



PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes April 19, 2007

The Citizens Advisory Board (CAB) met at the CAB office in Paducah, Kentucky, April 19, 2007, at 6 p.m.

Board members present: John Anderson, Allen Burnett, Judy Clayton, Bobby Lee, Janet Miller, John Russell, and Jim Smart

Board members absent: Shirley Lanier, Elton Priddy, and James Tidwell

Board Liaisons and related regulatory agency employees: Bill Clark, Edward Winners, Kentucky Division of Waste Management (KDWM); and John Volpe, Kentucky Radiation Health Branch (RHB)

Deputy Designated Federal Official (DDFO): Reinhard Knerr

DOE Federal Coordinator: Mitch Hicks

U.S. Department of Energy (DOE) related employees: Rachel Blumenfeld, Rich Bonczek, Tracey Brindley, Yvette Cantrell, Mike Clark, Kim Crenshaw, Ken Davis, Bruce Gardner, Michael Gerle, Guy Griswald, Dave Guyan, Steve Hampson, Patricia Holsapple, Steve Manning, Dave Massey, Jerry Mayes, Debra McCroskey, Doug Moore, John Morgan, Bill Murphie, Bruce Phillips, Myrna Redfield, Eric Roberts, Scott Smith and Dick Veasey

Public: Ruby English, Charles Jurka, Vicki Jurka, Linda Long, Don Swearingen, Larry Taake and Gary Vander Boegh

Agenda

Mayes asked for modifications to the proposed April agenda. **The Board approved the agenda as submitted.**

Minutes

Mayes asked for modifications to the draft March minutes. **The Board approved the minutes as submitted.**

Deputy Designated Federal Official Comments

Knerr provided project updates to the Board. The presentation and the monthly project updates will be available on the CAB Website at www.pgpdcab.org. Questions and answers (paraphrased) appear below.

Questions/Comments	Answers
Russell: Are some of the soil piles being removed?	Knerr: Removal notifications are being developed for regulatory approval to remove targeted areas that have high levels of contamination.
Burnett: Is DOE sampling at risk at this point? When would DOE need approval for the Sampling and Analysis Plan (SAP) in order to complete the work by October?	Knerr: Yes. There is a sampling strategy with a four-phase approach. DOE is currently working in the first phase. There will be three additional phases.
Miller: Is the on-site disposal facility study only for low-level waste?	Blumenfeld: No. It would be remediation waste.
Russell: Would the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) cell only hold remediation waste that is not eligible to be placed in a Subtitle D landfill such as the C-746-U Landfill?	Knerr: Subtitle D waste could be put in the disposal facility. It may not be effective to operate two facilities at the same time. DOE will go through the process to see which way is more economical. Blumenfeld: All of the decisions are determined in the CERCLA process. That work has not been done.
Lee: The subcommittee requested a map identifying potential sites for the CERCLA cell. Will there be a delay on receiving that information and would the CAB will able to participate in any aspect of the study?	Knerr: DOE is currently reviewing the documents that Paducah Remediation Services (PRS) has submitted. The CAB will be involved in a timely manner.

<p>Russell: In the previous iteration of the CERCLA cell, there were five possible sites identified and a tentative selection was made for the site where the Depleted Uranium Hexafluoride Conversion Facility has been placed. One of the sites identified is where the Nuclear Fuel Recycling facility could be placed. Is DOE attempting to be responsive to the solid waste legislation and regulatory program?</p>	<p>Knerr: There is an ongoing effort to evaluate additional on site disposal capabilities.</p> <p>Murphie: The question for building the facility was when DOE needs it. There may be justification with the burial grounds to save money with waste disposal. It takes several years for agreement on the concept, the waste acceptance levels and permits. It could be a benefit to the 2019 cleanup activities. The Feasibility Study will determine if it is cost effective. CERCLA cells have been built at Weldon Springs, Fernald and Oak Ridge.</p>
<p>Lee: What is the time line for the Feasibility Study?</p>	<p>Murphie: A timeline can be provided to the CAB on the steps for the Feasibility Study and at what point the CAB can have input.</p>
<p>Russell: Please provide the CAB with a list of documents that indicate potential sites and the volume of waste for the facility.</p>	<p>Knerr: The potential sites are included in the End State Vision document.</p>

Federal Coordinator Comments

Hicks thanked the CAB members for attending the Las Vegas Chairs meeting. He said the Paducah Chairs meeting is tentatively scheduled for September 26-28.

Liaison Comments

Kentucky Division of Waste Management

- Burnett said that at the last meeting Maybriar reported that he had received approval to include the CAB on future distribution for all finalized document comments that are submitted to DOE. The CAB has not received any comments at this time. Winners will look into that issue.
- Russell requested that the state provide the CAB with information regarding the amount of Class C waste that is generated in the state of Kentucky, where the waste goes and what it costs the generators. He requested data from previous CERCLA cleanups, the volumes of waste, where the waste went and the cost.

Radiation Health Branch

Volpe said the main focus has been completing the air monitoring data, which was submitted to DOE two weeks ago. He said the 2005 data is complete and they will start writing the report and the 2006 data should be available in the near future.

Action Items

The Executive Committee revised the February Executive Committee summary due to a comment from the public at the last meeting.

The Executive Committee is scheduled to receive a summary of how PRS is compiling data from all investigations and how they are creating an index, which aids in the locations of this data.

Public Comment

English asked Hampson if the Kentucky Research Consortium for Energy and the Environment's study on the regional groundwater model for the Paducah Gaseous Diffusion Plant (PGDP) and the analysis on the site conditions would be included in the Land Acquisition Study document that would be sent to Congress. Hampson said that this information is included in the report, but he is unsure when the report would be released to the public.

Jurka said the RHB issued a letter to the CAB that the epidemiology data for areas adjacent to the PGDP was being addressed by the RHB. Volpe said Dewey Crawford informed him that the Division of Epidemiology is looking at the issue. That study would be for the community, not the workers.

Jurka said she has attended several End State meetings and the public was led to believe that the CERCLA cell was not being considered. She said she had information on the problems that Weldon Springs is facing due to the CERCLA cell if anybody is interested. It was suggested to the KDWM that they speak with Missouri regulators and have done so within the last couple of weeks. It could give the State of Kentucky a great deal of financial responsibility that is not anticipated. The Weldon Springs citizens have widely reported many health problems associated with that cell. Murphie said the End State Vision document did discuss the CERCLA cell and ensured the public that the cell is pre-decisional. The cell has always been an option. The analysis has not been done to determine if the cell would be cost effective to build now, later or whether it is necessary to even build the cell. No decision has been made.

Vander Boegh requested the status of the Portsmouth CERCLA cell. Murphie said the same situation exists in Portsmouth as Paducah except the only justification in Portsmouth is to support the Decontamination and Decommissioning of the site. Vander Boegh said there was a presentation at CDM a year ago with discussion of converting the C-746-U Landfill into a CERCLA cell. He asked what levels of radioactive material would be accepted into the CERCLA cell. Murphie said that would be part of the decision process.

Vander Boegh said there was a map referencing some of the soil piles that he had provided to Congressman Whitfield that was forwarded to the state. He asked who is looking at the piles that he had identified and if walk downs were being conducted to address other areas. Knerr said there are 99 soil piles and 51 rubble piles identified by KDWM or DOE. Based on the

information that Vander Boegh provided, walk downs with the state indicated that those areas were previously identified SWMUs or a previously identified area. Additional areas are being evaluated across the complex and the appropriate review is being conducted. Vander Boegh asked why radioactive concrete from Ballard County was brought back to the plant. Knerr said a piece of concrete rubble that was provided for erosion control in the sixties or seventies at the request of Ballard County and KDFWR was removed. Concrete containing a small area of contamination well below DOE's current release criteria and the pre-release criteria at the time was removed at Kentucky's request.

Presentations

Clark provided a presentation of the C-400 Interim Remedial Action 90% Design. The presentation is available on the CAB Website at www.pgpcab.org.

Subcommittee Reports

Waste Disposition/Water Quality Subcommittee

- The Division of Water was not available for the subcommittee meeting. It may be next month or longer before the subcommittee receives a presentation on the Kentucky Pollutant Discharge Elimination System (KPDES) permit.
- The subcommittee is considering whether the full CAB needs a presentation on the Remedy Review report. She asked if the report effects the decisions on the major projects or whether CAB focus is needed on this document. Murphie said DOE considers the comments in the report and there is potential impact on the projects. Murphie said DOE would update the CAB on the Remedy Review Reports in the DDFO Report as they become available.

Community Outreach

The CAB has reviewed one application for Board membership and it will be submitted to DOE for approval.

Executive Committee

- The CAB submitted a recommendation on the End State Vision to DOE in 2004 and has not received a response. The committee is seeking input from the individuals that commented on the recommendation to see if the recommendation should be resubmitted as it stands or if it needs modifications.
- CAB staff is preparing an Orientation for new members.
- The CAB has asked Anderson to participate on the task force to review the recommendations on the Energy Communities Alliance's *Politics of Cleanup* that Murphie had suggested at a previous Board meeting.

Long Range Strategy/Stewardship Subcommittee

The subcommittee will be reviewing the Politics of Cleanup for discussion at the May meeting.

Administrative Issues

Motions

Burnett presented a letter prepared in the Las Vegas Chairs Meeting commending DOE on the release of the 2007 Environmental Management Engineering and Technology Program Plan and the Technology Roadmap. The Board approved adding Burnett's signature to the letter.

Work Plan/Next Month's Agenda

Staff is working with DOE for a recommendation on which projects the CAB should focus on. Knerr said the work plan should be complete within the next couple of months.

Murphie said Bonczek could present the Remedy Review Report. The review team is currently writing the report on the C-400 90% Design. It was decided that an update may not be available in May, and no presentation was scheduled for that meeting.

Smart requested an update on the KPDES permit in KDWM's liaison comments.

Final Comments

Miller said she had requested additional information on the data that was presented to her on the C-613 sediment. Cantrell said Hicks could provide that information before the May Board meeting.

Mayes suggested that the Board revisit the ground rules that were posted on the wall.

The meeting adjourned at 9:00 p.m.

Progress at Paducah

Paducah Citizens Advisory Board

Reinhard Knerr
Paducah Site Office Lead
April 19, 2007



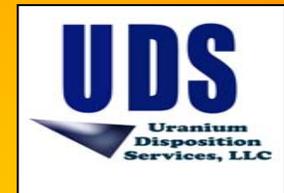
EM *Environmental Management*

safety ❖ *performance* ❖ *cleanup* ❖ *closure*



March Highlights

- Legacy Waste
- Inactive Facility D&D
- DUF6
- Nickel Ingots
- DMSAs
- Soil/Rubble Areas
- Waste Disposal Options



Legacy Waste

- Completed removal of 32,000 cubic feet of outside legacy LLW
- Completed milestone for Site Treatment Plan Table 3.2 waste
- 53% of the site's ~572,000 cubic feet of legacy waste now removed
- On schedule to complete removal of all legacy waste by October 2009



Outside LLW before



After

Inactive Facilities



Part of the C-400 complex; used for storage/neutralization of various chemicals until 1990; contaminated with TCE.



Used 1985-1992 to train plant security; horseshoe-shaped berm contaminated with lead.



Received C-410 effluent until late 1970s; contaminated with Tc-99 and uranium.

- Removal Notification approved for three inactive facilities
- All three have contaminated soils
- Engineering Evaluation/Cost Analysis in development
 - To be performed as part of Soils Operable Unit



DUF6 Conversion Project

- Power systems installation complete
- Completed Conversion Building ground floor concrete pours
- 40 percent complete with pouring Conversion Building concrete roof slabs



Left, concrete pad pour; right, welding inside the Conversion Building.



DUF6 Conversion Project



One of the first conversion units is lowered into position inside the Conversion Building.



Nickel Ingots



Potential bidders toured the nickel storage yard earlier this month.

- Expression of Interest issued for Nickel Ingot reuse
- Potential bidders visited Paducah in April
- Recycling moratorium remains, but metal can be reused in controlled settings
- Responses due May 8

DOE Material Storage Areas

Characterization



33 Priority A
100% Complete



11 Priority B
100% Complete

116 Priority C
38% Complete

Disposition

Priority A
88% Complete

Priority B
69% Complete

Priority C
26% Complete

Total characterization ~85% completed

Total disposition ~62% completed



Soil/Rubble Areas



Sampling underway near Little Bayou Creek.

- Sampling began April 13 at Soil Pile "I"
- Removal Notification for AOCs 492/541 and other soil piles in development
- Taking split samples with Kentucky and EPA

On-site Disposal Facility Study

- A large waste volume must be disposed of in the future; possible sources include:
 - Burial Grounds and other remedial actions
 - D&D
- DOE examining on-site and off-site disposal options
- Scoping process has begun leading to a Feasibility Study in early 2008



On-site Disposal Facility Study

Steps leading to Feasibility Study

1. Waste Volume Assessment - completed
 - 3.7 million cubic yards (requires 110 acre site)
 - ~30% will meet U-Landfill acceptance criteria
 - Off-site disposal costs could be up to \$1.8 billion
2. Siting Technical Memo
 - Submittal planned for late April
3. Conceptual Design Plan
4. Preliminary Waste Acceptance Criteria
5. Lifecycle Cost Analysis





DOE Portsmouth/Paducah Project Office

C-400 Interim Remedial Action 90% Design



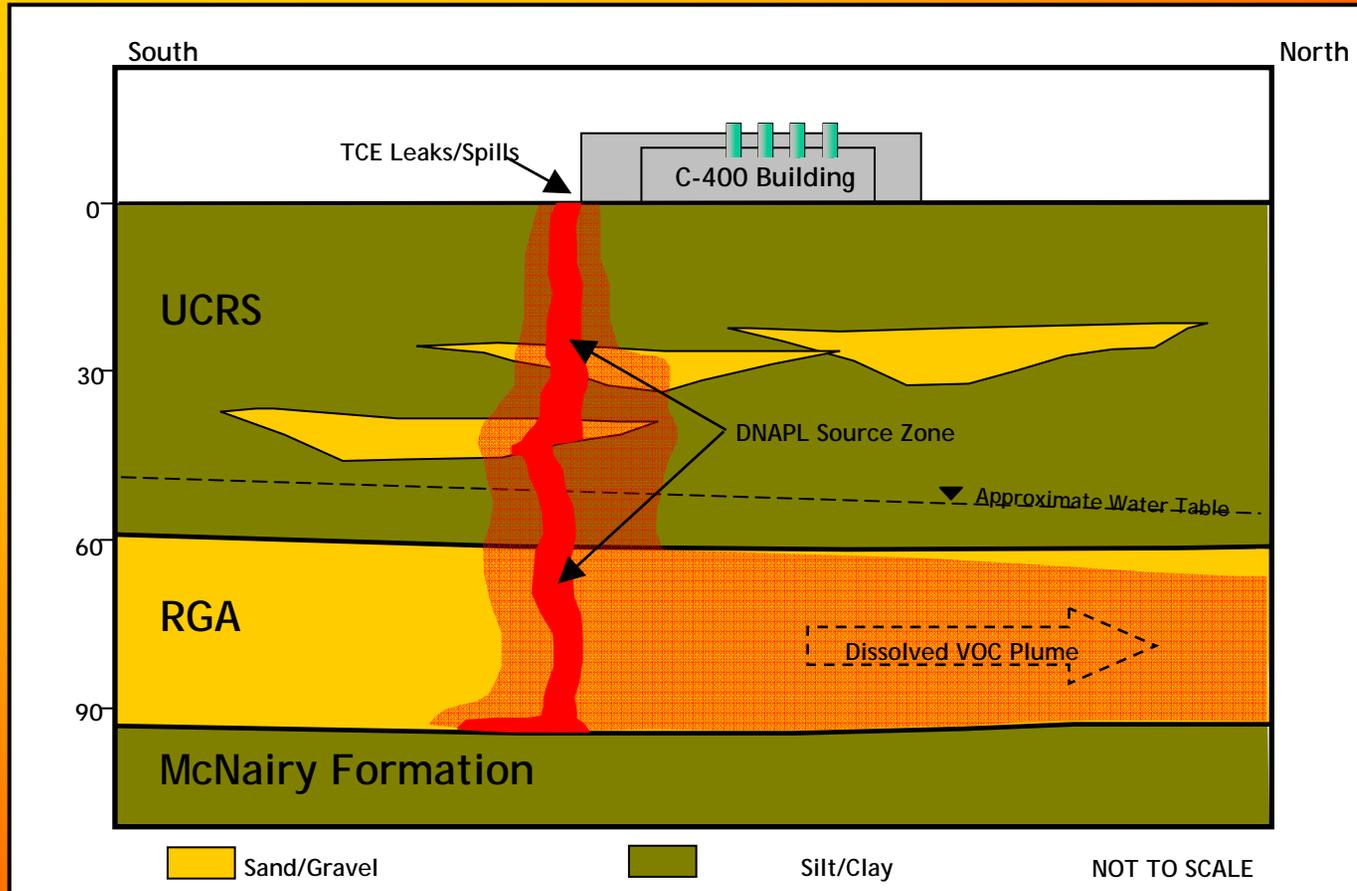
EM *Environmental Management*

safety ❖ *performance* ❖ *cleanup* ❖ *closure*

C-400 Interim Remedial Action - Background

- Record of Decision (ROD) focuses on reducing TCE concentration in groundwater at the south end of the C-400 Cleaning Building
- Electrical resistance heating selected in Record of Decision ROD to volatilize TCE
- Above ground system will capture/treat vapors
- ROD required a remedial design support investigation (RDSI)
- RDSI results used to direct optimum placement of subsurface remediation equipment

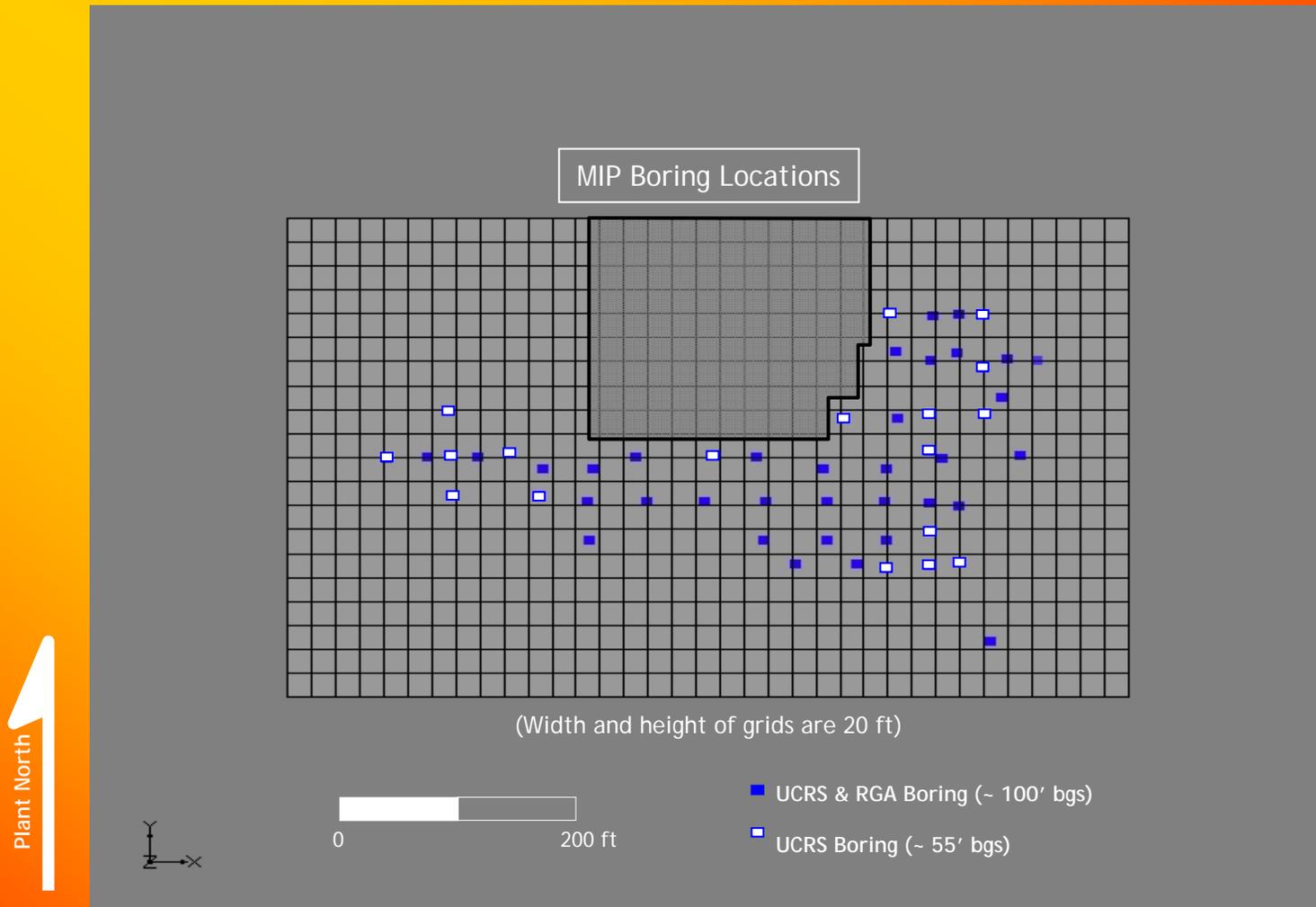
C-400 Conceptual Site Model



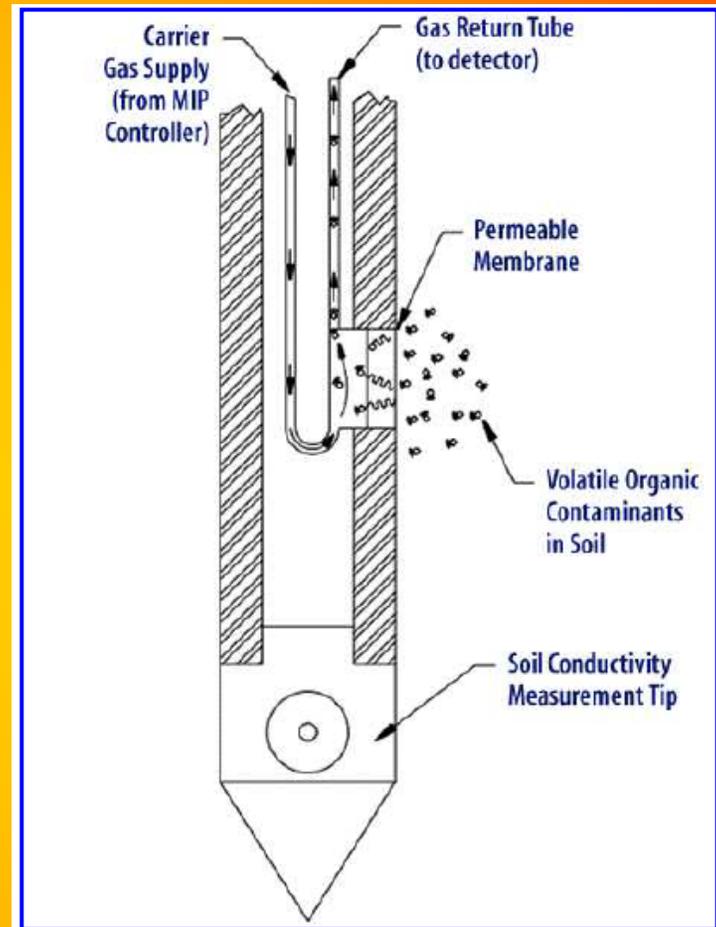
RDSI Purpose

- Verify the conceptual site model or modify the conceptual site model as necessary
- Optimize design of the Electrical Resistance Heating (ERH) remediation system

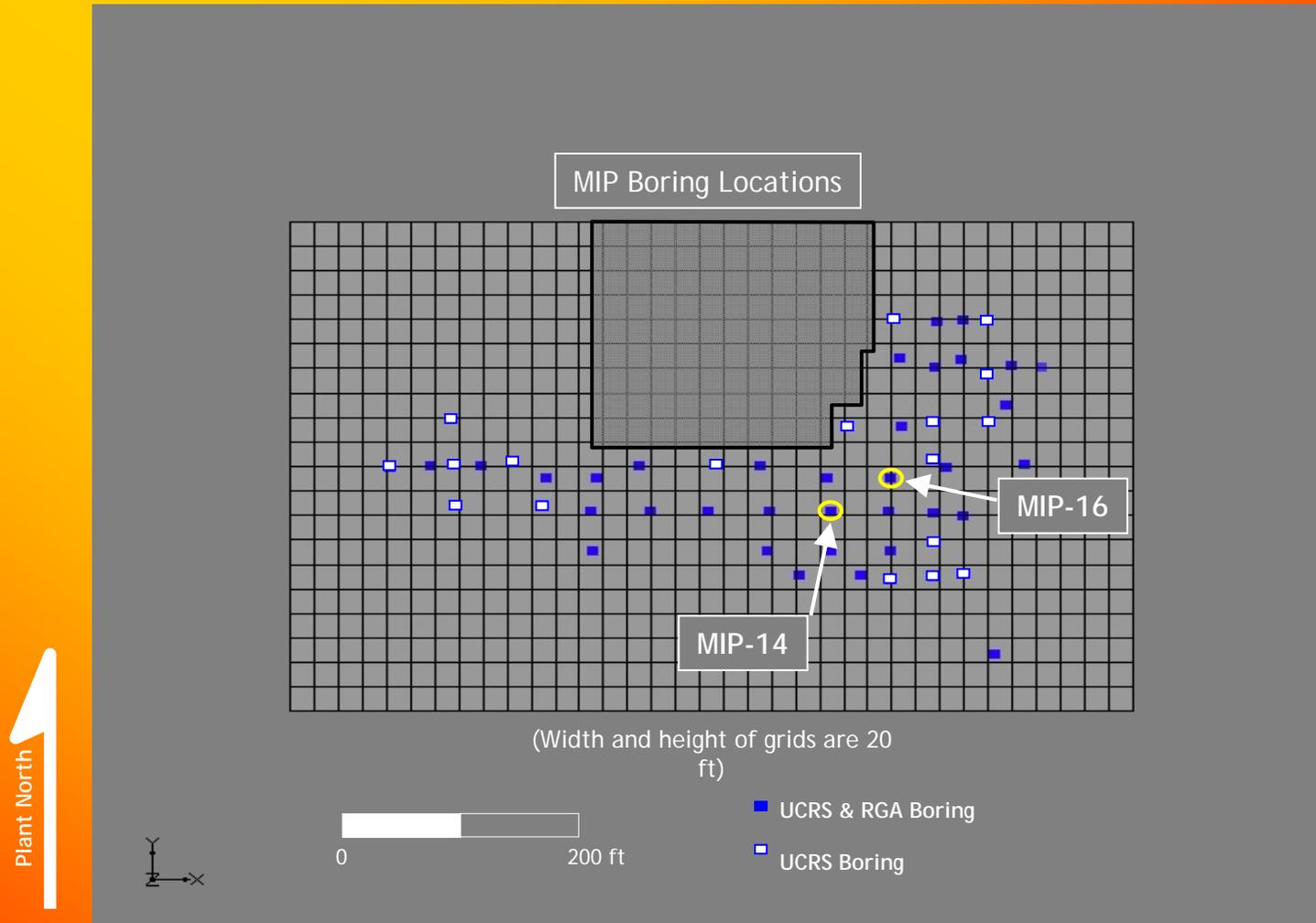
MIP Boring Locations



MIP Equipment

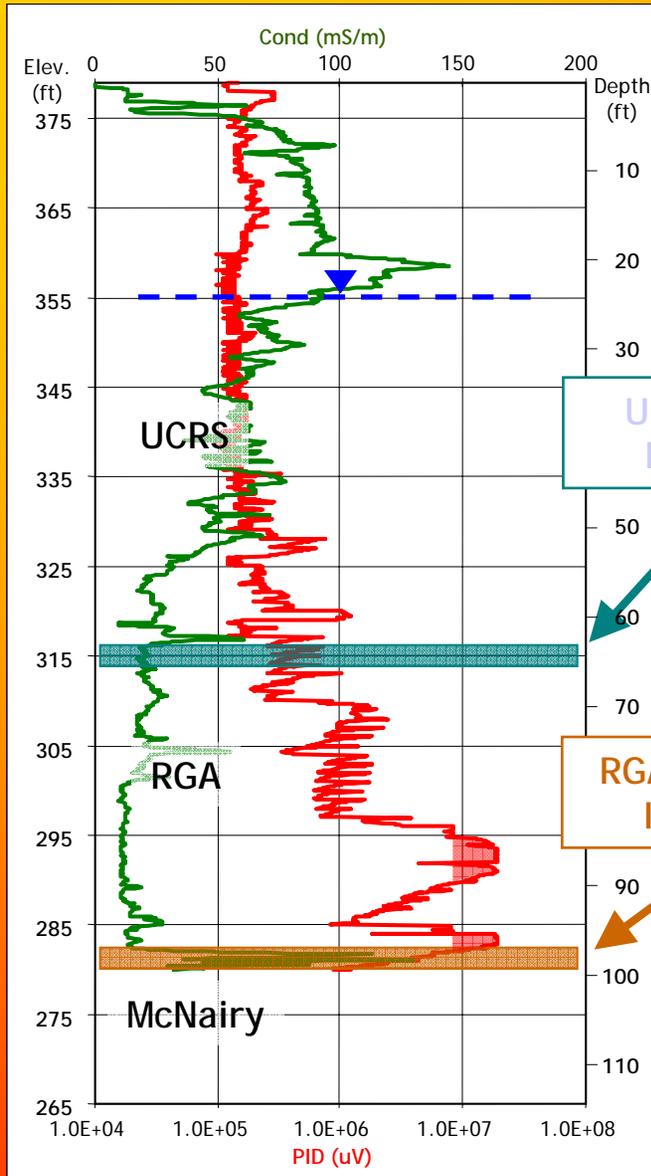


MIP Results for MIP-14 and MIP-16

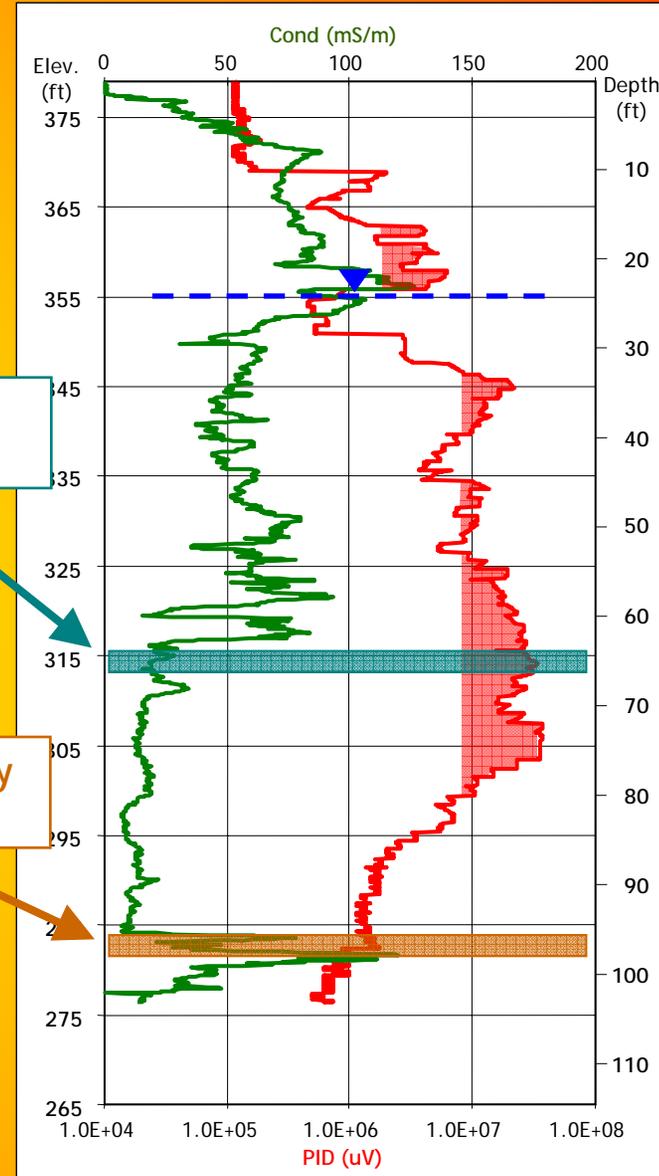


MIP Results for MIP-14 and MIP-16

MIP-14



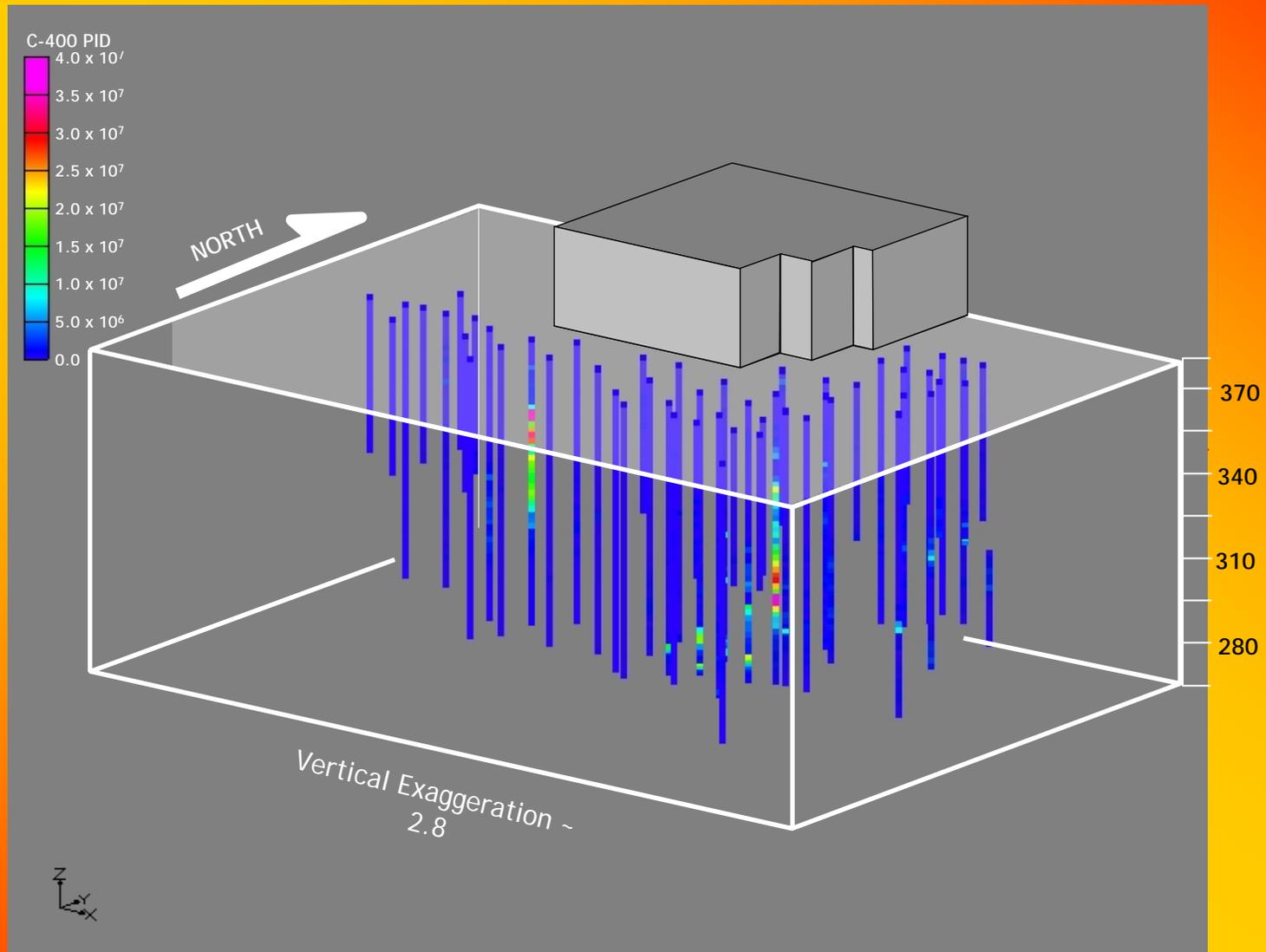
MIP-16



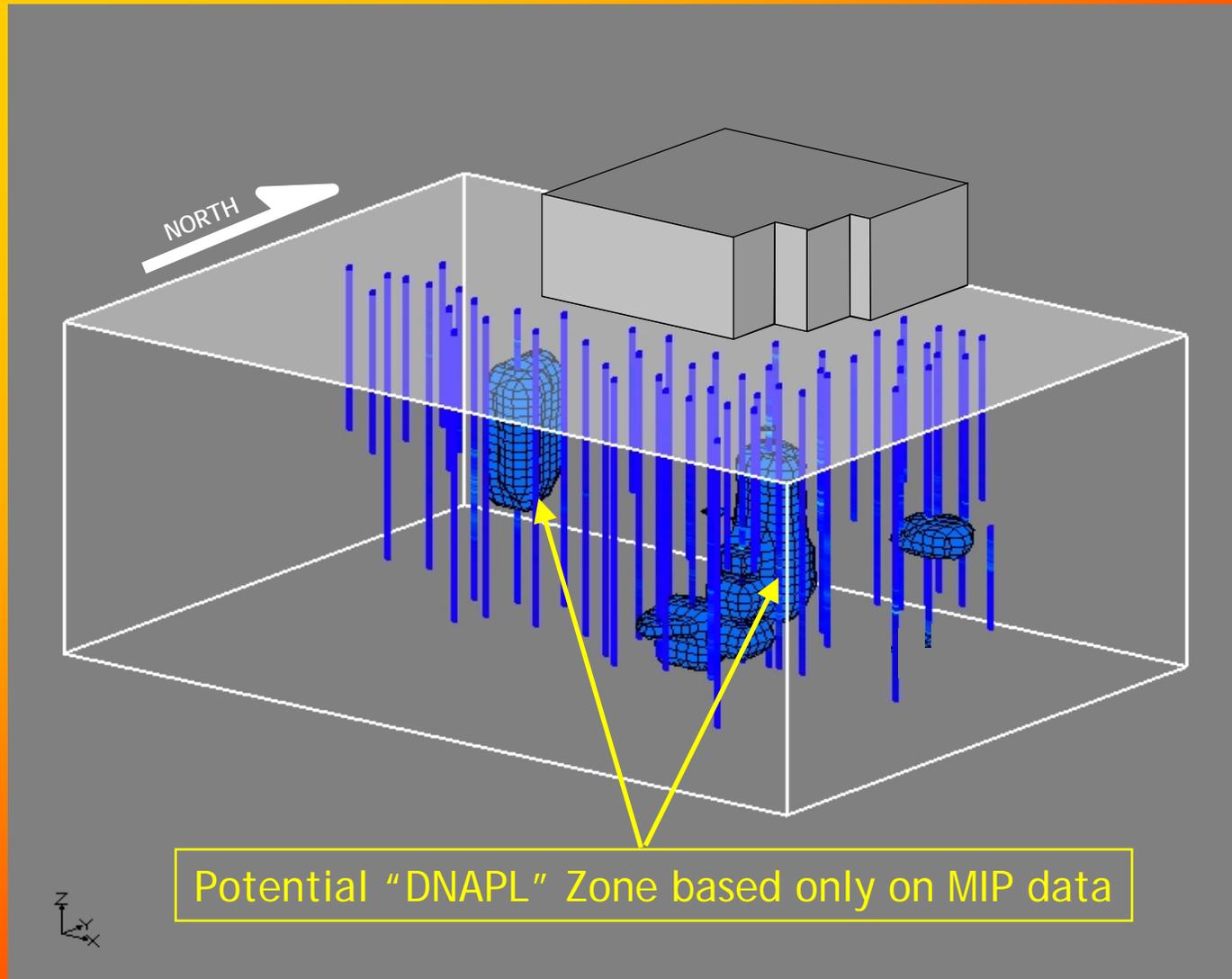
UCRS / RGA
Interface

RGA / McNairy
Interface

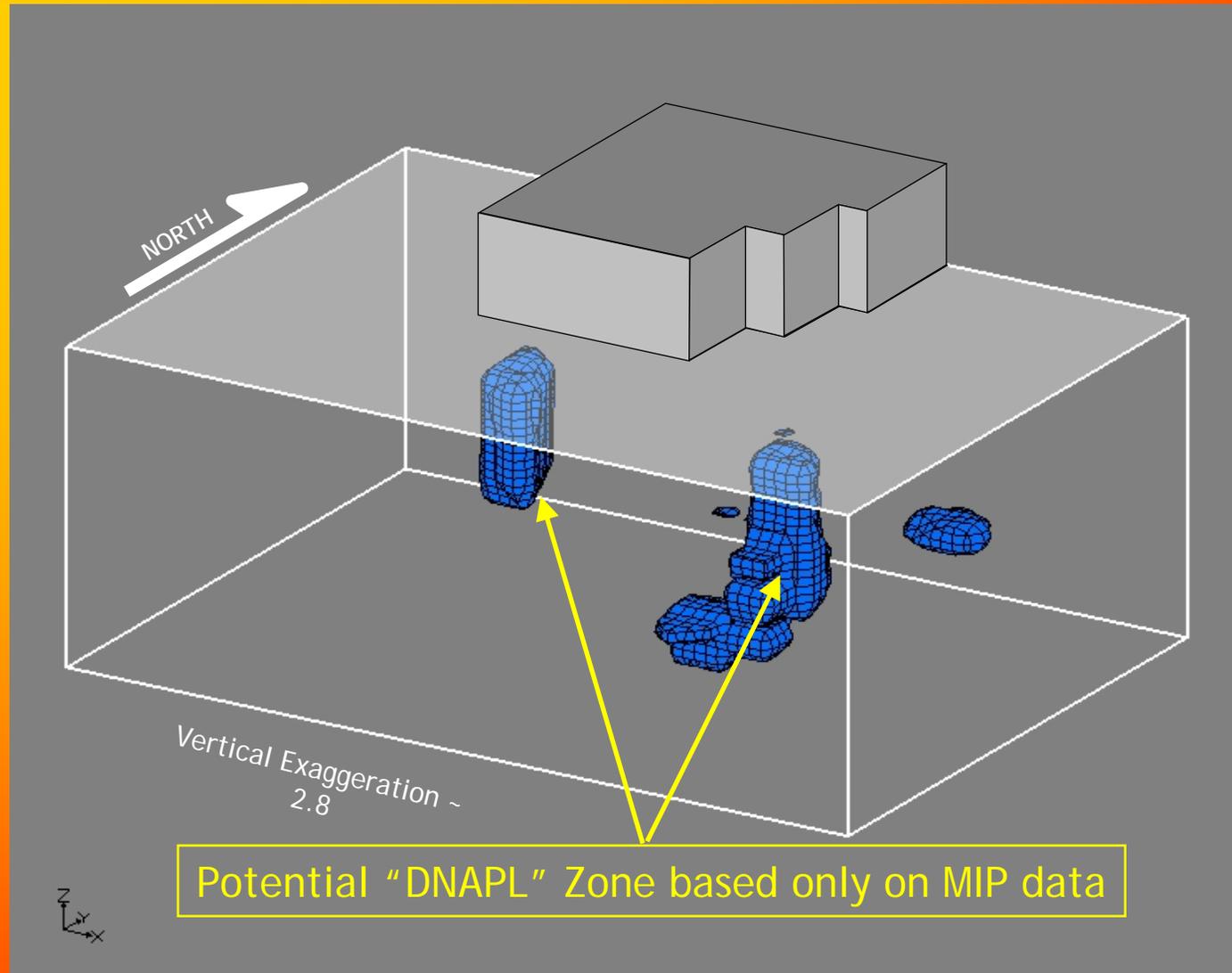
3-Dimensional Characterization



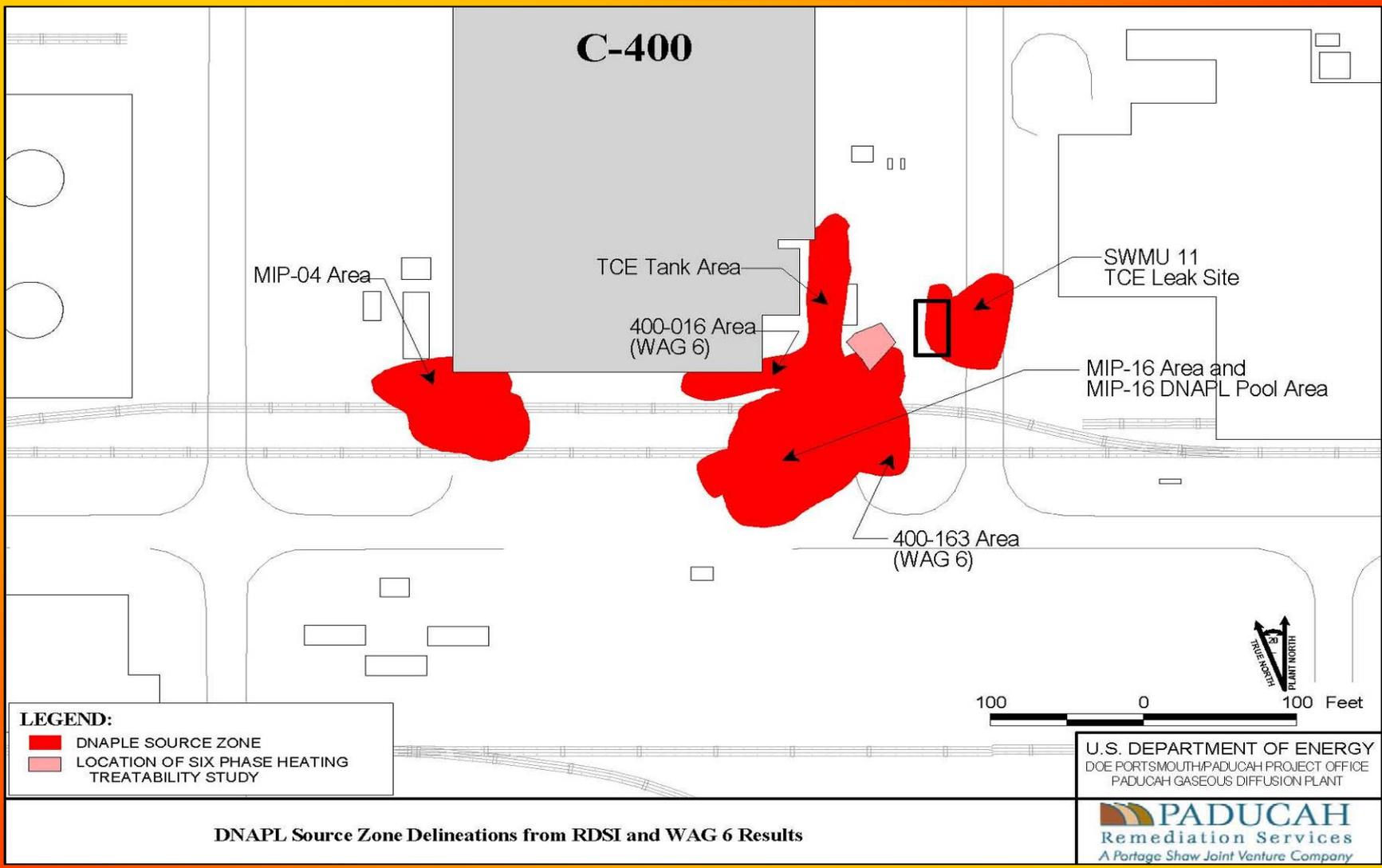
3-Dimensional Characterization



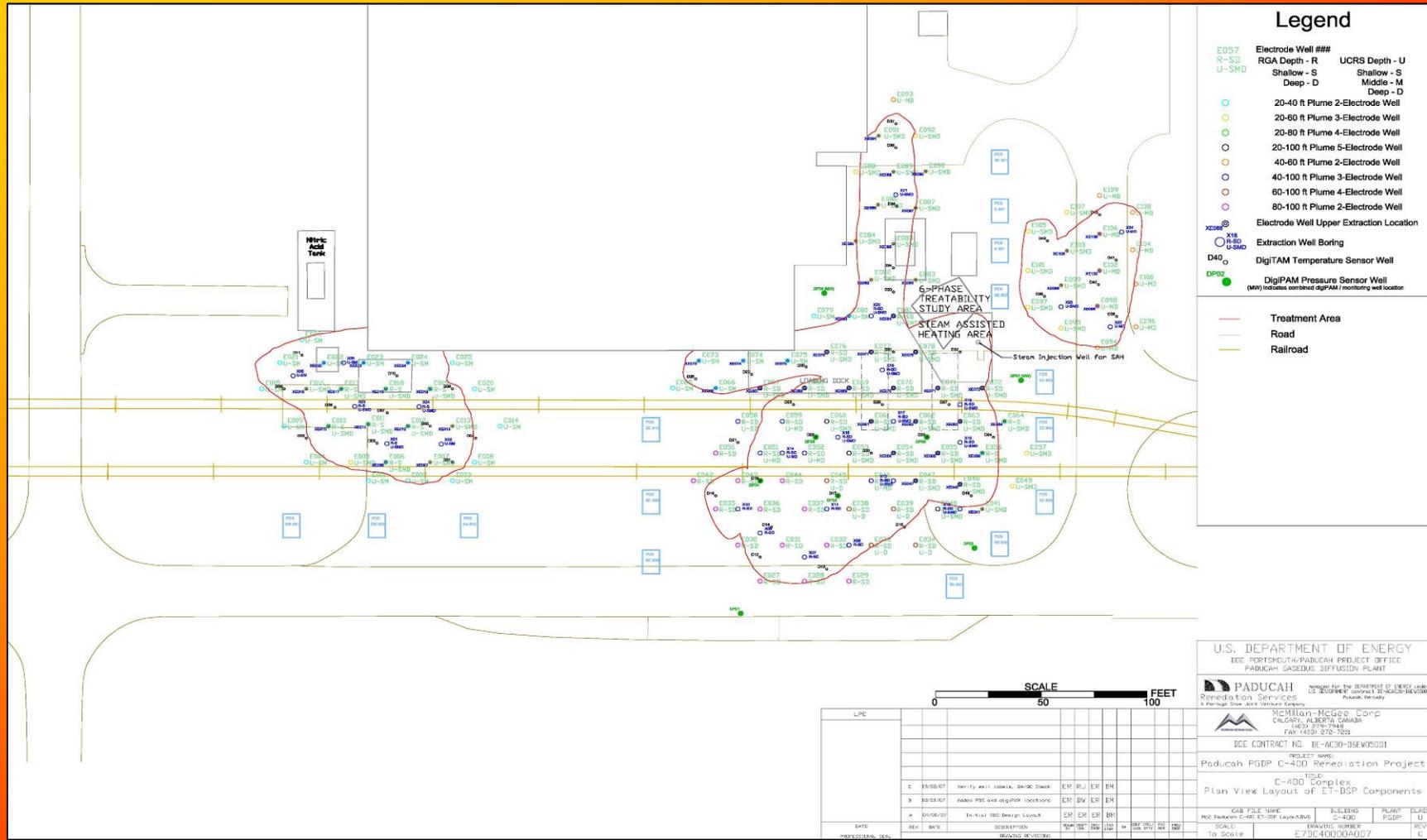
3-Dimensional Characterization



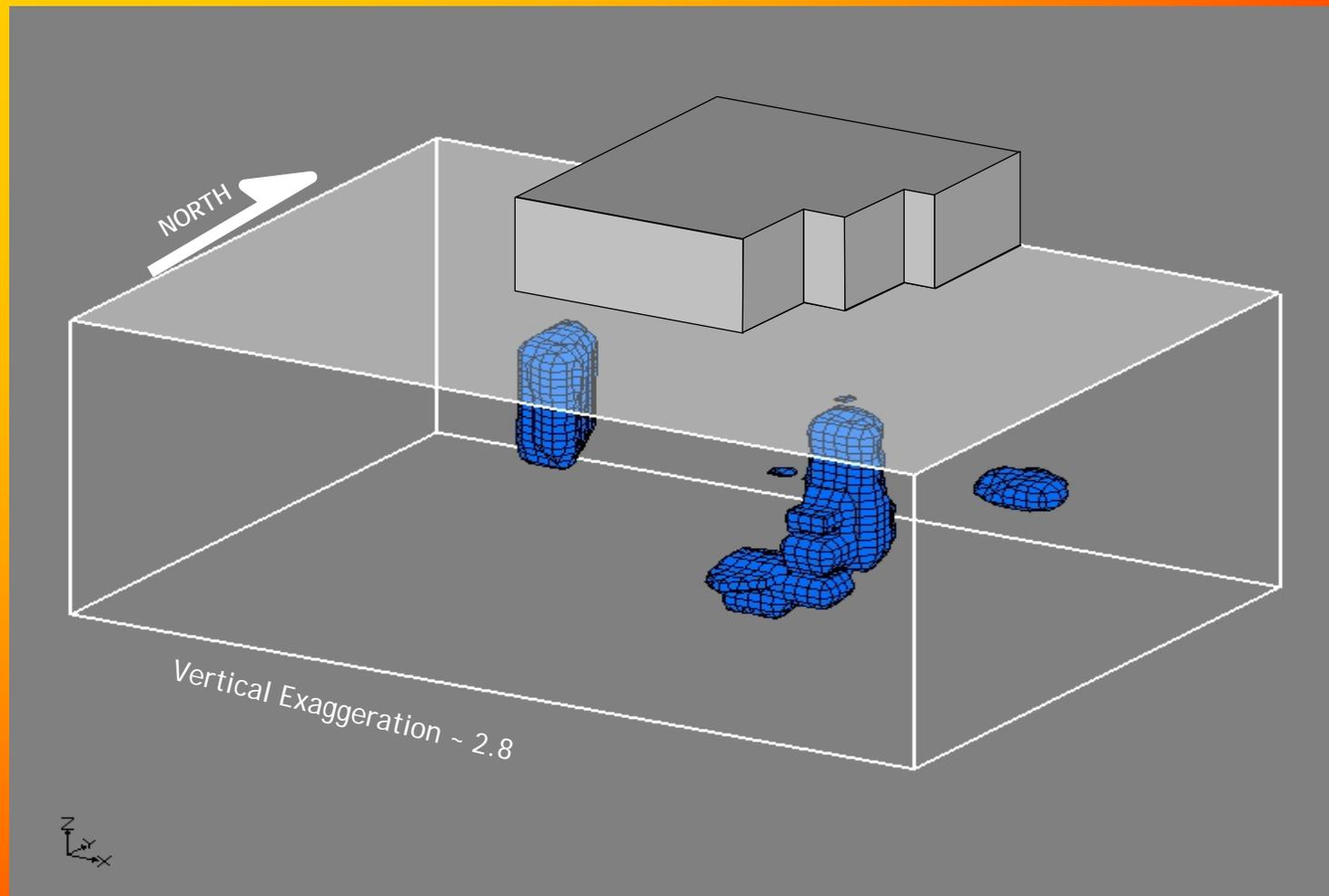
Composite Delineations of TCE Source Areas



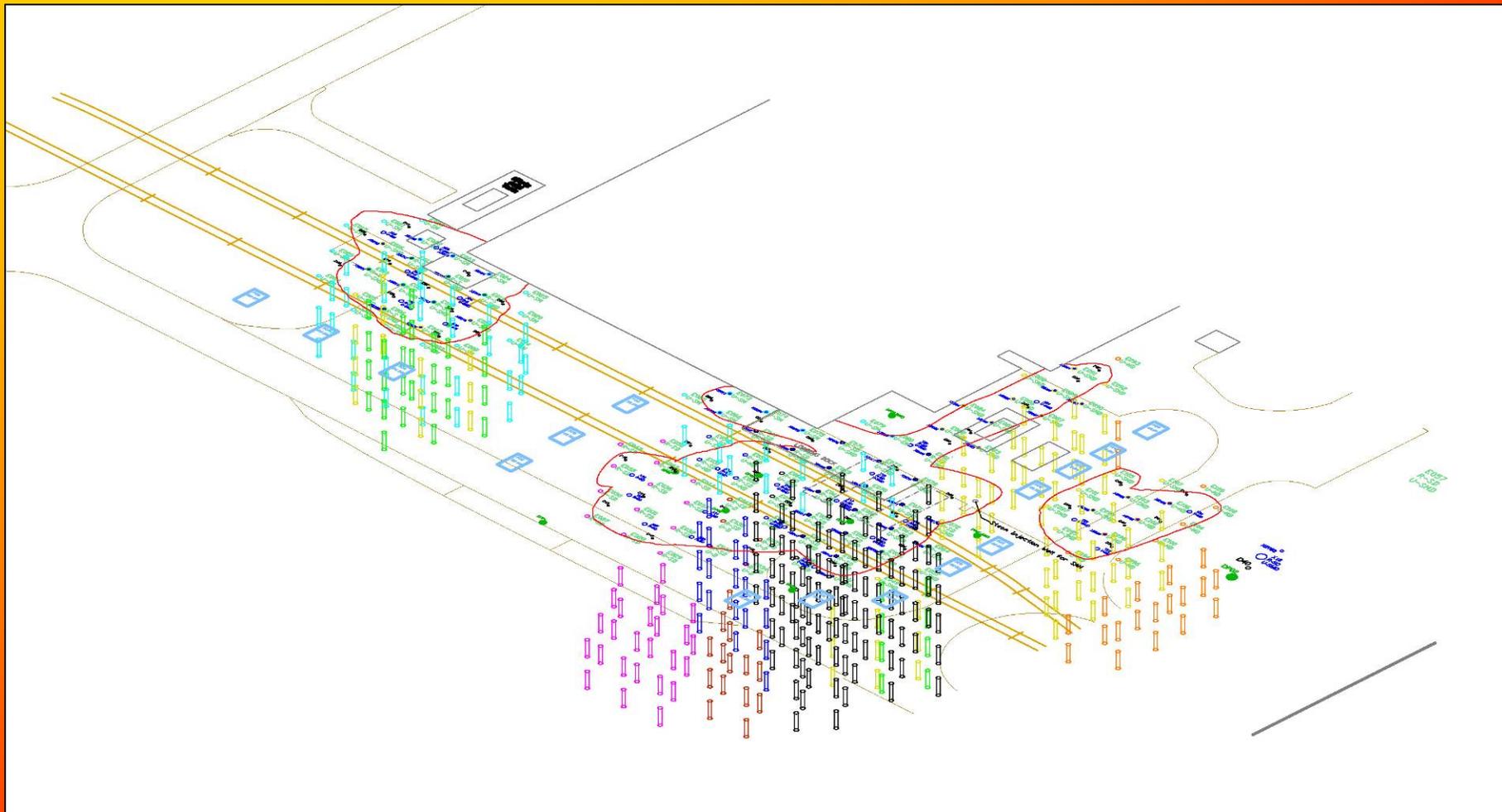
Plan View Layout of ET-DSP™ Components



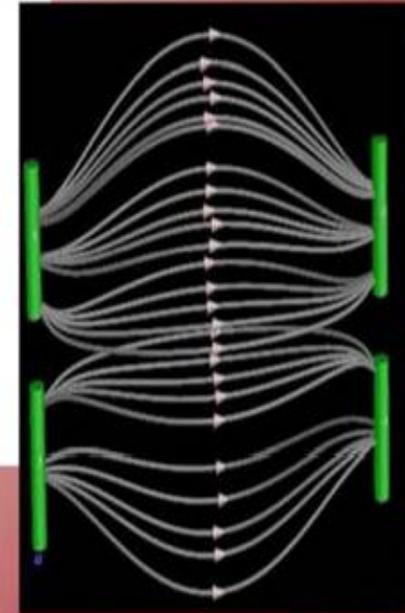
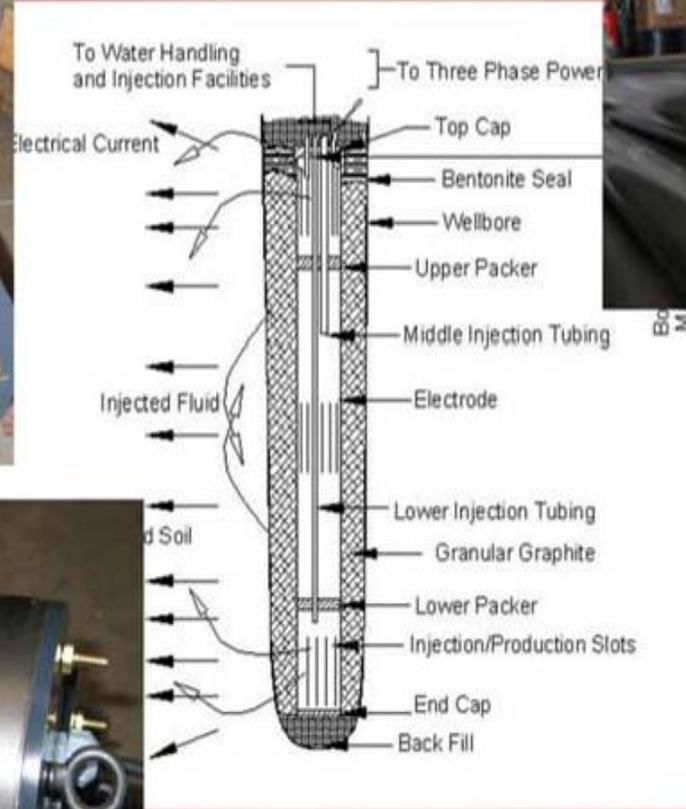
Potential "DNAPL" Zones Based on MIP Data



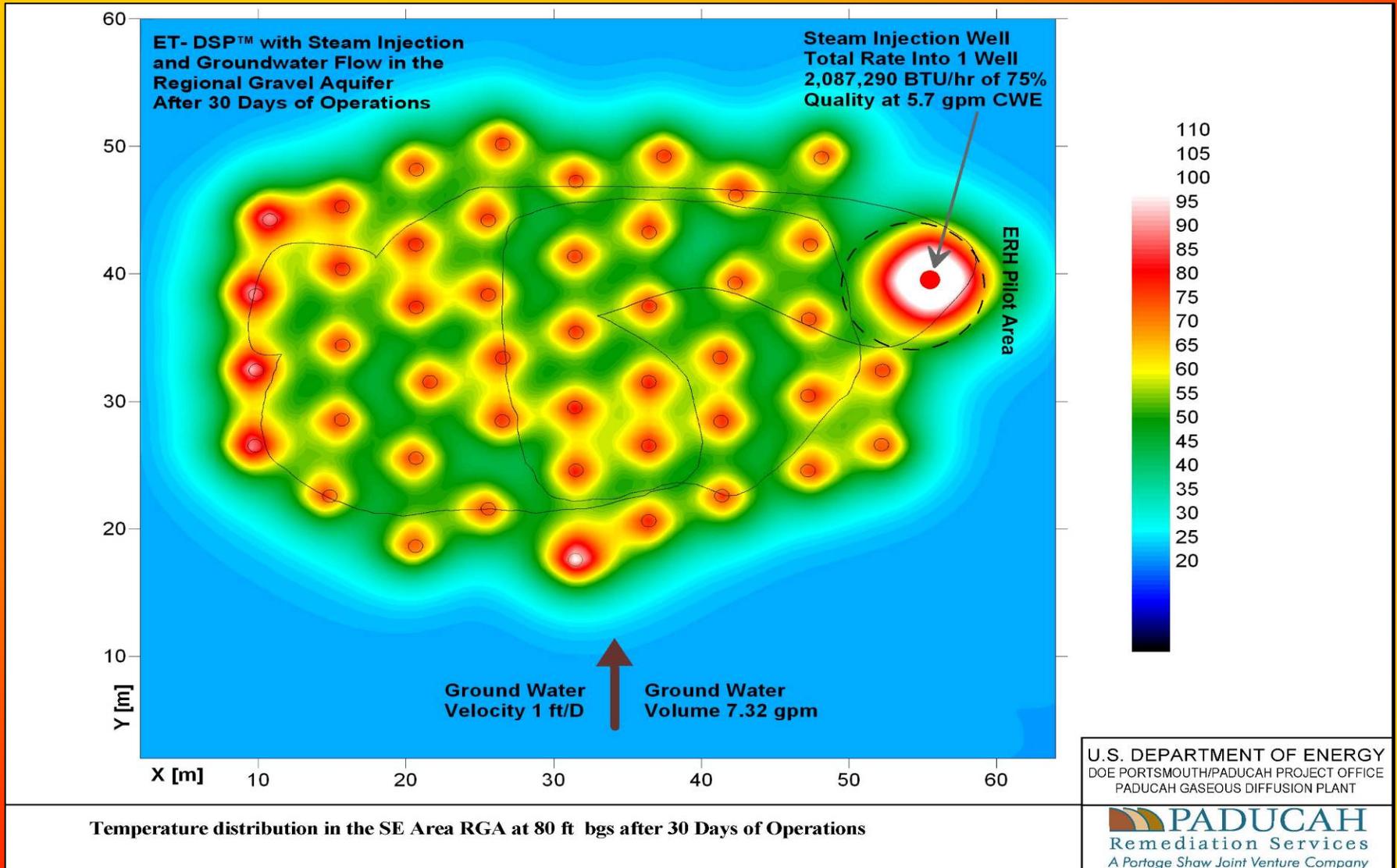
3-D View of ET-DSP™ Electrodes



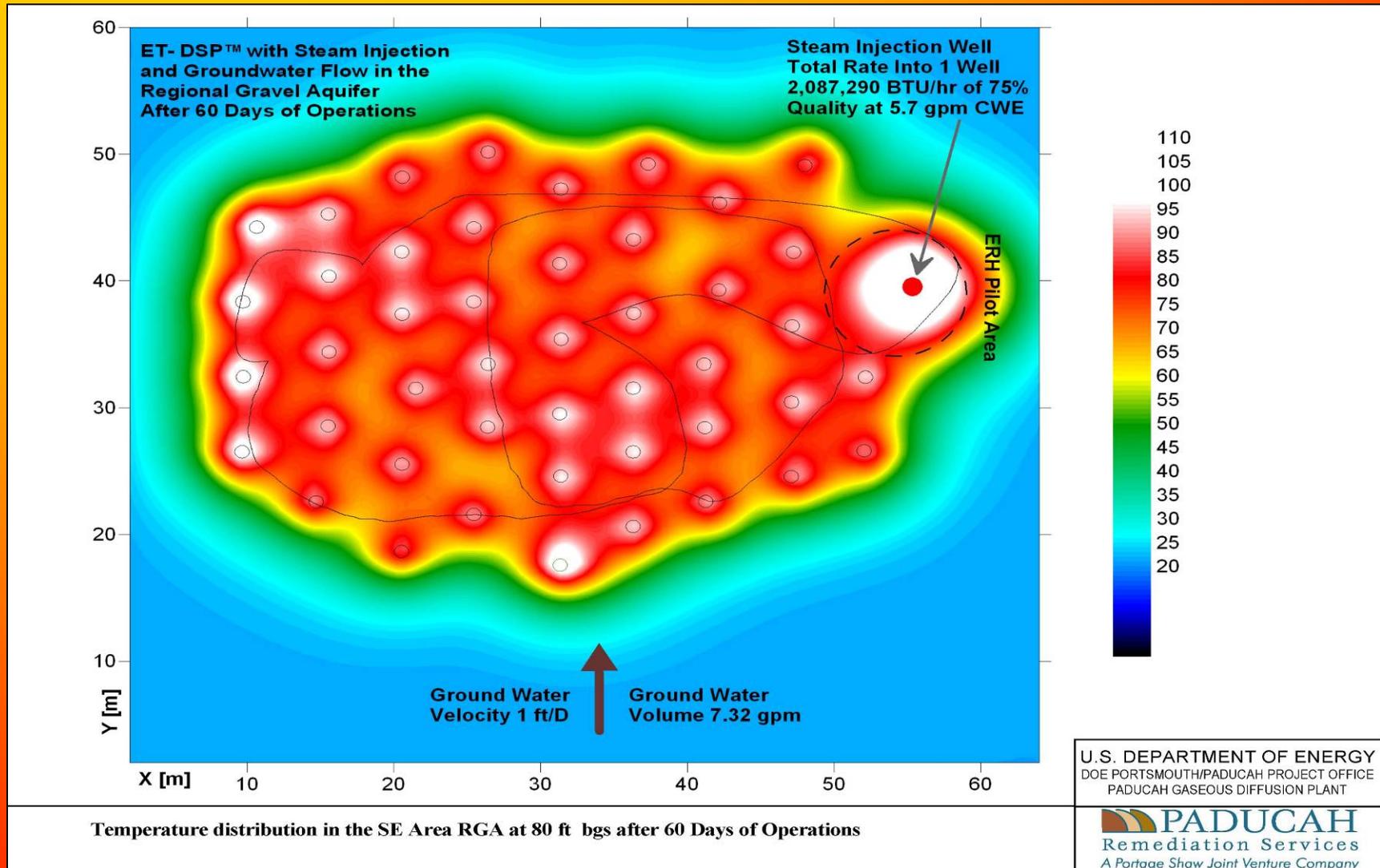
ET-DSP™ Electrodes



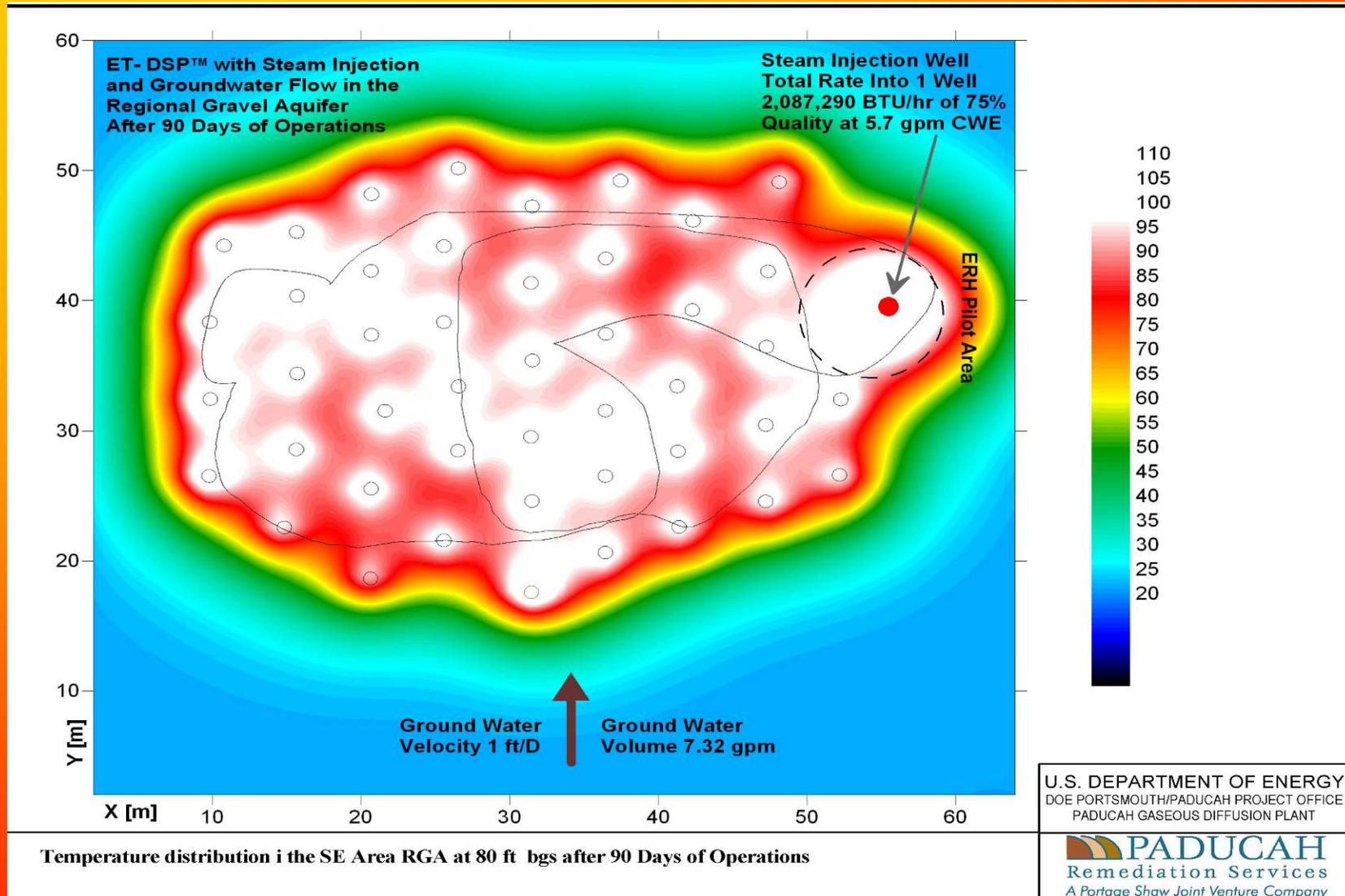
RGA Heating Response in the Southeast Treatment Area After 30 Days of Operation



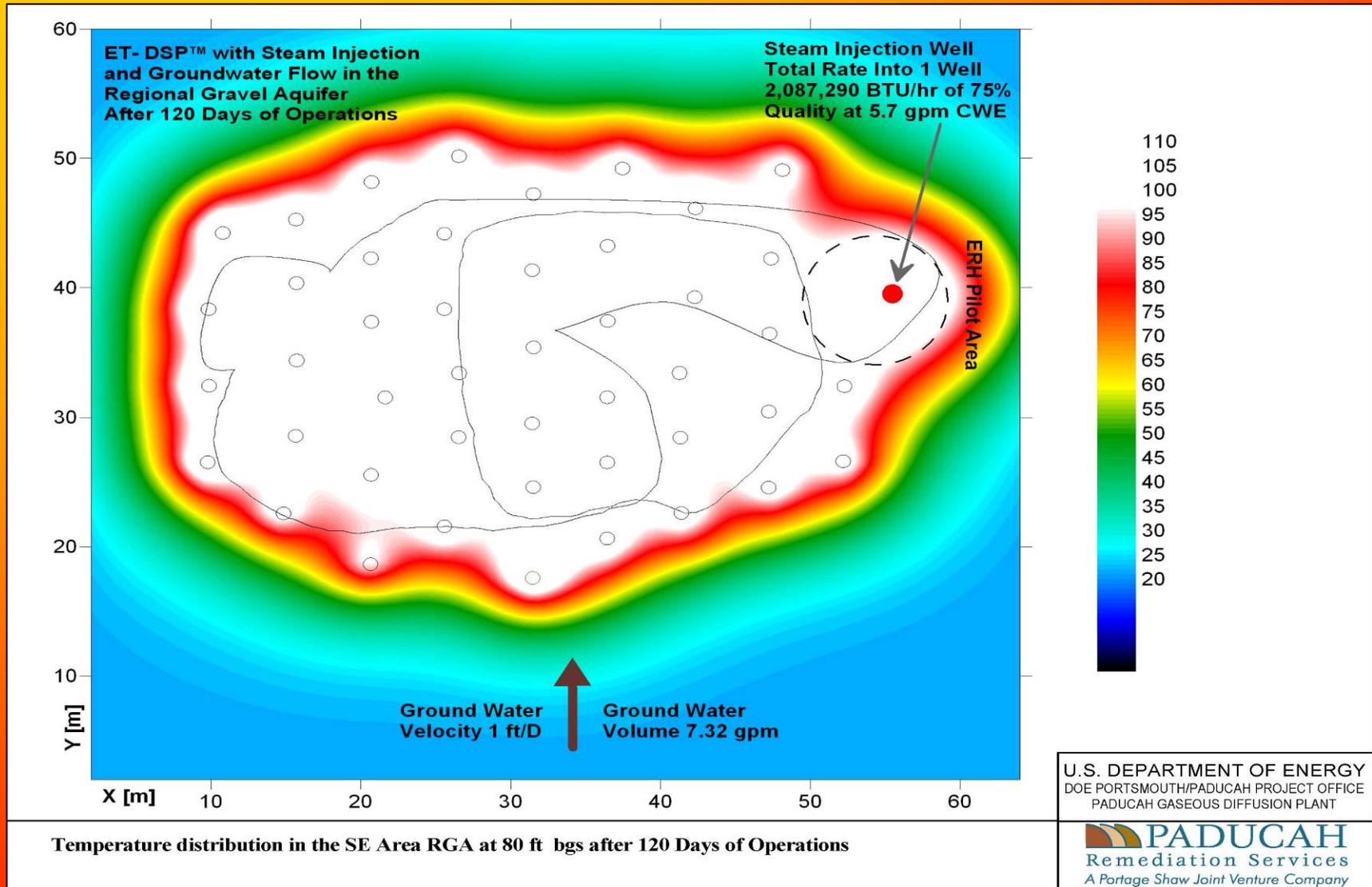
RGA Heating Response in the Southeast Treatment Area After 60 Days of Operation



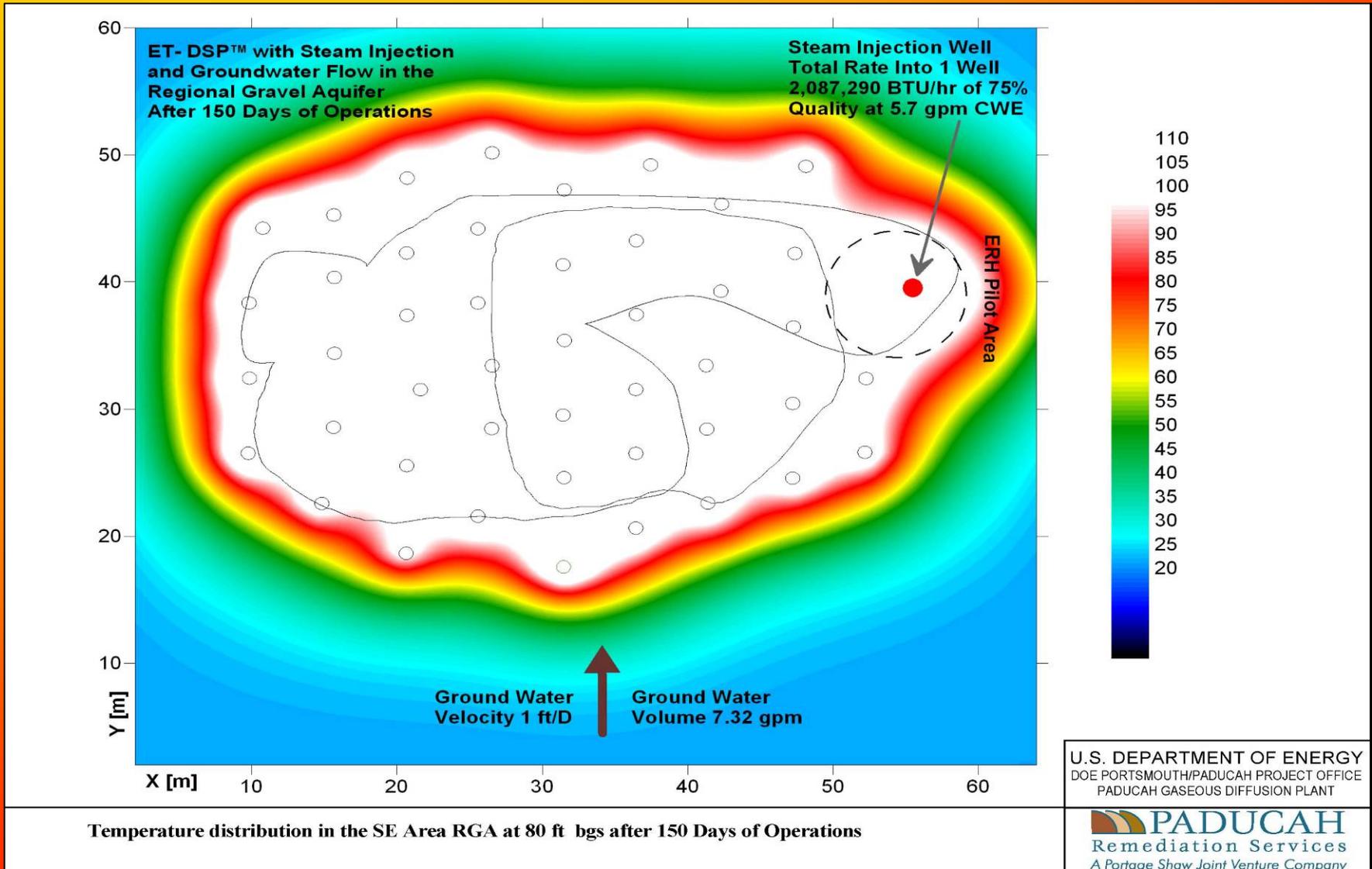
RGA Heating Response in the Southeast Treatment Area After 90 Days of Operation



RGA Heating Response in the Southeast Treatment Area After 120 Days of Operation

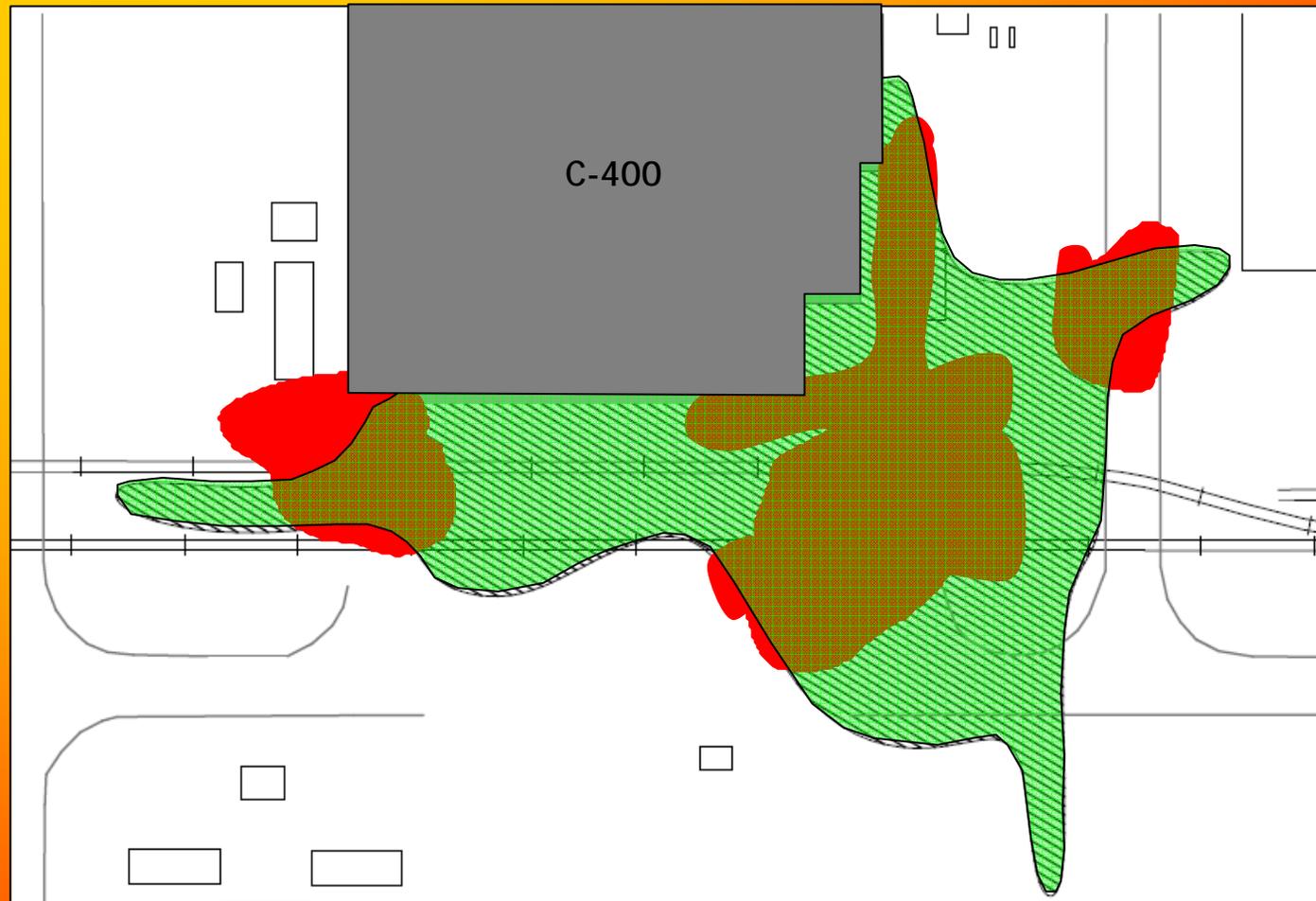


RGA Heating Response in the Southeast Treatment Area After 150 Days of Operation



Temperature distribution in the SE Area RGA at 80 ft bgs after 150 Days of Operations

C-400 Investigation/Characterization/Delineation



C-400 Investigation/Characterization/Delineation

- RDSI addressed several key uncertainties
 - Provided 3-D characterization of the RGA source area
 - Delimited DNAPL pool at the RGA/McNairy contact
 - South of the C-400 Building
 - Determined extent of DNAPL penetration into the McNairy
 - Upper 1 ft of McNairy
 - RDSI data allows design of electrode arrays to move forward
- The ~\$1.8 million spent on the RDSI will result in cost avoidance of up to \$3-\$5 million by reducing the size of the treatment zone



EM *Environmental Management*

safety ❖ *performance* ❖ *cleanup* ❖ *closure*