



Department of Energy
 Albuquerque Operations Office
 Los Alamos Area Office
 Los Alamos, New Mexico 87544



MAR 13 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Benito J. Garcia, Bureau Chief
 Hazardous and Radioactive Materials
 Bureau
 New Mexico Environment Department
 2044 Galisteo St., Bldg. A
 P. O. Box 26110
 Santa Fe, New Mexico 87505

Dear Mr. Garcia:

Subject: 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). The Los Alamos National Laboratory (LANL) conducted seven treatability studies in 1996 and proposes to conduct 28 treatability studies for calendar year 1997.

The enclosed document entitled "Proposed Treatability Studies for 1997 at Los Alamos National Laboratory" contains estimates of the amount of waste expected to be used in each proposed treatability study. The enclosed document entitled "1996 Treatability Study Information for Los Alamos National Laboratory" contains specific information required for treatability studies conducted in 1996. Although LANL anticipates several treatability studies during 1997, 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 (505) 665-5042.

Sincerely,

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

LAAMEP:2JP-064

Enclosures



12979

72

Benito J. Garcia

2

bcc w/enclosures:

H. Haynes, Office of Counsel, LAAO
M. Johansen, Acting AAMEP, LAAO
J. White, ESH-19, LANL, MS-K490
J. Ellvinger, ESH-19, LANL, MS-K490
I. Triay, CST-7, LANL, MS-J514
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C. Hildebrand, CST-4, LANL, MS-J586
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M. Roybal, CST-25, LANL, MS-J514
ESH-19, (970052.HWB), LANL, MS-K490

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

Proposed Treatability Studies for 1997
at Los Alamos National Laboratory (LANL)
EPA I.D. No. NM0890010515

Treatability Study	Estimated Amount of Waste to be Treated	
1	5.2	kilograms (kg) ^{*1}
2	5.2	kg ^{*2}
3	5.2	kg ^{*3}
4	11.7	kg [*]
5	2.8	kg [*]
6	75.7	kg ^{*4}
7	75.7	kg ^{*5}
8	2.0	kg [*]
9	0.5	kg [*]
10	15.0	kg [*]
11	12.0	kg [*]
12	2.0	kg [*]
13	4.0	kg [*]
14	2.0	kg [*]
15	2.0	kg [*]
16	2.0	kg [*]
17	1.0	kg [*]

* Notifications for these treatability studies were submitted to the New Mexico Environment Department, Hazardous and Radioactive Materials Bureau in calendar year 1996 but have not been conducted to date. Therefore, these studies are proposed for calendar year 1997.

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	0.5	kg*
19	7.0	kg*
20	6.0	kg*
21	1.0	kg*
22	2.0	kg*
23	1.0	kg*
24	1.0	kg*
25	1.0	kg*
26	1000	kg
27	50	kg
28	1000	kg
29	15	kg

Total: 28

2221.9 kg

Los Alamos

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1996 Treatability Study Information for
Los Alamos National Laboratory (LANL)
EPA I.D. No. NM0890010515

Type (by process) of treatability studies conducted:

Electrochemical Treatment

Person conducting the treatability studies:

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

Types of waste subjected to treatability studies:

- Group 1: Spectrographic solutions, photographic fixers, and other similar aqueous wastes. These wastes contain primarily silver, but also contain other regulated heavy metals and radionuclides.
- Group 2: Acidic and chemical salt solutions containing various regulated heavy metals and other metals such as zinc, aluminum, vanadium, and copper, with radionuclides.
- Group 3: Nitric, acetic, or sulfuric acid, and basic solutions. These wastes contain primarily lead, but could also contain other regulated heavy metals and radionuclides.
- Group 4: Aqueous actinide solutions containing uranium and/or thorium compounds in solution, some of which contain chromium.
- Group 5: Wastes generated in the laboratory during Chemical Oxygen Demand (COD), NO_2^- , NO_3^- , Total Kjeldahl, Nitrogen, and Ammonia analysis. These wastes contain regulated heavy metals and radionuclides.
- Group 6: Solutions that have significant amounts of a base reagent or may be contaminated with concentrated base reagents. These wastes contain regulated heavy metals and radionuclides.

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

First shipment: 5/29/96

Group 1: 76 kilograms (kg)

Group 2: 29.5 kg
Group 3: 33.1 kg

Second shipment: 6/13/96

Group 2: 25 kg
Group 3: 41 kg
Group 6: 4 kg

Third shipment: 6/27/96

Group 2: 5 kg
Group 3: 7 kg
Group 4: 1 kg
Group 5: 40 kg
Group 6: 16 kg

Fourth shipment: 8/02/96

Group 1: 10 kg
Group 5: 26 kg

Fifth shipment: 8/16/96

Group 2: 20 kg
Group 3: 44 kg
Group 4: 42.4 kg
Group 5: 28 kg
Group 6: 3 kg

Sixth shipment: 8/22/96

Group 2: 52 kg
Group 3: 36 kg
Group 4: 56.2 kg
Group 5: 31 kg

Seventh shipment: 9/20/96

Group 1: 1 kg
Group 2: 30 kg
Group 3: 16 kg
Group 4: 20 kg
Group 5: 28.3 kg
Group 6: 29 kg

Eighth shipment: 9/27/96

Group 2: 5 kg
Group 4: 3 kg
Group 5: 9 kg
Group 6: 10 kg

Quantities of each type of waste in storage each day:

Refer to attached spreadsheets.

Dates when each waste was subjected to treatment, and quantities of each type of waste subjected to treatment each day:

Refer to the attached spreadsheets

Date each treatability study was concluded:

Group 1: 9/25/96
Group 2: 10/2/96
Group 3: 10/7/96
Group 4: 12/2/96
Group 5: 12/19/96
Group 6: 10/10/96

Final disposition of residues from each treatability study:

- Group 1: 10 kg of solid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted treatment, storage or disposal facility (TSDF).
- 0.5 liters (L) of liquid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.
- 6.7 kg of solid low-level waste treatment residue is currently in a generator storage area at TA-48. Once a waste profile form has been approved for this treatment residue, it will be disposed of appropriately.
- 20 L of liquid low-level waste treatment residue is currently in a generator storage area at TA-48. Once a waste profile form has been approved for this treatment residue, it will be disposed of appropriately.
- 91 L of liquid low-level waste was discharged to the Radioactive Liquid Waste Treatment Facility (RLWTF) at Technical Area (TA)-50.
- Group 2: 0.1 kg of solid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.
- 0.5 L of liquid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.
- 3.4 kg of solid low-level waste treatment residue is currently in a generator storage area at TA-48. Once a waste profile form has been approved for this treatment residue, it will be disposed of appropriately.
- 150 L of liquid low-level waste was discharged to the RLWTF at TA-50.
- 7.5 kg of unused sample is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.
- Group 3: 1 kg of solid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

0.5 L of liquid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

22 kg of solid low-level waste treatment residue is currently in a generator storage area at TA-48. Once a waste profile form has been approved for this treatment residue, it will be disposed of appropriately.

185 L of liquid low-level waste was discharged to the RLWTF at TA-50.

5 kg of unused sample is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

Group 4: 0.5 L of liquid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

0.1 kg of solid low-level waste treatment residue is currently in a generator storage area at TA-48. Once a waste profile form has been approved for this treatment residue, it will be disposed of appropriately.

90 L of liquid low-level waste was discharged to the RLWTF at TA-50.

37.6 kg of unused sample is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

Group 5: 0.5 L of liquid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

199.9 kg of solid low-level waste treatment residue is currently in a generator storage area at TA-48. Once a waste profile form has been approved for this treatment residue, it will be disposed of appropriately.

40 L of liquid low-level waste treatment residue is currently in a generator storage area at TA-48. Once a waste profile form has been approved for this treatment residue, it will be disposed of appropriately.

167 L of liquid low-level waste was discharged to the RLWTF at TA-50.

6.2 kg of unused sample is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

Group 6: 0.5 L of liquid mixed waste is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

65 L of liquid low-level waste was discharged to the RLWTF at TA-50.

1 kg of unused sample is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

Type (by process) of treatability study conducted:

Heterogeneous Waste Processing of LANL Waste Samples

Person conducting the treatability study:

Laura Vanderberg-Twary, Los Alamos National Laboratory, CST-4, MS C346

Type of waste subjected to the treatability study:

A methylene chloride paint stripper containing methanol, xylene, methyl ethyl ketone, methyl isobutyl ketone, and isopropanol was used to remove plutonium surface contamination from building and equipment surfaces generating a mixed waste.

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

4/1/96

Quantity of waste in storage each day:

4/1/96-6/4/96 0.1 kg

Date when the waste was subjected to treatment and the quantity of waste subjected to treatment each day:

6/5/96-9/1/96 0.1 kg

Date treatability study was concluded:

9/1/96

Final disposition of residues from each treatability study:

.08 kg of solid mixed waste treatment residue is currently being stored in a generator satellite accumulation area at TA-48 awaiting subsequent shipment to an interim status or permitted TSDF.

.02 kg of solid mixed waste treatment residue was sent for destructive actinide analysis. No material remains from this analysis.

Table 1

Date	Groups in Storage and Treated each day. (in kg)											
	1 in storage	1 treated	2 in storage	2 treated	3 in storage	3 treated	4 in storage	4 treated	5 in storage	5 treated	6 in storage	6 treated
29-May	76	0	29.5	0	33.1	0	0	0	0	0	0	0
30-May	60	16	25	4.5	33.1	0	0	0	0	0	0	0
31-May	60	0	20	5	23.1	10	0	0	0	0	0	0
3-Jun	60	0	15	5	23.1	0	0	0	0	0	0	0
4-Jun	30	30	10	5	18.1	5	0	0	0	0	0	0
5-Jun	20	10	5	5	18.1	0	0	0	0	0	0	0
6-Jun	20	0	0	5	18.1	0	0	0	0	0	0	0
7-Jun	20	0	0	0	8.1	10	0	0	0	0	0	0
10-Jun	10	10	0	0	8.1	0	0	0	0	0	0	0
11-Jun	10	0	0	0	0	8.1	0	0	0	0	0	0
12-Jun	10	0	0	0	0	0	0	0	0	0	0	0
13-Jun	10	0	25	0	41	0	0	0	0	0	4	0
14-Jun	10	0	20	5	41	0	0	0	0	0	4	0
17-Jun	10	0	15	5	35	6	0	0	0	0	4	0
18-Jun	10	0	10	5	30	5	0	0	0	0	4	0
19-Jun	10	0	5	5	25	5	0	0	0	0	4	0
20-Jun	10	0	0	5	20	5	0	0	0	0	0	4
21-Jun	10	0	0	0	15	5	0	0	0	0	0	0
24-Jun	10	0	0	0	10	5	0	0	0	0	0	0
25-Jun	10	0	0	0	5	5	0	0	0	0	0	0
26-Jun	0	10	0	0	0	5	0	0	0	0	0	0
27-Jun	0	0	5	0	7	0	1	0	40	0	16	0
28-Jun	0	0	0	5	7	0	1	0	40	0	15	1
1-Jul	0	0	0	0	1	6	1	0	40	0	15	0
2-Jul	0	0	0	0	1	0	1	0	40	0	15	0
3-Jul	0	0	0	0	1	0	1	0	40	0	15	0
4-Jul	0	0	0	0	1	0	1	0	40	0	15	0
5-Jul	0	0	0	0	1	0	1	0	40	0	15	0
8-Jul	0	0	0	0	1	0	1	0	38	2	15	0
9-Jul	0	0	0	0	1	0	1	0	38	0	12	3
10-Jul	0	0	0	0	1	0	1	0	38	0	12	0
11-Jul	0	0	0	0	1	0	1	0	36	2	12	0
12-Jul	0	0	0	0	1	0	1	0	36	0	12	0

Table 1

15-Jul	0	0	0	0	1	0	1	0	34	2	12	0
16-Jul	0	0	0	0	1	0	1	0	30	4	12	0
17-Jul	0	0	0	0	1	0	1	0	30	0	12	0
18-Jul	0	0	0	0	1	0	1	0	25	5	7	5
19-Jul	0	0	0	0	1	0	1	0	25	0	7	0
22-Jul	0	0	0	0	1	0	1	0	25	0	7	0
23-Jul	0	0	0	0	1	0	1	0	25	0	7	0
24-Jul	0	0	0	0	1	0	1	0	25	0	7	0
25-Jul	0	0	0	0	1	0	1	0	25	0	5	2
26-Jul	0	0	0	0	1	0	1	0	25	0	5	0
29-Jul	0	0	0	0	1	0	1	0	15	10	1	4
30-Jul	0	0	0	0	1	0	1	0	10	5	1	0
31-Jul	0	0	0	0	1	0	1	0	10	0	1	0
1-Aug	0	0	0	0	1	0	1	0	10	0	1	0
2-Aug	10	0	0	0	1	0	1	0	36	0	1	0
5-Aug	10	0	0	0	1	0	1	0	36	0	1	0
6-Aug	10	0	0	0	1	0	1	0	36	0	1	0
7-Aug	10	0	0	0	1	0	1	0	36	0	1	0
8-Aug	10	0	0	0	1	0	1	0	36	0	1	0
9-Aug	10	0	0	0	1	0	1	0	36	0	1	0
12-Aug	10	0	0	0	1	0	1	0	31	5	1	0
13-Aug	10	0	0	0	1	0	1	0	31	0	1	0
14-Aug	10	0	0	0	1	0	1	0	31	0	1	0
15-Aug	10	0	0	0	1	0	1	0	26	5	1	0
16-Aug	10	0	20	0	45	0	43.4	0	54	0	4	0
19-Aug	10	0	15	5	35	10	33.4	10	40	14	4	0
20-Aug	10	0	10	5	25	10	33.4	0	40	0	4	0
21-Aug	10	0	0	10	15	10	33.4	0	40	0	4	0
22-Aug	10	0	52	0	51	0	89.6	0	71	0	3	1
23-Aug	5	5	47	5	51	0	75.4	14.2	57	14	3	0
26-Aug	5	0	42	5	51	0	75.4	0	57	0	3	0
27-Aug	5	0	37	5	51	0	75.4	0	57	0	3	0
29-Aug	5	0	32	5	51	0	65.4	10	57	0	3	0
30-Aug	5	0	27	5	51	0	65.4	0	57	0	3	0
3-Sep	5	0	22	5	51	0	65.4	0	57	0	3	0

Table 1

4-Sep	5	0	17	5	51	0	65.4	0	57	0	3	0
5-Sep	5	0	12	5	51	0	55.4	10	50	7	3	0
6-Sep	5	0	7.5	4.5	51	0	55.4	0	50	0	3	0
9-Sep	5	0	7.5	0	46	5	55.4	0	50	0	0	3
10-Sep	5	0	7.5	0	41	5	55.4	0	50	0	0	0
11-Sep	5	0	7.5	0	36	5	55.4	0	50	0	0	0
12-Sep	5	0	7.5	0	31	5	55.4	0	40	10	0	0
13-Sep	0	5	7.5	0	26	5	55.4	0	40	0	0	0
16-Sep	0	0	7.5	0	21	5	41	14.4	30	10	0	0
17-Sep	0	0	7.5	0	16	5	41	0	30	0	0	0
18-Sep	0	0	7.5	0	11	5	41	0	30	0	0	0
19-Sep	0	0	7.5	0	5	6	41	0	30	0	0	0
20-Sep	1	0	37.5	0	21	0	61	0	58.3	0	29	0
23-Sep	1	0	32.5	5	21	0	61	0	50	8.3	28	1
24-Sep	1	0	27.5	5	21	0	51	10	50	0	28	0
25-Sep	0	1	22.5	5	21	0	51	0	50	0	26	2
26-Sep	0	0	17.5	5	21	0	51	0	40	10	21	5
27-Sep	0	0	22.5	0	21	0	54	0	49	0	31	0
30-Sep	0	0	17.5	5	21	0	54	0	49	0	29	2
1-Oct	0	0	12.5	5	21	0	54	0	35	14	26	3
2-Oct	0	0	7.5	5	21	0	54	0	35	0	23	3
3-Oct	0	0	7.5	0	15	6	54	0	35	0	19	4
4-Oct	0	0	7.5	0	10	5	54	0	35	0	19	0
7-Oct	0	0	7.5	0	5	5	54	0	35	0	13	6
8-Oct	0	0	7.5	0	5	0	54	0	30	5	13	0
9-Oct	0	0	7.5	0	5	0	54	0	30	0	6	7
10-Oct	0	0	7.5	0	5	0	50	4	30	0	1	5
11-Oct	0	0	7.5	0	5	0	50	0	30	0	1	0
15-Oct	0	0	7.5	0	5	0	50	0	30	0	1	0
16-Oct	0	0	7.5	0	5	0	50	0	30	0	1	0
17-Oct	0	0	7.5	0	5	0	50	0	30	0	1	0
18-Oct	0	0	7.5	0	5	0	48	2	30	0	1	0
21-Oct	0	0	7.5	0	5	0	48	0	25	5	1	0
22-Oct	0	0	7.5	0	5	0	48	0	25	0	1	0
23-Oct	0	0	7.5	0	5	0	48	0	25	0	1	0

Table 1

24-Oct	0	0	7.5	0	5	0	48	0	25	0	1	0
25-Oct	0	0	7.5	0	5	0	48	0	25	0	1	0
28-Oct	0	0	7.5	0	5	0	48	0	25	0	1	0
29-Oct	0	0	7.5	0	5	0	45	3	20	5	1	0
30-Oct	0	0	7.5	0	5	0	45	0	20	0	1	0
31-Oct	0	0	7.5	0	5	0	45	0	20	0	1	0
1-Nov	0	0	7.5	0	5	0	45	0	20	0	1	0
4-Nov	0	0	7.5	0	5	0	40	5	18	2	1	0
5-Nov	0	0	7.5	0	5	0	40	0	18	0	1	0
6-Nov	0	0	7.5	0	5	0	40	0	16	2	1	0
4-Nov	0	0	7.5	0	5	0	40	0	16	0	1	0
8-Nov	0	0	7.5	0	5	0	40	0	16	0	1	0
12-Nov	0	0	7.5	0	5	0	38	2	16	0	1	0
13-Nov	0	0	7.5	0	5	0	38	0	16	0	1	0
14-Nov	0	0	7.5	0	5	0	38	0	16	0	1	0
15-Nov	0	0	7.5	0	5	0	38	0	16	0	1	0
18-Nov	0	0	7.5	0	5	0	38	0	14	2	1	0
19-Nov	0	0	7.5	0	5	0	38	0	14	0	1	0
20-Nov	0	0	7.5	0	5	0	38	0	14	0	1	0
21-Nov	0	0	7.5	0	5	0	38	0	14	0	1	0
22-Nov	0	0	7.5	0	5	0	38	0	14	0	1	0
25-Nov	0	0	7.5	0	5	0	38	0	14	0	1	0
2-Nov	0	0	7.5	0	5	0	38	0	14	0	1	0
27-Nov	0	0	7.5	0	5	0	38	0	14	0	1	0
2-Dec	0	0	7.5	0	5	0	37.6	0.4	14	0	1	0
3-Dec	0	0	7.5	0	5	0	37.6	0	14	0	1	0
4-Dec	0	0	7.5	0	5	0	37.6	0	14	0	1	0
5-Dec	0	0	7.5	0	5	0	37.6	0	10	4	1	0
6-Dec	0	0	7.5	0	5	0	37.6	0	10	0	1	0
9-Dec	0	0	7.5	0	5	0	37.6	0	10	0	1	0
10-Dec	0	0	7.5	0	5	0	37.6	0	10	0	1	0
11-Dec	0	0	7.5	0	5	0	37.6	0	10	0	1	0
12-Dec	0	0	7.5	0	5	0	37.6	0	8	2	1	0
13-Dec	0	0	7.5	0	5	0	37.6	0	8	0	1	0
16-Dec	0	0	7.5	0	5	0	37.6	0	8	0	1	0

Table 1

17-Dec	0	0	7.5	0	5	0	37.6	0	8	0	1	0
18-Dec	0	0	7.5	0	5	0	37.6	0	8	0	1	0
19-Dec	0	0	7.5	0	5	0	37.6	0	6.2	1.8	1	0
20-Dec	0	0	7.5	0	5	0	37.6	0	6.2	0	1	0
23-Dec	0	0	7.5	0	5	0	37.6	0	6.2	0	1	0
Total	0	87	7.5	159	5	172.1	37.6	85	6.2	156.1	1	61