



BILL RICHARDSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us



RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

May 9, 2005

David Gregory, Federal Project Director
Los Alamos Site Operations Office
Department of Energy
528 35th Street, Mail Stop A316
Los Alamos, NM 87544

G. Pete Nanos, Director
Los Alamos National Laboratory
P.O. Box 1663, Mail Stop A100
Los Alamos, NM 87545

RE: COMMENTS ON RFI REPORT FOR POTENTIAL RELEASE SITES 10-002(a-b), 10-003(a-o), 10-004(a-b), 10-005, and 10-007 TA-10 SUBSURFACE FIELD UNIT 1 ENVIRONMENTAL RESTORATION PROJECT LOS ALAMOS NATIONAL LABORATORY NM0890010515 NMED TASK LANL 04-099

Dear Messrs. Gregory and Nanos:

The New Mexico Environment Department (NMED) has reviewed the Regents of the University of California and the Department of Energy's (collectively the "Permittees") "*RFI Report for Potential Release Sites 10-002(a-b), 10-003(a-o), 10-004(a-b), 10-005, and 10-007 TA-10 Subsurface Field Unit 1 Environmental Restoration Project*" dated April 1996 and referenced by LA-UR-96-1284. The March 1, 2005 Consent Order (Order) requires the Permittees to submit an Investigation Work Plan (IWP) for these SWMUs as part of a larger IWP for the whole of Bayo Canyon (*Bayo Canyon Aggregate Area Work Plan*). This IWP is due to NMED on June 30, 2005. These comments are intended to help the Permittees develop an appropriate Work Plan. The comments must, at a minimum, be adequately addressed in the Bayo Canyon IWP. NMED has the following comments:

General Comments:

1. Due in part to major QA/QC problems, the objectives of the work plan that included determination of nature and lateral and vertical extent of contamination was not met.
2. Extent of the landfill, 10-007, has not been delineated. Despite the QA/QC problems,



volatile organic compounds (VOCs) and high explosive (HE) compounds were detected in locations of reported "clean" fill.

3. The Permittees did not follow the approved work plan and did not collect VOC and HE samples at the approved rate. The Permittees then proceeded to base sampling locations on poor quality data and questionable field screening results.
4. There is no discussion of how field screening or laboratory samples were collected. The Permittees must provide general descriptions of where field screening and laboratory samples were collected. Additionally, the Permittees must provide all field notes, soil boring logs, and calibration notes.
5. There is no discussion as to the laboratories that conducted the analyses (on-site or off-site). The Permittees must provide copies of the chain-of-custody forms and the raw analytical results from the laboratory conducting the analyses.
6. Photoionization detectors (PIDs) were used to determine if VOCs were above screening action levels (SAL). This would be difficult to do as PIDs are not contaminant specific and individual contaminants do have highly variable SALs. The use of PIDs in the field is only useful as a screening device and NMED does not accept the use of PID field screening to determine regulatory compliance during an investigation. Therefore, the Permittees must conduct additional investigations to adequately delineate the nature and extent of contaminants.
7. The Permittees used three different statistical tests, which we have since denied the use of, to establish whether a contaminant is above background. Many constituents such as Be, Cd, Cu, Pb, Hg, and Zn were obviously (visual observation of the graphs) above the background level used, but were statistically screened out even though they failed one of the statistical tests.
8. The Permittees must provide field notes and boring logs for this site that document sampling procedures, locations, PID calibration records, PID instrumentation and lamps utilized during field activities.
9. The Permittees must provide all surface and subsurface data collected adjacent to/or down gradient of the areas presented in the report.

Specific Comments:

1. **Section 1.0 Introduction, page 1:** This section states that portions of Bayo Canyon are currently open to public recreational use. The Permittees must explain the measures taken to assure that persons utilizing the canyon are not being exposed to contaminants of potential concern.

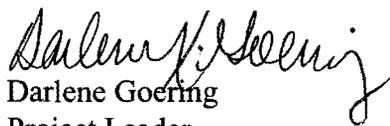
2. **Section 1.3.2 Radiological Surveys, page 6:** This section states that two different radiological surveys were conducted, one before and one after the drilling operations began. The Permittees must define the boundaries covered by each of the surveys.
3. **Section 2.3.1 Surface water, page 15:** It is stated that Bayo Canyon has an ephemeral stream. The Permittees must demonstrate that sampling occurred far enough downstream to assure no contaminants have been carried offsite.
4. **Table 3.2-2 Summary of Background Screening Values, page 21:** The table does not provide the media type. The Permittees shall provide a table with current Background Screening Values and associated media types.
5. **Section 4.0 Results of Quality Assurance/Quality Control Activities, page 24:** Over 29 percent (29%) of the samples analyzed resulted in a rejection or an estimated undetected quantity. The poor QA/QC results stemmed from low recoveries (biasing samples low), and missed sample holding times (days to over a year) for samples including organics and mercury. The use of this data in assessing risk at this site is unacceptable. The Permittees must include organics and mercury in the additional investigation required by NMED.
6. **Section 5.1.2 Description of SWMU 10-002(a), page 41:** This section states that all waste items were removed and the pit was excavated to a depth of 15 ft. The Permittees must identify the location of all excavated material and provide the relevant waste characterization forms.
7. **Section 5.1.4 Field Investigation of SWMU 10-002(a), page 41:** This section indicates that the basis for bounding the extent of VOC contamination was established with the use of a PID. NMED does not accept field screening data to determine the nature and extent of contamination. Field screening methods guide field work, but offsite analysis (with proper QA/QC protocols) is necessary to determine nature and extent of contamination as well as determine when removal of contaminated media may cease. Additionally, the Permittees have had problems using PIDs (e.g., incorrect lamp for the contaminants of concern and calibration). The Permittees may refer to NMED's "Determination of Extent of Contamination" Position Paper, dated June 17, 1999, for additional information.
8. **Section 5.1.4 Field Investigations of SWMU 10-002(a), page 43:** It is stated that neither VOC nor HE analyses were requested for samples collected from the boreholes drilled at the subject SWMU. The Permittees shall drill new boreholes and collect the necessary samples to provide an accurate analysis of VOCs and HE at SWMU 10-002(a).
9. **Section 5.2.7.2 Risk Assessment for SWMU 10-002(b), page 58:** No risk assessment was performed for SWMU 10-002(b) because there were no chemicals detected above the

screening action level. The Permittees must provide the conclusive laboratory results to substantiate this claim. This document shows that 29.3 percent of the samples analyzed were either rejected or an estimated undetected quantity by the analytical laboratory. The Permittees must propose additional sampling in a work plan submitted to NMED for review and written approval.

10. **Section 5.3.10 Conclusions and Recommendations for SWMUs 10-003(a-o) and 10-007, page 80:** The Permittees recommend that the subject SWMUs be removed from the HSWA Module of LANL's RCRA operating permit. The Permittees shall justify why the subject SWMUs should be removed when radiological sampling results exceeded the background values by as much as 12,000 pCi/g, and the nature and extent has not been delineated as a result of QA/QC issues.
11. **Section 5.4.1 History of SWMU 10-004(a), page 80:** This section states that the sanitary septic system discharged to a pit measuring 8' long by 12' deep. It also states that the system discharged to a drain line and outfall located in a stream channel. The Permittees must clarify the final discharge location for the subject septic system and indicate sample locations relative to the discharge location.
12. **Figure 5.4.4-1 Locations of SWMU 10-004(a), page 82:** This figure does not clearly identify the location of SWMU 10-004(a)'s discharge area with respect to sample locations. The Permittees must provide a detailed map showing past sampling locations and the discharge area of 10-004(a).

Should you have any questions, please contact me at (505) 428-2542.

Sincerely,



Darlene Goering

Project Leader

Hazardous Waste Bureau

DG:kmc

cc: J. Young, NMED HWB
D. Pepe, NMED DOE OB
S. Yanicak, NMED DOE OB, MS J993
L. King, EPA 6PD-N
K. Hargis, LANL RRES/DO, MS M591
N. Quintana, LANL E/ER, MS M992
D. McInroy, LANL E/ER, MS M992
file: Reading and LANL: TA-10, '05