ICP

IDAHO CLEANUP PROJECT

Infamous Pit 9 Era Comes to a Close

Presented by

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SAFELY PLAN • MOTIVATE • DELIVER

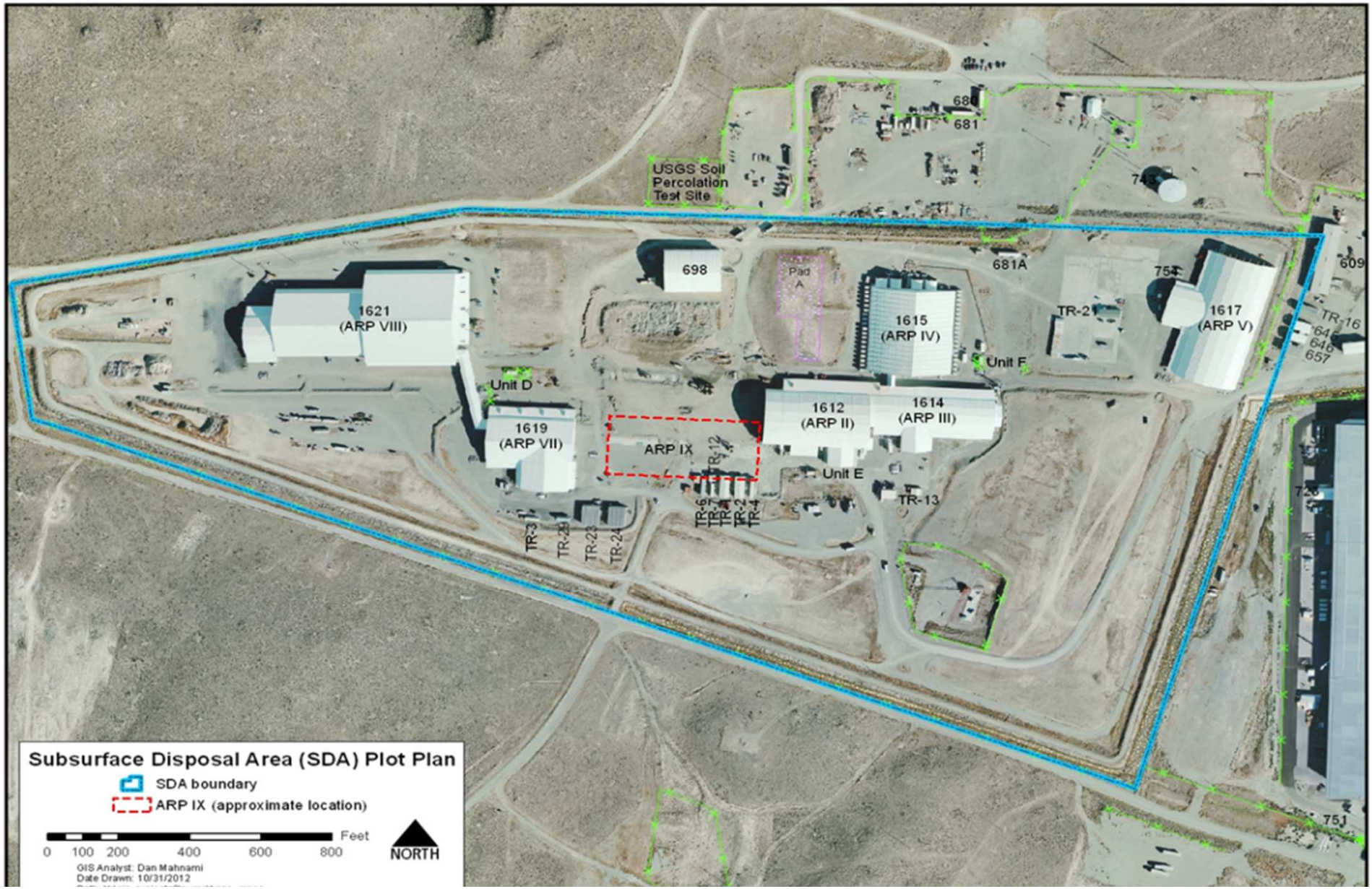
Background

- **Demonstration project – Glovebox Excavator Method (GEM) (2004)**
  - Remediation of small portion of Pit 9
    - Constructed enclosure structure over pit
    - Isolated backhoe for excavation

Radioactive Waste Management Complex

Glovebox Excavator Method (GEM)

Background (continued)



ICP-I Challenges (post May 2005)

- **Ensuring proper balance of available equipment and equipment reliability in order to maintain continuous operations**
- **Anticipating production impacts such as**
  - Pyrophoric events caused by drums containing roaster oxides
  - Subsidence issues with waste retrieval enclosures
  - Potential for degraded drums
- **Developing construction/exhumation sequencing to achieve optimal schedule execution**

Driver prepares to enter retrieval area

Safety Excellence = Safe Production

- More than 7,500 entries into radiological/contamination areas without an event
- No recordable injuries

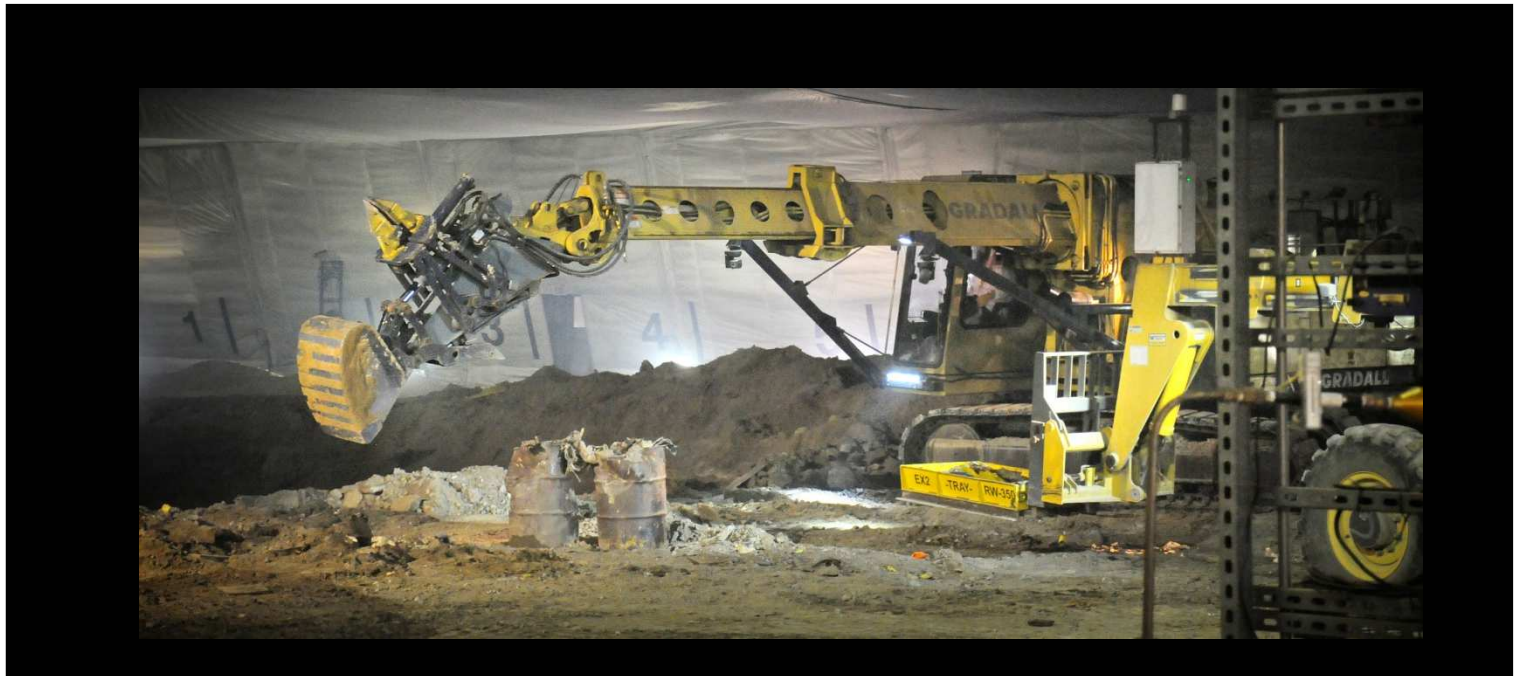
Radiological control technician assists ARP worker prior to entering high radiation area

Planning

- **Optimized sequencing of GEM decontamination/decommissioning/demolition with ARP V design/construction – ensuring exhumation facility was ready when operations crew was available**
- **Produced exhumation facility design that utilized**
  - Existing Pit 9 concrete foundation – saving DOE the cost of constructing a new foundation
  - Worker involvement and feedback for optimum constructability

Sustainable Production

- Invested in appropriate equipment and maintenance capabilities, avoiding production delays due to equipment failure
- Designed, constructed, and operated a fissile material measurement system that reduced the generation of orphan waste – from as high as 12% to less than .02%
- Designed ARP V as a "stand alone" facility, independent of the other four (ARPs) interconnected facilities



Buried waste exhumation in Pit 9

Innovations/Process Improvements

- **Instituted procedure modifications to address pyrophoric reactions**
  - Analyzed/anticipated/proceduralized recovery action
  - Resulted in little to no impact to production or risk to operators
- **Consolidated all key project functions at the job site**
- **Used existing concrete foundation**
- **Encased existing firewater supply line in concrete**
  - Avoided relocation costs
  - Protected it from exhumation operations
- **Applied Integrated Safety Management System (ISMS) principles, specifically worker feedback, to achieve operational/construction improvements**

Outcomes

- **In August 2011, completed the targeted waste exhumation of Pit 9**
  - One year ahead of schedule
  - $10 million under budget
  - No recordable injuries; no radiological events
- **Achieved regulatory end-state for one of the most politically charged DOE projects at the Idaho Site**
- **Reuse of Pit 9 facility for processing of 6,000 AMWTP sludge drums**
  - Excessed the facility from CERCLA
  - Received RCRA permit for sludge repackaging

Successful Pit 9 team