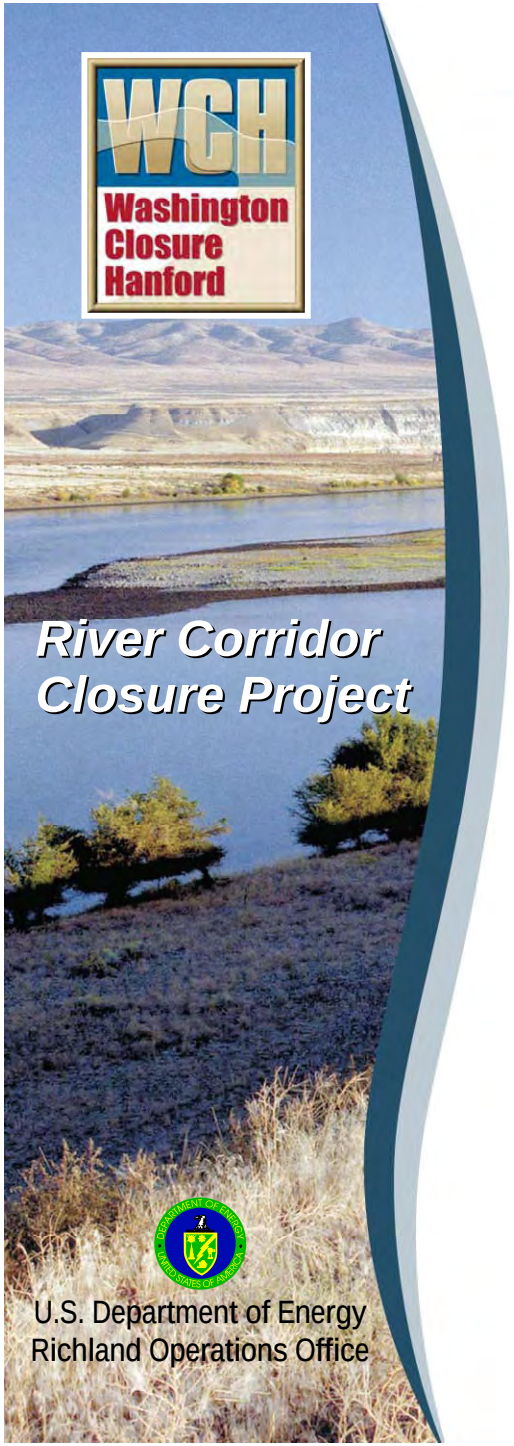

Vertical Pipe Unit (VPU) Remediation

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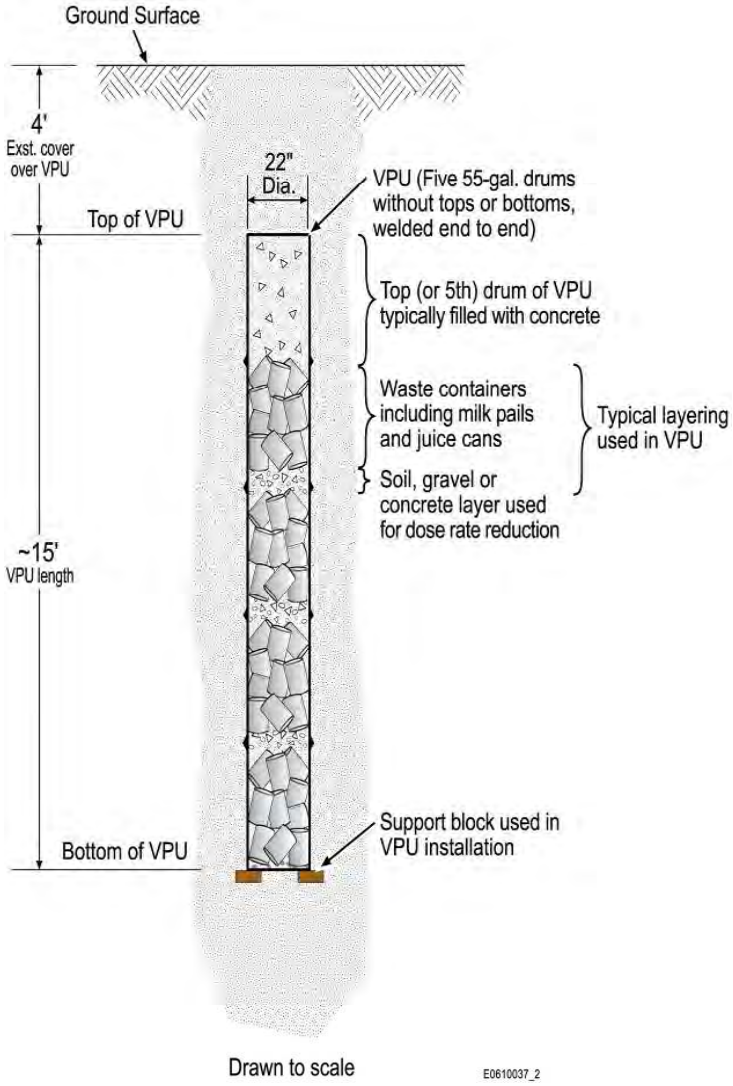
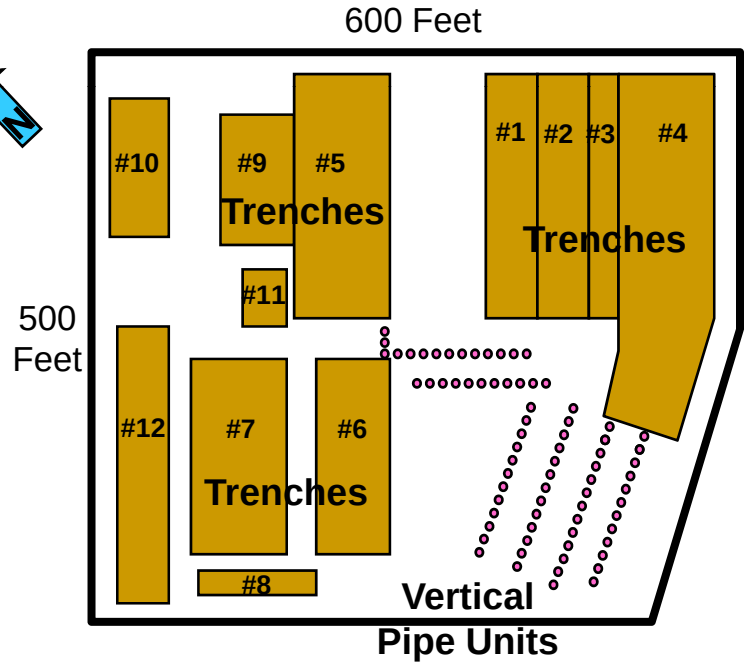
Vertical Pipe Unit Remediation

- Scope is to stabilize, characterize, retrieve, package and transport waste from 144 VPUs (94 at 618-10 and 50 at 618-11)
- Waste disposal will either be to the Environmental Restoration Disposal Facility (ERDF) or the Central Waste Complex (CWC) with final disposition to WIPP for TRU waste
- First generation "older" VPUs (27 VPUs) were 12 to 14 inches in diameter and ~10' to 15' long pipes (618-10 only)
- Second generation "newer" VPUs constructed of five 55-gallon drums welded together, 22" inches in diameter and 15' long.

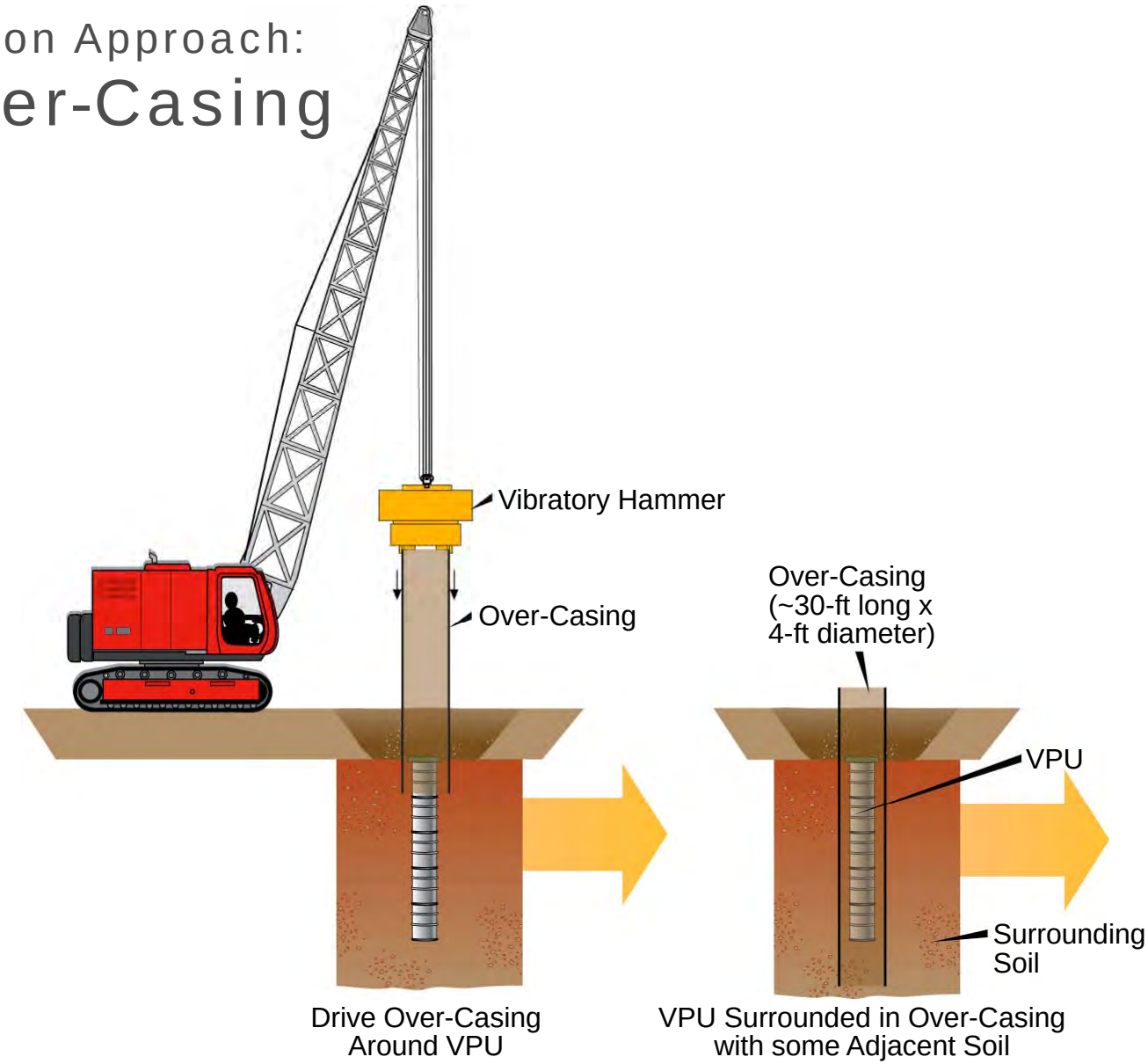


Overview – 618-10 Burial Ground

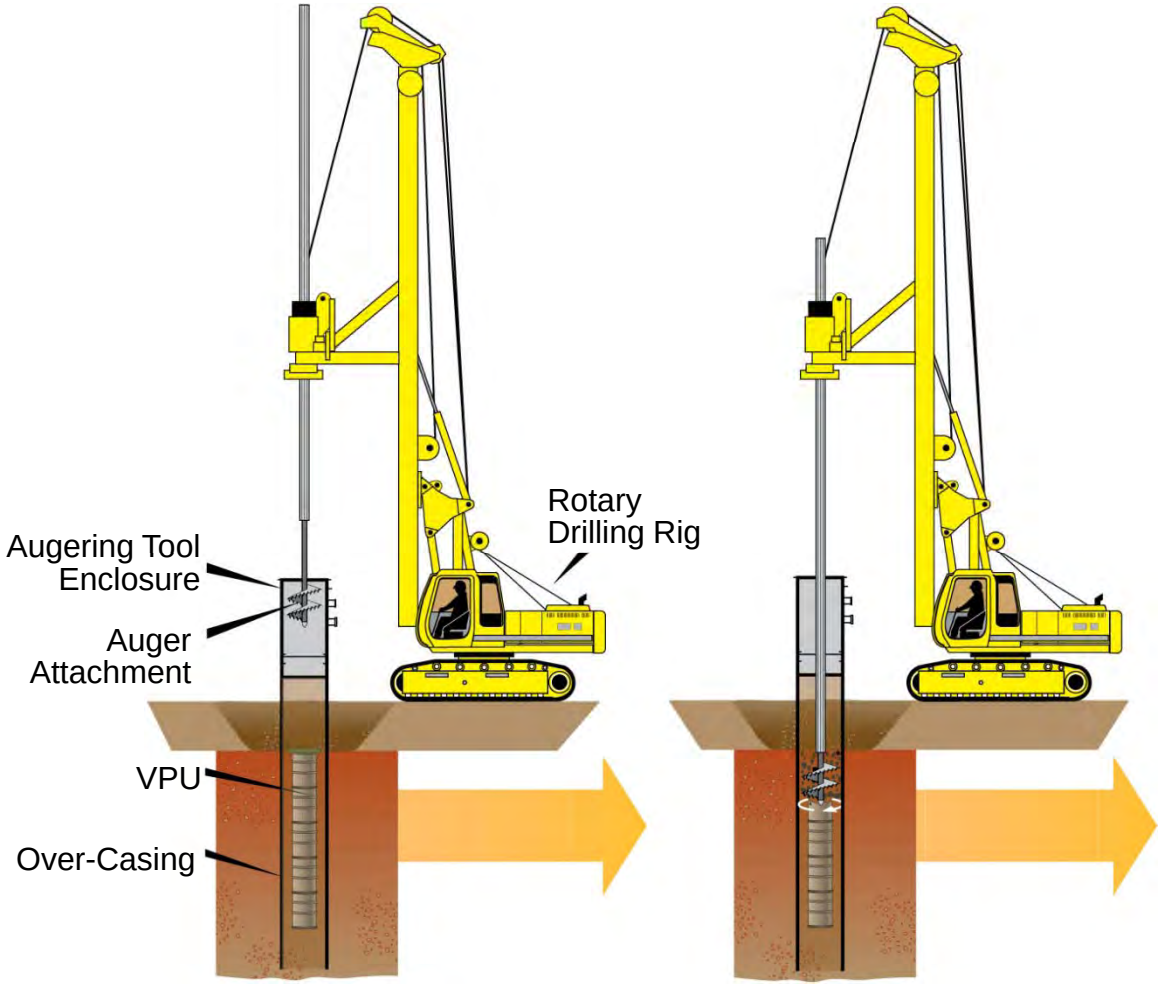
- Operated from 1954 – 1963
- 500 x 600-ft rectangle oriented
- Approximately 5.2 acres
- ~110,000 CM Waste/Contaminated Soils in:
  - 12 trenches (irregular shape and size)
  - 94 vertical pipe units (VPUs)



VPU Remediation Approach:
Install Over-Casing

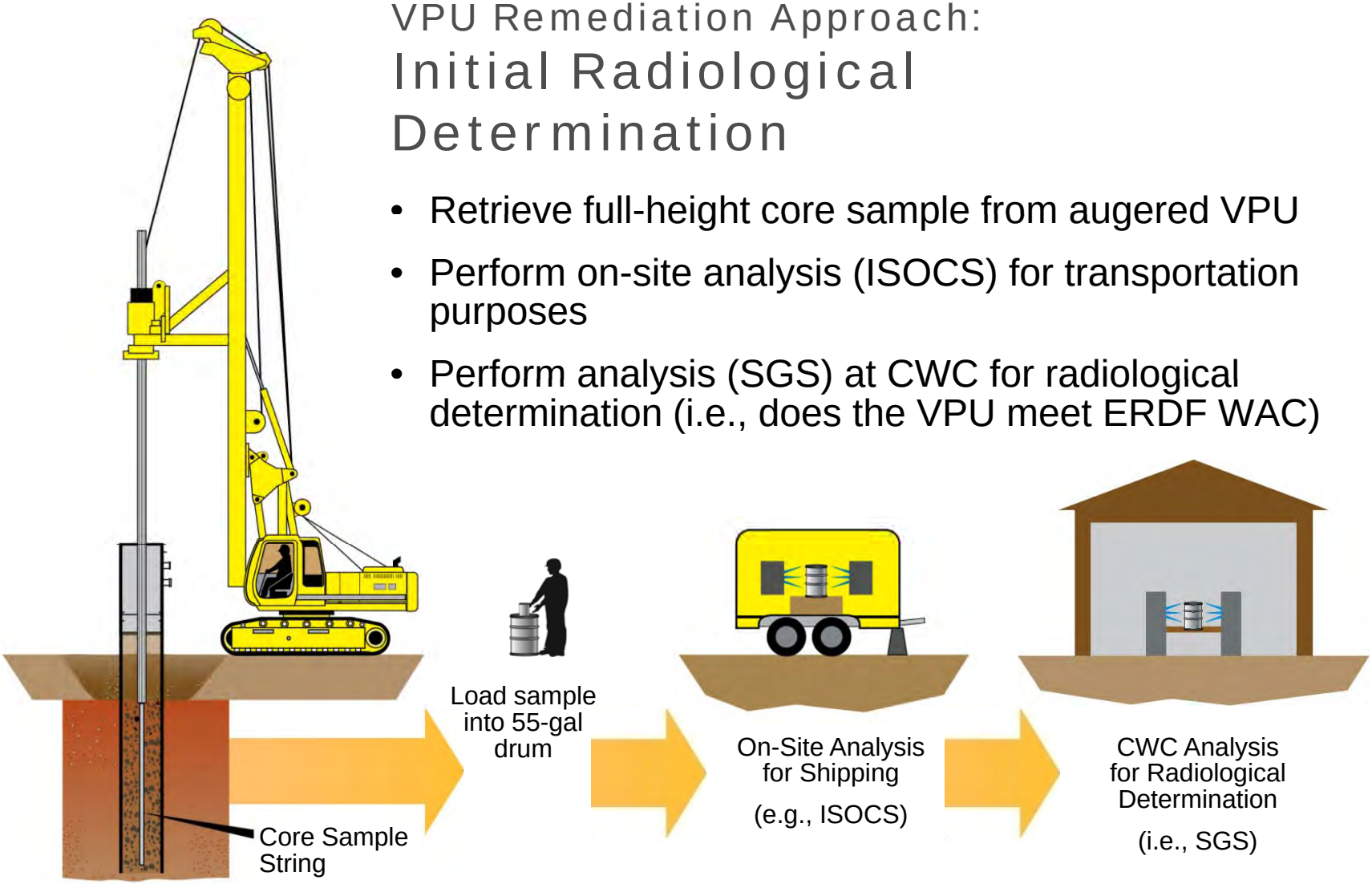


VPU Remediation Approach:
In-Situ Stabilization and Size-Reduction (Augering)



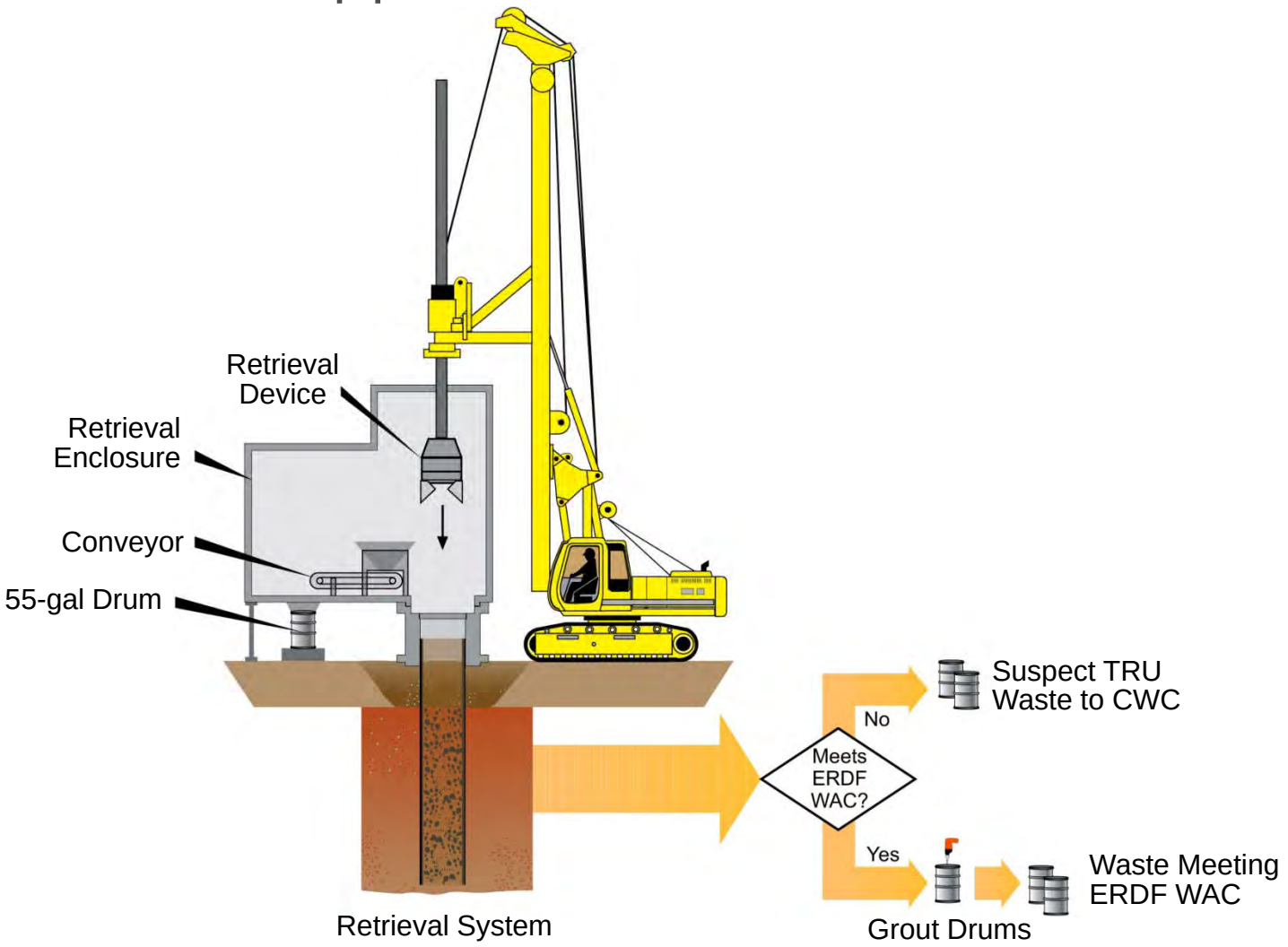
VPU Remediation Approach:
Initial Radiological Determination

- Retrieve full-height core sample from augered VPU
- Perform on-site analysis (ISOCS) for transportation purposes
- Perform analysis (SGS) at CWC for radiological determination (i.e., does the VPU meet ERDF WAC)



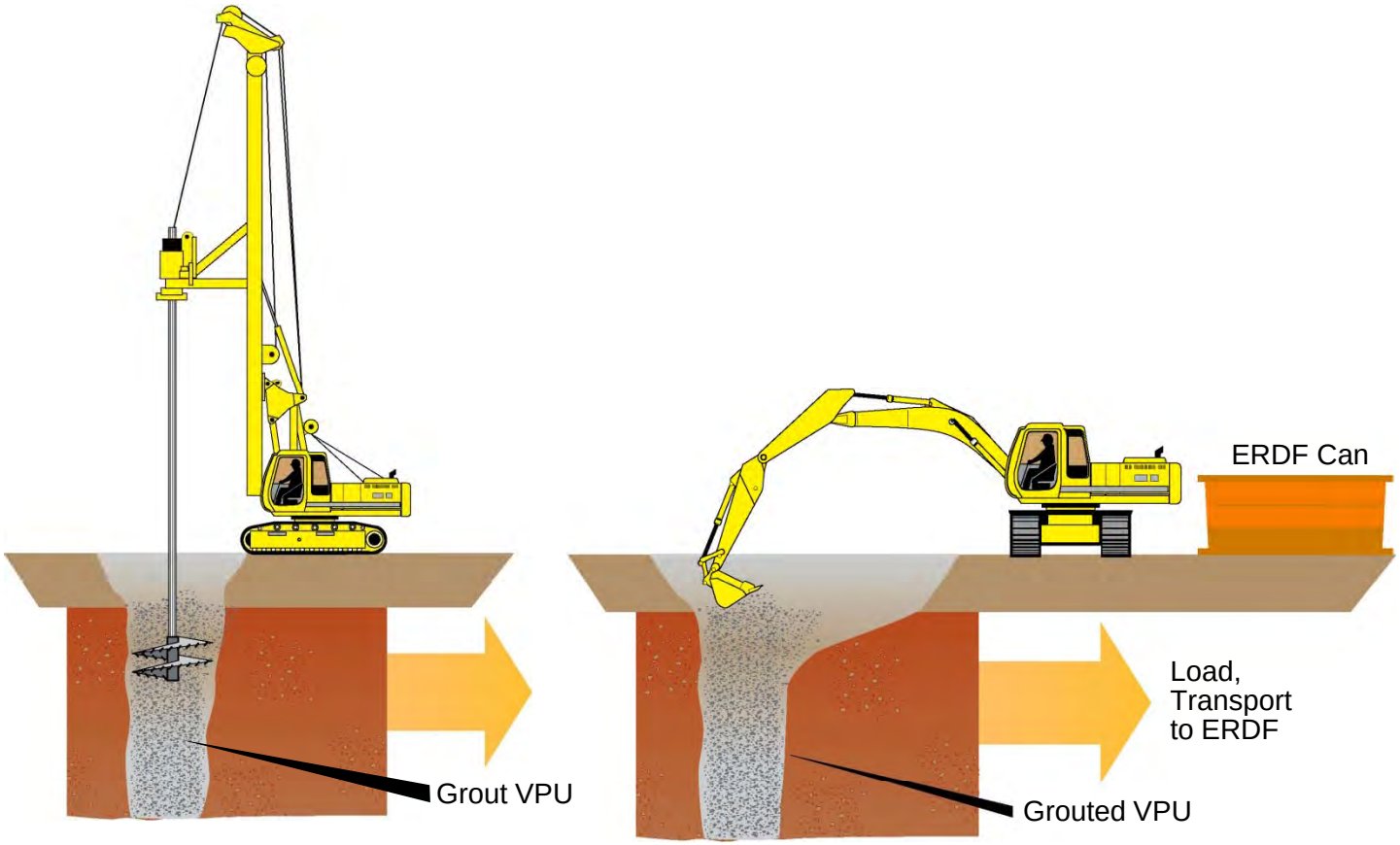
VPU Remediation Approach:

Remediation Approach for Potential TRU Waste



VPU Remediation Approach:

Remediation Approach for Low Level Excavation Option – Grout Augered Column and Conventionally Excavate



Proof of Concept Testing:
Initial Stabilization and Size-Reduction Test

- VPUs placed in 8' diameter sleeves
- Backfilled around VPUs with Hanford surrogate soil
- Installed 4' diameter over-casings
- Tests performed with various augers
- Retrieved materials using rock auger and bucket auger