
C-400 Interim Remedial Action 90% Design



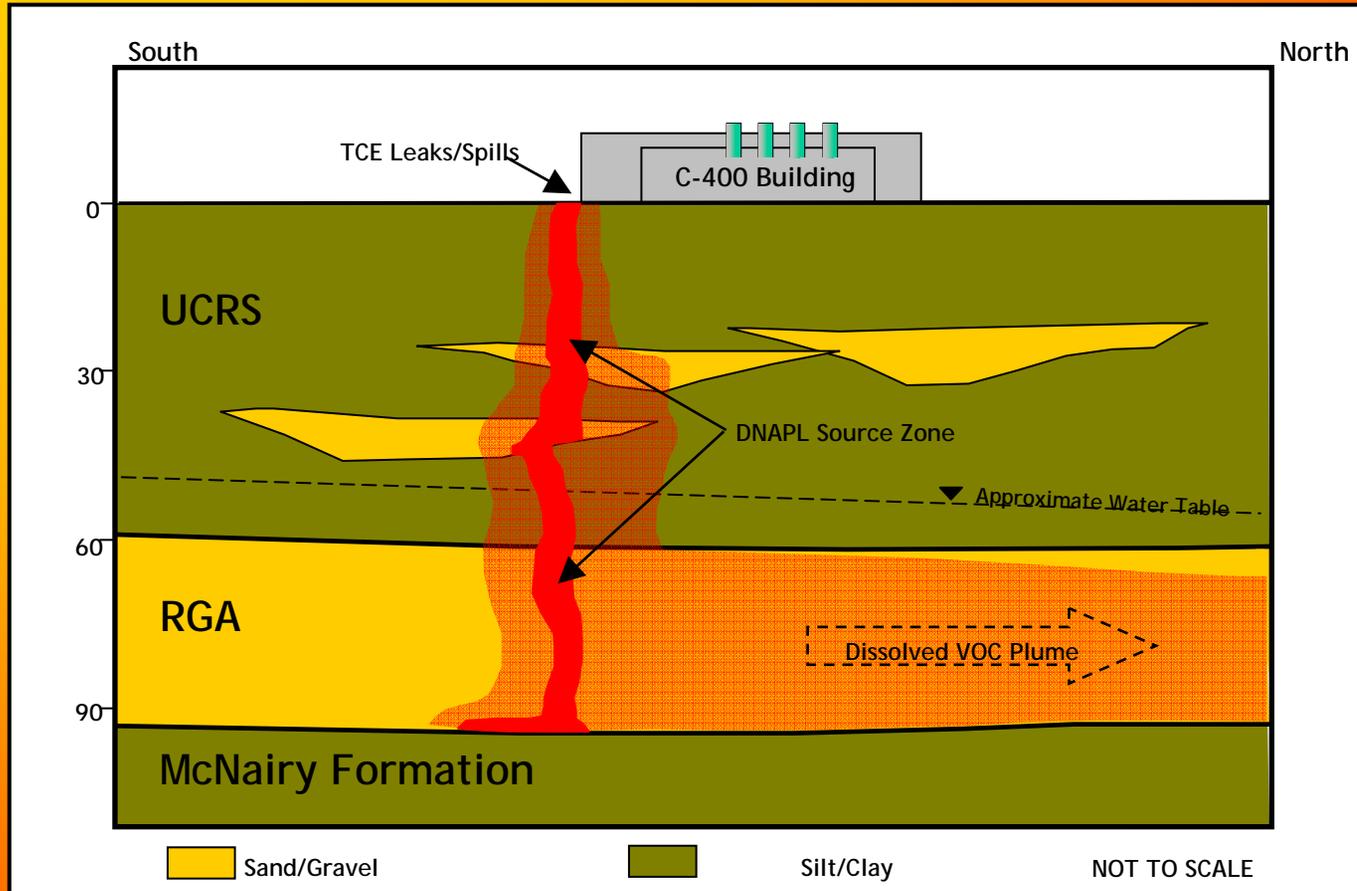
EM *Environmental Management*

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



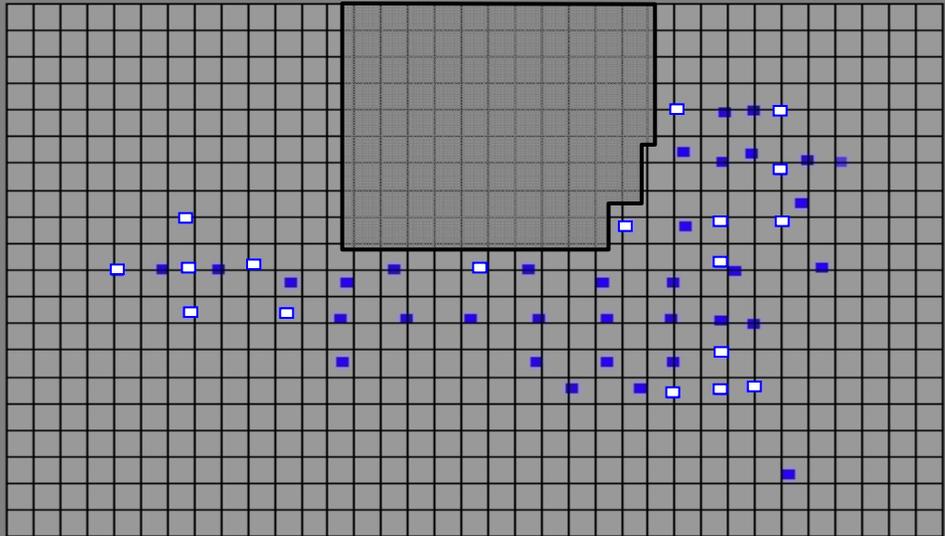
RDSI Purpose

- 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

Plant North

MIP Boring Locations

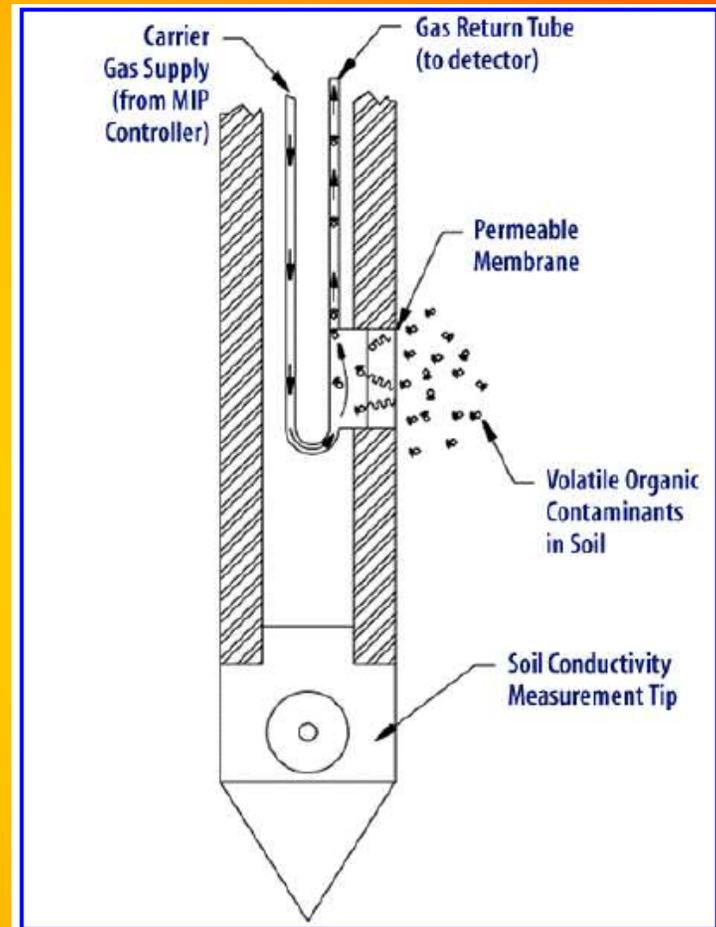


(Width and height of grids are 20 ft)

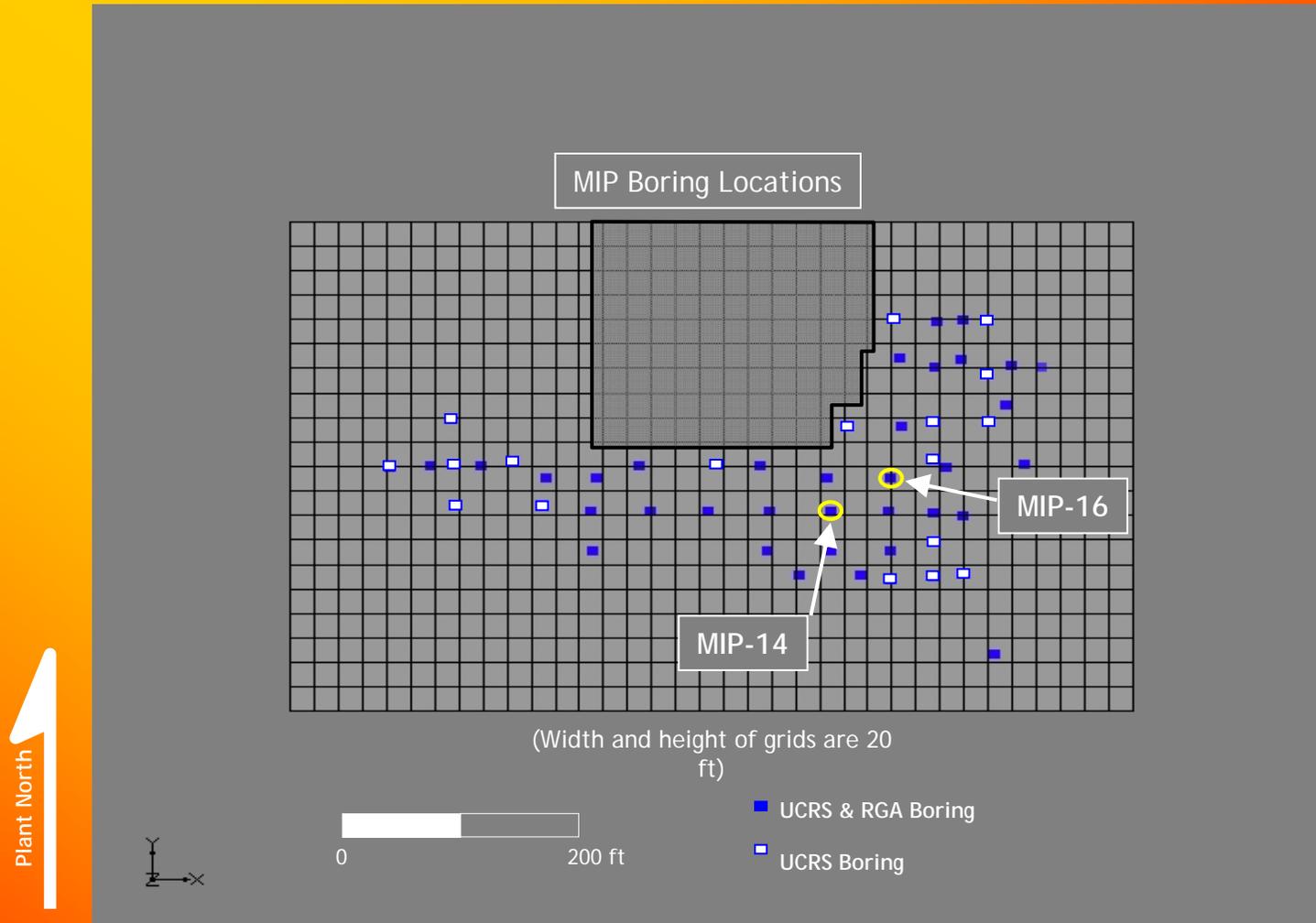


- UCRS & RGA Boring (~ 100' bgs)
- UCRS Boring (~ 55' bgs)

MIP Equipment

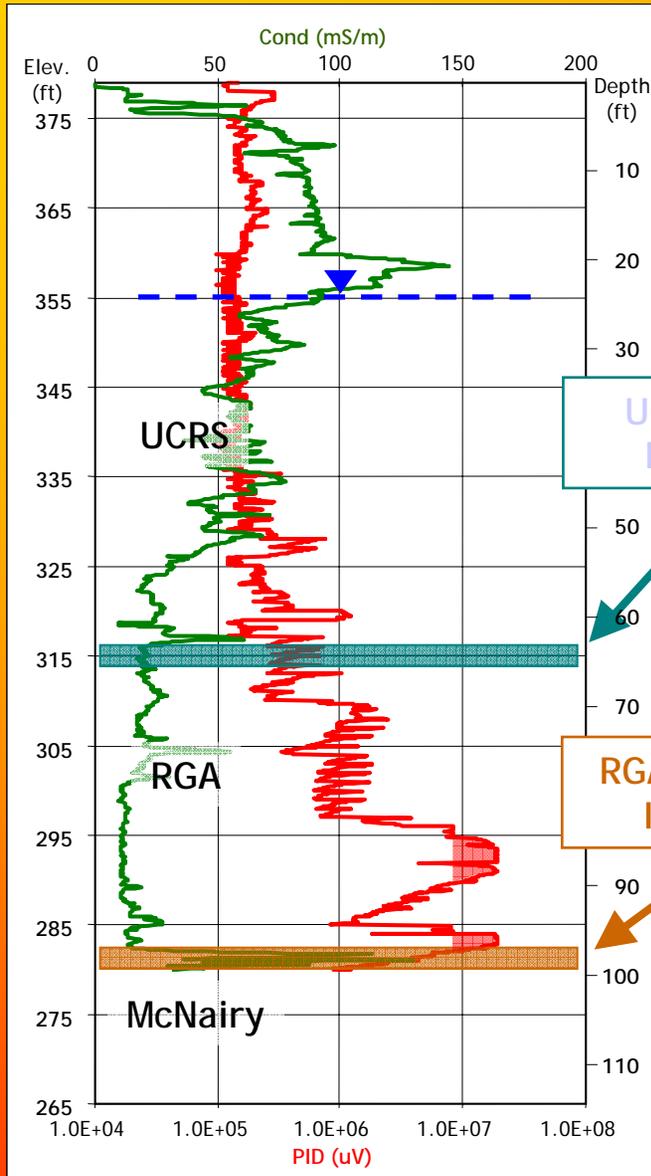


MIP Results for MIP-14 and MIP-16

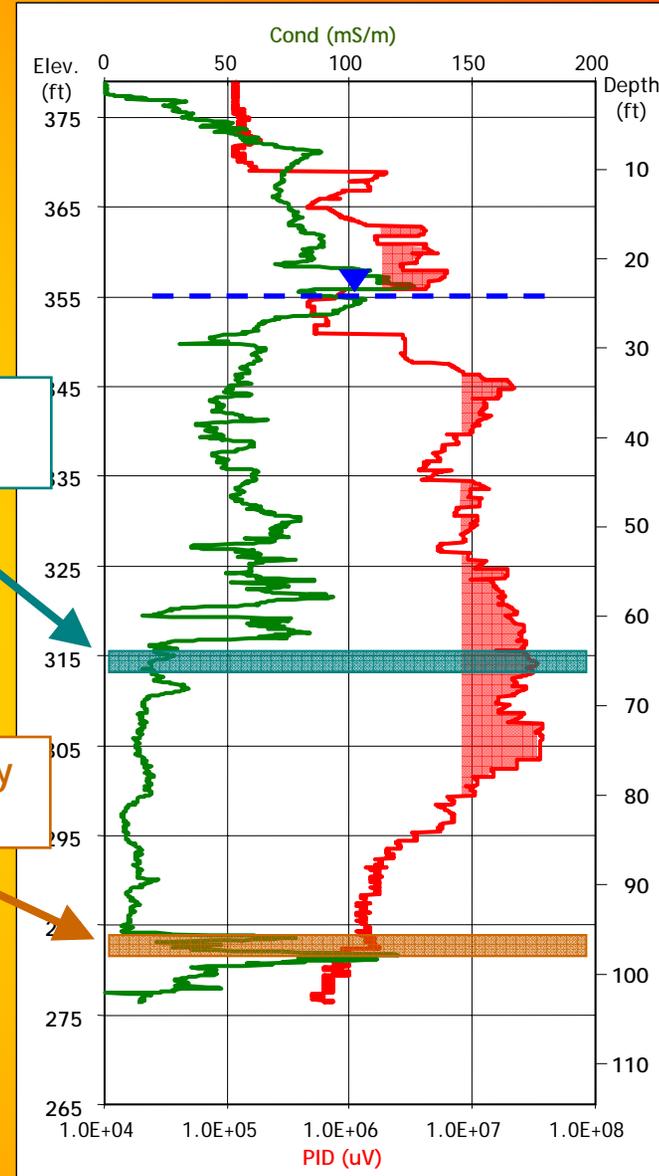


MIP Results for MIP-14 and MIP-16

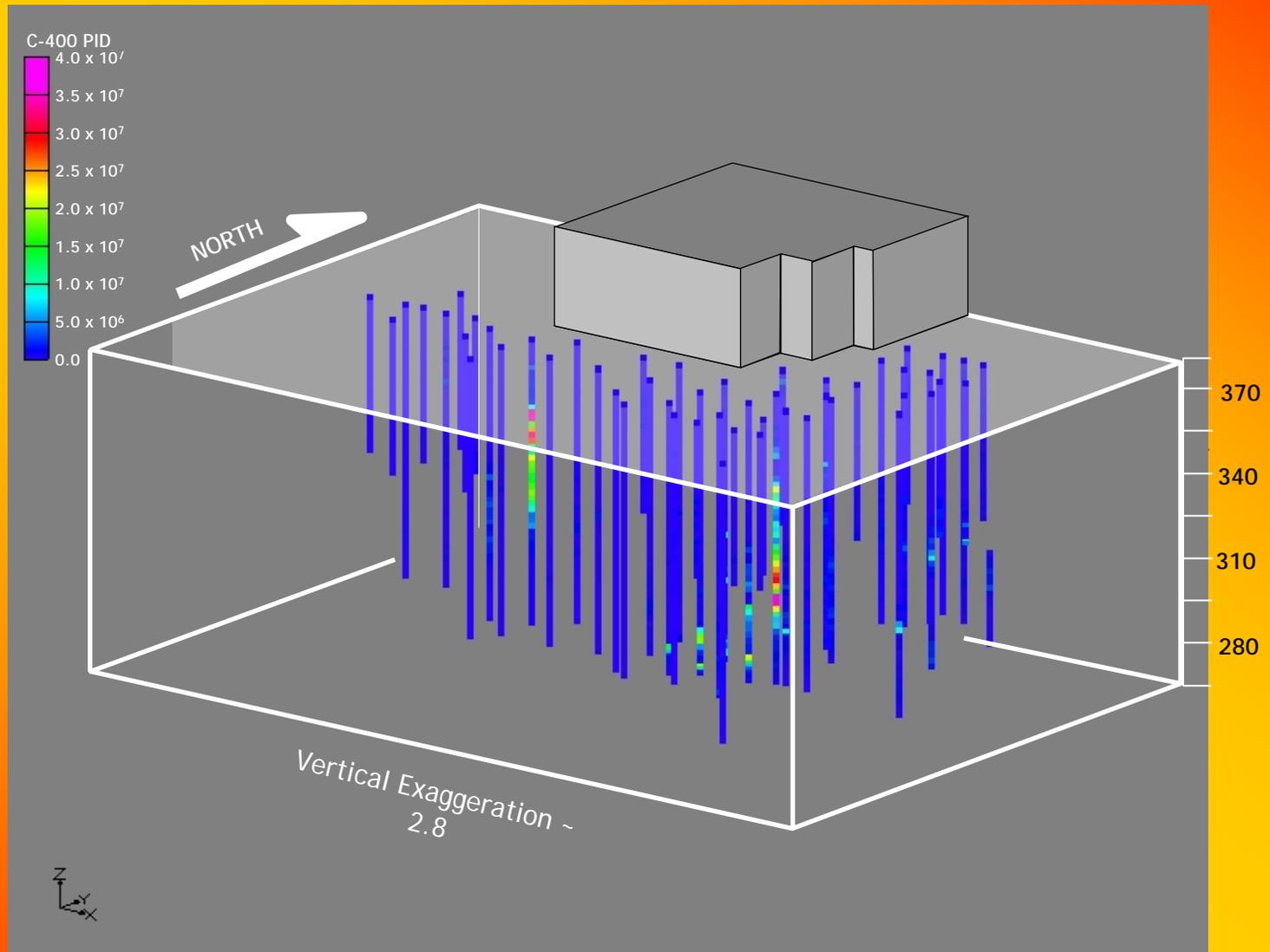
MIP-14



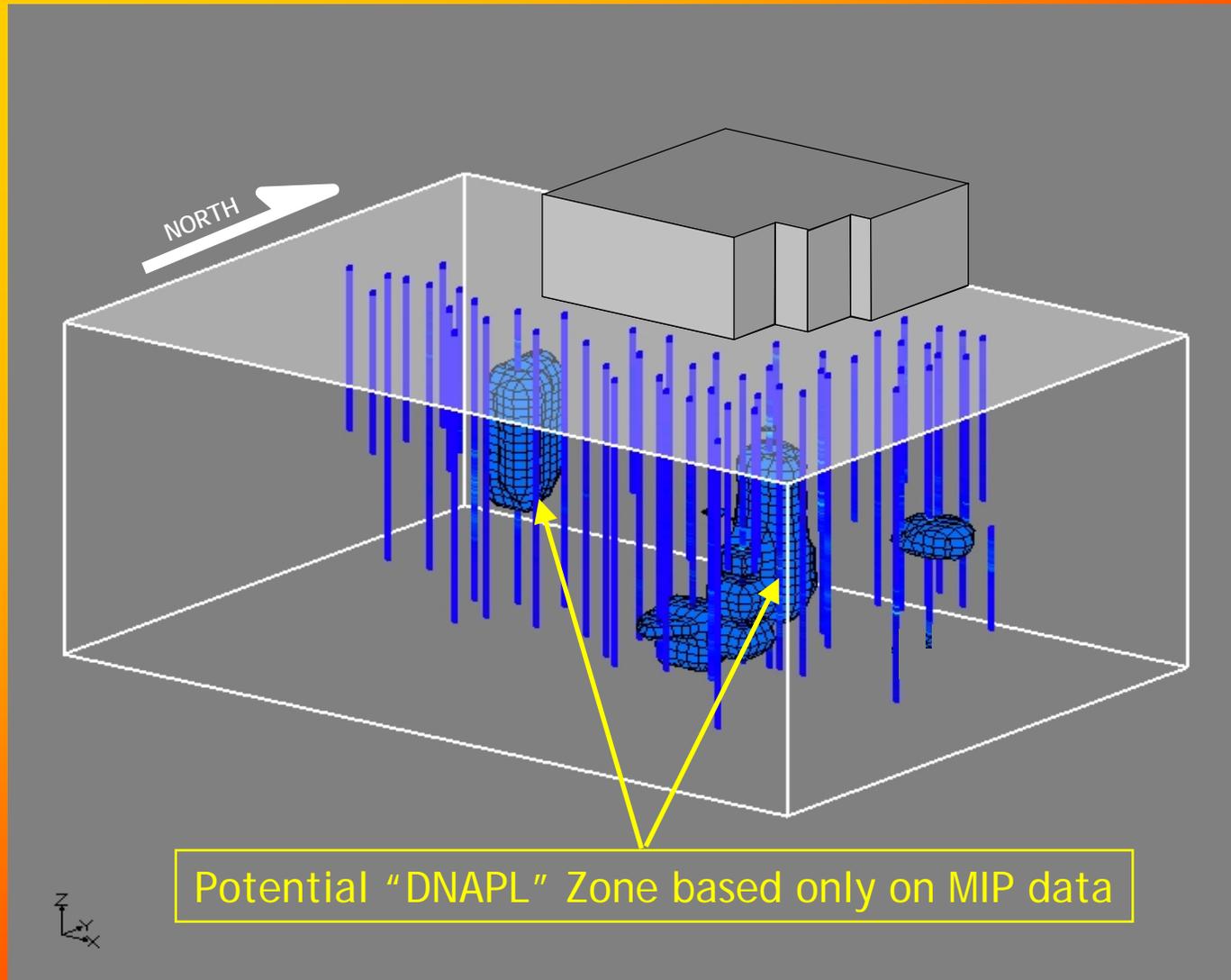
MIP-16



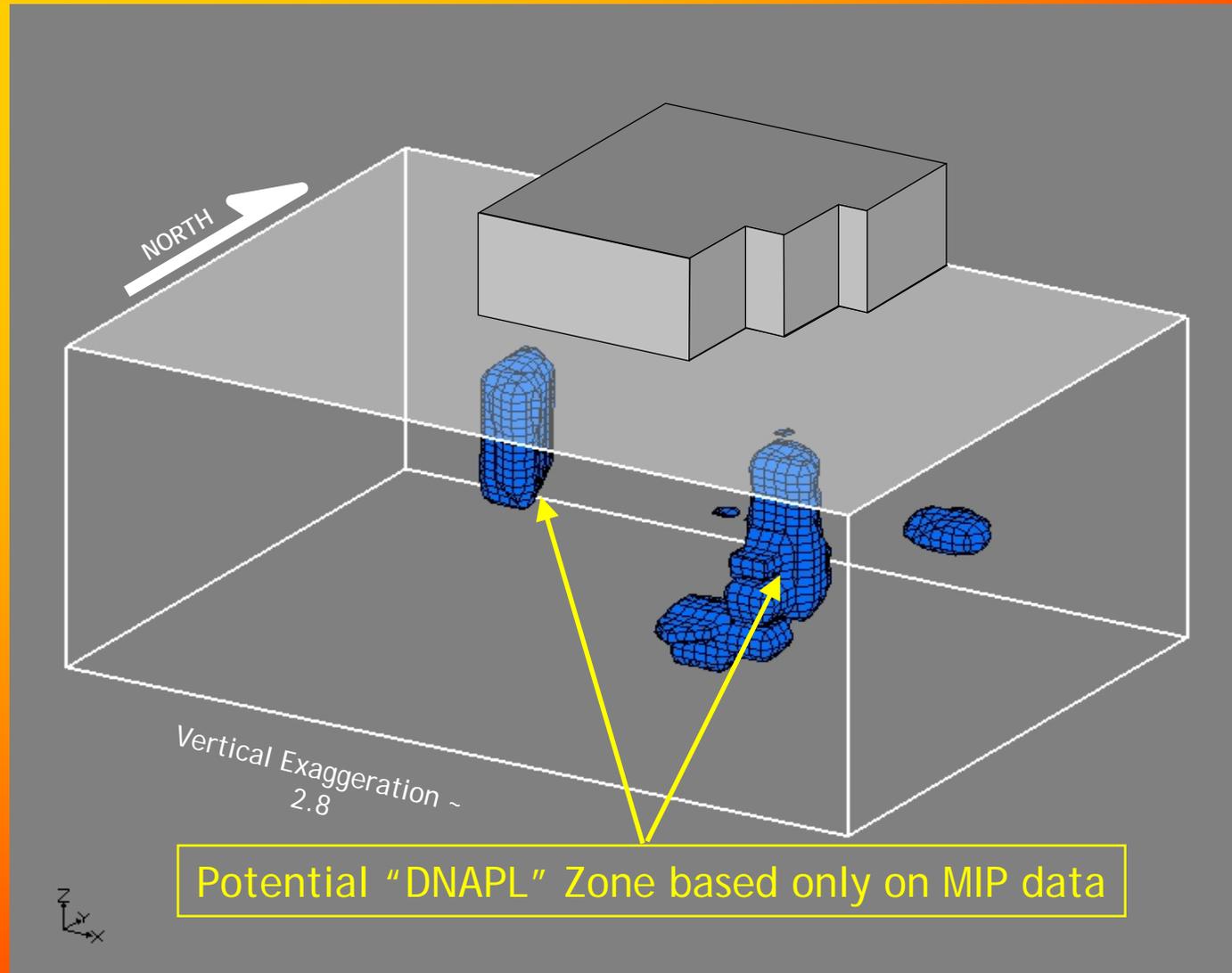
3-Dimensional Characterization



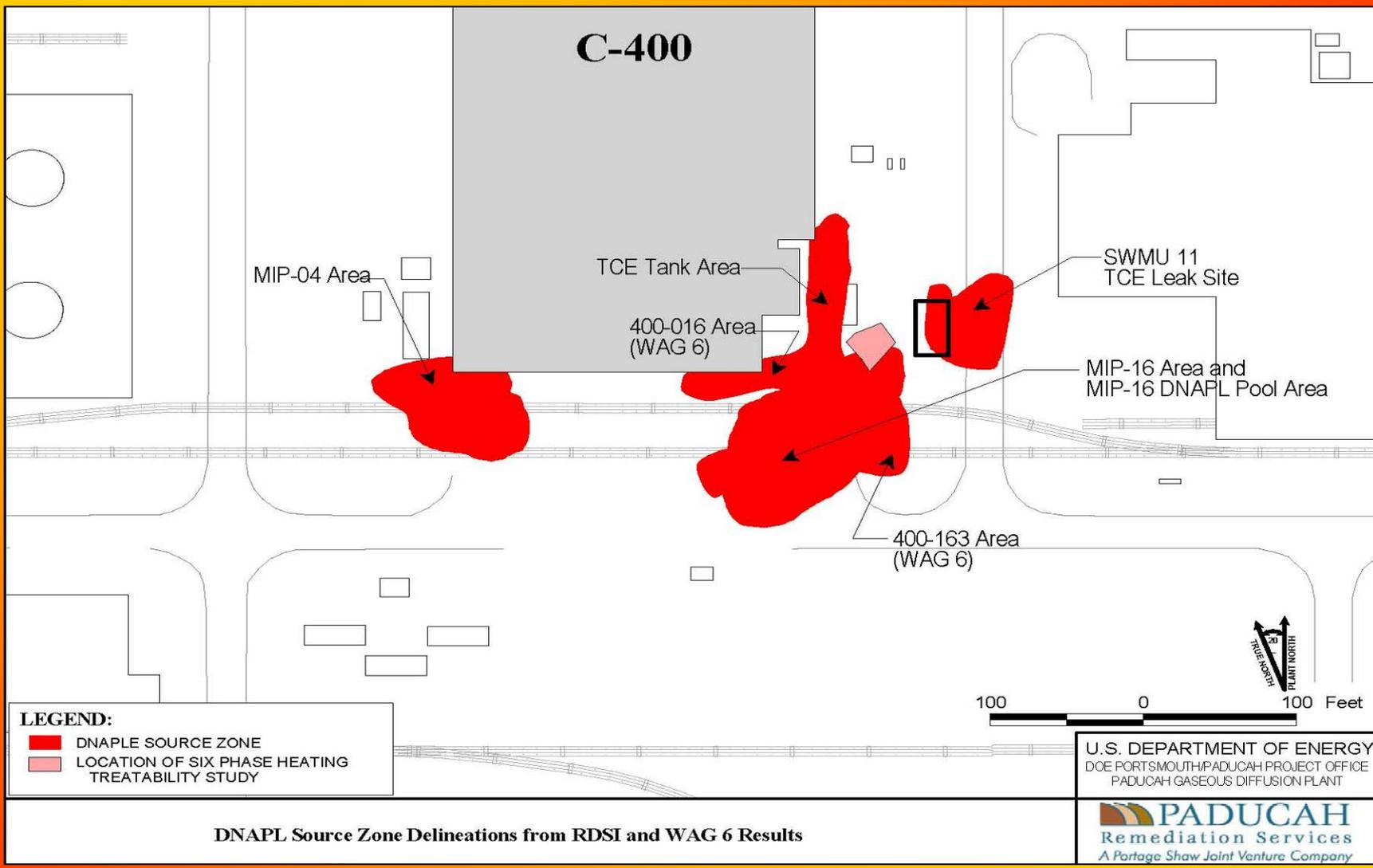
3-Dimensional Characterization



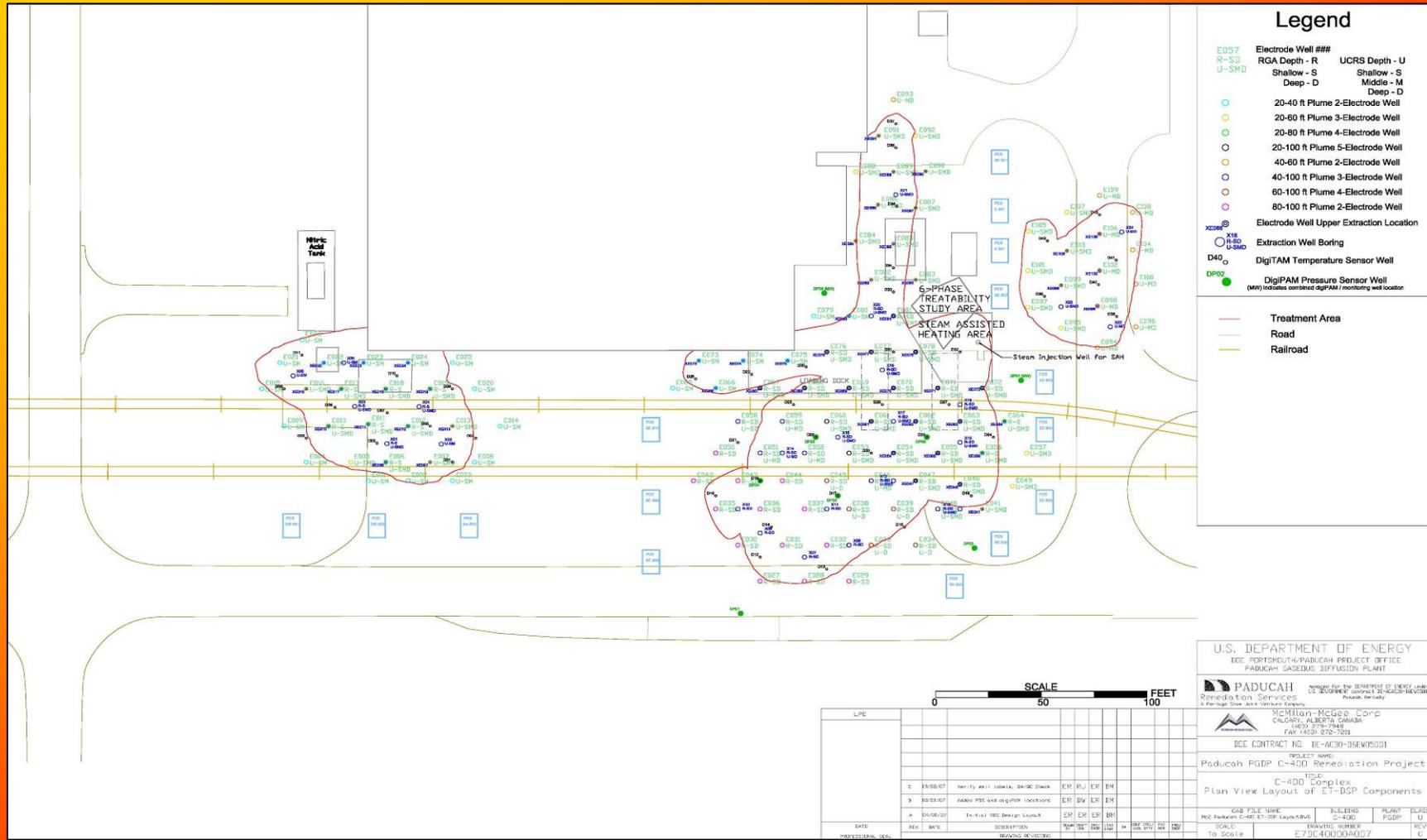
3-Dimensional Characterization



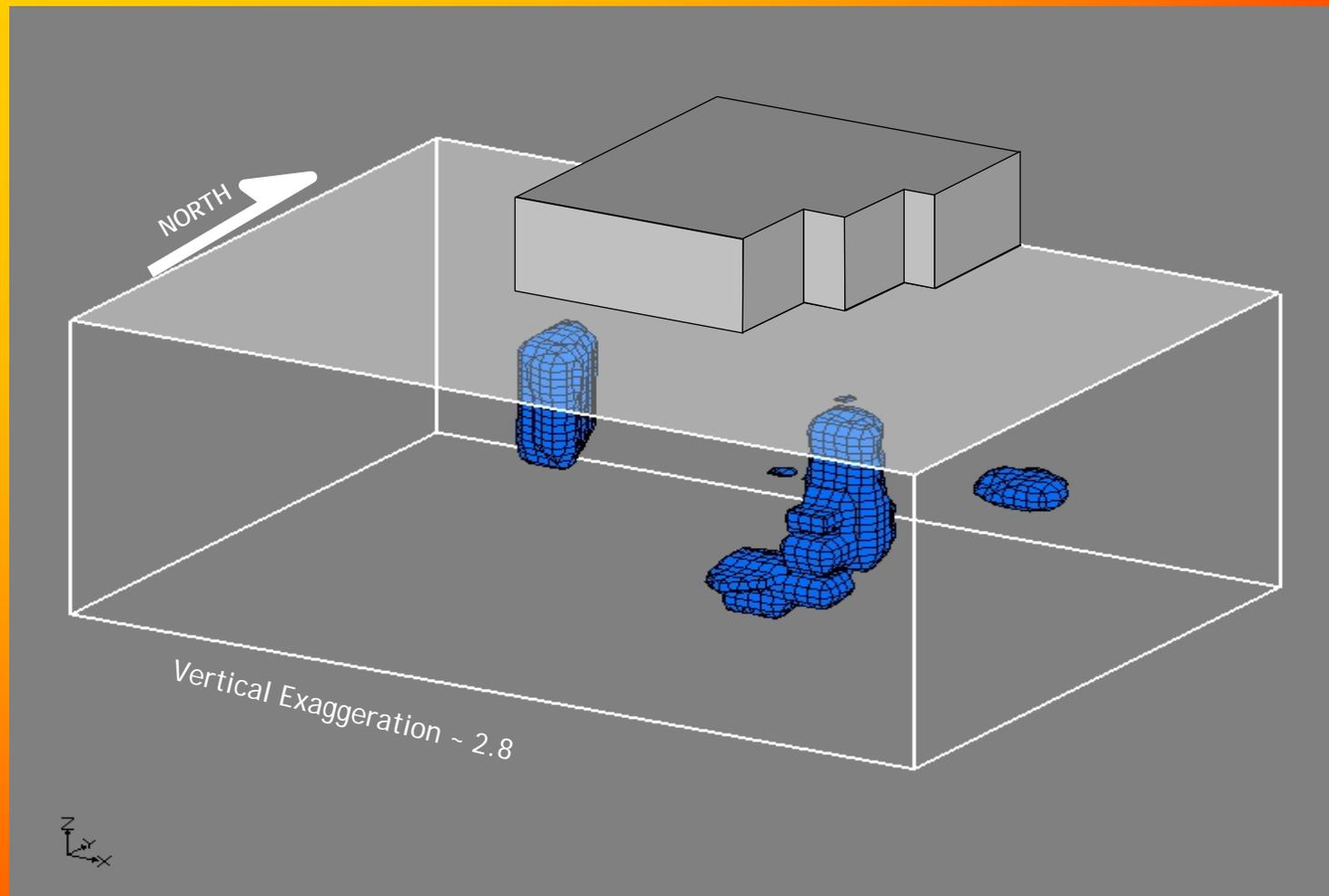
Composite Delineations of TCE Source Areas



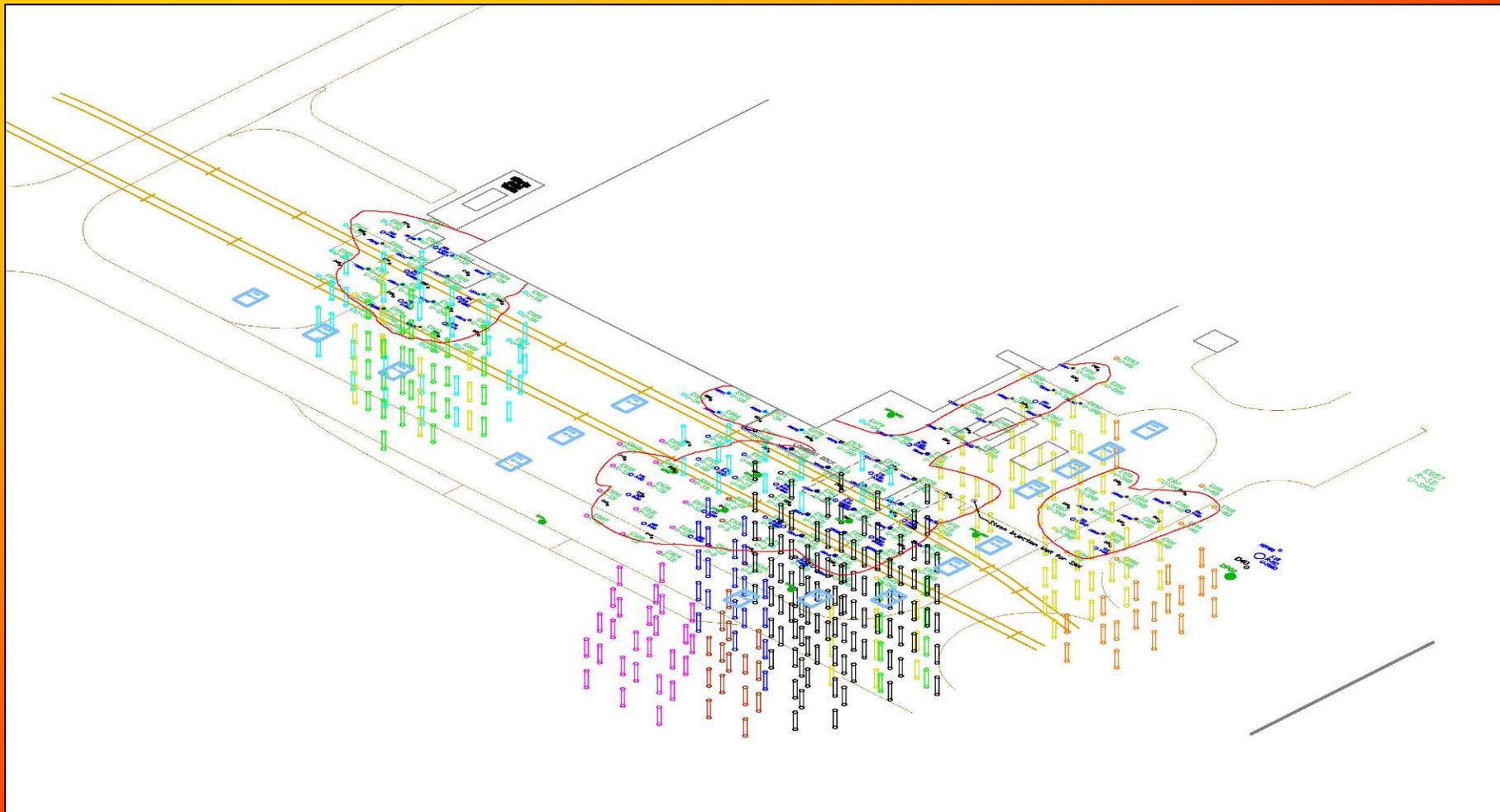
Plan View Layout of ET-DSP™ Components



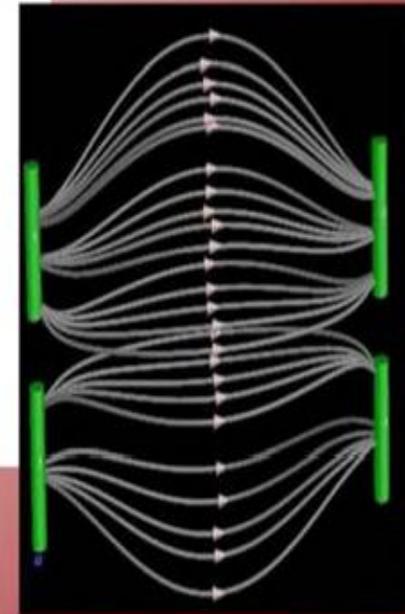
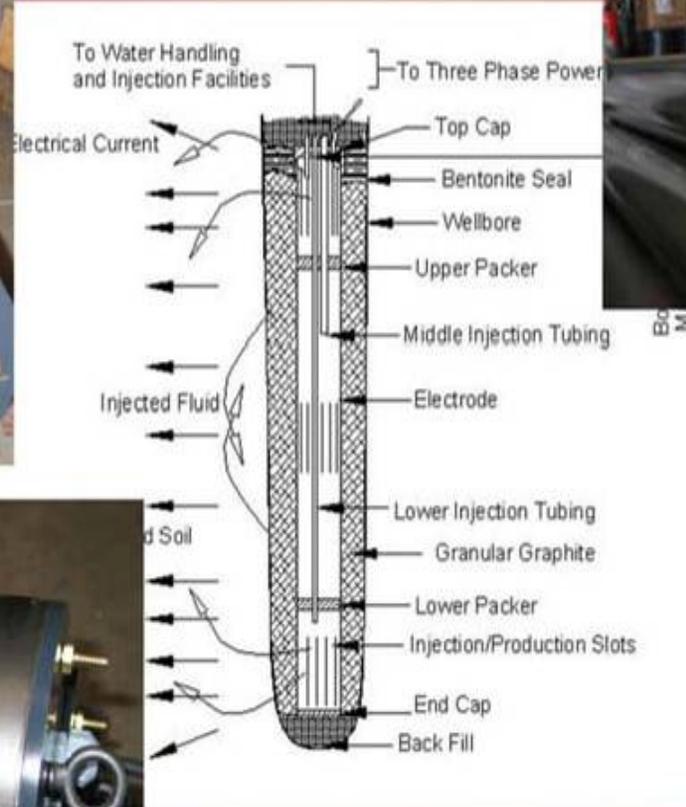
Potential "DNAPL" Zones Based on MIP Data



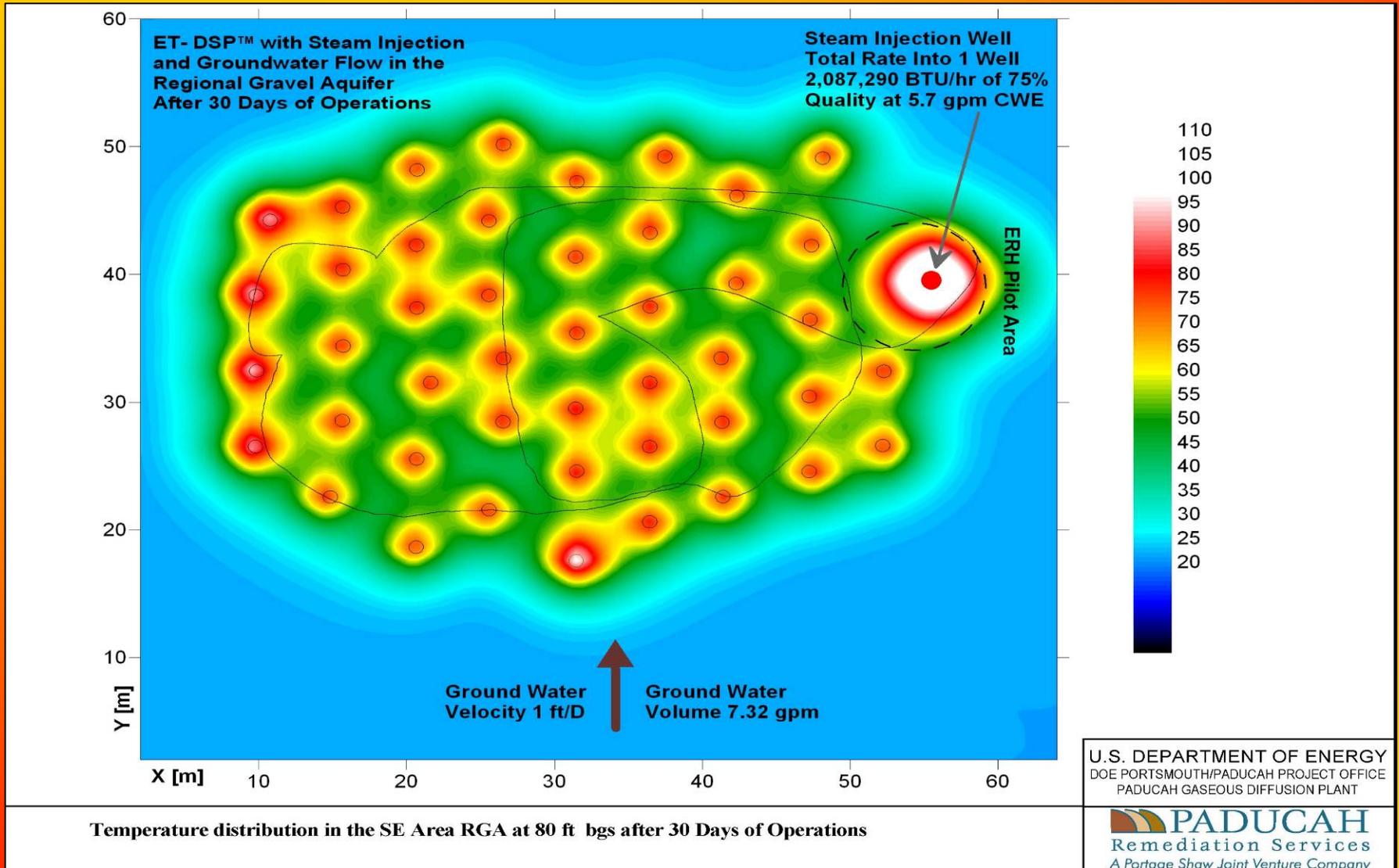
3-D View of ET-DSP™ Electrodes



ET-DSP™ Electrodes

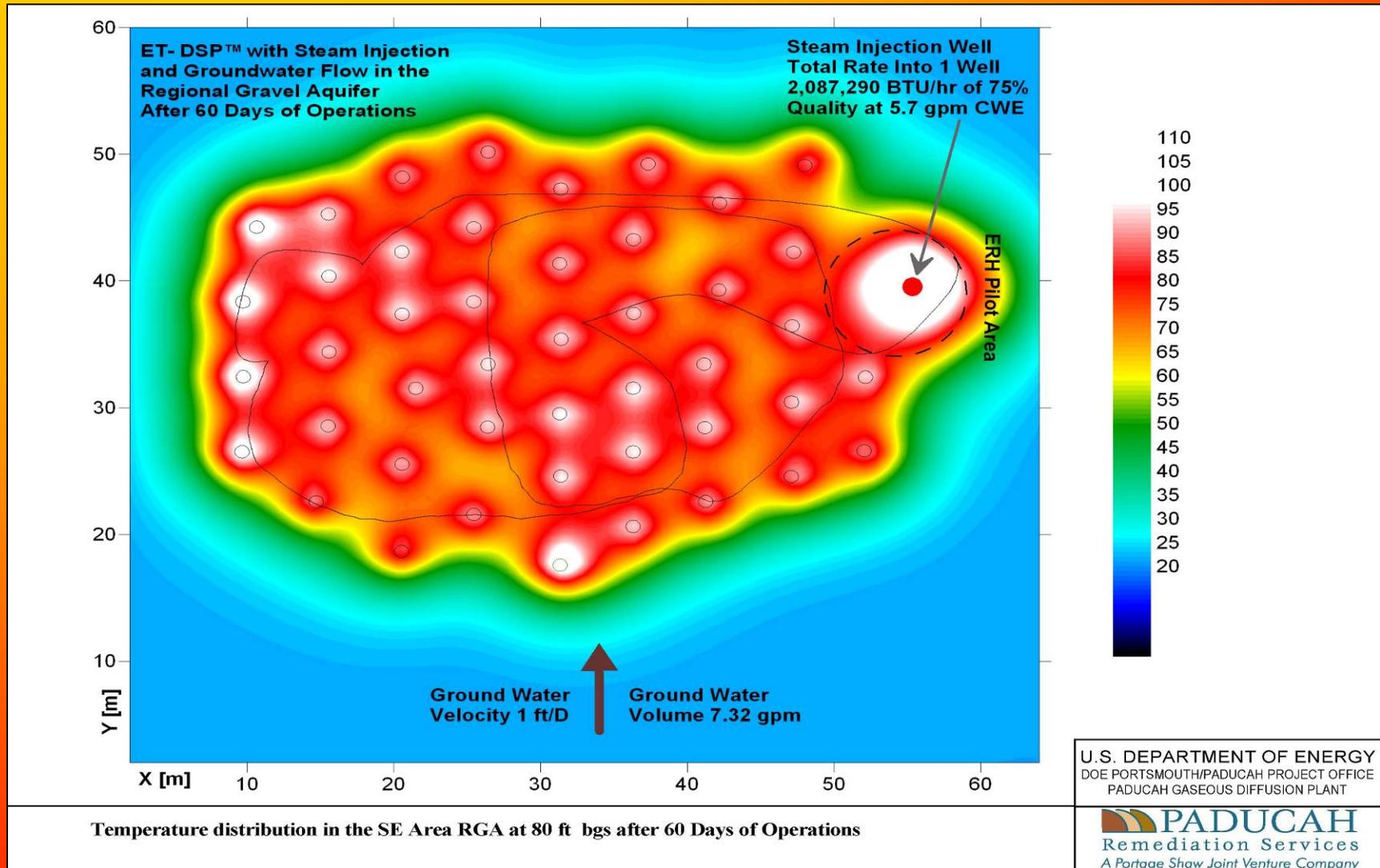


RGA Heating Response in the Southeast Treatment Area After 30 Days of Operation

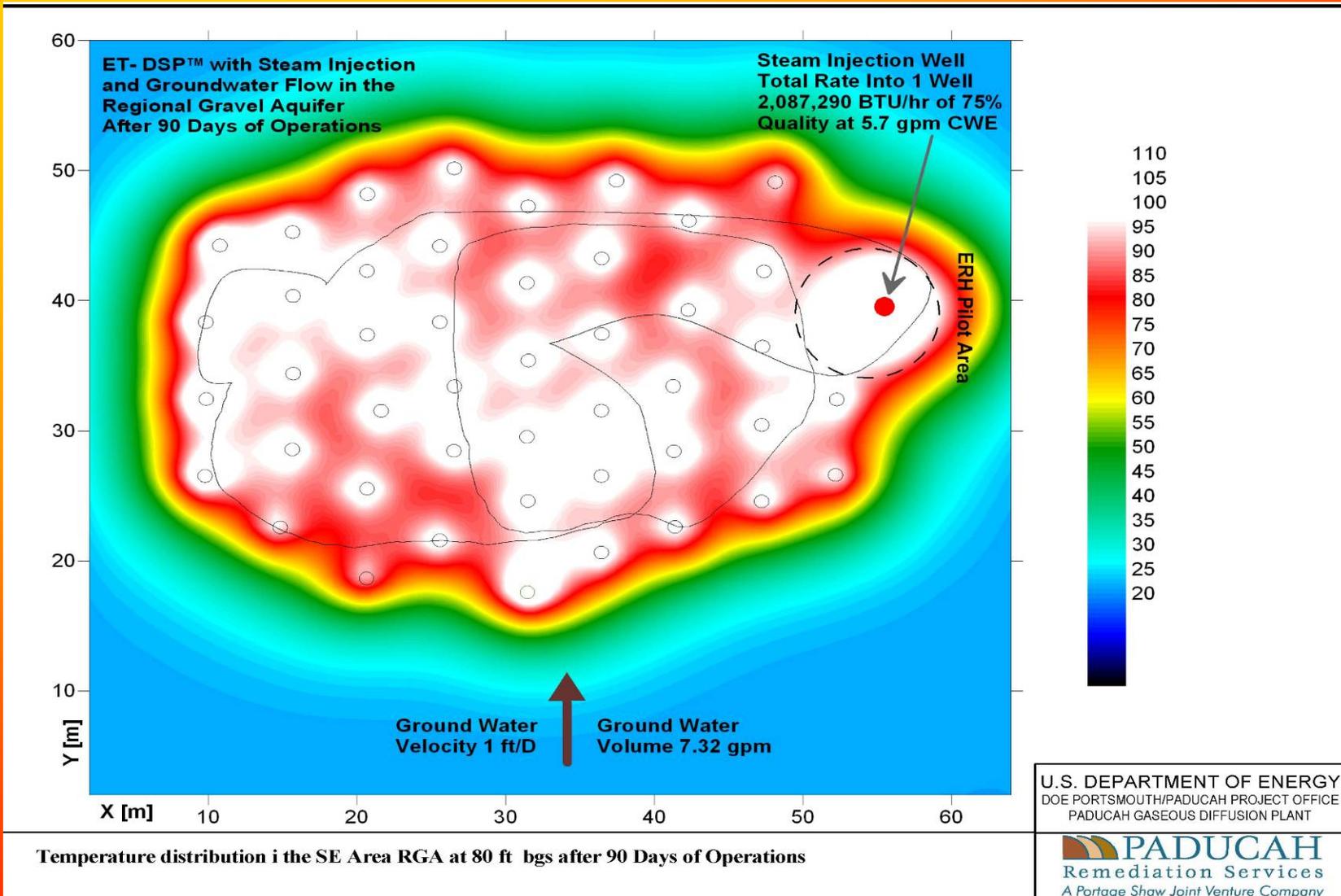


Temperature distribution in the SE Area RGA at 80 ft bgs after 30 Days of Operations

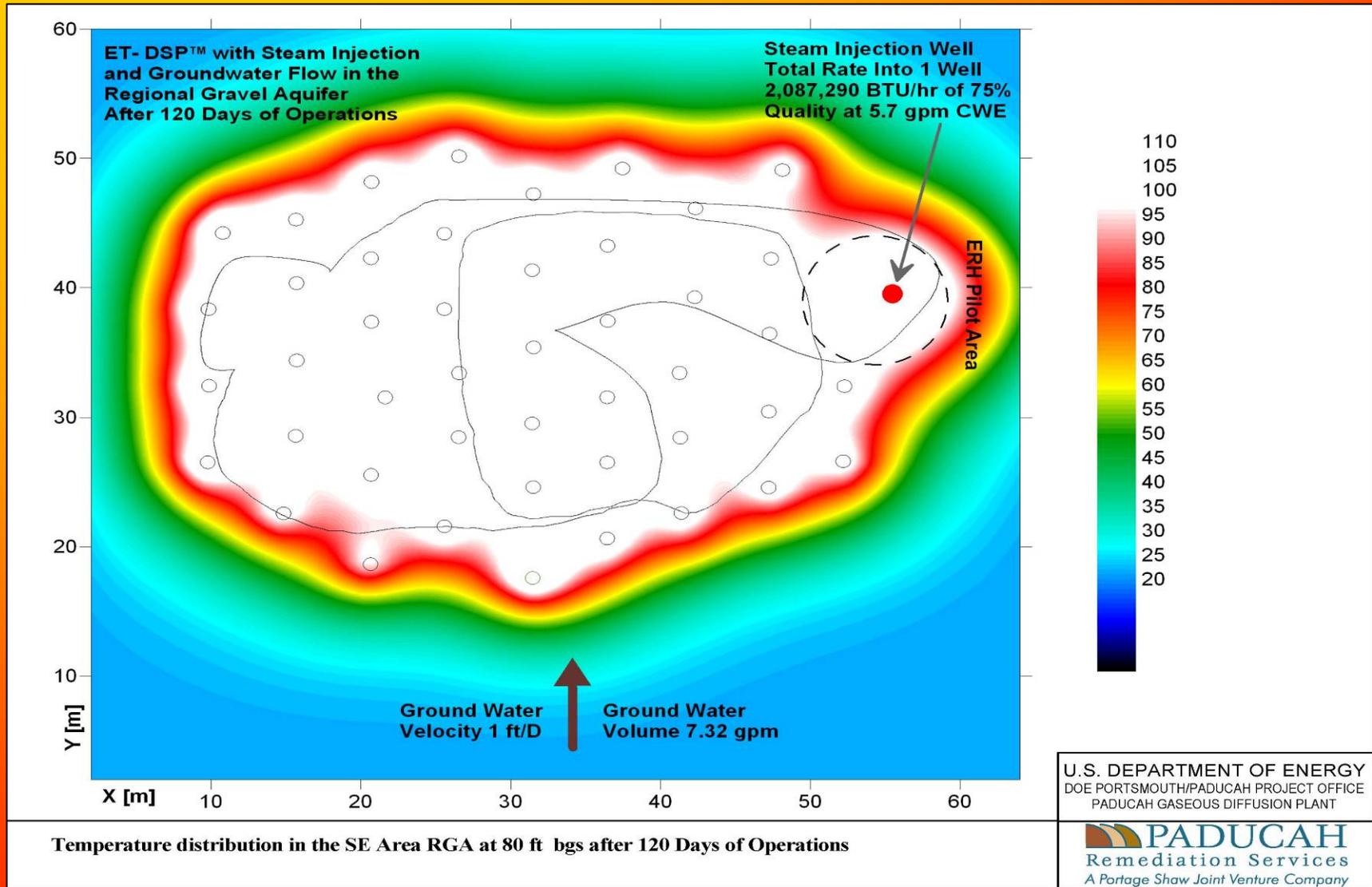
RGA Heating Response in the Southeast Treatment Area After 60 Days of Operation



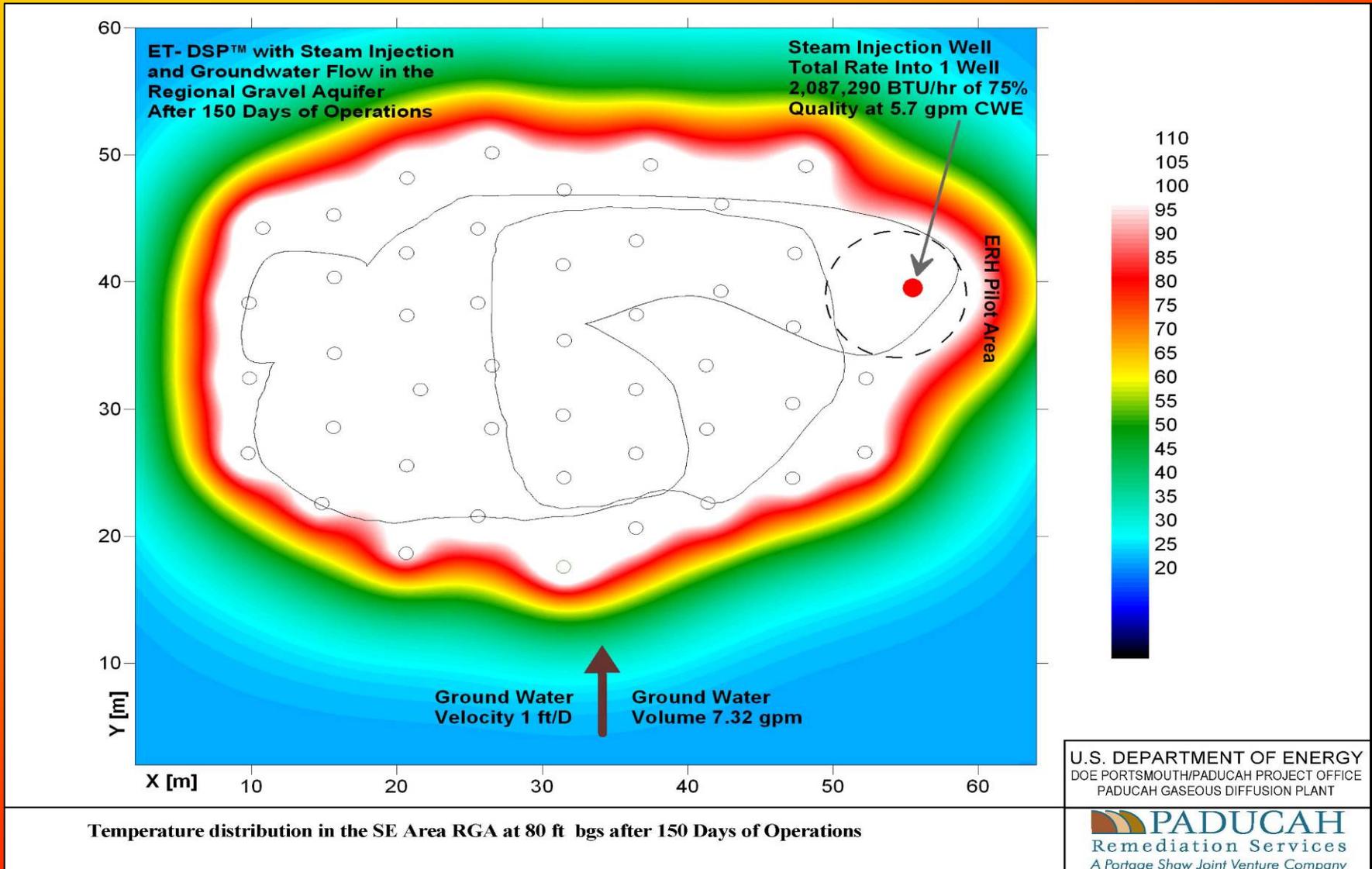
RGA Heating Response in the Southeast Treatment Area After 90 Days of Operation



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

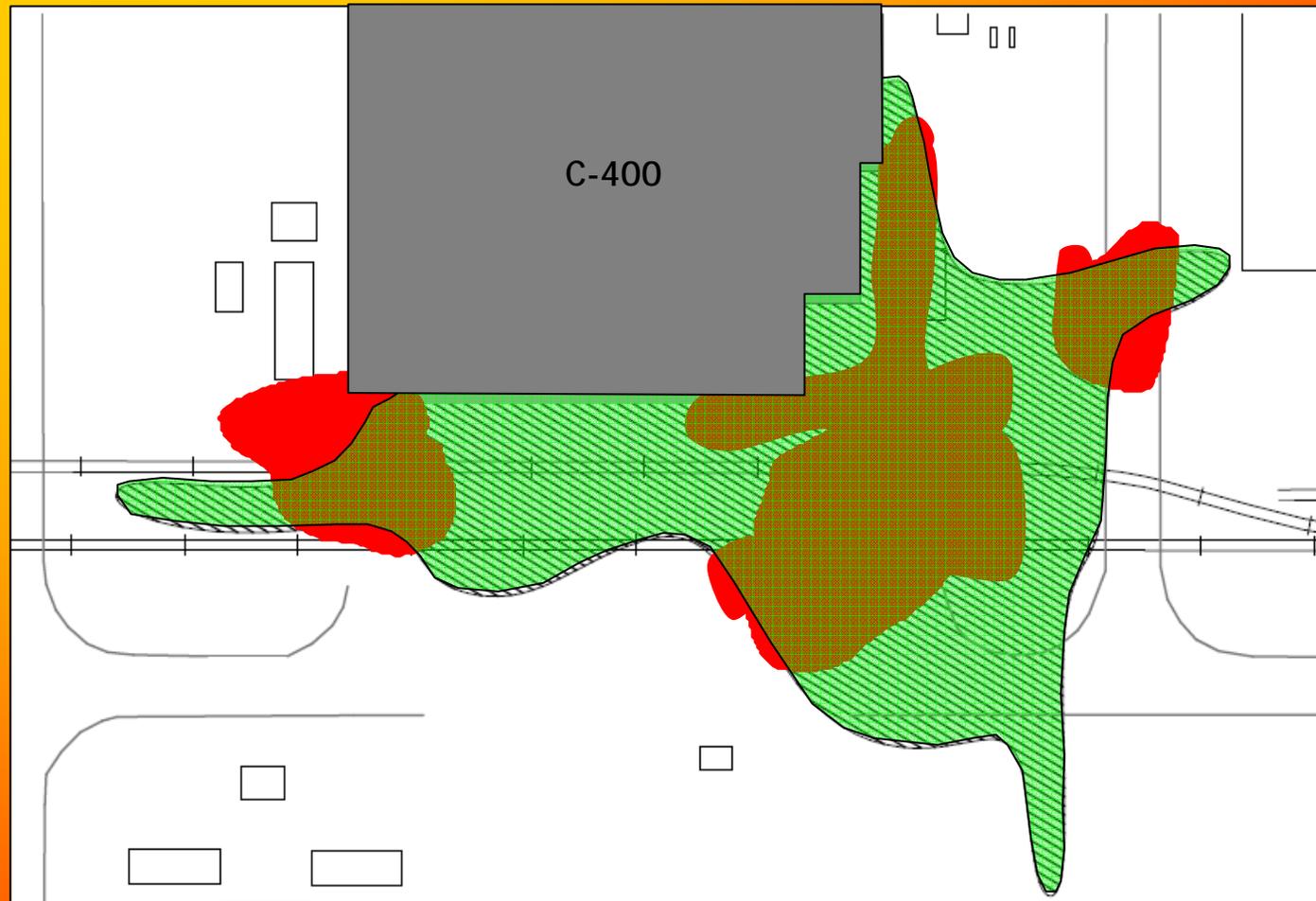


RGA Heating Response in the Southeast Treatment Area After 150 Days of Operation



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



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