

Los Alamos

NATIONAL LABORATORY

Hazardous & Solid Waste Group (ESH-19)
P.O. Box 1663, MS K490
Los Alamos, New Mexico 87545
(505) 665-9527 FAX (505) 667-5224

ESH-19:98-045

March 6, 1998

Mr. H. L. "Jody" Plum
Los Alamos Area Office
U.S. Department of Energy
528 35th Street, MS A316
Los Alamos, New Mexico 87544

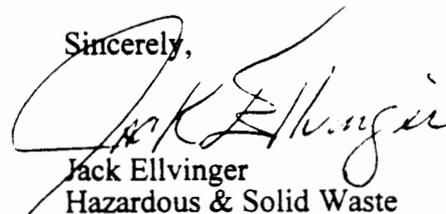
Dear Mr. Plum:

**SUBJECT: HAZARDOUS WASTE TREATABILITY STUDY REPORTING
REQUIREMENTS**

Enclosed for your review and approval is a draft letter to the New Mexico Environment Department (NMED) notifying them of the Laboratory's intent to perform hazardous waste treatability studies in 1998, as required in Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1 (20 NMAC 4.1), which incorporates Title 40 of the Code of Federal Regulations, Part 261.4(f)(9). This notification also includes information on treatability studies performed during 1997, as required.

Please transmit the enclosed reporting documents to the NMED by March 13, 1997, in order to meet the required submittal deadline. If you have any questions or would like to discuss the contents of the reporting documents, please contact Holly Wheeler-Benson of my staff at 667-1312.

Sincerely,



Jack Ellvinger
Hazardous & Solid Waste

HWB/JEE:em

Enclosures

Cy: Holly Wheeler-Benson, ESH-19, MS K498
CIC-10, MS A150
ESH-19 Circ File



**DRAFT
CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Benito J. Garcia, Bureau Chief
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044 Galisteo St., Building A
P.O. Box 26110
Santa Fe, New Mexico 87502

Dear Mr. Garcia:

**RE: HAZARDOUS WASTE TREATABILITY STUDY REPORTING
REQUIREMENTS**

The purpose of this letter is to submit hazardous waste treatability study reporting documents as required by Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1 (20 NMAC 4.1), which incorporates Title 40 of the Code of Federal regulations, Part 261.4(f)(9). Los Alamos National Laboratory (LANL) completed one treatability study in 1997. LANL also received treatability study samples from the Portsmouth Gaseous Diffusion Plant that are currently in storage, prior to treatment in the treatability studies, due to a stand-down at Chemistry Metallurgy and Research (CMR) in September, 1997. In addition, LANL proposes to conduct 24 treatability studies for calendar year 1998.

The attached document entitled *Proposed Treatability Studies for 1998 at Los Alamos National Laboratory* contains estimates of the amount of waste expected to be used in each proposed treatability study. The attached document entitled *1997 Treatability Study Information for Los Alamos National Laboratory* contains specific information required for treatability studies conducted in 1997. Although LANL anticipates several treatability studies during 1998, because of funding issues or programmatic changes, some proposed projects may be postponed or canceled.

If you have any questions regarding the hazardous waste treatability study reporting documents contained in this report, please contact me at 665-5042.

Sincerely,

H. L. "Jody" Plum
Office of Environment and Projects

Enclosures

bcc w/enclosures:

J. Ellvinger, LANL, ESH-19, MS K490
ESH-19 (98045.HWB), LANL, MS K490
I. Triay, LANL, CST-7, MS J514
Jeff Johnson, Benchmark, MS C320
J. Dziewinski, LANL, CST-7, MS J514

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Proposed Treatability Studies for 1998
at Los Alamos National Laboratory (LANL)
EPA I.D. No. NM0890010515

Treatability Study	Estimated Amount of Waste to be Treated	
1	5.9	kilograms (kg) ^{*1}
2	5.9	kg ^{*2}
3	5.9	kg ^{*3}
4	2.8	kg [*]
5	75.7	kg ^{*4}
6	75.7	kg ^{*5}
7	2.0	kg ^o
8	0.5	kg ^o
9	15.0	kg ^o
10	12.0	kg ^o
11	2.0	kg ^o
12	4.0	kg ^o
13	2.0	kg ^o
14	2.0	kg ^o
15	2.0	kg ^o
16	1.0	kg ^o
17	0.5	kg ^o

* Notifications for these treatability studies were submitted to the New Mexico Environment Department (NMED), Hazardous and Radioactive Materials Bureau (HRMB) in calendar year 1996. Refer to *1997 Treatability Study Information for Los Alamos National Laboratory (LANL) EPA I.D. No. NM0890010515* for further information on the status of these treatability studies.

o Notifications for these treatability studies were submitted to NMED's HRMB in calendar year 1996 but have not been conducted to date. Therefore, these studies are proposed for calendar year 1998.

1 These treatability studies include a single waste stream. Therefore, the estimated amount of this waste stream to be treated will be counted only once for the estimated total.

2 Refer to footnote #1.

3 Refer to footnote #1.

4 Refer to footnote #1.

5 Refer to footnote #1.

**Treatability
Study
(Continued)**

**Estimated Amount of
Waste to be Treated
(Continued)**

18	7.0 kg°
19	6.0 kg°
20	1.0 kg°
21	2.0 kg°
22	1.0 kg°
23	1.0 kg°
24	1.0 kg°

Total: 24 146.4 kg

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1997 Treatability Study Information for
Los Alamos National Laboratory (LANL)
EPA I.D. No. NM0890010515

Type (by process) of treatability study conducted:

Electrochemical Decontamination of the Surface of a Lead Alloy.

Person conducting the treatability study:

Jacek Dziewinski, Los Alamos National Laboratory, CST-7, MS J514.

Type of waste subjected to the treatability study:

Radioactive shrapnel containing lead generated during environmental restoration work at TA-33. The only radioactive material historically used at the location of the restoration work was uranium. The mixed waste was TCLP for lead (hazardous waste number D008).

Date the shipment of waste for the treatability study was received:

September 11, 1997.

Quantity of waste in storage and subjected to treatment each day:

	Amount in storage (kg)	Amount Treated (kg)
9/11/97	25.32	0
9/12/97	25.32	0
9/13/97	25.32	0
9/14/97	25.32	0
9/15/97	21.32	4
9/16/97	21.32	0
9/17/97	18.02	3.3
9/18/97	18.02	0
9/19/97	18.02	0
9/20/97	18.02	0
9/21/97	18.02	0
9/22/97	12.52	5.5
9/23/97	12.52	0
9/24/97	12.52	0
9/25/97	11.22	1.3

9/26/97	10.22	1
9/27/97	10.22	0
9/28/97	10.22	0
9/29/97	7.92	2.3
9/30/97	7.92	0
10/1/97	7.92	0
10/2/97	5.42	2.5
10/3/97	5.42	0
10/4/97	5.42	0
10/5/97	5.42	0
10/6/97	1.82	3.6
10/7/97	1.82	0
10/8/97	1.82	0
10/9/97	0.82	1
10/10/97	0	0.82

Date the treatability study was concluded:

October 11, 1997.

Final disposition of residues from each treatability study:

- 24.83 kilograms (kg) of non-radioactive shrapnel was sent for recycling.
- 0.49 kg of metals, mainly copper and zinc, were disposed of as low-level radioactive waste.
- 23 Liters of low-level liquid waste was discharged to the Radioactive Liquid Waste Treatment Facility at TA-50.

Type (by process) of treatability studies conducted:

Recovery and Recycling of Highly Enriched Uranium From Mixed Waste:

- Freon Degradation Residue (Group 1)
- Pyrohydrolysis of Freon Degradation Residue (Group 1)
- Fluorination of Freon Degradation Residue (Group 1)
- X-710 Gunk (Group 2)
- Oil Leak Gunk (Group 3)
- Fluorination of Oil Leak Gunk (Group 3)

Personnel conducting the treatability studies:

John FitzPatrick, Los Alamos National Laboratory, CST-7, MS G739

Mike West, Los Alamos National Laboratory, NMT-11 MAT, MS A140

Type of waste subjected to treatability studies:

Group 1: Freon Degradation Residue was generated during the degradation process applied to various Freon compounds used at the Portsmouth Gaseous Diffusion Plant (PORT). Fluorine gas reacted with Freon-114 to form carbon tetrafluoride (CF₄). Gaseous metal fluorides reacted with the degrader surface to form nonvolatile transition metal fluorides. The degrader waste consists of metal fluorides and nonvolatile uranium fluorides. The waste carries hazardous waste numbers D004, D007 and D008.

Group 2: X-710 Gunk is a solid physical form mixed waste generated during routine operations in the PORTS analytical chemistry laboratory. Routine operations included filtration and evaporation. The waste carries hazardous waste numbers D007 and D008.

Group 3: Oil Leak Gunk consists of lubrication oil that leaked into uranium hexafluoride (UF₆) process lines where their subsequent reaction generated a solid physical form mixed waste. The waste carries hazardous waste numbers D007 and D008.

Date the shipment of waste for the treatability studies were received:

Group 1: August 25, 1997

Group 2: August 25, 1997

Group 3: August 25, 1997

Quantity of waste in storage each day:

Group #	Date	Amount in Storage
1	8/25/97-12/31/97	5.861 kg
2	8/25/97-12/31/97	2.766 kg
3	8/25/97-12/31/97	7.727 kg

Quantity of waste subjected to treatment each day:

Not Applicable¹

Date the treatability studies were concluded:

Not Applicable²

Final disposition of residues from each treatability study:

Not Applicable³

¹ The mixed waste samples have not been treated as the Chemistry Metallurgy Research (CMR) operations effecting the treatability studies have not resumed after a stand-down was initiated on September 2, 1997. On September 18, 1997, Los Alamos National Laboratory (LANL) submitted a letter to Mr. Benito Garcia, Bureau Chief of the New Mexico Environment Department's Hazardous and Radioactive Materials Bureau (HRMB) (refer to the attached letter). The letter proposed to store the mixed waste samples in an interim status container storage area until the CMR stand-down was over. At the point in time when the CMR operations start up again such that the treatability studies can begin, LANL proposed to start applying the treatability study time limit (i.e., concluding the studies within one year of the date CMR operations are back on-line or within 90 days from completion of treatment, which ever comes first).

² The treatability studies have not been concluded. Please refer to Footnote 1 for information on the status of the treatability studies.

³ Refer to Footnotes 1 and 2.