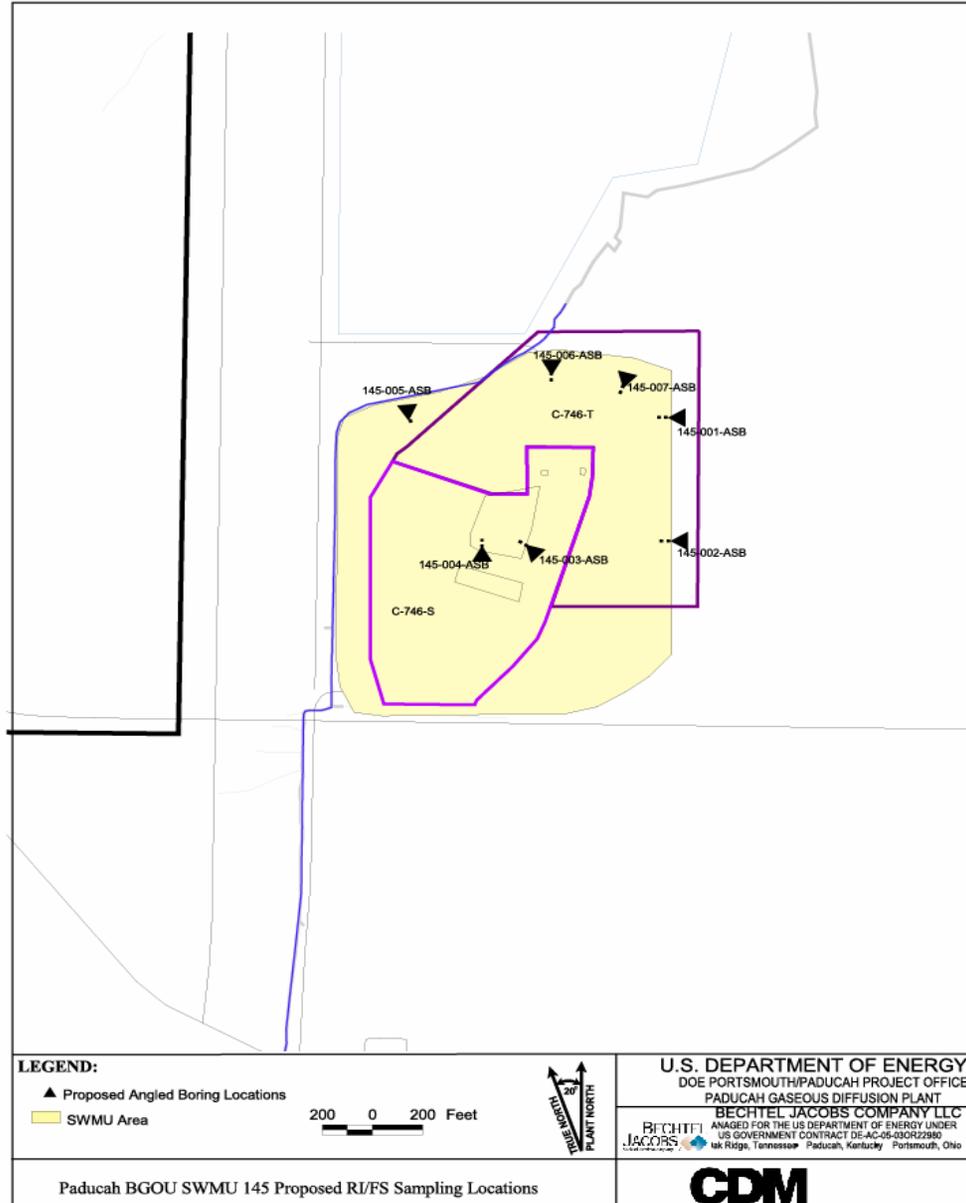
Sampling Strategy

- Conduct a geophysical survey to determine the pit boundaries where uncertainties have been identified.
- Drill seven angle borings and collect soil samples and UCRS groundwater samples (if possible). If geophysical survey does not determine appropriate pits to angle beneath, then vertical borings will be utilized.
- Conduct a radiological surface walkover with up to 10 contingency grab samples for radiological analysis in areas not defined by the C-746-S&T Landfills.



SWMU 145 Proposed RI/FS Sampling Locations

DOCUMENT No. DOE/OR/07-2179



Paducah BGOU SWMU 145 Proposed RI/FS Sampling Locations

FIGURE No. c5ac90002sk223.apr
DATE 03-31-05