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TO: Coby Muckelroy DATE: 6/24/94

LOCATION: _____

PHONE #: _____ FAX #: _____

FROM: Steve Yonicak AIP/LANL

NUMBER OF PAGES: 7

MESSAGE OR INSTRUCTIONS: Please Xerox & distribute
to All on CC list - Thank Steve Yonicak

RE: Summary of STATUS of SOIL REMOVED
From TA-3, Bldg 30 hillside and REMOVED TO
Pit 37, TA-54 @ LANL

If you did not receive all the pages or if any of the pages are illegible, please call our office between 8:00 am and 4:00 pm, Monday through Friday at (505) 672-0443.

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MEMORANDUM

TO: Coby Muckelroy, HRMB

THROUGH: Bruce Swanton, Program Manager, DOE/EM Oversight

FROM: Steve Yanicak, AIP/LANL DOE/EM Oversight

DATE: June 24, 1994

SUBJECT: Summary on the status of soil removed from solid waste management unit (SWMU) 3-010[a] at Technical Area (TA) 3, Building 30 that was placed in TA-54, Pit 37, Los Alamos National Laboratory (LANL).

BACKGROUND

SWMU 3-010(a) is located within operable unit (OU) 1114 at TA-3 on a hillside behind Building 30. From 1950 through 1957 vacuum pump oil containing mercury, and low-levels of tritium, plutonium and cesium-137 contamination was discharged from Building 30 to the hillside. The hillside was recently mitigated by an Environmental Restoration (ER) Program voluntary corrective action (VCA) that removed the top soil contaminated with mercury. The mercury contaminated soil was put into 19 55-gallon steel drums and transported to Dome 153 at TA-54. Removal of remaining soil that contained elevated-levels of total petroleum hydrocarbons (TPH) and low-levels of tritium and plutonium contamination continued through May 1994. On May 20, 1994 results of a BTX analysis taken at the bottom-toe of the excavation showed that the soil also contained trace amounts of 1,1,1 & 1,1,2 trichloroethane (TCA) and trichloroethene (TCE). Initial hillside soil samples were not analyzed for VOC's (including TCA or TCE) due to the interpretation of archival data concerning the site's history and process knowledge. Process knowledge was determined in part by interviews with former site workers. Those interviews did not reveal the use of solvents in operations at the site. On May 20 1994, during a subsequent interview, a former operator of the pump shop revealed that solvents had been used to clean the pumps. Prior to the knowledge of SWMU 3-010(a) soil containing any volatile organic compound (VOC) hazardous constituents, approximately thirteen dump truck loads of excavated soil from below the mercury contaminated zone were placed in Pit 37 at TA-54. Some of the soil was placed in two piles on top of the pit and some of the soil was spread as cover. As a result of the May 20, 1994 BTX soil analysis disclosure, samples were taken from the spread cover and pile soils within Pit 37.

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The latest analysis results show maximum concentration levels of 20 mg/kg for 1,1,1-TCA, 0.09 mg/kg for TCE and 0.01mg/kg for 1,1,2-TCA (see data attachment). The current LANL screening action levels (SAL) for these constituents are: 1000mg/kg for 1,1,1-TCA, 3.2mg/kg for TCE and 6.3mg/kg for 1,1,2-TCA. The piled soil at the north-east end of the pit was removed, placed in sealed steel bins and transported to Dome 153. It is estimated by the Agreement In Principle (AIP) staff that about one third of the SWMU 3-010(a) soil still remains within Pit 37 (see map attachment).

AIP staff visited TA-54 on June 6 and June 20, 1994 to observe the current status of SWMU 3-010(a) soils. It was noted that the SWMU 3-010(a) soils within Pit 37 were a distinct brown in color compared to the gray crushed tuff routinely used for backfill. AIP staff was shown all the locations within the pit where the brown soil was placed (see map attachment). In the north-east portion of the pit where the soil piles had been removed, an area containing some brown soil was roped off and orange sample marker flags were visible. Near the center of the pit was an area barely covered by plastic with orange sample marker flags protruding. The area contained cardboard boxes, other rubbish and brown soil. Immediately to the south of the plastic covered location, just below the pit wall, was a noticeable amount of brown soil. At the western far end of the pit, two areas of rubbish, drums, orange sample marker flags and brown soil were observed. During both Pit 37 visits, there was a considerable amount of wind blowing the surface backfill about. LANL took additional samples of the steel bins and drums containing SWMU 3-010(a) soils on June 23, 1994. LANL randomly chose 4 of the 15 bins and 4 of the 19 drums to sample and removed them to a sampling area at Dome 49, Area L. TCLP sample analysis for waste characterization will be conducted on the containerized soils to enable the option of shipping the waste to Evirocare, Utah. AIP staff split samples with LANL on one drum and one bin for VOC and semi-volatile organic compound (SVOC) analyses for verification of the organic compounds and concentration levels reported within the soil.

At this time, Los Alamos National Laboratory and the Department of Energy (DOE) are seeking a concurrence with the New Mexico Environment Department (NMED) that the soil placed in Pit 37 from SWMU 3-010(a) is not a Resource Conservation and Recovery Act (RCRA)-listed hazardous waste. LANL and DOE are basing their interpretation on the results of the latest soil analyses which show concentrations far below the conservative limits defined by Environmental Protection Agency (EPA) and LANL SAL's for TCE and TCA. The major facility-wide impact of this mis-characterized ER waste being placed in Pit 37 is the suspension of all waste management operations at the pit pending a decision from NMED on

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the classification of the SWMU 3-010(a) soil. At the present time LANL is hoping, before an NMED classification decision is disclosed, to seek a legal course of action that would allow the lab to continue limited waste management in Pit 37. This is an extremely high priority issue due to the continuing build-up of lab-wide low-level radioactive waste. If granted to do so by NMED, LANL proposes to place low-level radioactive waste in Pit 37 at locations within the pit where it would not affect or impact the SWMU 3-0010(a) soils.

AIP RECOMMENDATIONS

After a careful review of the chemical data and two site visits to TA-54, Pit 37 concerning the soils of SWMU 3-010(a), AIP staff recommends that:

- 1) LANL should be granted permission from NMED Hazardous and Radioactive Materials Bureau (HRMB) to place low-level radioactive waste in Pit 37 in areas of the pit where it would not affect or impact the SWMU 3-0010(a) soils. AIP staff was able to clearly identify all the locations of the backfill in Pit 37 containing soils from SWMU 3-010(a) during both site visits.
- 2) NMED HRMB should request a detailed chronological description concerning pre- and post-excavation procedures that were performed at SWMU 3-010(a), such as pre- and/or post excavation characterization activities, results (field and laboratory analysis results), archival information gathering (interviews with former lab employees concerning SWMU 3-010(a) process knowledge), and dates and times associated with each activity. The above recommendation is made with the knowledge that LANL/ER did not properly characterize soils that contained RCRA-listed hazardous wastes. Consequently the excavated soils bound for Pit 37 were placed in dump trucks by personnel not wearing air purifying respirators (APR).
- 3) DOE/LANL/NMED/EPA must review archival data collection procedures, especially interview methods. A review of the use of this information in past decision making should be done.

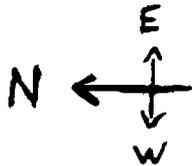
cc: Benito Garcia, HRMB Bureau Chief
Neil Weber, AIP Bureau Chief
John Tymkowych, HRMB
Barbara Hoditscheck, HRMB
Michael Dale, GWPRB AIP/LANL
Harvey Decker, SWQB AIP/LANL
File LANL/RED/94

SHOWING CONTAMINATED DIRT LO AND SAMPLING LOCATIONS

NOTE: CONTAMINATED SOIL AREA
SHOWN BY SHADE PATTERN
EX: 

LEGEND:

— CONTAMINATED SOIL
— LOCATION OF SOIL



AAB 2043-2046

LOCATION OF SOIL REMOVED FROM PIT, 5-20-94
INDICATED BY BLACK AREA —

AAB 2037/2039

AAB 2038/2040

AAB 2031

AAB 2032

AAB 2033

AAB 2034

AAB 2035

NOT TO SCALE

ATTACHMENT

DRAWN BY MIKE ENGELHARD

PROFILE VIEW OF PIT 37 LOOKING EAST
SHOWING CONTAMINATED DIRT LOCATIONS
AND SAMPLING LOCATIONS

LEGEND:

— CONTAMINATED SOIL AREA

— LOCATION OF SOIL REMOVED FROM PIT, 5-20-94

AAB 2043-2046

AAB 2037/2039

AAB 2038/2040

AAB 2031 } Area where max level of 20 ppm TCA occurred
AAB 2032 }

AAB 2033

AAB 2034

AAB 2035

NOT TO SCALE

ATTACHMENT A

DRAWN BY MIKE ENGELHARDT CST-7, AREA G, 5-24-94