

TA-21

**ENVIRONMENTAL
RESTORATION
PROJECT**

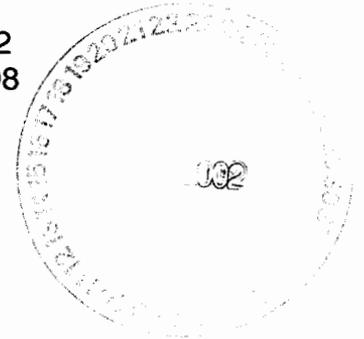
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Date: July 18, 2002
Refer to: ER2002-0498

Mr. John Young, Corrective Action Project Leader
Permits Management Program
NMED – Hazardous Waste Bureau
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**SUBJECT: SAMPLE NOTIFICATION FOR THE GENERAL'S TANKS AT MATERIAL
DISPOSAL AREA (MDA) A, SOLID WASTE MANAGEMENT UNIT
(SWMU) 21-014 AT TECHNICAL AREA (TA) 21**

Dear Mr. Young:

During the week of July 22, 2002, the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Project is planning to uncover the top of two steel tanks known as the General's Tanks at the west end of MDA A, (SWMU 21-014) at TA 21 to begin the characterization of the material remaining in the tanks. These tanks were installed in 1945 to store process solutions containing plutonium-239/240 and plutonium-241 until chemical methods to extract the material could be developed. One tank (21-107) was designated for sodium hydroxide supernatant solutions and the other (21-108) for ammonium hydroxide solutions. No action to recover the materials ever occurred. Liquid was pumped from the tanks during the mid- to late-1970s. In the early 1980s, the tank openings were covered with metal plates and the tanks covered with fill material. No other investigation of the tanks has been conducted since that time.

The objective of this preliminary characterization activity is to open the tanks and gather preliminary information to support the development of a waste characterization sample collection approach. The top of the tanks will be uncovered for inspection and performing baseline investigations to verify sludge volumes, perform remote visual/video inspections of the sludge surface, determine the consistency of the sludge, and perform non-destructive/non-invasive remote analysis of the sludge. The activities associated with this effort are described below.



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The top of the tanks will be uncovered and a gamma survey of the outside of the top of each tank will be conducted to ensure worker safety. On Monday, July 28, 2002, the metal plates covering the tank ports on the top of each tank will be removed remotely, using a backhoe with grappling hooks. Upon approval from onsite LANL radiation control technicians, a custom stainless steel platform equipped with a tripod a cable system will be remotely placed over the top of each tank. Site workers will not be allowed on the platform or on the top of either tank. The preliminary phase of characterization of the contents of the General's Tanks will include the following activities:

- Measurements from the top of the concrete slab to the waste surface and the top exposed edge of the waste tanks to the waste surface from the center opening into each tank.
- Videotape observations of the waste surface beneath the exposed tanks openings.
- Nondestructive analysis (NDA) analysis of the gamma intensities near the waste surface using high purity germanium HPGe spectral instrumentation and neutron flux information gathered near the waste surface using neutron flux instrumentation.
- Observation of the waste surface consistency and depth of the waste by physically probing the residual material with a mechanical probe.

Information and data gathered during this preliminary phase will be documented in a post-job report that will consist of the following:

- Estimated tank sludge/residue volumes based on video review, in-tank measurements and mechanical depth probing data. This will include observations of conditions of the waste surface from review of the video information and probing data and will be reported as consistency, mechanical strength (e.g., hard, crumbly, friable, cemented, liquid), and projected method recommended for retrieval of representative samples.
- Processed data from the NDA gamma and neutron flux analysis. This will include raw count data, spectral analysis, estimated concentrations in pCi/g and dose rate estimates based on the volume and concentration calculations.
- Copies of the video home system (VHS) videos taken in the tank of the waste surface and probing of the waste surface for depth and consistency evaluations.

Based on dose rate estimates, review of the waste consistency, depths, and the types of samplers projected to have the highest success, the most efficient design for the second phase of waste characterization sampling of the General's Tanks will be recommended. A schematic of the General's Tanks is shown on the following page. The ER Project will verbally confirm and/or notify New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) staff of any changes to the schedule.

If you have any questions or concerns please feel free to give me a call at (505) 667-0819 or John Hopkins at (505) 667-9551.

Sincerely,



Dave McInroy
Environmental Restoration Project

DM/PB/vn

Enclosure: Schematic of the General's Tanks

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