

TA 420

Los Alamos
NATIONAL LABORATORY

memorandum

Earth & Environmental Sciences Division
EES-13 • Nuclear Waste Management R&D

To/MS: Tracy Glatzmaier, EM-13, MS M992

Thru/MS Allyn Pratt, EES-13, J521 *AP*

From/MS: Gabriela Gainer, LATA, M321 *GG*

Phone/FAX: 662-1817/6621846

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Date: November 29, 1993

LANL/ER/OU 1129

Revised Response to the OU 1129 RFI Work Plan Appendix E NOD

Per our conversation on November 29, 1993, I have enclosed the revised comment response to the referenced NOD, which incorporates comments from the DOE.

Included in this transmittal are the revised graphics in Appendix E of the Work Plan that replace the figures in the transmittal of November 19, 1993. I am also enclosing another three copies of the complete package for you to send to the EPA and the DOE. This package includes

- revised NOD responses,
- Appendix E of the Work Plan (with revisions)
- preliminary draft of *OU 1129 Accelerated Characterization at Former TA-42 in Support of Construction Validation Project at Los Alamos National Laboratory (LANL)*, and
- correspondence related to the revision of the Aggregate J sampling and analysis plan and the accelerated characterization at TA-42.

Please call me at 662-1817 if you have any problems or questions regarding this transmittal.

Enclosures: a/s

Cy:

Curt Thomson, LATA, M321, w/NOD responses only

Records-Processing Facility, EM-13, M707, w/NOD responses only

EES-13 ER file, J521, w/NOD responses only

OU 1129 file, M321, w/NOD responses only



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**EPA Notice of Deficiencies and OU 1129 Corresponding Responses
for the RFI Work Plan, Aggregate J**

- 1. Within 30 days of receipt of this letter, Los Alamos National Laboratory (LANL) shall provide figures for Appendix E that clearly delineate where all samples were collected for this 1991 sampling and this revised Aggregate J work plan.**

Figure 2 in Appendix E shows the location of the samples that were collected as part of the reconnaissance survey in 1991—as indicated by the prefix “PF” (for example, PF-PLN). Figure 2 in Appendix E also shows the location of the samples that were collected during the July 1992 investigation—as indicated by the “B” designation (for example, B1).

Included as part of this notice of deficiency (NOD) response package is the preliminary draft of *OU 1129 Accelerated Characterization at Former TA-42 in Support of Construction Validation Project at Los Alamos National Laboratory (LANL)*. This internal Laboratory report is being prepared for the sponsors of the Nuclear Safeguards Technology Laboratory (NSTL). Appendix A (Facility for Information Management, Analysis, and Display [FIMAD] map) of the report also shows the surveyed locations where the July 1992 samples were collected. The map also shows the location of the samples that were collected during the reconnaissance survey in January 1991.

- 2. This work plan is dated July 24, 1992, and was not submitted to the Environmental Protection Agency (EPA) until October 1993. LANL voluntarily accelerated the investigation of this area to provide for the construction of the NSTL, and this action should not be considered an interim action under the Hazardous and Solid Waste Amendments (HSWA) permit as is indicated on page 4 of Appendix E. This page needs to be changed.**

As EPA has pointed out, the choice of the term “interim action” to describe the effort is not appropriate. Based on EPA guidance, page 4 of Appendix E has been changed by deleting any references to the interim action, the installation work plan (IWP), and the HSWA permit. Also, the words “interim action” were replaced with “accelerated characterization” elsewhere in Appendix E.

The *Revised Sampling and Analysis Plan for OU 1129 Aggregate J* (LA-UR-92-2120) was not intended to be a separate Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) work plan. The *RFI Work Plan for Operable Unit 1129* (LA-UR-92-800) (hereafter referred to as the Work Plan) was submitted to the EPA on May 22, 1992. The five potential release sites (PRSs) listed in Section 7.14 of Chapter 7 of the Work Plan are the same five PRSs listed in revised Aggregate J, which is now referred to as Appendix E of the Work Plan. New PRSs are not being added to the Work Plan.

The *Revised Sampling and Analysis Plan for OU 1129 Aggregate J* (LA-UR-92-2120) was created in July 1992 to achieve an accelerated characterization to support a critical construction program (the NSTL). This document is now included as Appendix E of the Work Plan. Inclusion of Appendix E was done in response to the EPA NODs that were submitted on August 20, 1993.

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3. **The comparison of toxicity characteristic leaching procedure (TCLP) data to data collected for an RFI is not appropriate. TCLP analysis is used to determine if a material is a hazardous waste, and the results of this analysis cannot be compared with the action levels as proposed in Subpart S. Additional samples should be collected in the same location as the lead sample that exceeded TCLP in order to determine whether or not the fill dirt was contaminated or there was residual contamination from original operations.**

There is no effort (deliberate or implied) to compare action levels proposed in Subpart S with TCLP data. The analytical (TCLP) results of samples collected by the Environmental Protection Group (EM-8) as part of the January 1991 reconnaissance survey were used only to help design the July 1992 sampling effort. During the July 1992 investigations, six samples were collected in the area where the elevated concentration of lead (Pb) was found during the January 1991 reconnaissance survey as indicated in the sampling and analysis plan (Appendix E, page 11, paragraph 4). The analytical results from July 1992 do not confirm the presence of Pb. Therefore, the determination is that the fill dirt is not contaminated with Pb. See the attached preliminary draft report, *OU 1129 Accelerated Characterization at Former TA-42 in Support of Construction Validation Project at Los Alamos National Laboratory (LANL)*.

4. **A copy of the remediation plan or the data on which the remediation plan will be finalized shall be submitted to EPA within 30 days of receipt of this letter.**

Attached is a copy of the preliminary draft of *OU 1129 Accelerated Characterization at Former TA-42 in Support of Construction Validation Project at Los Alamos National Laboratory (LANL)*. This report contains the data from the field characterization (sampling) effort and the analytical results from the July 1992 sampling. Our interpretation of this data and the data from the January 1991 sampling indicates that there are no contaminants of concern above screening action levels (SALs). Because there is no contamination of concern above SALs at the site, we did not recommend remedial action to the Department of Energy/Albuquerque Operations Office (DOE/AL). DOE/AL validated NSTL construction with no site remediation. See attached memoranda from J. C. Vozella (LESH:6SS-050, October 21, 1992); J. G. Themelis (PMD:PDB:IJR, December 23, 1992); and C. Ortiz (ENG-1/JCO/93-086, January 13, 1993). Additional memoranda from OU 1129 to Laboratory engineering construction personnel, Nuclear Technology and Engineering (N) Division, DOE/AL and DOE Los Alamos Area Office (DOE/LAO) are also attached. These memoranda document the accelerated characterization process.

5. **LANL shall indicate what type of metal analysis was conducted for July 1992 sampling and what method was used.**

Based on the analytical results from the January 1991 reconnaissance survey (Table 3 of Appendix E) in which Hg, As, Se, Ag, Ba, Cd, Cr, and Pb were investigated, only Pb was identified as a contaminant of concern. Therefore, Pb was the only metal investigated in the July 1992 sampling effort.

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In July 1992, three methods were used to analyze samples for Pb. The Isotope and Nuclear Chemistry Group (INC-12) used a full-dissolution process that is described on page 16 of *OU 1129 Accelerated Characterization at Former TA-42 in Support of Construction Validation Project at Los Alamos National Laboratory (LANL)*. The results are shown in Table 6 (page 17) of the referenced report.

A contract laboratory used the SW 846 EPA 7421 method to analyze for Pb duplicates of the samples that were analyzed by INC-12. The results are shown in Table 8 (page 21) of the referenced report.

After OU 1129 personnel obtained the results of the INC-12 analysis, which showed no Pb concentrations above action levels, DOE/AL directed us to collect additional samples. We collected 16 additional samples in the vicinity of sample PF-IB1 (Figure 2 in Appendix E and Figure 7 in the referenced report) and analyzed them by energy dispersive x-ray fluorescence (EDXRF). See Section 4.5 (page 16) of the referenced report for an explanation of the methodology. We sent 5 duplicates of the 16 EDXRF-analyzed samples to a contract laboratory to be analyzed by the SW 846 EPA 7421 method for confirmatory purposes. None of the July 1992 analyses showed the presence of Pb above SALs. Table 7 (page 20) in the referenced report summarizes the EDXRF analytical results.

A summary table showing results from the three methods used for Pb analysis is included on the next page of this response for convenient reference.

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**Summary of TA-42 Accelerated Characterization
Lead (Pb) Analysis Methods and Results**

SAMPLE No.	METHOD		
	INC-12 ^a (ppm)	SW 846 EPA 7421 (mg/kg) ^b	EDXRF ^c (ppm)
B-1-1	17	14.4	
B-1-1-D		14.5	
B-1-2		4.3	
B-2-1	<5	12	
B-2-2	<5	6.6	
B-3-1		11.7	
B-3-2	<5	28.1	
B-14-1			8
B-14-2			19
B-14-3			19
B-15-1			12
B-15-2			6
B-15-3			10
B-16-1			12
B-16-2		10.4	25
B-16-3			19
B-17-1			19
B-17-2			7
B-17-3			16
B-18-1		12.5	19
B-18-2		15.3	15
B-18-2-R		17.1	15
B-18-3		12.4	13

- a. INC-12 method consisted of dissolving ~0.5g of sample in mineral acids. The samples were then taken to near dryness and diluted to a known volume. The samples were analyzed using ion-coupled plasma-mass spectroscopy. A process blank was also run through the procedure; a contribution from Pb was measured and subtracted from the sample value. Method detection limits for Pb are estimated at about 5 ppm.
- b. mg/kg = ppm
- c. Energy dispersive x-ray fluorescence