

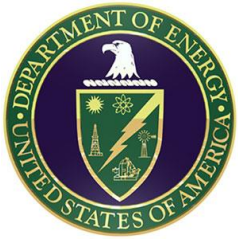
EXHUMATION WORKING GROUP UPDATE

Presented By
JOSEPH YEASTED, PhD, PE



Exhumation Study Area Manager

West Valley Demonstration Project
Quarterly Public Meeting
August 24, 2016



ACTIVE TASKS



- **Study 1** - ➤ *Task 1.2: Update of Waste Inventories*
- **Study 2** - ➤ *Task 2.2.a: Geophysics Prove-Out Study*
 - *Task 2.4.b: Evaluation of Protective Measures*
 - *Task 2.4.c: Information Review and Development of Soil Investigation Program*
- **Study 3** - ➤ *Task 3.1: Evaluation of Seven Selected Sites*
 - *Task 3.2: Evaluation of Other Pertinent Sites*



Task 1.2: Update of Waste Inventories

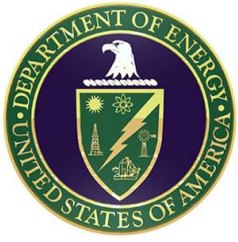


Purpose:

- Update waste inventories to account for radiological decay and ingrowth
 - New Base Year of 2020
 - Future Increments: 2050, 2080, 2110, 2140
- Evaluate when removal actions at the SDA, NDA, and WTF could transition from remote to contact-handled actions

Status:

- Final report completed and recently approved by DOE and NYSERDA
 - Posted to the website

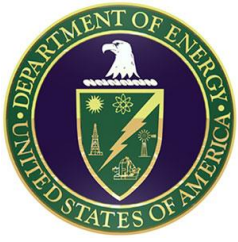


Task 2.2.a: Geophysics Prove-Out Study



Purpose:

- Test the applicability of five geophysical methods to meet the following full-scale study objectives for the SDA and NDA
 - Identify specific segments within the waste trenches that contain waste monoliths, densely-packed waste materials, or large quantities of metallic waste for comparison against the inventory records.
 - Define the lateral boundaries of trenches and other disposal units
 - Define the bottom of trenches
 - Determine elevation of top of water surface (leachate) in trenches
- Methods include magnetometer survey, electromagnetic (EM) survey, seismic refraction tomography (SRT), multi-channel analysis of surface waves (MASW), and electrical resistivity imaging (ERI)
 - With and without penetrations of the membrane cover



Task 2.2.a: Geophysics Prove-Out Study (cont.)



Status:

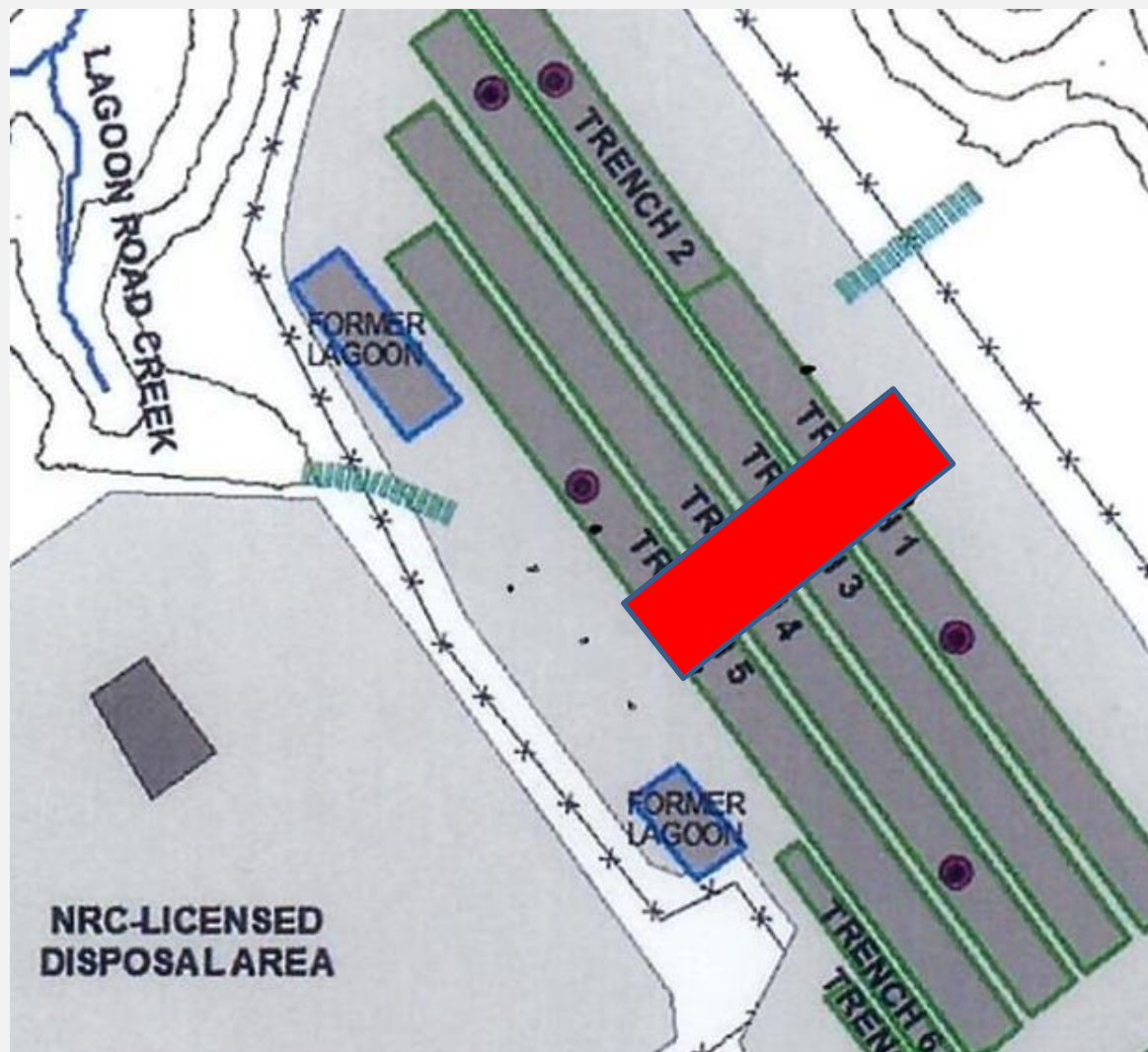
- All work control documents and permits in place
- Field work currently in progress, with planned completion first week of September (weather permitting)
- Study being performed by Terranear PMC under contract to ECS following competitive procurement

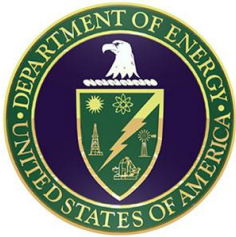


Task 2.2.a: Geophysics Prove-Out Study



- Pilot Study Area is approximately 200' x 50'
- Selected to cover multiple trenches centered on Trench 4 due to make-up inventoried wastes
- Extends into soil horizon to evaluate differences in signal response.





Task 2.4.b: Evaluation of Protective Measures



Purpose:

- Evaluate protective measures required for worker and community protection based on varied waste types in SDA and NDA
 - Evaluate potential exposure scenarios and levels
 - Evaluate level of protection needed
 - Evaluate exhumation equipment requirements
 - Compare to protective measures and exhumation equipment applied at other DOE sites (based on Study 3 findings)

Status:

- Draft report undergoing internal ECS review



Task 2.4.c: Information Review and Development of Soil Investigation Program



Purpose:

- Develop a soil sampling program to reduce uncertainty in the volume of soil to be excavated at the SDA and NDA under full or partial exhumation scenarios
 - Review past studies to better understand geological and hydrogeological conditions important to contaminant release and migration
 - Review investigation technologies applicable to the SDA and NDA
 - Prepare an Addendum to Study Plan for Study 2

Status:

- In progress



Task 3.1: Evaluation of Seven Selected Sites



Purpose:

- Determine state-of-practice in exhumation and treatment technologies; methods for worker, public, and environmental protection; and related costs at seven targeted sites

Status:

- Research completed on all seven targeted sites
- Reports in various stages of completion
 - Idaho National Laboratory: Under review by DOE and NYSERDA
 - Hanford Reservation: Under final internal review by ECS
 - Oak Ridge National Laboratory and Maxey Flats: Responding to DOE and NYSERDA comments
 - Savannah River Laboratory: Draft report near completion
 - Two Foreign Sites: Limited information is being summarized



Task 3.2: Evaluation of Other Pertinent Sites

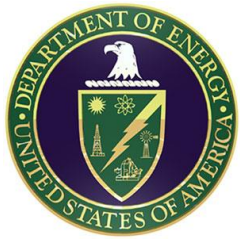


Purpose:

- Perform a review of targeted non-radiological sites for precedent approaches to address specific technical challenges

Status:

- Ongoing as challenges are identified
- Recently completed a review of sites where waste excavation was performed in saturated conditions
- Findings to be incorporated into final Study 3 Report of technology application to West Valley



PATH FORWARD



Study 1:

- Task 1.3 (Apply Waste Inventories to Selective Removal Scenarios) pending DOE and NYSERDA approval

Study 2:

- Complete geophysics prove-out study with recommendations for full-scale study
- Submit report on evaluation of SDA and NDA protective measures
- Develop Study Plan Addendum for soils investigation at SDA and NDA; Completion of field work in CY2016 is uncertain.

Study 3:

- Finalize all site-specific reports
- Begin evaluation of applicability of findings to SDA, NDA, and WTF



QUESTIONS AND ANSWERS



QUESTIONS?