

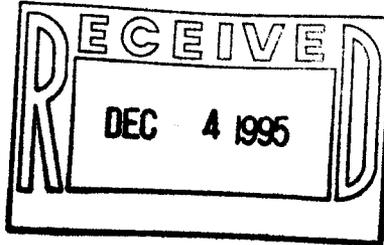
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Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION

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Date: **November 29, 1995**
Refer to: **EM/ER:95-642**

Ms. Barbara Driscoll
NM/Federal Facilities Section
Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

**SUBJECT: RESPONSE TO THE NOTICE OF DEFICIENCY (NOD) FOR
POTENTIAL RELEASE SITES IN TECHNICAL AREAS 18
AND 27**

Dear Barbara:

Enclosed is the Los Alamos National Laboratory's response to the Environmental Protection Agency's NOD on the Resource Conservation and Recovery Act facility investigation report for potential release sites in Technical Areas 18 and 27 (former operable unit 1093). A certification form signed by the appropriate officials is also enclosed. This response is due to your office on December 1, 1995.

Please contact Gene Gould at 505-667-0402 or Everett Trollinger at 505-667-5801 if you have any questions about the response to this NOD.

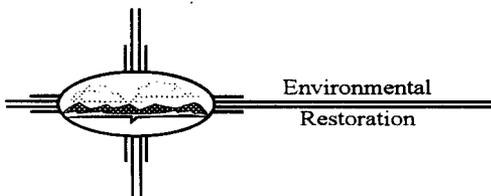
Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office

JJ/TT/bp



TZ

Ms. Driscoll
EM/ER:95-642

-2-

Enclosures: OU 1093 NOD Responses

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CERTIFICATION

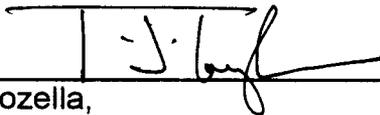
I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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: Response To The Notice Of Deficiency For Potential Release Sites In Technical Areas 18 And 27

Name:  Date: 11-21-91
Jorg Jansen, Program Manager
Environmental Restoration Project
Los Alamos National Laboratory

or

Tom Baca, Program Director
Environmental Management
Los Alamos National Laboratory

Name:  Date: 11/29/95
Joseph Vozella,
Acting Assistant Area Manager of
Environment Projects
Environment, Safety, and Health Branch
DOE-Los Alamos Area Office

or

Theodore J. Taylor
Program Manager
Environment Restoration Program
DOE-Los Alamos Area Office

**RESPONSE TO NOTICE OF DEFICIENCY
RFI REPORT FOR OU 1093, TECHNICAL AREAS 18 AND 27
SEPTEMBER 28, 1995**

1. *EPA agrees that LANL may request a Class 3 permit modification for removal of the following units from the HSWA portion of the permit:*

27-003
27-001
18-007
18-001(c)

Response:

LANL will request a Class 3 permit modification, scheduled for March 1996, on the listed PRSs.

2. *Section 3.2.3 Soils, p. 3-4. LANL should provide the locations and relevant information of any soil samples collected for the background database which were collected near the location of Technical Areas 18 and 27.*

Response:

Soil samples used to evaluate background concentrations were all collected at sites around the perimeter of LANL. None of these locations are near TA-18 or -27.

Proposed Text Changes:

None required.

3. *Section 3.6 Waste Criteria, p 3-6. Using the stated approach for TC screening levels is only acceptable for solid wastes/soils which contain no liquids.*

Response:

LANL agrees with the comment and only uses the TC screening levels to evaluate solid waste or soils.

Proposed Text Changes:

Section 3.6. Nonradiologic waste criteria are the possible presence of hazardous waste constituents, and RCRA toxicity characteristic (TC) screening levels (**for solid wastes that contain no liquids**). **Toxic characteristic limits are used for liquid wastes.**

4. *Section 4.2.3 Evaluation of Results, p. 4-21. EPA would prefer that the analytical results that are in question be included in the evaluation of results section for each SWMU, not in a different section several pages away.*

Response:

LANL agrees with the comment and will adhere to this format in future RFI reports.

Proposed Text Changes:

None required.

5. Figure 4-8, p. 4-12. Please include the sampling identification number for each sample point taken.

Response:

LANL accepts the comment and has revised the figure to include sample numbers. However, in the process of indicating the sample numbers associated with each sampling location, it was realized that the data presented in the report for the wetland sites were actually those from an upstream wetland location instead of from the outfall location. As a result, the data (for the wetland samples) in Table 4-2 of the report need to be amended and the text revised. Concentrations of potential contaminants were in the same range as for the data presented in the report and some were lower. No conclusions presented in the report changed as a result of this error. The text has been revised to reflect the correct data for the sampling locations at the outfall.

Proposed Text Changes:

See revised Figure 4-8.

See amended Table 4-2, presenting data for sampling sites at Wetland 7.

Section 4.2.3.1 Comparison With Background. Revise third paragraph as follows:

Concentrations of metals in samples from the outfall area were generally below the background UTL, with the exception of lead (above the UTL for ~~two three~~ water samples). This could easily be the result of natural differences between surface water in the wetlands and groundwater in the main aquifer, which was used as a basis for the UTL. Total uranium concentrations were above the UTL in ~~three all five~~ sediment samples. This could be the result of releases from the lagoons, from historical releases at a nearby abandoned firing site (which will be addressed in a subsequent report), or from natural differences between uranium concentrations in wetland samples and soil samples. ~~Concentrations of plutonium isotopes were above the UTL in several sediment samples. Plutonium is not a potential contaminant for the nearby abandoned firing site. However, as with uranium, the concentrations above the UTL could have resulted from releases from the lagoons, or from naturally elevated values. Thorium-230 does not occur naturally, and its presence may be attributable to the former firing site mentioned above. Thorium was not a potential contaminant for this PRS.~~

Section 4.2.3.2 Comparison with SALs. Revise third paragraph as follows:

Reported concentrations of PCOCs in the outfall area were below established SALs, with the exception of ²³²Th. However, the SAL for ²³²Th is within the range of background concentrations, and the measured concentration is below the background UTL.

6. Section 4.4.3 Evaluation of Results, p. 4-30. *One electromagnetic anomaly was detected; however, LANL did not make a determination if material was actually buried at the location. LANL should have followed through to determine what the anomaly was whether or not LANL thought the anomaly was the actual guns they were looking for.*

Response:

As indicated in the text, the observed magnetic anomaly was too small to be indicative of the presence of the buried guns. LANL elected not to expend the funds required to excavate the site to determine if something else was buried at the location of the anomaly.

Proposed Text Changes:

None required.

7. Appendix A - EPA will provide separate comments related to the background study. LANL should be aware that their approach used for calculating the upper tolerance limit was not acceptable to EPA.

Response:

LANL is aware of EPA's concerns and has revised the approach to calculating the upper tolerance level.

Proposed Text Changes:

None required.

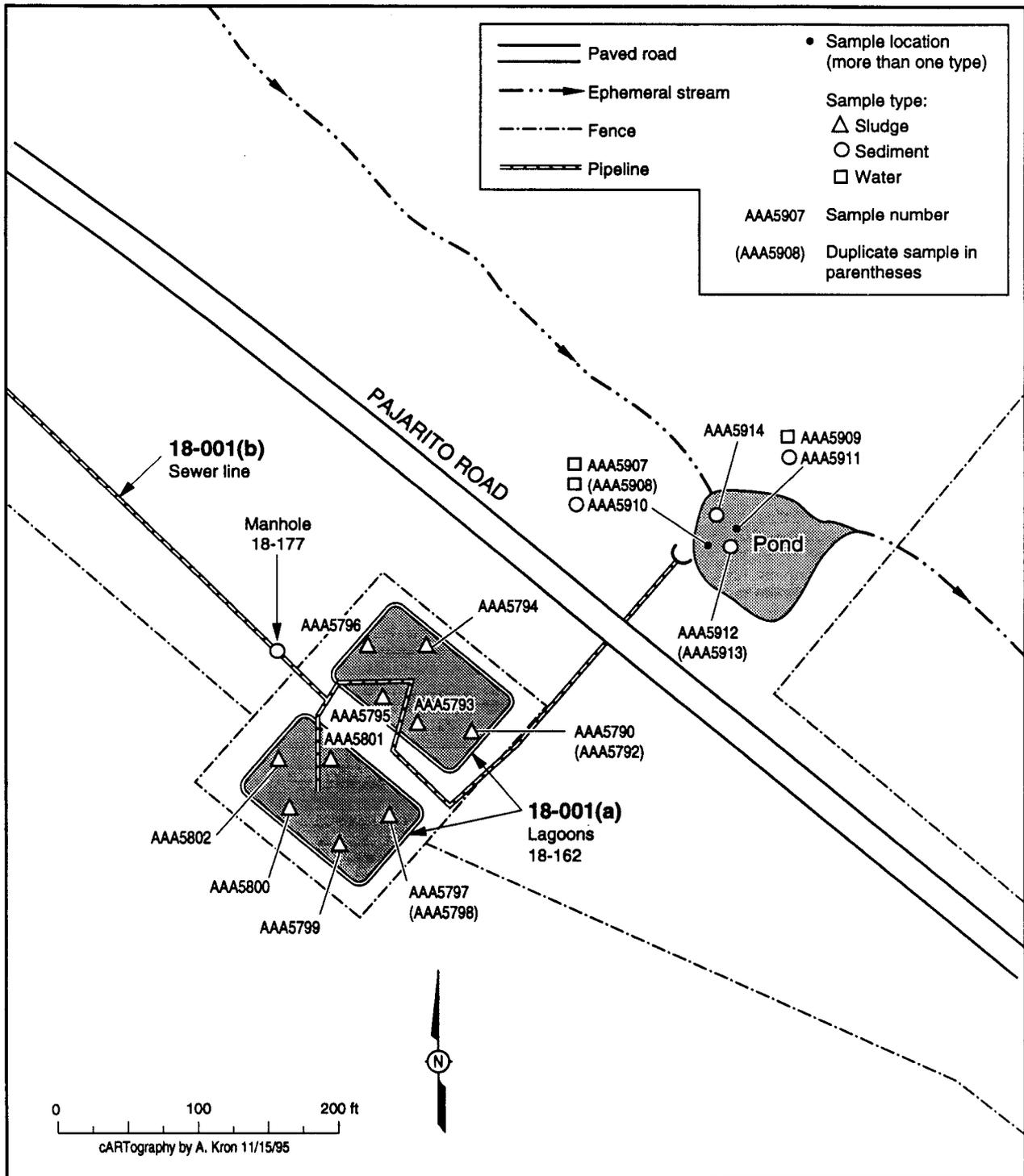


Figure 4-8. Sampling locations at SWMU 18-001(a), sewage lagoons and outfall.

December 1, 1995

NOD response (former OU 1093)

Field Unit 2

**TABLE 4-2
MEASURED CONCENTRATIONS OF PCOCs 18-001(a) and (b)**

Sample Location	Sample Number	Sample Type	Units	Metals	Radionuclides	SVOCs	VOCs	High Explosives	SALs	CRQLs	Background							
Wetland 7 (8 samples)	AAA5907	Water	UG/L	69 Barium	0.29 U (Total) 0.037 Th-228 0.232 Th-230 0.049 Th-232 0.01 Pu-238 0.01 Pu-239	None Detected	None Detected	0.752 HMX 0.636 Tetryl(methyl-2,4,6-trinitrophenyl)nitramine)	2000	200	130							
			UG/L	12 Lead					50	3	1.1							
			UG/L						20(MCL)		1.2							
			PC/L						15									
			PC/L						15									
			PC/L						15	NA	0.051							
			PC/L						15	NA	0.083							
			UG/L						1800									
			UG/L						350									
				AAA5908					Water	UG/L	72 Barium	0.082 U (Total) 0.012 Th-228 0.153 Th-230 0.018 Th-232 0.01 Pu-239	None Detected	None Detected	0.838 HMX	2000	200	130
UG/L	4 Lead	50			3	1.1												
UG/L		20(MCL)				1.2												
PC/L		15																
PC/L		15																
PC/L		15			NA	0.083												
PC/L		15			NA													
UG/L		1800																
UG/L																		
	AAA5909	Water			UG/L	60 Barium	0.156 U (Total) 0.347 Th-230 0.005 Pu-238 0.01 Pu-239	None Detected		None Detected	0.872 HMX 0.226 RDX					2000	200	130
			UG/L	6 Lead	50	3			1.1									
			UG/L		20(MCL)				1.2									
			PC/L		15													
			PC/L		15	NA			0.051									
			PC/L		15	NA			0.083									
			UG/L		1800													
			UG/L		3.2													
				AAA5910	Soil	MG/KG			210 Barium			3.58 U (Total) 1.163 Th-228 1.273 Th-230 1.664 Th-232 0.007 Pu-238 0.039 Pu-239	None Detected			5600	40	1140
						MG/KG			1.4 Beryllium							0.16	1	3.31
MG/KG	0.7 Cadmium	80				1	2.7											
MG/KG	16 Chromium	400				2	34.2											
MG/KG	41 Lead	400				0.6	39											
MG/KG	14 Nickel	1600				8	26.7											
MG/KG	1.8 Silver	400				2	NA											
MG/KG	110 Zinc	24000				4	101											
MG/KG							1.2											
PC/G		1.5					2.68											
PC/G		5					2.03											
PC/G		5					2.68											
PC/G		20				NA	0.014											
PC/G		15				NA	0.083											

Maximum concentrations in boldface

NA: not available

Shared Values: values above background UTL

December 1, 1995/NOD response/Field Unit 2

**TABLE 4-2
MEASURED CONCENTRATIONS OF PCOCs 18-001(a) and (b)**

Sample Location	Sample Number	Sample Type	Units	Metals	Radionuclides	SVOCs	VOCs	High Explosives	SALs	CRQLs	Background
	AAA5910 (cont)		MG/KG MG/KG				0.21 Acetone 0.21 Acetone		8000 8000	0.01 0.01	
	AAA5911	Soil	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG PC/G PC/G PC/G PC/G PC/G MG/KG MG/KG MG/KG	240 Barium 1 Beryllium 10 Chromium 27 Lead 12 Nickel 68 Zinc		None Detected			5600 0.16 400 400 1600 24000	40 1 2 0.6 8 4	1140 3.31 34.2 39 26.7 101
					1.58 U (Total)						1.2
					1.01 Th-228				1.5		2.68
					0.996 Th-230				5		2.03
					1.329 Th-232				5		2.68
					0.004 Pu-238				20	NA	0.014
					0.012 Pu-239				15	NA	0.083
							0.43 Toluene 0.45 Acetone 0.13 Butanone [2-]		910 8000 4000	0.01 0.01 0.01	
	AAA5912	Soil	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG PC/G PC/G PC/G PC/G PC/G MG/KG	68 Barium 0.62 Beryllium 5.8 Chromium 16 Lead 6 Nickel 46 Zinc		None Detected			5600 0.16 400 400 1600 24000	40 1 2 0.6 8 4	1140 3.31 34.2 39 26.7 101
					1.6 U (Total)						1.2
					0.637 Th-228				1.5		2.68
					0.781 Th-230				5		2.03
					1.109 Th-232				5		2.68
					0.002 Pu-238				20	NA	0.014
					0.013 Pu-239				15	NA	0.083
							0.11 Acetone		8000	0.01	
	AAA5913	Soil	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG PC/G PC/G PC/G	55 Barium 0.51 Beryllium 5.6 Chromium 11 Lead 5 Nickel 48 Zinc		None Detected			5600 0.16 400 400 1600 24000	40 1 2 0.6 8 4	1140 3.31 34.2 39 26.7 101
					1.8 U (Total)						1.2
					0.586 Th-228				1.5		2.68
					0.603 Th-230				5		2.03
					0.885 Th-232				5		2.68

Maximum concentrations in **boldface**

NA: not available

Shared Values: values above background UTL

December 1, 1995/NOD response/Field Unit 2

**TABLE 4-2
MEASURED CONCENTRATIONS OF PCOCs 18-001(a) and (b)**

Sample Location	Sample Number	Sample Type	Units	Metals	Radionuclides	SVOCs	VOCs	High Explosives	SALs	CRQLs	Background
	AAA5913 (cont)		PCI/G MG/KG		0.007 Pu-239		0.066 Acetone		15 8000	NA 0.01	0.083
	AAA5914	Soil	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG PCI/G PCI/G PCI/G PCI/G PCI/G MG/KG MG/KG	210 Barium 1.3 Beryllium 11 Chromium 35 Lead 14 Nickel 84 Zinc	2.67 U (Total) 0.683 Th-228 0.658 Th-230 0.876 Th-232 0.003 Pu-238 0.018 Pu-239	None Detected	0.022 Toluene 0.065 Acetone		5600 0.16 400 400 1600 24000 1.5 5 5 20 15 910 8000	40 1 2 0.6 8 4 NA NA 0.01 0.01	1140 3.31 34.2 39 26.7 101 1.2 2.68 2.03 2.68 0.014 0.083

Maximum concentrations in **boldface**

NA: not available

Shared Values: values above background UTL

December 1, 1995/NOD response/Field Unit 2