

# 618-10 & 618-11 BURIAL GROUNDS REMEDIAL DESIGN WORKSHOP

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June 9-12, 2003

**OVERVIEW OF**  
**218-W-4C and 218-W-4B**  
**Suspect Transuranic**  
**Waste Retrieval Project**

*by*

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# 218-W-4C & 218-W-4B Suspect Transuranic Waste Retrieval Project

## *PROJECT DESCRIPTION*

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### ○ **Performance Objective:**

- Retrieve, designate, and disposition 3,040 m<sup>3</sup> of suspect TRU from those locations with highest Pu concentration (218-W-4C, Trenches 1,4,20,24, 29 and 218-W-4B, Trenches V7 and 7) by 9/30/06
- Identified trenches contain approximately ½ of all below ground TRU waste
- Volume equates to approximately 15,200 55-gal drum-equivalents (drums, boxes, miscellaneous objects)
- Designate TRU/MLLW/LLW using assay, process knowledge, and TSD WAP characterization
- Disposition: TRU to WIPP, MLLW to MWT, LLW will remain in LLBG

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## *RETRIEVAL PROCESS*

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Trench Excavation



Unstack/Inspection



Assay



Venting



Staging



Transfer to WRAP

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## *ASSAY TECHNOLOGY*

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### ○ Purpose

- Distinguish TRU from Low-Level waste in retrieved containerized waste from burial ground trenches

### ○ NDA Technology

- Gamma Spectrometry

### ○ Detection Capability

- Nominally 40 - 60 nCi/g
- Detection capability needs to be sufficiently below 100 nCi/g to make a valid TRU/LLW determination



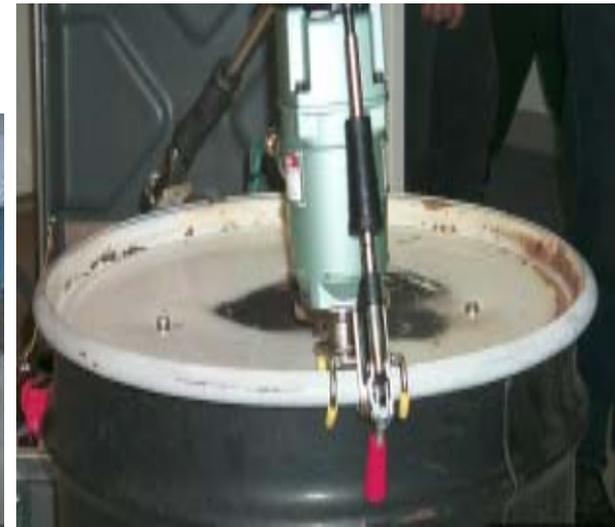
# 218-W-4C & 218-W-4B Suspect Transuranic Waste Retrieval Project

## *DRUM VENTING TECHNOLOGY*

- **Purpose**
  - Insert a filtered vent into retrieved unvented waste containers (55 and 85 gallon drums) that may contain elevated levels of hydrogen or other flammable gas mixtures.
  
- **Vent Insertion Technology**
  - Filtered vents inserted into containers using cold drill process. Cold drill process minimizes sources of ignition. Filtered vents meet TRAMPAC requirements for shipment in the TRUPACT II.
  
- **Gas Monitoring/Purging:**
  - Head Space Gas Monitoring for hydrogen and gas purging optional.

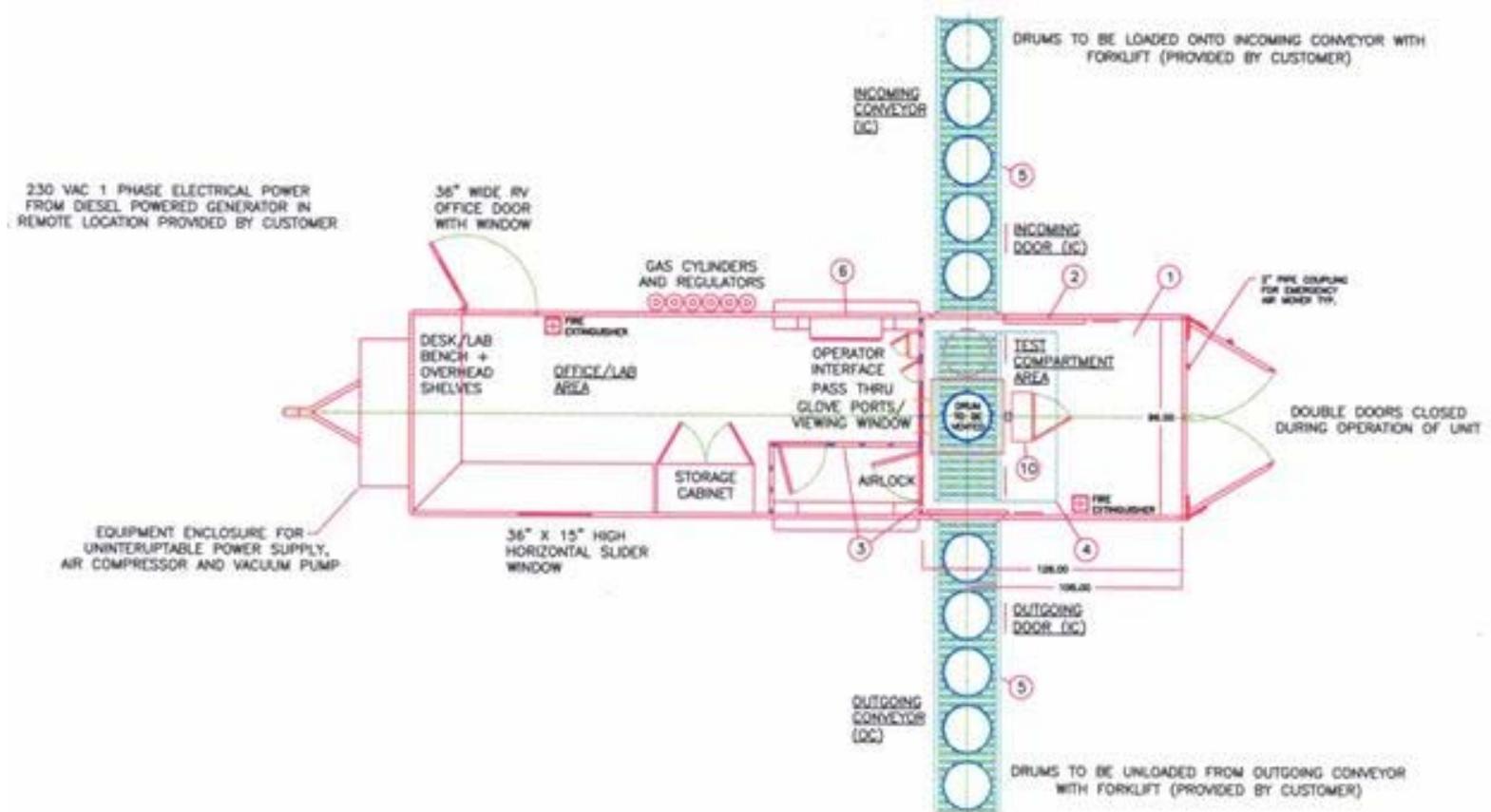


DVS Operator Platform



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## TRU RETRIEVAL DRUM VENT SYSTEM SCHEMATIC



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## *PROJECT STATUS*

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- **Uncovered Suspect TRU Retrieval**
  - 1466 drums retrieved '99 -'01
  - Completed authorized workscope
  
- **Covered Suspect TRU Retrieval**
  - Safety basis SER to be issued June 2003
  - Complete startup readiness – Fall 2003
  - Phase II production acceleration – 2004



218 W 4C – Trench 1

# 218-W-4C & 218-W-4B Suspect Transuranic Waste Retrieval Project

## *SUSPECT TRU RETRIEVAL LESSONS LEARNED*

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- DOE complex-wide experiences valuable for project planning
- TRU Retrieval working group
- Incorporate abnormal operational conditions in planning
- Batch vs. continuous production differences
- Mock-up valuable to refine process, procedures, and emergency preparedness



TRU Retrieval Project Simulation Test Site

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## *ISSUES/TECHNOLOGY DEVELOPMENT NEEDS*

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### ○ **Issues**

- Washington State Department of Ecology  
Administrative Order – April 30, 2003
- Project Acceleration

### ○ **Technology Needs**

- Box assay unit
- Same as 618-10/11 if workscope expanded to pre – '70 trenches (Admin Order)