

TA-19

State of New Mexico  
ENVIRONMENT DEPARTMENT



BILL RICHARDSON  
GOVERNOR

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

April 20, 2004

David Gregory, Federal Project Director  
Los Alamos Site Office  
Department of Energy  
528 35<sup>th</sup> 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: NOTICE OF DISAPPROVAL  
ACCELERATED CORRECTIVE ACTION WORK PLAN FOR  
INVESTIGATION AND REMEDIATION OF CONSOLIDATED SOLID WASTE  
MANAGEMENT UNIT 19-001-99 (FORMER TA-19/EAST GATE  
LABORATORY)  
LOS ALAMOS NATIONAL LABORATORY. NM0890010515  
HWB-LANL-04-001**

Dear Mr. Gregory and Mr. Nanos:

The New Mexico Environment Department (NMED) is in receipt of the *Accelerated Corrective Action Work Plan for the Investigation and Remediation of Consolidated Solid Waste Management Unit 19-001-99 (Former TA-19/East Gate Laboratory)*, dated January 2004 and referenced by LA-UR-04-0199 (ER2003-0749). NMED has reviewed this document and is issuing a notice of disapproval. The Department of Energy and the University of California (collectively the "Permittees") must respond to the comments as outlined in the attachment to this letter within thirty (30) days of receipt of this letter.



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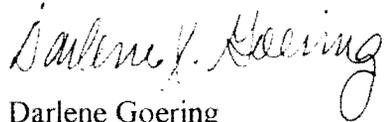
Mr. David Gregory and Mr. Pete Nanos

April 20, 2001

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Should you have any questions, please feel free to contact me at (505) 428-2548.

Sincerely,



Darlene Goering

Project Leader

Hazardous Waste Bureau

cc: D. Goering, NMED HWB  
C. Voorhees, NMED DOE OB  
S. Yanicak, NMED DOE OB, MS J993  
L. King, EPA 6PD-N  
J. Vozella, DOE LASO, MS A316  
B. Ramsey, LANL RRES/DO, MS M591  
D. McInroy, LANL E/ER MS992  
N. Quintana, LANL E/ER, MS M992  
file: Reading and ~~Transfer~~ (Land Transfer)

**Attachment**  
**Notice of Disapproval**  
**ACA Work Plan for the Investigation and Remediation of**  
**Consolidated Solid Waste Management Unit 19-001-99**  
**(Former TA-19/East Gate Laboratory)**

**General Comments:**

1. The Permittees must clarify if PCB-containing oil was used in any equipment (e.g., hydraulic equipment, electrical equipment, vacuum pumps, X-ray machines) at the site and where the equipment may have been located.
2. The Permittees did not analyze for PCBs during past sampling events at the 25 previous sample locations. Therefore, the Permittees must field screen all past sample locations for PCBs using the field screening method described in section 5.3.4 of the ACA Work Plan. At least 20% of these samples (based on field screening results) must be analyzed in an off-site laboratory. See also specific comment # 8.
3. If PCBs are detected, the Permittees, must follow the NMED position paper "Risk-based Remediation of Polychlorinated Biphenyls at RCRA Corrective Action Sites" which states that "PCB-contaminated soil/sediments should be remediated to either a default concentration of 1 mg/kg or parts per million (ppm) total PCBs (defined as the sum of congeners, Aroclors, or homologues) or a risk-based PCB concentration level established through performing a health risk evaluation." NMED recommends the removal of any hot spots of PCBs detected over 1 ppm during field screening.
4. The Permittees must provide the following information on PAH screening as described in section 5.3.4 of the Work Plan:
  - Information on whether or not this testing has been used at other LANL sites before and, if so, which sites.
  - Information on the field screening data's correlation to the laboratory analytical data.

**Specific Comments:**

**1. Section 2.1 Operational History, p. 2:**

**NMED Comment:** The Permittees must provide information explaining the processes involved in the scintillation, irradiation, and spontaneous fission experiments conducted at the site. Specifically, the Permittees must address the type of equipment used, procedures conducted, type and amount of waste generated from the experiments, how sources were stored and disposed of, and how these activities may have impacted the site.

**2. Section 2.3 Relationship to Other SWMUs and AOCs, p. 3:**

**NMED Comment:** The Permittees must provide an explanation why consolidated SWMU 73-001(b)-99, SWMUs associated with TA-26 D-Site activities, and AOC 00-018(b) are being addressed in this report as having potentially affected consolidated SWMU 19-001-99 given their locations. The Permittees must provide any documentation that references any releases from the bordering SWMUs and AOC that could have impacted SWMU 19-001-99. The Permittees must also submit information on if the wastes generated at the neighboring SWMUs and AOC were ever disposed of at SWMU 19-001-99.

**3. Section 2.4 Contamination Transport Mechanisms and Potential Receptors, p. 4, paragraph 1:**

**Permittees Statement:** "The primary mechanisms of contaminant release at SWMU 19-001-99 are related to the historical laboratory operations at the site, specifically sanitation systems that served the site facilities and surface runoff at the site."

**NMED Comment:** This statement specifically addresses sanitation systems as primary mechanisms of contaminant release. Because limited documentation of historical operations at the site are available, the Permittees must consider other mechanisms of contaminant release at the site (e.g., surface disposal (SWMU 19-002) and storm water migration).

**4. Section 2.5 Waste Inventory, p. 5, paragraph 1:**

**Permittees Statement:** "Radioactive materials handled at the site were of three known types: (1) actinides, used for spontaneous fission experiments in microgram quantities, (2) a cobalt-60, 300-Curie source, used for irradiation as late as 1961 (cobalt-60 has a 5.27 year half-life); and (3) a radioactive lanthanum source used in irradiation experiments."

**NMED Comment:**

- The Permittees must specify which actinides were used in the spontaneous fission experiments, identify where they were stored, and explain how they were used.
- The Permittees must clarify what constitutes "microgram quantities" and how many times "microgram quantities" were used over the years).
- The Permittees must specify the quantity of lanthanum-140 used in the irradiation experiments through time.

**5. Section 2.5 Waste Inventory p. 5, paragraph 2:**

**Permittees Statement:** “A certification dated October 11, 1972, indicated that the septic tank for the guard house was free of HE and radioactive material (LANL 1997, 71468).”

**NMED Comment:** The Permittees must provide information on the type of investigation performed to obtain the certificate and the type/quantity of samples collected, if any, the analyses conducted, and the results of the screening and/or analyses.

**6. Section 2.7.1 1995 VCA, p. 6:**

**NMED Comment:** The historical samples collected at this SWMU are inadequate to determine nature and extent for the following reasons:

- The VCA Report for SWMU 19-002 only presents values above either background concentrations or SALs. In the cases where the SALs exceed the background concentrations, only the values above the SALs are presented. The Permittees must present all of the data above background concentrations.
- All but three of the samples collected during the VCA were analyzed using a mobile laboratory. This may be adequate to help direct a field investigation (e.g., prioritizing sampling for lab analysis) but this data cannot be used to determine the extent of contamination at a site because of concerns regarding data quality (e.g., precision and accuracy) compared with fixed analytical labs. In addition, several metals were detected much above their respective background concentrations. For these reasons, the Permittees must resample the locations in the VCA Report (or close to them if the exact locations cannot be identified) and subsequent depths if contamination is found. The Permittees may use field screening to direct the sampling and to determine which samples will be sent to an off-site laboratory for analysis.

**7. Section 5.3.3 Surface and Subsurface Sampling, p. 15, paragraph 2:**

**Permittees Statement:** “...and samples will be collected from two distinct horizons and depths: surface soils (0-0.5 ft [0.1 m]) and the soil/weathered tuff interface (3.5 – 4.0 ft [1.0 m] or less, depending on auger refusal resulting from the presence of competent tuff)”

**NMED Comment:** Sampling depths should be determined based on the presence (or absence) of contamination. The two sampling intervals 0-0.5 and 3.5-4.0 are good depths to begin with, but sampling should not be limited to those specific depths. If contamination is present at the 3.5-4.0 interval, sampling should continue to further depths in order to define the vertical extent of contamination.

**8. Section 5.3.5 Fixed Laboratory Analytical Methods, p. 16, paragraph 1:**

**Permittees Statement:** "Approximately 10 % of the surface and subsurface soil or tuff samples collected from the 31 grid points inside AOC C-19-001 and all the samples collected from the mesa slopes will be sent to an off-site contract laboratory for confirmation analysis. The confirmation samples will be selected based on the range of concentrations observed during field screening for specific constituents (total PAHs, PCBs, and metals). Samples at the upper limit of the concentrations range (top 10%) will be submitted for confirmation analysis."

**NMED Comment:**

- The Permittees must send at least 20% of the 62 field screening samples collected from inside AOC C-19-001 for off-site fixed laboratory analysis instead of the proposed 10%.
- The Permittees must collect for laboratory analysis the samples with the greatest apparent contamination to use as part of the risk assessment. The Permittees must collect for laboratory analysis the samples with the least amount of apparent contamination to show extent of contamination.
- The Permittees must explain if all samples will be field screened for PCBs, PAHs, and metals.
- The Permittees must include all field screening data and the correlation between the field screening data and off-site laboratory analyses in the investigation report (field screening are data not to be used as part of any risk screenings or assessments).

**9. Figure 5 Proposed sampling locations for the mesa top at SWMU 19-001-99, p. 24:**

**NMED Comment:** The Permittees must provide a figure that depicts the proposed sampling locations with the former building locations. Because at least one of the former building locations is known, the Permittees must provide a justification for proposing random grid sampling instead of judgmental sampling

**10. Figure 6 Proposed sampling locations for the mesa slopes at SWMU 19-001-99, p. 25:**

**NMED Comment:** The drainages on the figure are not well defined. The Permittees must explain how the drainages and sampling locations will be identified. The Permittees must identify and sample any areas of sediment accumulation.

**11. Section D-2.1 Optimal Sample Design for SWMU 19-001-99, p. D-5, paragraph 2:**

**Permittees Statement:** "Sample locations were derived using the Wilcoxon Signed-Rank (One-Sample) Test statistical method (Gilbert 1987, 56179)."

**NMED Comment:** Sample locations cannot be derived based on the Wilcoxon Signed-Rank Test method because this statistical test is used for analytical data, and not used to identify sample locations. The Permittees must clarify this statement.

**12. Section D-2.1 Optimal Sample Design for SWMU 19-001-99, p. D-5, paragraph 4:**

**Permittees Statement:** "SWMU 19-001-99 Lower Mesa Slopes: Seven sampling locations at the down gradient extent of...."

**NMED Comment:** The Permittees must clarify if seven or eight samples will be collected in this area. Section 5.3.3 states "... and from eight locations on the mesa slope..."

**13. Section D-3.3 Total Number of Samples: Equation and Parameters, p. D-6, paragraph 2**

**LANL Statement:** "The equation used to calculate the number of samples is based on a Wilcoxon Signed-Ranks test (Gilbert 1987, 56179)."

**NMED Comment:** NMED was unable to find the referenced equation used to calculate the number of samples. However, the equation is consistent with similar formulas used for calculating the number of samples. The Permittees must provide the page number for the equation in the reference and indicate the values of each parameter used in the formula presented in section D-3.3, page D-6

**14. Section D-3.5 Recommended Data Analysis, p. D-7, paragraph 3:**

**Permittees Statement:** "Assuming the data are adequate, at least one statistical test will be performed to compare the data collected with the threshold of interest."

**NMED Comment:** LANL must specify which statistical test(s) will be performed to compare the data with the threshold and how they will be used.