

LANL  
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# Los Alamos National Laboratory

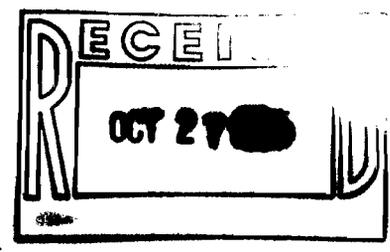
ENVIRONMENTAL RESTORATION

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Date: October 27, 1995  
Refer to: EM/ER:95-602

Ms. Barbara Hoditschek  
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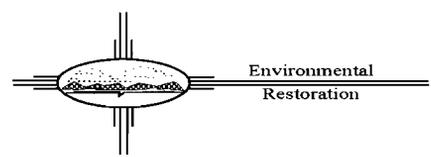
**SUBJECT: NEW MEXICO ENVIRONMENT DEPARTMENT'S (NMED's) RESPONSE TO PUBLIC COMMENTS FOR THE CLOSURE PLAN FOR TECHNICAL AREA (TA) 35 TEN SITE LOCATION (TSL) 85 SURFACE IMPOUNDMENT SITE AT LOS ALAMOS NATIONAL LABORATORY (LABORATORY)**

Dear Barbara:

LANL appreciates NMED's approval of the extension of time to respond to your letter dated September 20, 1995, concerning the closure plan for the TA-35 TSL 85 surface impoundment. An extension was requested in order to arrange a meeting with your staff in an attempt to clarify and resolve some of the issues and coordinate an acceptable response. Unfortunately your staff was not available to meet prior to the extension deadline. LANL still remains hopeful that a meeting with you and your staff can be arranged prior to issuance of the final closure plan.

LANL still has serious concerns with the Amended Closure Plan regarding appropriate cleanup levels and chemical analyses for samples and requests a meeting with you and your staff to resolve these issues and expedite field activities.

The following are comments to your letter referenced above concerning the Amended Closure Plan for TA-35 TSL 85 surface impoundment at LANL. Should you have any questions regarding these comments, please contact Mr. Roy Bohn of LANL's Environmental Restoration Project at (505) 665-5138.



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### **Comment 1**

#### **NMED Response:**

"Forty-four of the 73 pages LANL submitted in response to the May 5, 1994 notice of deficiency (NOD) were stamped "Draft" and submitted in three separate parts. Those parts were submitted on June 8, 1994, July 8, 1994, and August 5, 1994. NMED does not consider documents stamped "DRAFT" an appropriate response to a NOD. If LANL wishes to resubmit those pages previously marked "DRAFT" that indicates those pages are now "FINAL," NMED will reconsider the appropriateness of the information contained in those pages. LANL also submitted a Closure Certification Report as part of the NOD Response. The information NMED contained in the Closure Certification Report cannot be used. 40 CFR 265.115 requires certification reports after a unit "...has been closed in accordance with the specifications in the approved Closure Plan." A Closure Certification Report is premature until the closure plan is approved.

#### **LANL Response:**

LANL's July 8, 1994 response to NMED's May 5, 1994, NOD included a draft report entitled "PRELIMINARY BACKGROUND ELEMENTAL CONCENTRATIONS IN BANDELIER TUFF AND SELECTED SOIL SERIES, 1993" (Longmire, et al). The report is still draft, however all data reported in the draft is accurate and will not change and should be considered final. All other information in the June 8, July 8, and August 5, 1994 LANL responses were not marked "DRAFT" and should be considered final. NMED should approve and include LANL's responses to the May 1994 NOD in the Amended Closure Plan otherwise the same concerns may have to be addressed again.

Additional information on LANL background soil concentrations is available and LANL intends to use all relevant information to derive background concentrations for the closure certification report.

### **Comment 2**

#### **NMED Response:**

NMED will modify the Amended Closure Plan by Changing the language "non-detect level" to "above naturally occurring background levels or Limit of Quantification (LOQ). For constituents having a Screening Action Level (SAL) below the LOQ, the contaminated area shall be remediated until that constituent is not detected in further analysis, i.e., indicated in J-Flag or TIC." NMED does not consider LANL's proposed "aggregate industrial use standards health-based action levels" appropriate. NMED requires risk assessments addressing the more conservative residential exposure standards for aggregate risks.

#### **LANL Response:**

As a result of NMED's September 20, 1995 response to comments on the Amended Closure Plan the NMED has now included two differing cleanup criteria in the proposed Amended Closure Plan. In Section 1.0, Paragraph 3, the NMED requires removing all contaminated soil to naturally occurring background levels or LOQ. In Section 6.2, NMED requires a risk assessment be performed, and if the

site is found to pose an unacceptable risk to human health or the environment, additional cleanup will be performed to standards for residential use. In response to these differing clean-closure performance standards, LANL recommends the approach outlined below. This approach will resolve the current conflict between the technical approach and clean-closure performance standard, and would revise Section 6.0, Proposed Risk Evaluation of the Amended Closure Plan.

A very important point that first must be considered is that the present and future land use for the TA-35 TSL 85 surface impoundment closure site is currently, and will remain, industrial under a continued LANL operations scenario. The location of this site is in the center of an active LANL TA adjacent to both the Plutonium Facility and the Radioactive Liquid Waste Treatment Facility. The location of this site will prohibit the development of any future residential land use. In order to make the most practical and appropriate risk-based decisions for this site, LANL is recommending that risk assessment and the derivation of risk-based action levels be based on a continued laboratory operations industrial land use scenario.

LANL proposes that the clean-closure performance standard will be met if the constituents detected in the subsoil samples are below acceptable levels. These levels include background upper tolerance limits (UTLs), SALs, and risk-based cleanup levels. The approach for determining whether the closure performance standard has been met is based on two methodologies: 1) comparison with UTLs and SALs as documented in the screening methodology presented in LANL Risk-Based Corrective Action Document, and 2) performance of a risk assessment and development of risk-based cleanup levels using the methodologies specified by the Environmental Protection Agency (EPA) in the Risk Assessment Guidance for Superfund document (EPA 1989).

Measured concentrations of inorganic constituents in the subsoil will be compared with LANL-wide background concentrations of inorganic constituents. LANL-wide background comparison value is defined as the 95th percentile upper tolerance limit (95% confidence) for the best-fit normal, lognormal, or square root-transformed normal distribution of the available background data (Longmire, et. al., 1995). Constituents in subsoil present at concentrations below the UTL will be eliminated from further consideration.

Those constituents in the subsoil that are present above the background UTLs will then be compared with SALs. SALs based on the residential exposure scenario, are conservative screening concentrations in soil, below which, no significant human health risks are realized. Therefore, if the maximum concentration of a single constituent in the subsoil is less than the SAL, then the clean-closure performance standard for that constituent will be met. The additive effects of multiple constituents will also be evaluated at this stage by adding the ratios of the SAL comparison values (maximum concentration ÷ SAL) for each constituent. If the sum of the maximums is less than 1, the additive effects of multiple constituents are not considered to present a human health risk, and the clean-closure standard will be met.

If any constituent in the subsoil exceed background and SALs, or if the sum of the SAL comparison ratios exceeds a target value of 1, then site-specific risk

assessment will be performed with these potential chemicals of concern using input parameters based on a continued industrial land use scenario and a maintenance worker for this area of TA-35. If the risk assessment shows that the total cancer risk is between the EPA acceptable  $10^{-4}$  -  $10^{-6}$  risk range, and the total noncancer hazard index is less than 1, then the clean-closure performance standard will be met. If the clean-closure standard is not met, site-specific risk-based cleanup levels will be developed for the continued industrial land use scenario and maintenance worker, based on the results of the risk assessment. [Note: If contaminants are detected in the tuff under the site, exposure parameters will be adjusted to account for industrial exposures to this media.]

If the use of the risk assessment approach and derivation of cleanup levels using an industrial scenario is necessary at this site, LANL will perform these activities and then prepare an amendment to the Closure Plan for removal of additional contaminated material as necessary. Additional areas remediated will be sampled to confirm that the risk-based cleanup levels have been achieved. This approach is provided for in the March 19, 1987 Federal Register (8706), Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, Final Rule.

### **Comment 3**

#### **NMED Response:**

Reference to the Operable Unit (OU) 1148 work plan is inappropriate. NMED is not the administrative authority for the OU 1148 Work Plan, EPA is the administrative authority for the work plan. NMED is the Administrative authority for Resource Conservation and Recovery Act Closure Plans and which it considers on a site-specific basis.

LANL's referral to the Clean Closure Demonstration of TSL-125 located in TA-35 is inappropriate. Closure Plans and Clean Closure Demonstrations are site-specific. LANL indicated to NMED that the historical records used to develop process of knowledge at the TSL 125 site was adequate to show constituent contributions from all known possible sources. In reference to the closure plan for TSL-85, also located in TA-35, sufficient process knowledge of all known possible contributors to waste stream at TSL-85 site has not been demonstrated. Refer to LANL statement on Section 3.0, Page 3-1, Paragraph 2 of the Closure Plan. Due to the lack of historical documentation of activities at TA-35 Building 188, the drain pipe connecting TA-35 Building 188 to the Underground Storage Tank that in turn was connected to TA-35, TSL-85 by an overflow pipe, and limited range of constituents analyzed for in Phases I through V, NMED requires a full Appendix VIII screening [less antibiotics (16), constituents with non approved methods (27), and constituents "too unstable" to analyze (23)]. This leaves 322 constituents to analyze for to verify clean-closure.

NMED does not agree that accepted analytical techniques are not available for a large number of the Appendix VIII constituents as stated by LANL. NMED has received information from the EPA CLP Program that provides the following facts:

1. There are 377 constituents listed in Appendix VIII, of these 377, 23 are too unstable for analysis,  $377 - 23 = 354$ .
2. Of the remaining 354 constituents, 11 are metallic cyanides that require analysis for metals and a separate analysis for cyanide,  $354 + 11 = 365$ .
3. Twenty seven of these constituents do not have recognized methods for analysis,  $365 - 27 = 338$ .

NMED does not accept LANL's statement that no acceptable methods are available for "many" or "a large number" of Appendix VIII constituents. NMED will modify the language of the Closure Plan, in Section 5.6, Page 5-4, Paragraph 5, to state: Analysis will be performed for all Appendix VIII constituents except, antibiotics/drugs (16), constituents too unstable to analyze (23), and the constituents that have no accepted method of analysis (27), which leaves 322 constituents to analyze for to verify "Clean Closure."

**LANL Response:**

The potential waste stream to the underground storage tank was from operations associated with Buildings 85 and 188. Building 188 operations included high voltage testing, chemical analyses of gasses, and a machine shop as described in Section 3.0 of the Amended Closure Plan. In spite of the fact that there are no records to fully document the potential waste stream from building 188, there is sufficient knowledge to know that specific processes were never performed in building 188, and that LANL's analytical target list of volatile organic compounds, semi-organic compounds, polychlorinated biphenyls (PCBs), and metals, all of which follow SW-846 methodology, is justified. LANL believes that this analyses includes the Appendix VIII constituents that are reasonably expected to be present at the site and that no additional analyses is necessary. LANL believes that expanding the list of contaminants of concern to include exotic chemicals which have no relation to activities reasonably expected to have occurred at the site does not add any environmental benefit and dramatically increases analytical cost.

LANL strongly objects to the requirement for screening for all Appendix VIII constituents (minus the exceptions cited by NMED) as being technically not justified, as it is not a target analyte list. The Appendix IX list was developed by a large group of EPA experts in order to have a list of analytes that could reasonably be identified and quantitated using commonly available methods. The Appendix VIII list was used as the starting point, with a multitude of analytes dropped for many different reasons. 40 CFR, part 261, Appendix III lists methods for organic and inorganic chemicals from the Appendix VIII list, which looks much like Appendix IX and contains 96 organic compounds and 28 inorganic. All but osmium and hexavalent chromium of the inorganics are routinely analyzed for by LANL analytical contractors, and hexavalent chromium is not an issue if the total chromium is less than the action limit. The organics that are not included in LANL's target list (which is the list that was considered the list for NMED when it was developed in 1992) are detectable by GC/MS and would be apparent in a mass spectral library search. Therefore, we are strongly requesting that the analyses be performed using our current analyte list, with special attention in looking at Tentatively Identified Compounds by a mass spectral library search and confirming

any that may be on the Appendix IX list (if a standard is available). As you are aware, the EPA Region 6 personnel considered this a viable solution to their concerns about adequate characterization.

In reference to both of the above issues, we would like to point out that the reason that EPA has developed (and mandated) the framework for planning called the Data Quality Objective process is to help decision makers to select the right number and type of samples, the right analytical methods, quality control, etc., to make decisions with an acceptable total error. It is especially suitable to optimizing the sampling and analysis design for risk-based decision making. It focuses on planning the data collection process rather than going out and collecting lots of samples and analyzing them by the most stringent methods and then figuring what the data can be used for. It purposes to focus resources for added value, which we feel is not reflected in the NMED requests related to sample analyses.

All sample analyses for this closure will be performed by analytical laboratories under contract to LANL. Any reference to "in-house" or Group EM-9 analyses performed for this closure should be deleted from the Closure Plan.

LANL's contract analytical laboratory who perform EPA Contract LANL Program (CLP) analyses, can analyze or subcontract 182 constituents on the Appendix VIII list. Most of the items that can not be analyzed are not included in the EPA's 600 series or SW-846 methods.

If NMED insists on a full Appendix VIII screen, LANL requests that NMED identify the full list of 322 Appendix VIII constituents along with their analytical methods that NMED believes can be analyzed for.

#### **Comment 4**

##### **NMED Response:**

The Modified Closure Plan states "LANL plans final closure for this area by the spring of 1995." LANL failed to submit a revised closure schedule with the response to the May 1994 NOD. NMED used what was provided for the preparation of this Amended Closure Plan. Items provided include response to the May 1993 NOD; Sigma Mesa: Background Elemental Concentrations in Soil and Vegetation, 1979; Preliminary Background Elemental Concentrations in Bandelier Tuff and Selected Soil Series, 1993 (Draft Document); and all previous closure plan applications. In all of these documents a revised closure schedule was not provided and NMED does not consider draft documents appropriate responses to an NOD. The revised closure schedule should be based on a late October 1995 approval by NMED and submitted within the time frame specified in paragraph three on page 1.

##### **LANL Response:**

Enclosed is a revised closure schedule based on a late October 1995 approval by NMED. LANL does not anticipate that additional site remediation will be required at this time. The revised closure schedule, therefore, does not include any

additional remediation activities. If additional remediation activities are required the schedule will be amended along with the closure plan. If NMED approval of the closure plan is delayed beyond the end of October, the schedule will be delayed accordingly.

#### **Comment 5**

##### **NMED Response:**

The standards will be restated in a more clear, concise, and finite manner in the Approved Closure Plan. The new language will read: "NMED Standards for PCB cleanup levels are 0.9 mg/kg or 0.9 ppm."

##### **LANL Response:**

At the TA-35 TSL-125 surface impoundment, a site almost identical to the TA-35 TSL 85 surface impoundment, clean closure has been granted by NMED. NMED agreed that cleanup of PCBs was not needed as long as the concentrations were below the Toxic Substance Control Act (TSCA) cleanup level of 10 ppm. Since site-specific conditions at TA-35 TSL 85 surface impoundment are almost identical to those at TA-35 TSL 125, LANL requests the same consistent cleanup level of 10 ppm PCBs.

#### **Comment 6**

##### **NMED Response:**

See NMED response to comment number 4.

##### **LANL Response:**

Enclosed is a revised closure schedule based on a late October 1995 approval by NMED. LANL does not anticipate that additional site remediation will be required at this time. The revised closure schedule, therefore, does not include any additional remediation activities. If additional remediation activities are required the schedule will be amended along with the closure plan. If NMED approval of the closure plan is delayed beyond the end of October, the schedule will be delayed accordingly.

#### **Comment 7**

##### **NMED Response:**

LANL is reminded that all work done by LANL at the TSL-85 Surface Impoundment Site prior to closure plan approval was done "At Risk." The information contained in the Closure Certification Report can not be used, as 40 CFR 265.115 requires certification after a unit "...has been closed in accordance with the specifications in the approved closure plan." A Closure Certification Report is premature until the closure plan is approved.

##### **LANL Response:**

It is LANL's understanding from this statement that although the information from

the Closure Certification Report will not be included in the revised closure plan, the report can be resubmitted along with a report and certification of the supplemental sampling (Phase VI) to document final closure of the site. Both reports will be used to show that the site was closed in accordance with the NMED approved closure plan.

Sincerely,



Jorg Jansen, Program Manager  
Environmental Restoration

Sincerely,



*for* Theodore J. Taylor, Program Manager  
Los Alamos Area Office

JJ/TT/bp

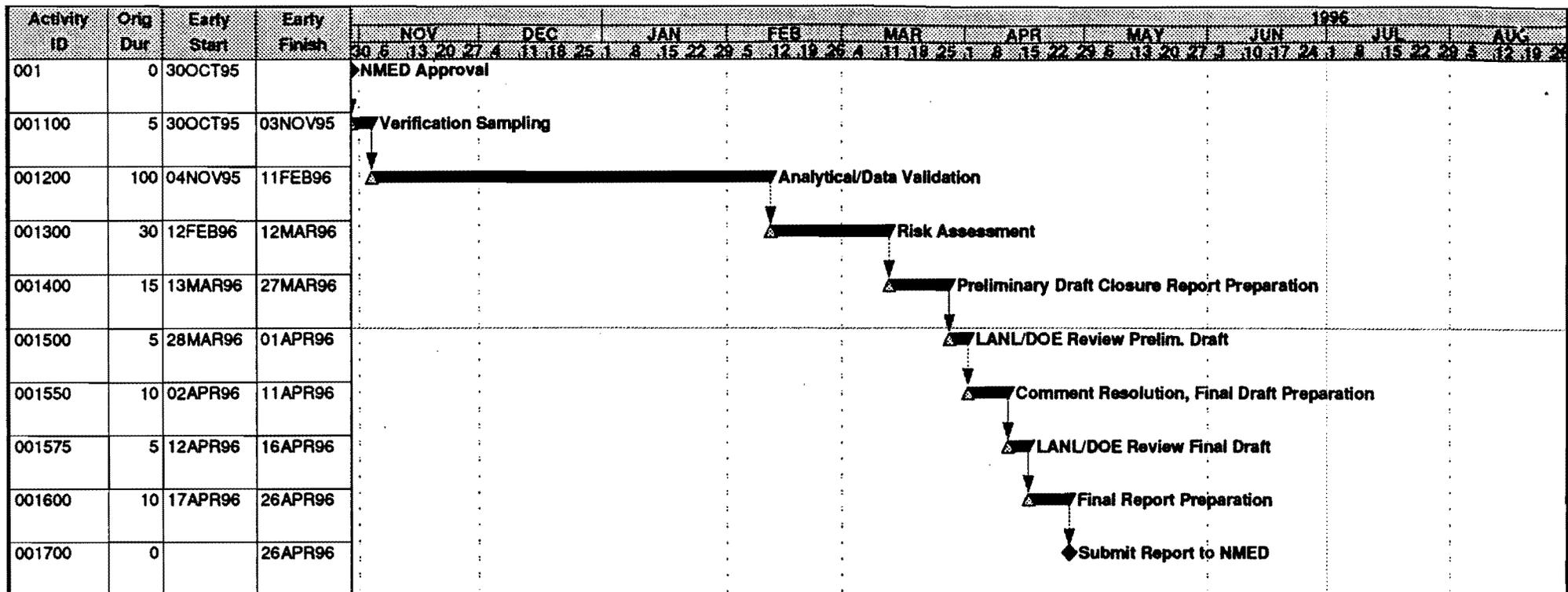
Enclosures: Revised Closure Schedule

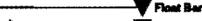
Cy (w/enc.):

R. Dinwiddie, NMED  
B. Driscoll, EPA  
D. Griswold, ERD, AL, MS A906  
J. Mose, LAAO, MS A316  
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J. White, ESH-19, MS K498  
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EM/ER File, MS M992  
RPF, MS M707

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G. Rael, ERD, AL, MS A906  
W. Spurgeon, EM-453, DOE-HQ  
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Project Start 30OCT96  Early Bar  
 Project Finish 26APR96  Float Bar  
 Data Date 30OCT96  Progress Bar  
 Plot Date 26OCT96  Critical Activity

TA35

Sheet 1 of 1

LANL

TA-35, TSL-85 Closure  
(Supplementary Work)

## CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title: New Mexico Environment Department's Response To Public Comments For The Closure Plan For Technical Area 35 Ten Site Location 85 Surface Impoundment Site At Los Alamos National Laboratory

Name:

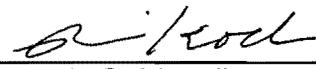
  
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Dennis Erickson  
Director of Environment, Safety & Health Division  
Los Alamos National Laboratory

Date:

10/27/95

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