ENVIRONMENTAL RESTORATION PROJECT

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ENTERED

Date: January 11, 2002
Refer to: ER2002-0016

RECEIVED

Mr. John Young, Corrective Action Project Leader
Permits Management Program
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505-6303

SUBJECT: SUBMITTAL OF RESPONSE TO REQUEST FOR SUPPLEMENTAL INFORMATION (RSI), RFI REPORT ADDENDUM FOR INTERIM ACTION FOR SOUTH FORK OF ACID CANYON

Dear Mr. Young:

Enclosed are two copies of the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Project's Response to your RSI to RFI Report Addendum for Interim Action for South Fork of Acid Canyon. The ER Project Office received the RSI on December 13, 2001.

If you have any questions, please contact Steve Reneau at (505) 665-3151 or Tom Whitacre at (505) 665-5042.

Sincerely,

Julie A. Canepa, Program Manager
Environmental Restoration Project
Los Alamos National Laboratory

Sincerely,

Mat Johansen, Project Manager
Department of Energy
Los Alamos Area Office

JC/MJ/th

Enclosure: Response to RSI (ER2002-0013)

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Response to
"Request for Supplemental Information,
Interim Action for South Fork of Acid Canyon"

This document responds to a letter regarding "Request for Supplemental Information, RFI Report Addendum for Interim Action for South Fork of Acid Canyon," dated December 13, 2001, from the New Mexico Environment Department's (NMED), to the Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Project. To facilitate review of this response, NMED's comments are included verbatim below. The comments are divided into general and specific categories as presented in the letter. LANL's responses follow each NMED comment.

GENERAL COMMENTS

NMED Comment

1. *LANL should include all sampling data acquired since the IA Plan was submitted to the NMED within the IA Report. Include discussions of the additional field alpha screening criteria that had not been discussed in the IA Plan.*

LANL Response

1. Analytical data obtained since the Interim Action (IA) plan was submitted and will be included in an appendix to the IA report. The revised field alpha screening criteria will also be presented in an appendix to the report.

NMED Comment

2. *ACS 77 could not be found on the map provided in the IA Plan. Within the IA Report to be submitted, please provide a revised "before" map with any necessary correction(s) and also provide a map indicating the sediment packages removed or remaining. In the IA Report, LANL should also update the list of the sediment packages removed.*

LANL Response

2. The location of ACS 77 will be included on a map in the IA report. The report will also include a map showing sediment packages removed and those remaining following cleanup. The report will indicate which sample locations and measurement locations have been excavated and which have not.

NMED Comment

3. *Although the primary risk driver in Acid Canyon is plutonium, include in the IA Report a more detailed discussion on the other radionuclide and RCRA contaminants found in Acid Canyon and how the proposed cleanup impacted those contaminants. PCB contamination should also be included in the dicusssion.*

LANL Response

3. Because the IA was focused on achieving a reduction in potential radiation dose, with the specific goal being to drop levels of plutonium-239, 240 to below 280 pCi/g, discussions of analytical results in the IA report will be restricted to plutonium-239, 240. However, the analytical results from other

radionuclides and from RCRA constituents will be presented in an appendix to the IA report and will be fully assessed and discussed in the surface aggregate report for Los Alamos and Pueblo canyons which is planned for FY03.

NMED Comment

4. *LANL should verify the effectiveness of the cleanup using the maximum concentrations obtained during confirmatory sampling, or collect enough confirmatory samples to calculate the 95% upper confidence limit of the mean concentration rather than using the area-weighted average concentrations/activities for sediment packages.*

LANL Response

4. The 95% upper confidence level of the mean for plutonium-239, 240 analyses in the confirmation samples will be used to verify the effectiveness of the cleanup.

SPECIFIC COMMENTS

NMED Comment

5. **Page 1, Section 1.1: Purpose and Scope**

The NMED only considers risk, not dose. Also, this Interim Action Plan not only covers recreational user scenario, but also includes an extended backyard scenario.

LANL Response

5. The IA was planned and conducted following "as low as reasonably achievable" (ALARA) guidelines, as requested by the Department of Energy (DOE). Because ALARA guidelines address dose and not risk, dose was referred to in the IA plan and will be referred to in the IA report. The extended backyard scenario is considered to be one variety of a recreational land use scenario, and was therefore referred to as such in the IA plan.

NMED Comment

6. ***Page 6, Section 4.2: Supplemental Data Collection***

This section reads as if field screening alone will be used for confirmatory sampling. Please clarify.

LANL Response

6. The supplemental data collection referred to in Section 4.2 of the IA plan refers to activities performed prior to excavation, as indicated in the first sentence. Post-cleanup confirmation sampling was addressed in Section 5.0 ("Confirmatory Sampling") of the IA plan. Confirmation samples were collected following excavation activities. The IA report will present the results of this confirmation sampling.

NMED Comment

7. Page 6, Section 4.3: Cleanup Activities

LANL should include a discussion of sediment erosion and migration controls that were implemented during the course of remediation activities. A more detailed discussion may be incorporated into the IA Report for Acid Canyon.

LANL Response

7. The IA plan addressed erosion controls implemented during the course of remediation activities by reference to the approved Storm Water Pollution Prevention Plan. The IA report will also discuss erosion controls that were implemented during the course of remediation.

NMED Comment

8. Page 6, Section 5.0: Confirmatory Sampling

As alpha spectroscopy is more sensitive methodology than gamma spectroscopy for isotopic americium analyses, LANL should utilize alpha spectroscopy.

LANL Response

8. Gamma spectroscopy was chosen for analysis of americium-241 because the enhanced sensitivity of alpha spectroscopy is only required when americium-241 is present at concentrations close to the detection limit. Because prior data indicated that americium-241 was present at higher concentrations, it was judged to be more cost-effective to obtain data for this analytic from gamma spectroscopy. In addition, the sensitivity of alpha spectroscopy is not needed to obtain results below the single radionuclide soil guideline (SRSG) for americium-241.

NMED Comment

9. Page C-6, Appendix C: Field and Fixed Laboratory Data

LANL should provide a discussion regarding the rationale for the natural logarithm transformation of the data presented. Otherwise, LANL should utilize the non-transformed linear regression of the data to determine the alpha screening level.

LANL Response

9. The rationale for using a natural logarithm transformation of the data was included on page C-7 of the IA plan and will also be included in an appendix to the IA report. Specifically, use of the natural logarithm transformation provided a better statistical correlation than the non-transformed data, hence providing a better screening tool.