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LANL/ER 10V 1144

MEMORANDUM

TO: File, LANL/Red '93
File, Program AIP/LANL

THROUGH: Bruce Swanton, POC, AIP/LANL

FROM: Steve Yanicak, NMED AIP/LANL

DATE: September 7, 1993

SUBJECT: Possible radioactivity-contaminated refuse at the old borrow pit sites in Bandelier National Monument, along State Highway 4, Los Alamos, NM.

Site Visit

THE PROBLEM

In early August 1993, a group of volunteer archaeologists working adjacent to and south of State Highway 4 came upon an old borrow pit (Site 02) 1.9 miles west of Bandelier Monument entrance. They were investigating for archeological sites among tree debris and concrete rubble. At one debris site they discovered a hub cap and an old sign post labeled TA-41 which caused some immediate concern. They contacted the Los Alamos National Laboratory (LANL) Emergency Response team who visited the site with radiation detecting instruments to scan the area for contamination. After careful screening, a small amount of soil on the underside of the hub cap was found to be contaminated. LANL later stated that the laboratory analysis (EM-9) confirmed the presence of depleted uranium (DU = >99% U238) in the suspect soil. The hub cap was removed from the site by the LANL-Emergency Response crew. The remainder of the site was found to be uncontaminated.

The main cause for concern at these borrow pit sites is that they had been designated for no further action (NFA) by the LANL Environmental Restoration (ER) Program and under NFA will not be investigated. Additionally, the pits might have received radioactivity-contaminated refuse from LANL in the past (pre-1954).



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AIP BORROW PIT SITE VISIT

I visited 4 of the borrow pit sites on 2 September 1993 with Jim Aldrich (LANL-ER), Brent Russell (ERM/Golder), Brian Jacobs (Bandelier National Monument) and Dave Baggett (NMED). The team had two radiation detection instruments that were used to scan the surface soil and debris piles at each site. LANL and NMED initially measured radiation activity beside State Highway 4 and found background levels detected by each instrument to be mutually acceptable [200cpm (LANL-beta/gamma instrument) and 20mrem/hr (NMED-gamma instrument)]. Due to slightly higher amounts of naturally occurring radioactive elements in the Bandelier Tuff, mesa top surface background activity is generally a little higher than background levels measured off of the Pajarito Plateau. The radiation activity measured at all the borrow pits (south of State Highway 4) during the investigation were *at or below background*. At the conclusion of the site visit, Jim Aldrich proposed that LANL-ER would conduct a thorough surface radiation reconnaissance of all the borrow pits proposed for NFA.

The borrow pits date back to circa 1954 when State Highway 4 was realigned and paved. The pits are characteristic of the type used during road construction. The pits were constructed adjacent to State Highway 4 and excavated primarily for road gravel base. Following the construction LANL suggested that refuse from the road site was hauled to these pits and dumped. LANL property south of State Highway 4, including the borrow pits, was turned over to the National Park System in 1959. It is presently thought that the LANL refuse (hub cap and TA-41 sign post) was discarded at the Bandelier potential release site [PRS (site 02)] before 1959.

The five borrow pit sites were identified from 1954 and 1965 aerial photos and are designated by LANL-ER as follows:

Site 01- Located approximately 0.25 miles west of Bandelier Monument entrance. Small drainage adjacent to State Highway 4, entrance is blocked by 4 - 5 boulders. Road is slightly revegetated, but clearly identified.

Debris at this site includes small sections of galvanized culvert, concrete and asphalt rubble. Debris at this site might include refuse (concrete and asphalt) from the Bandelier National Monument campground.

Site 02- *Designated as the Bandelier PRS.* Located approximately 1.9 miles west of Bandelier Monument entrance, 0.12 miles west of mile post 54. Area is fenced and signs are visible.

Debris at this site includes tree stumps, logs, concrete and asphalt rubble, the original contaminated hub cap (removed), a second hub cap (not contaminated), and the TA-41 sign.

Site-03- Located approximately 0.1 miles east of TA-49 entrance. Access is clearly visible and pit can be identified.

Debris at this site includes small sections of galvanized culvert, steel cable, a small section of steel rail, and a small earthen berm near an old shed (just below a radio tower) that contains lead bullets and shot.

Site 04- Located approximately 1 mile west of TA-49 entrance, 1.6 miles east of junction of State Highway 4 and NM 501 (West of Jemez Road). Turnout on State Highway 4 directly across from old road leading to pit. Ravine is located across from turnout, old road is west of ravine.

Debris at this site includes small sections of galvanized culvert, and concrete rubble. The site appears to have been bulldozed in the past.

Site 05- Located approximately 1.5 miles west of Bandelier Monument entrance, located behind fence to TA-49.

This site was not visited because it is located north of State Highway 4 on LANL property.

It is recommended by AIP staff that the borrow pit sites only be considered as NFA candidates following a thorough surface radiation reconnaissance/investigation by LANL-ER. This site visit will be incorporated into a report on observations made at OU-1144 NFA sites by AIP staff on the adequacy of NFA recommendations.

If there any questions concerning this memo, please contact Steve Yanicak at (505) 672-0443.

cc: Benito Garcia, HRMB Chief
Neil Weber, Chief, DOE Oversight Program
John Geddy, Office of the Secretary
Steve Alexander, Manager, RCRA Technical Program
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