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Federal Official
Dave Kozlowski,
DOE

*DOE Federal
Coordinator*

Greg Simonton

Environmental Restoration Subcommittee Meeting
5:30 p.m. ♦ January 7, 2009

Agenda

1. Provide Project Summary Sheet on the X-749 Groundwater Plume Dave Sharp/Sandy Childers, LATA/Parallax
2. Provide Briefing on X-701B Groundwater Plume Remedy DOE Headquarters Team Review Melda Rafferty, DOE and Dave Sharp, LATA/Parallax
3. Provide initial 2-D groundwater model snapshots of X-749 plume area and topography Dave Sharp, LATA/Parallax
4. Concerns/Issues
5. Next Month's Agenda

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*Support provided by
EHI Consultants*



Portsmouth Site Specific Advisory Board
Environmental Restoration Subcommittee
January 7, 2009

Subcommittee Members: Gene Brushart
Larry Parker
Edwin Charle
Steve Martin
Cristy Renner

DOE Representatives: Melda Rafferty, DOE
Dave Kozlowski, DOE
Dave Sharp, LATA/Parallax

Executive Committee: Val Francis

Support Staff: Eric Roberts, EHI
Kate Timmons, EHI

Meeting opened at 5:30 p.m.

X-701B Plume

Rafferty provided a presentation on the X-701B plume. The independent investigation on the plume is completed and the DOE is reviewing a draft of the report. Actions objectives include achieving preliminary remediation goals, prevent migration of chemicals of concern from groundwater to surface water, prevent exposure to future off-site residents from the chemicals of concern and prevent exposure to on-site personnel to chemicals of concern.

Charle inquired about the size of the plume. Sharp stated that it's approximately 1800 feet long. Francis inquired if there is an increase in the clay type soil mentioned at the last meeting. Rafferty reported that the draft is being reviewed and is being checked for accuracy. This issue will be addressed in the final report.

X-749 Clean-up

Sharp provided a 2-D representation of the X-749/x102 groundwater area. Extraction wells were installed to catch contamination before it left the reservation. The presented

model showed there is success in reducing the TCE levels in the plume. Models are based off of models built by the US Geological service. Trees have been planted to pull the TCE out of the ground as part of the phyto-remediation treatment. While the plume is being managed and has shrunk since 2006, the plume is spreading east and west. A hotspot was identified and Charle inquired why the TCE levels were so high in that area. Sharp indicated that TCE barrels were buried in the zone and the levels are high on both sides of the retaining wall. An option to remediate the hotspot is to put an extraction well on each side of the barrier wall to capture the TCE. The southern extraction wells are pulling clean water, another indicator that the plume is shrinking further into the reservation. Clean water can be introduced to continue shrinking the plume. Adding extraction wells can expedite the process. Sharp stated that they are looking at a 25-year timeline for the plume to be gone completely.

Action Items:

1. Committee requests that the 3-D presentation be made when it's available. Sharp will update the committee at a later meeting.

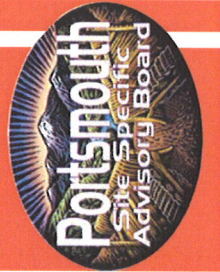
Next meeting: Tuesday, February 3, 2009 at 5:30 p.m.



X-701B Project

Melda Rafferty
U.S. Department of Energy

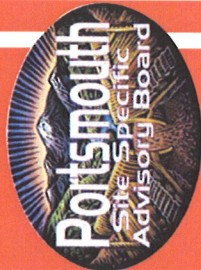
January 7, 2009



X-701B Independent Review

Review Team Objectives:

- Objective 1: The Department of Energy requested an Independent Technical Review of the X-701B technology to determine if this treatment method was an effective technology.
- Objective 2: The review team would provide alternative treatment options if the team's findings determined the current technology is not an effective treatment method.



X-701B Independent Review

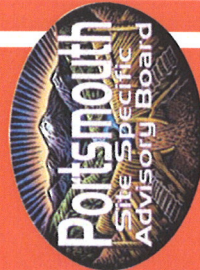
Review Team Members:

Thomas O. Early – GeoConsultants, LLC, environmental geochemistry
Brian B. Looney – Savannah River National Lab, environmental clean-up methods

Joe Rossabi – Redox Tech, LLC, soil and groundwater contamination
Karen L. Skubal – DOE Groundwater and Soil Remediation, dechlorination processes

Claude Magnuson – DOE Groundwater and Soil Cleanup Technology
Carol Eddy-Dilek – Savannah River National Lab, environmental clean-up methods

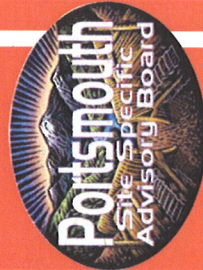
Jed Costanza – U.S. Environmental Protection Agency, groundwater clean-up technologies



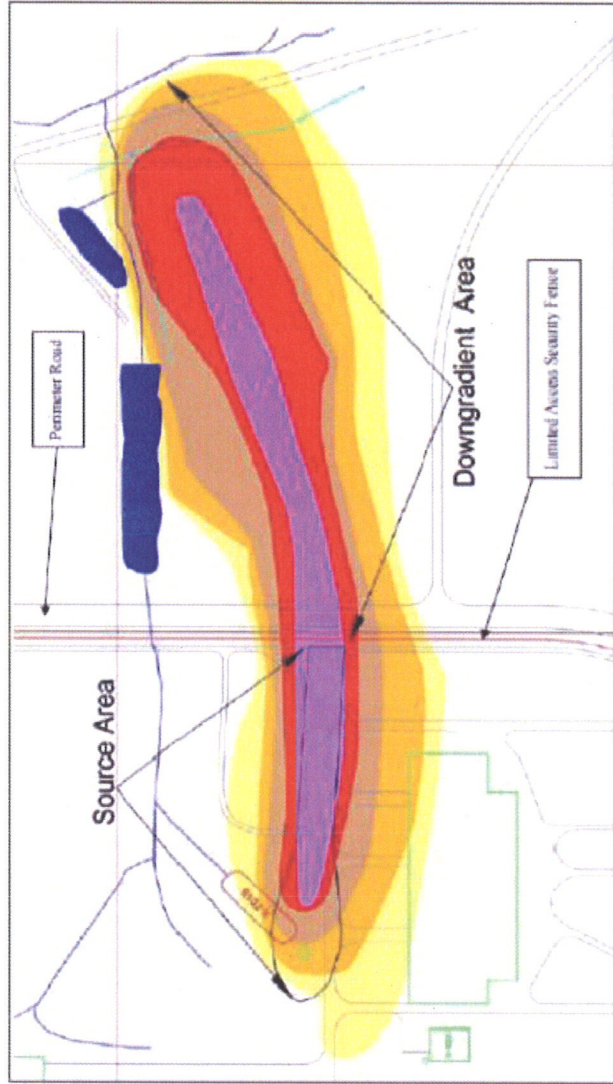
X-701B Independent Review

Remedial Action Objectives for X-701B

- Achieve Preliminary Remediation Goals (PRGs) when practicable
- Prevent migration of chemical of concern (COCs) from groundwater into surface water
- Prevent exposure of future off-site residents to COCs
- Prevent exposure of on-site personnel to COCs



X-701B Plume



X-701B Plume

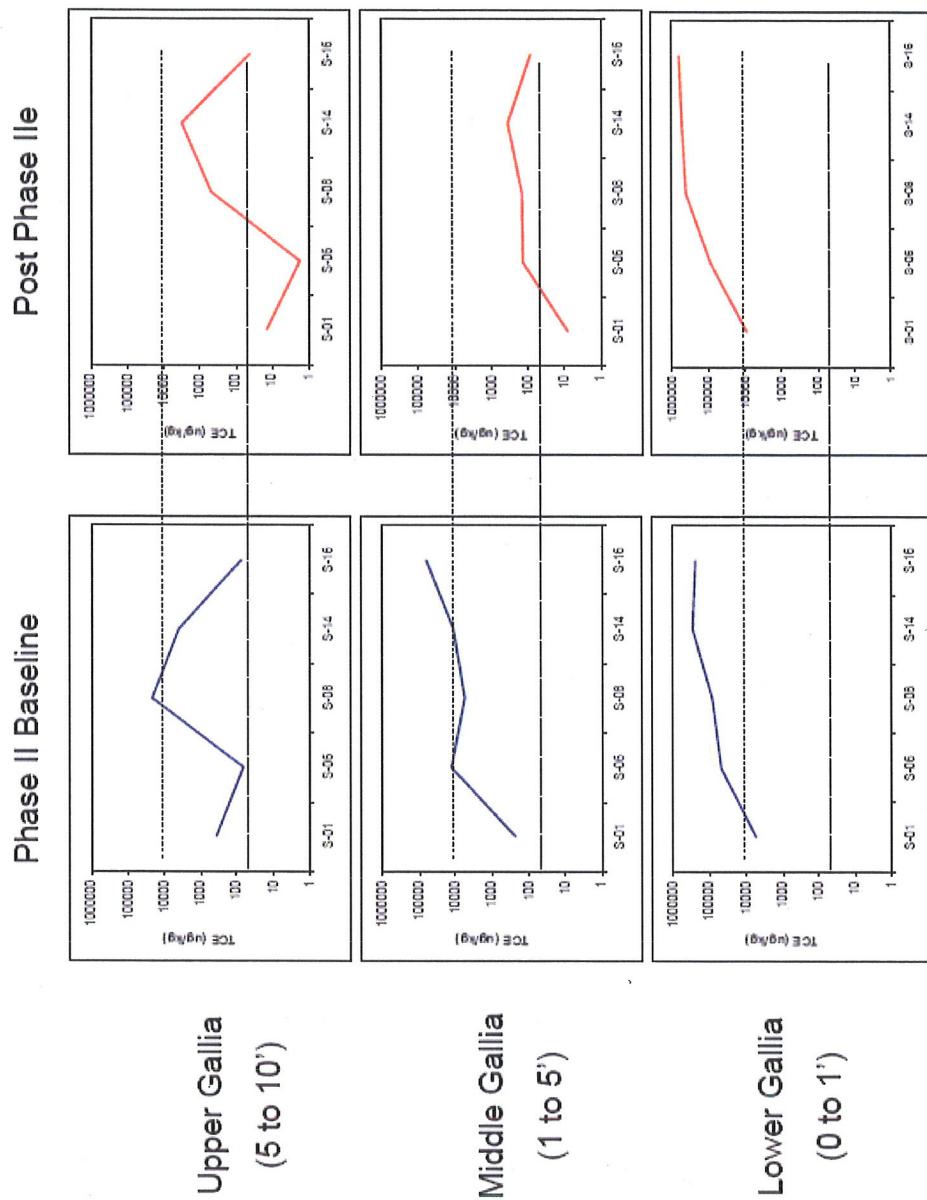
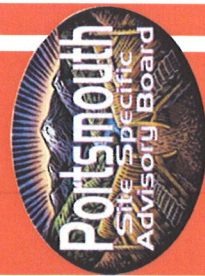


Figure 7. Soil concentration transects in the upper middle and lower Gallia from baseline data and samples collected after five rounds of Phase II oxidant injection. Guidelines are provided at approximately 10,000 $\mu\text{g}/\text{Kg}$ and at the soil PRG of 48 $\mu\text{g}/\text{Kg}$





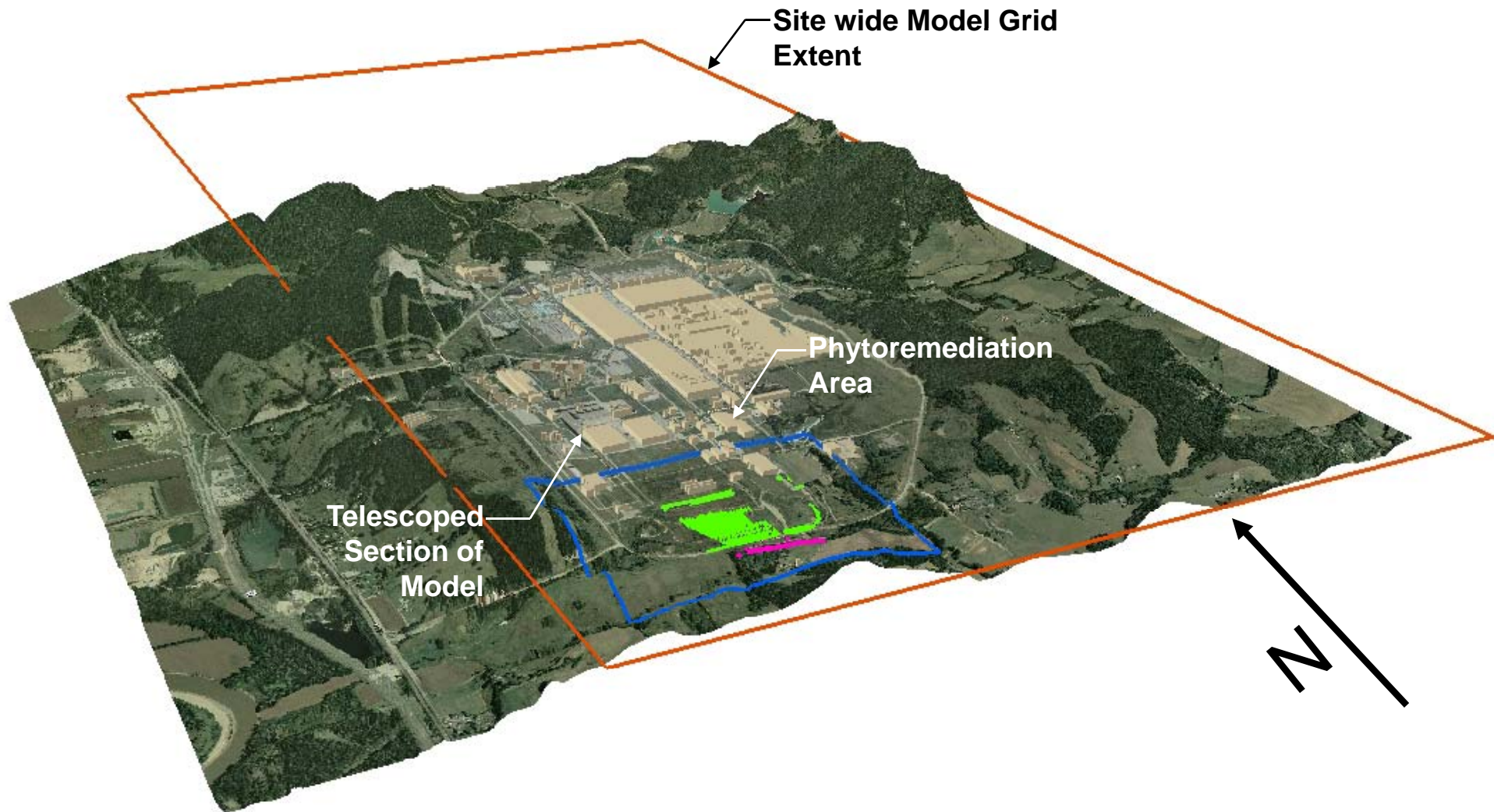
X-749 Cleanup

Dave Sharp, P.E.
LATA/Parallax Portsmouth, LLC

January 7, 2009

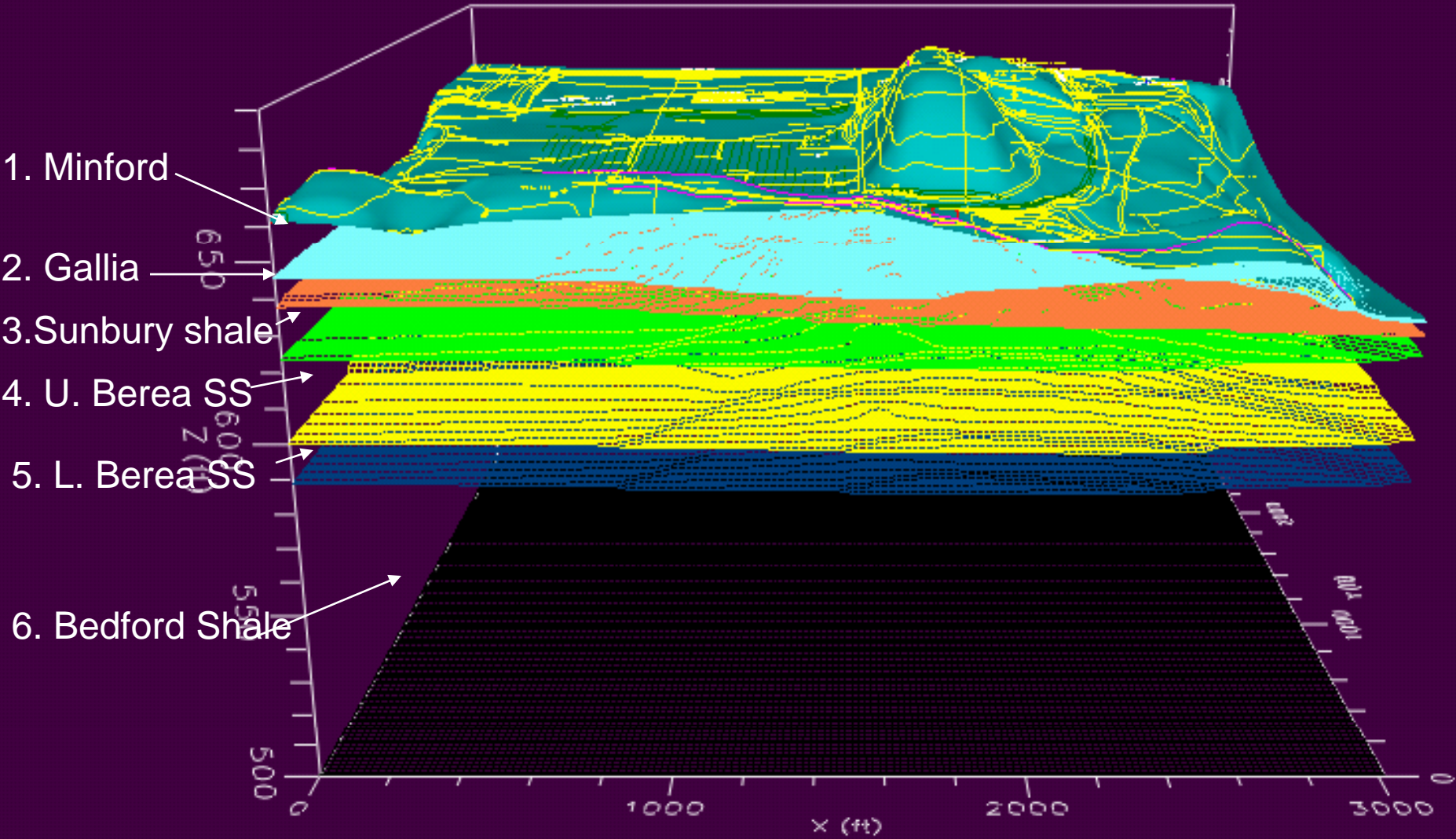


Portsmouth Gaseous Diffusion Facility

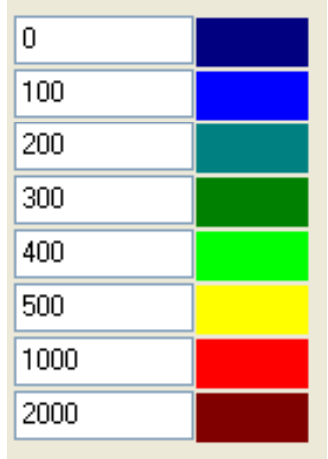
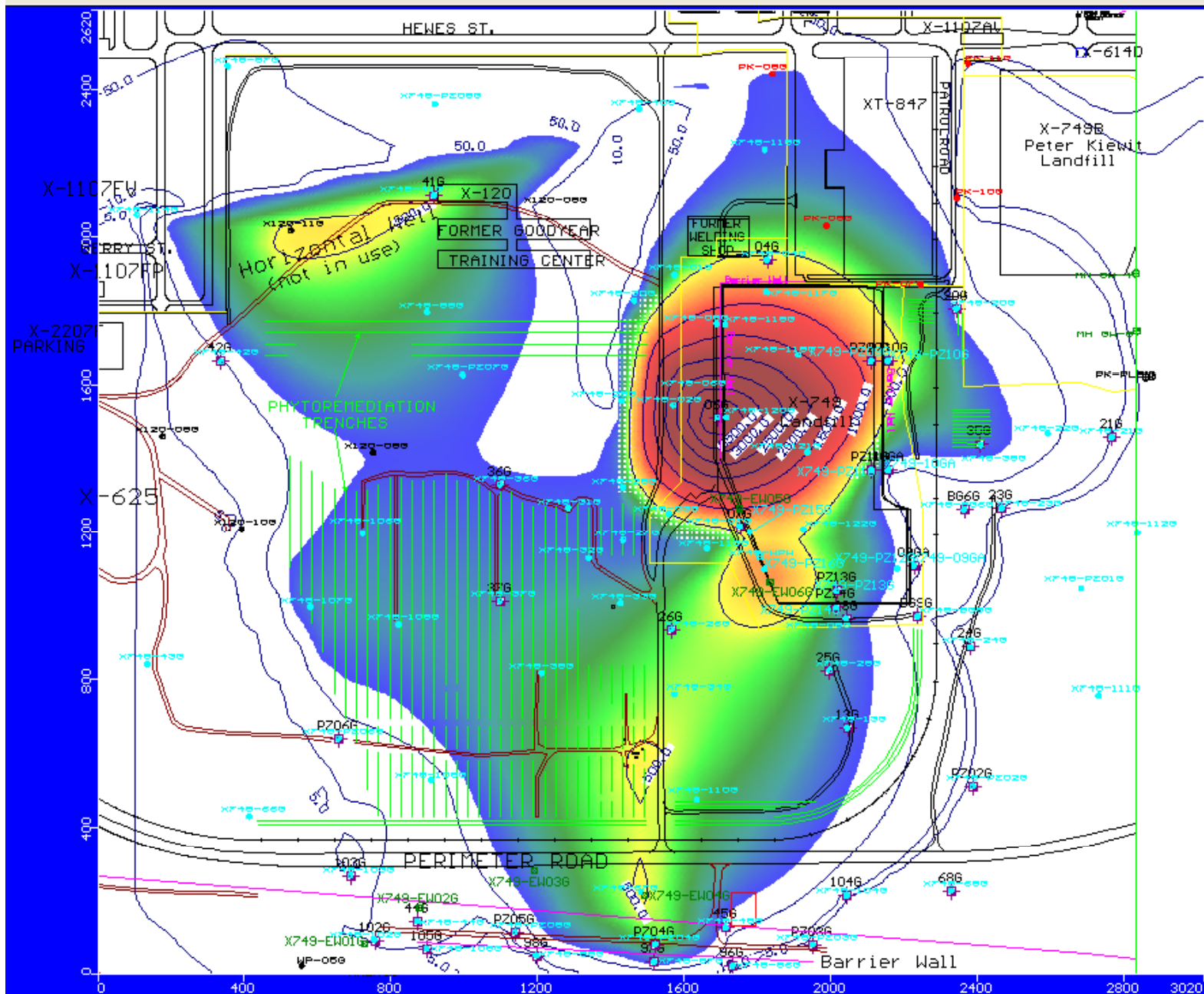


Telescoped Section of Model

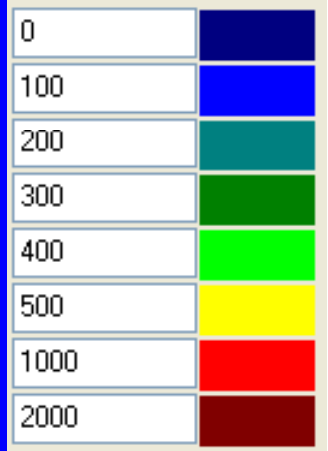
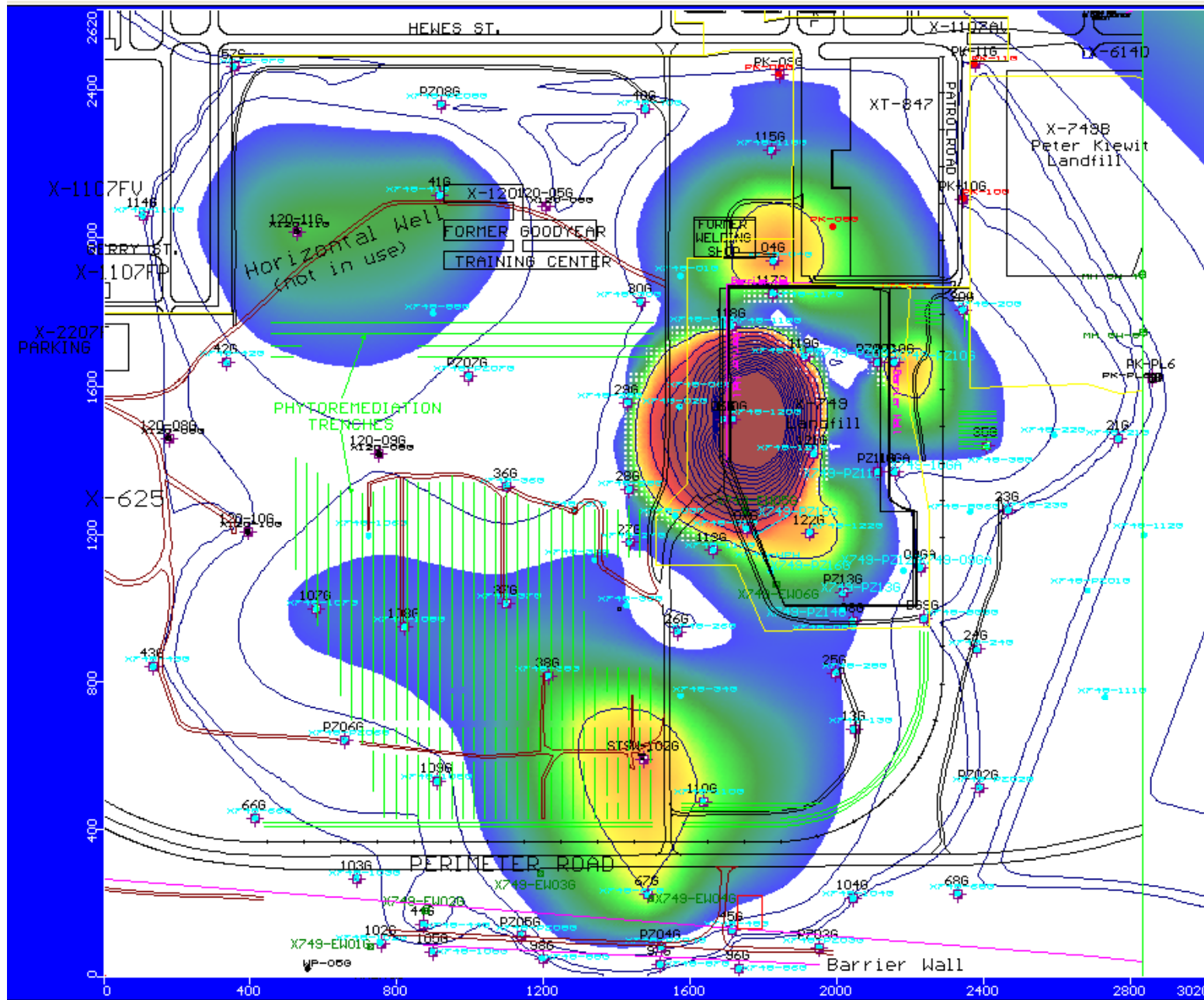




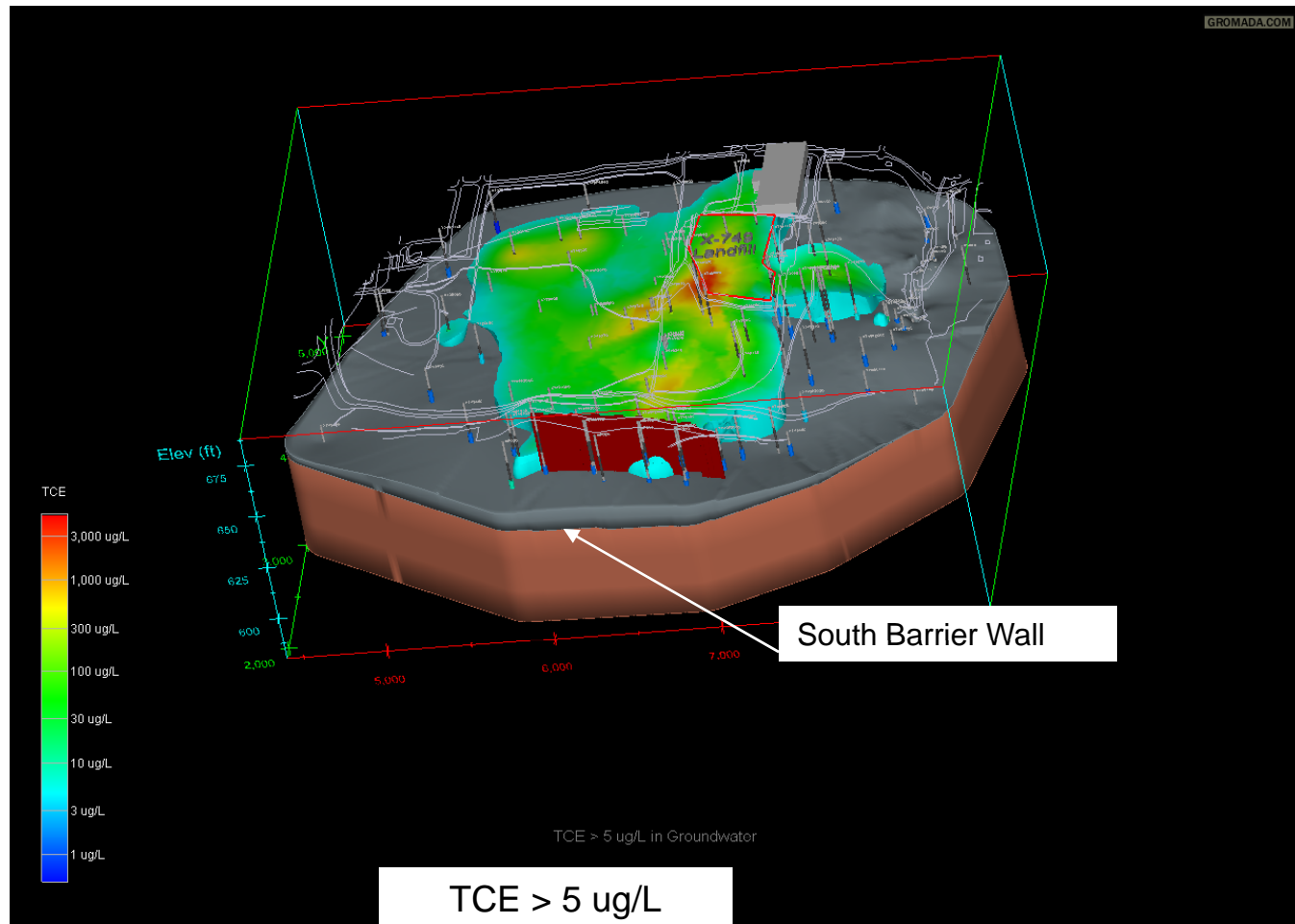
2006 TCE Plume



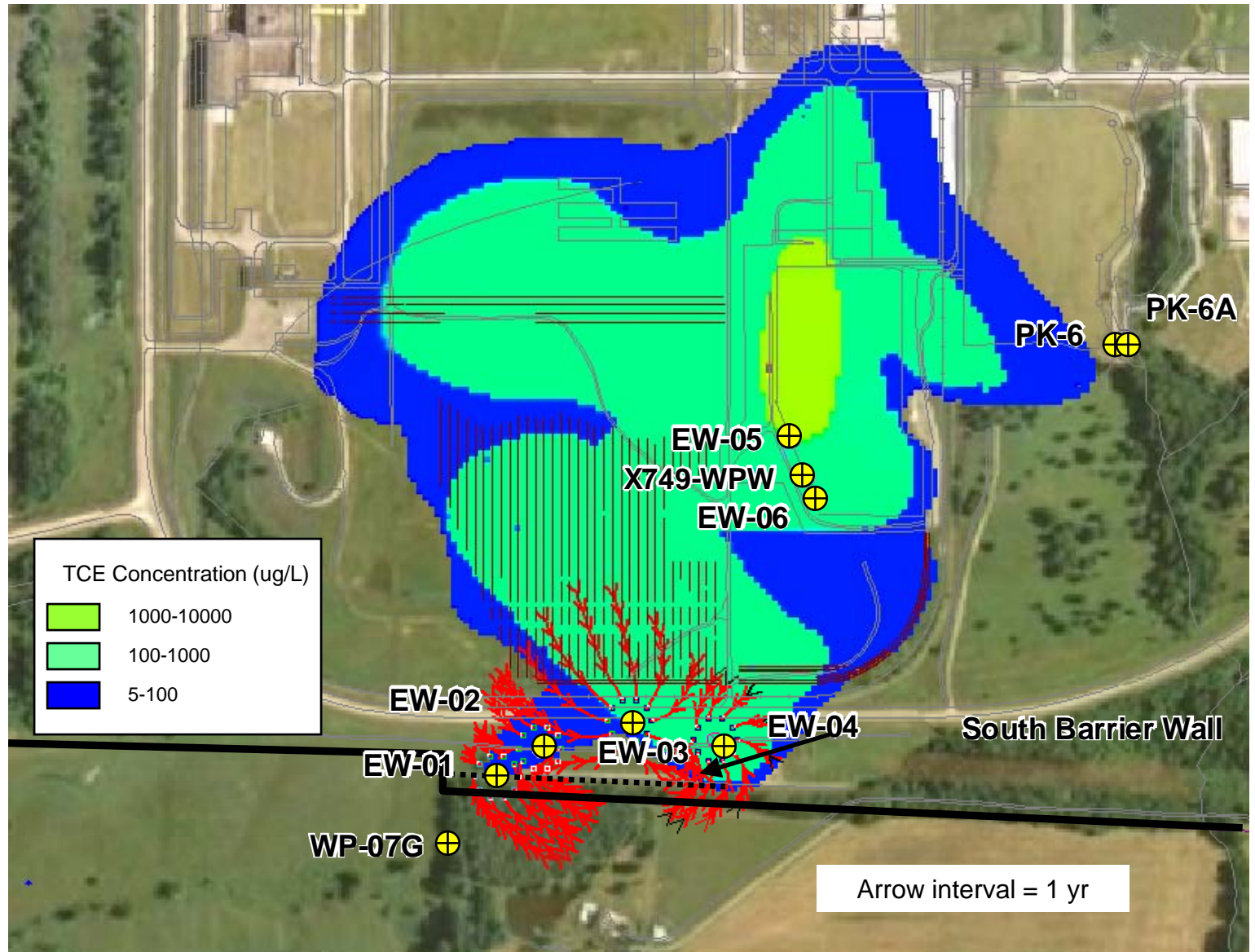
2008 TCE Plume



3D Visualization to Estimate Contaminant Mass and Focus Remedial Strategies



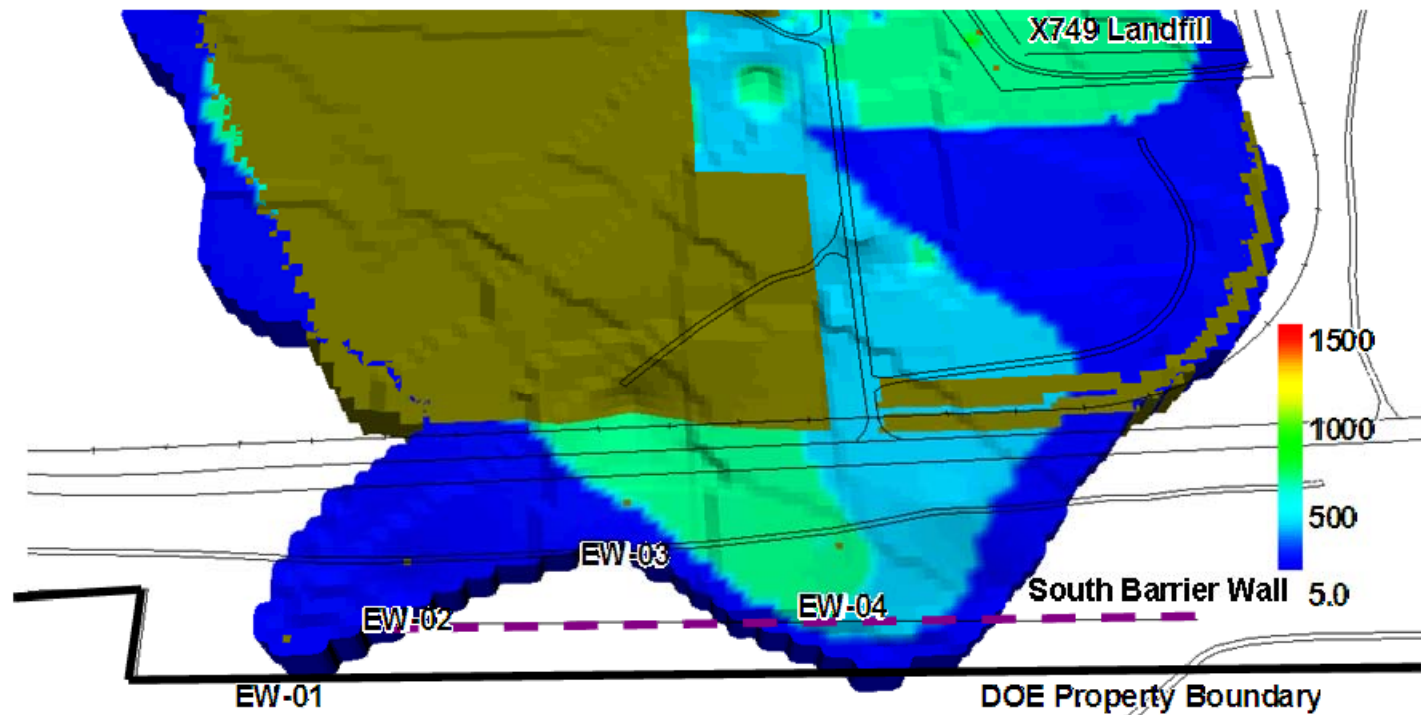
Five Year Capture Zone at South Barrier Wall



Estimated Plume Movement

Start Time = Summer 2007

Transport Time = 0.0 Years



WP-07G

Groundwater Model Refinement

- Objectives:
 - Evaluate Recharge and effect of Phyto planting
 - Develop water balance for recharge
- Approach:
 - Create a water balance based on site measured data
 - (i.e., precipitation, runoff, tree evapotranspiration, water levels)
 - Incorporate information into site groundwater model
- Plume Management Strategy
 - Use refined model to manage plume cleanup
 - Simulate different remedial options to determine most cost effective cleanup



Summary

- Existing systems providing hydraulic capture of plume
- Plume size has decreased since 2006
- Groundwater modeling tool is being refined
- Groundwater model will be used to manage and optimize the groundwater cleanup

