

FUSRAP Investigation DuPont Chambers Works

Sitewide Remedial Investigation

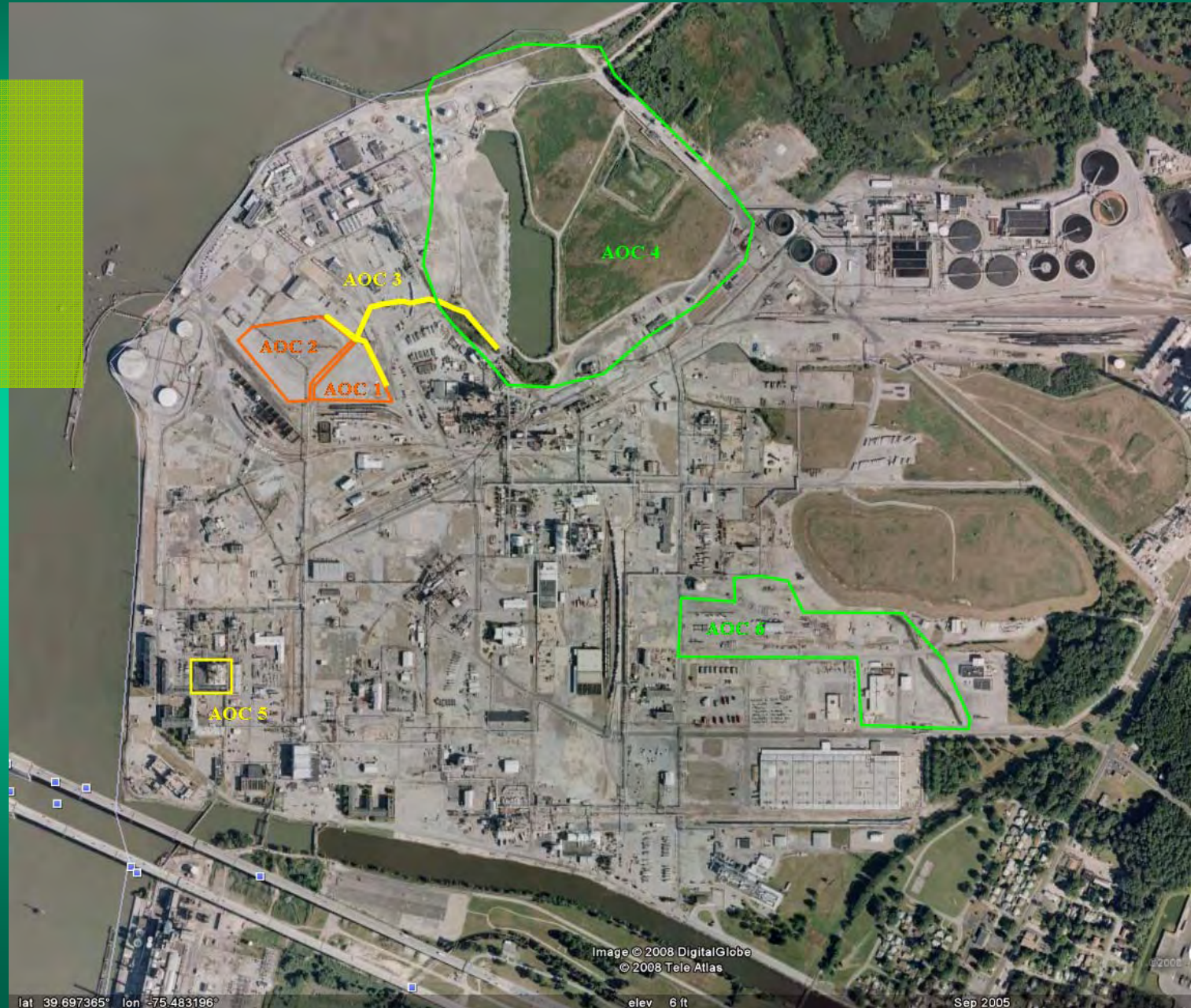


Philadelphia District
US Army Corps of Engineers



Multi-Phase Investigation 2002-2007

- 3 OUs
- 6 AOCs



Multi-Phase Investigation 2002-2007

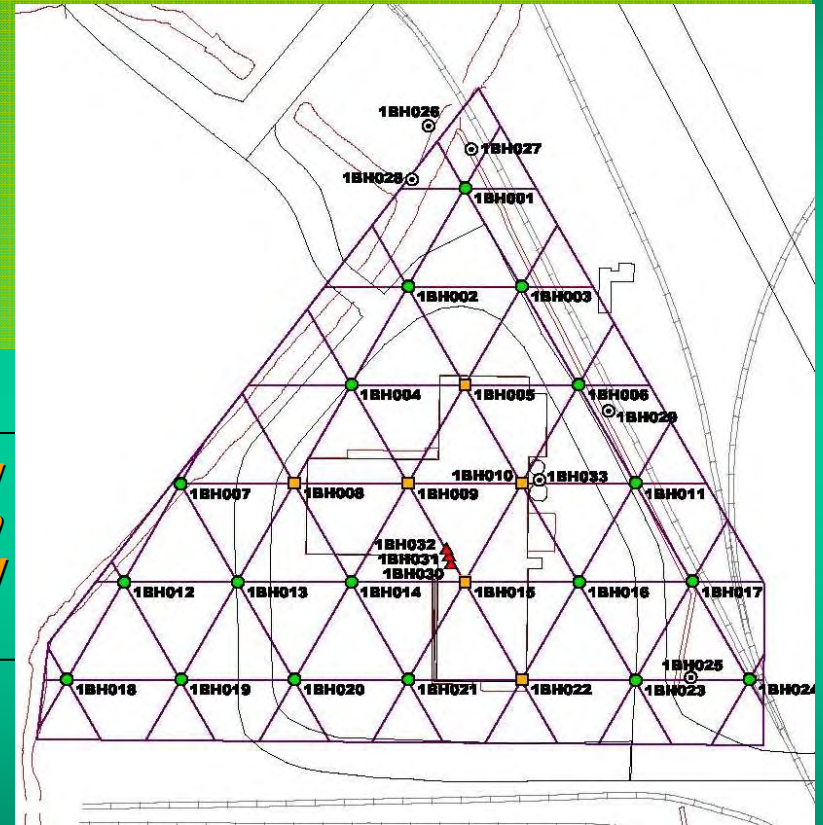
- OU 1 Investigation: 2002
- OU 2 Investigation: 2003
- OU 3 Investigation: 2004
- Additional work in each OU: 2005-2006
- Investigated groundwater in OUs starting in 2004
- All sampling completed in spring/summer 2007
- The analysis database has 94,395 data points



Environmental Sampling of All Media

- Soil
- Sediment
- Surface Water
- Groundwater

Sampling strategies developed using MARSSIM guidance. The sampling program designed to include both unbiased (grid) and biased sampling locations.



*MARSSIM - Multi-Agency Radiation Survey
and Site Investigation Manual*



Environmental Sampling of All Media

	SOIL	SEDIMENT	SURFACE WATER	GROUND-WATER
AOC 1	✓			✓
AOC 2	✓			✓
AOC 3	✓	✓	✓	✓
AOC 4	✓			✓
AOC 5	✓			✓
AOC 6	✓	✓	✓	✓
BKG REF	✓	✓	✓	✓



Investigative Methods

- Geophysical Surveys
- Gamma [radiation] Walkover Surveys
- Soil Investigations
- Surface Water and Sediment Sampling
- Groundwater Investigations



AOC 1 – Former Building 845 Investigations

- 56 soil borings
- 24 test pits
- 105 soil samples
- 32 wells and piezometers [in 2 Aquifers]
- 6 rounds of groundwater sampling
- No surface water or sediment in this AOC



AOC 2 – F Corral

- 5.7 acres; currently a parking lot
- Building 708 demolished in 1953; slab remains



AOC 2 – F Corral Investigations

- 63 soil borings
- 2 test pits
- 137 soil samples
- 48 wells and piezometers [in 3 Aquifers]
- 6 rounds of groundwater sampling
- No surface water or sediment in this AOC



AOC 3 – Central Drainage Ditch

- AOC 3 - former drainage ditch for process waste
- CDD is 30 ft wide, 1700 feet long
- Now used for storm water; perennial flow.



AOC 3 – Central Drainage Ditch Investigations

- 39 sampling stations
- 80 soil and sediment samples collected
- 30 temporary piezometers (groundwater)
- 30 sediment sampling locations
- 13 surface water sampling locations



AOC 5 – Building J-26 Area

- AOC 5 - former building used to conduct batch experiments for uranium refining
- AOC 5 is 1.2 acres; former building footprint was 6000 ft²
- Former building demolished in 1955;



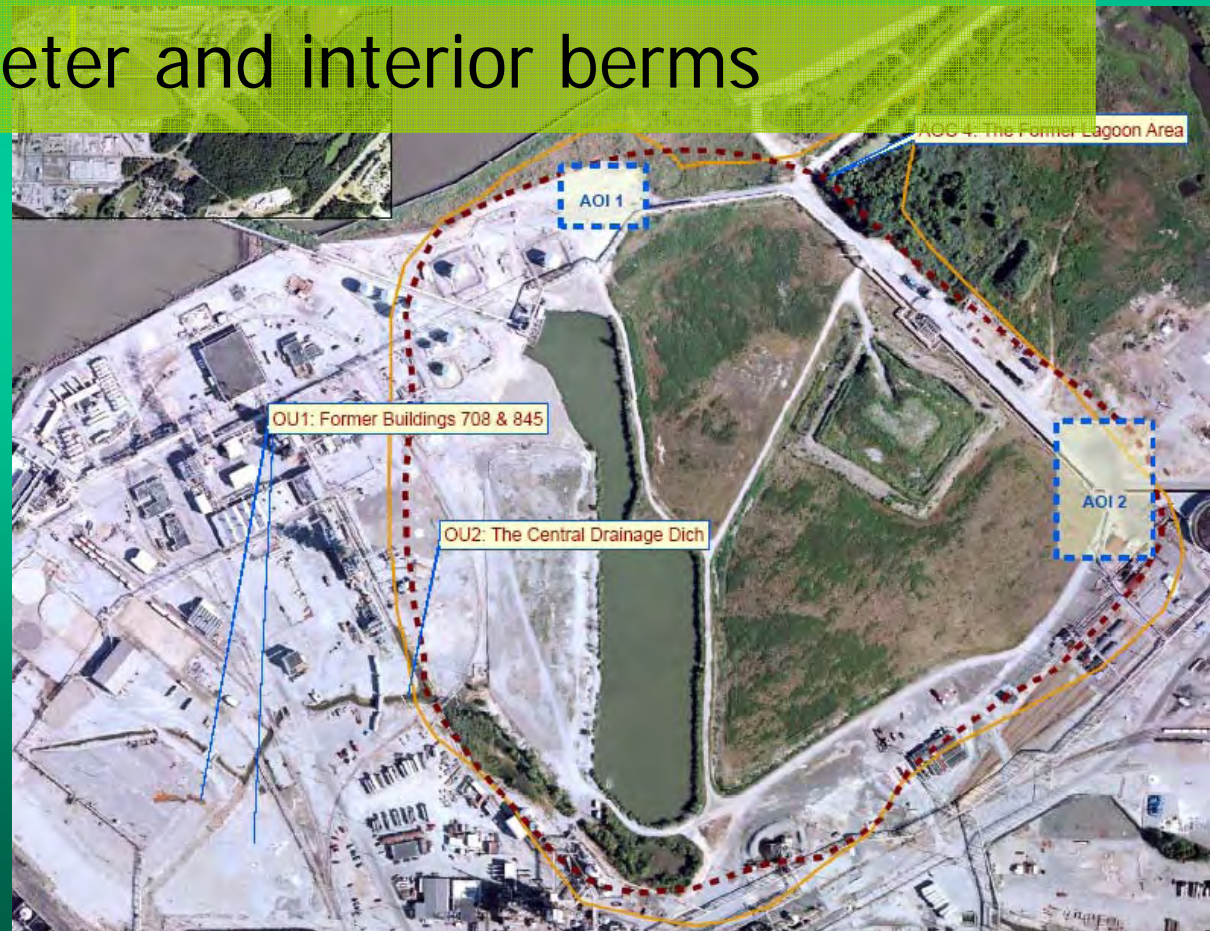
AOC 5 – Building J-26 Area Investigations

- 11 sampling stations near former drainage ditches
- 48 total soil samples collected
- 11 piezometers
- No sediment or surface water in this AOC



AOC 4 – Historical Lagoon A

- Process waste settling basin during MED
- Approximately 25 acres; currently one basin and two landfill cells
- Investigated perimeter and interior berms



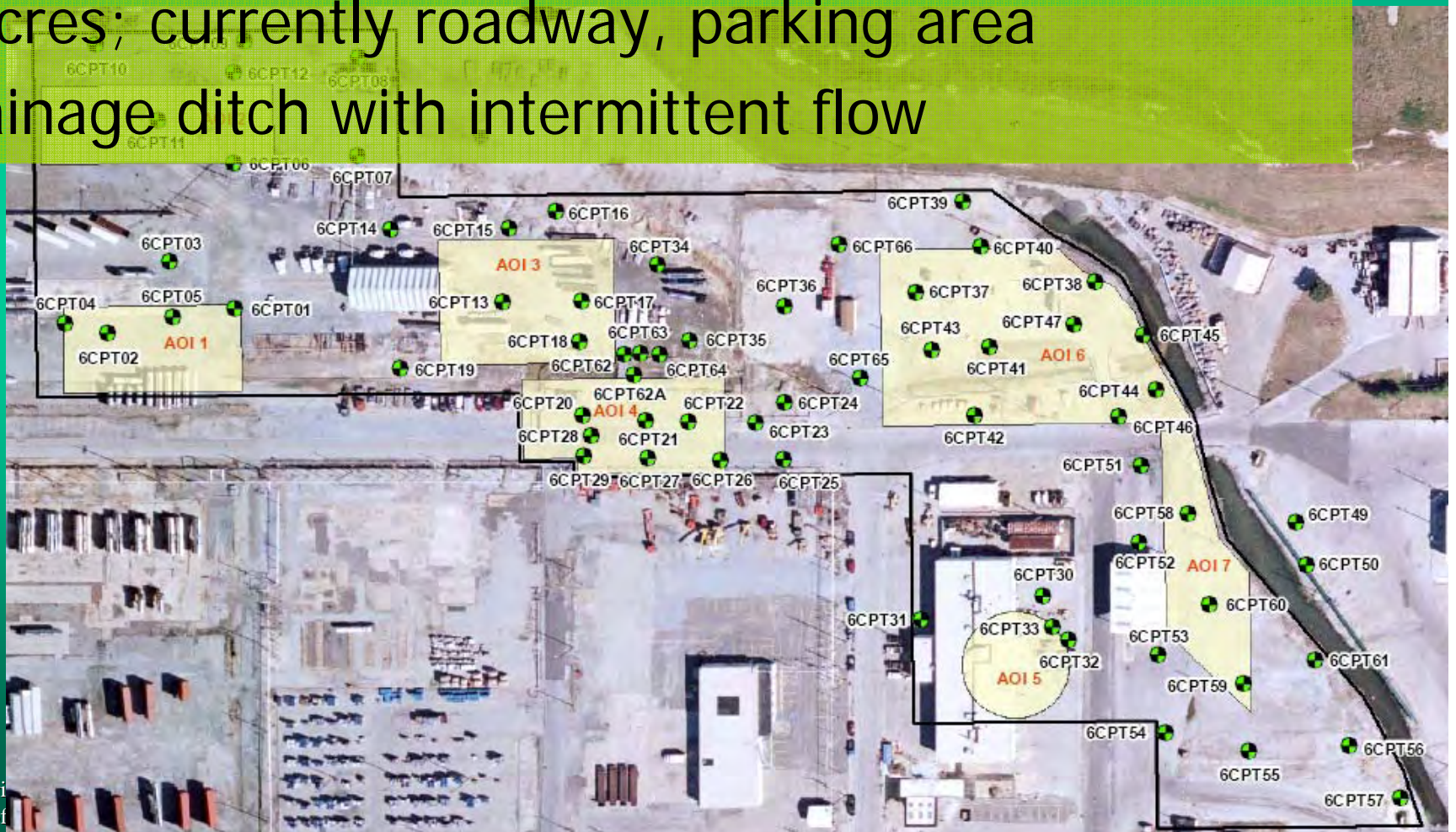
AOC 4 – Historical Lagoon A Investigations

- 53 cone penetrometer testing locations
- 28 soil borings
- 51 soil samples
- 29 wells and temporary piezometers (2 Aquifers)
- 4 rounds of groundwater sampling
- No surface water or sediment in this AOC



AOC 6 – East Area

- Former MED rubble disposal area
- No uranium processing activities
- 3 acres; currently roadway, parking area
- Drainage ditch with intermittent flow



AOC 6 – East Area Investigations

- 63 cone penetrometer testing locations
- 49 soil sampling stations
- 91 soil samples
- 7 monitoring wells [1 Aquifer]
- 30 sediment sampling locations
- 12 surface water sampling locations
- 13 sediment sampling locations



Groundwater Investigations



Groundwater Investigations

- Uranium is contaminating groundwater at three locations.
- The 3 areas are limited to less than 20 feet in depth.
- The combined size of all three areas is less than 1 acre.



Baseline Risk Assessment

- Estimate potential health risks and environmental impacts.
- Identify areas that pose no risk.
- Make a list of constituents that contribute to risk.
- Results indicate AOCs 1, 2, and 6 need evaluation in a Feasibility Study and may require remedial action.



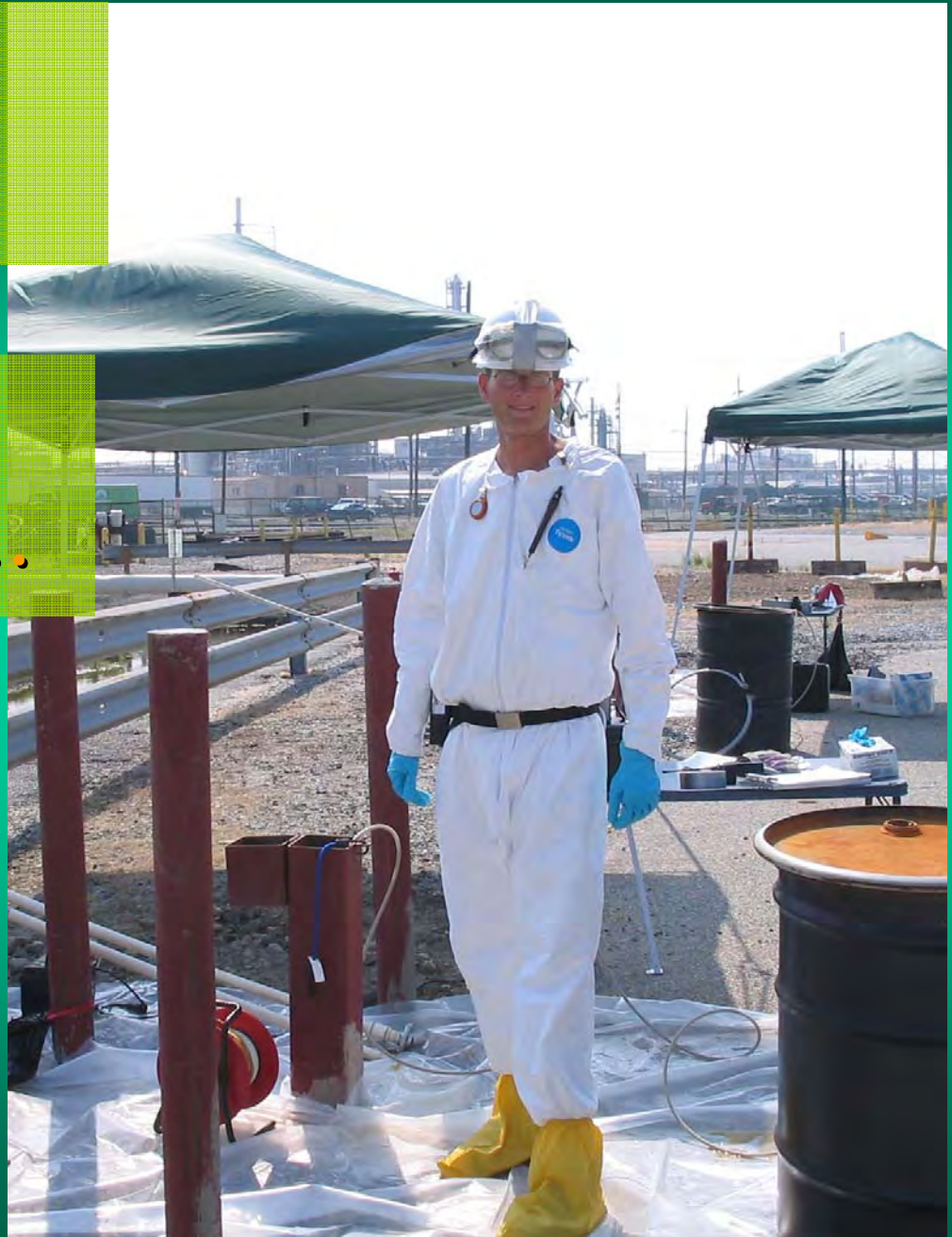
Current Status

- Uranium-impacted soil and groundwater are completely within the boundaries of the operable units.
- Use risk assessment results to develop a cleanup plan.



Any Questions?

**Now for the
Feasibility Study...**



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