

Report

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*Environmental Protection Division
Water Quality & RCRA Group (ENV-RCRA)*
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Date: March 8, 2010
Refer To: ENV-RCRA-10-049

Mr. James Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Mr. Bearzi:

SUBJECT: CALENDAR YEAR 2009 ANNUAL HAZARDOUS WASTE TREATABILITY STUDY REPORT

The purpose of this letter is to submit a hazardous waste treatability study report for calendar year (CY) 2009 for the Los Alamos National Laboratory (LANL), EPA ID NM0890010515. This report is required annually by New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Section 200 (20.4.1.200 NMAC) as revised March 1, 2009, (incorporating 40 CFR § 261.4(f)(9)).

There was one treatability study that was concluded at LANL during CY 2009 and there is one study currently planned for CY 2010.

Your office received a notification for the current treatability study on February 26, 2008 describing a study to separate a waste stream containing both high explosives and mercury to make it amenable for disposal. Enclosed is the final close out information for the study.

When the treatability study proposed for CY 2010 is anticipated to begin, a notice of intent to conduct a study will be prepared and submitted to your office at least 45 days prior to beginning the study, as required by 20.4.1.200 NMAC (incorporating 40 CFR § 261.4(f)(1)).



Please contact Terrence K. Garcia at (505) 606-0566 of the Water Quality and RCRA Group (ENV-RCRA) if you have questions.

Sincerely,


for Anthony R. Grieggs
Group Leader
Water Quality & RCRA Group (ENV-RCRA)

ARG:TKG/lm

Enclosures: a/s

Cy: John Kieling, NMED/HWB, Santa Fe, NM, w/enc.
Gene Turner, LASO-EO, w/enc., A316
Michael B. Mallory, PADOPS, w/o enc., A102
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ENCLOSURE 1

2009 TREATABILITY STUDY INFORMATION FOR
LOS ALAMOS NATIONAL LABORATORY (LANL)
EPA I.D. NO. NM 0890010515

Treatability Study Description: Separation of mercury metal from high explosives

Type (by process) of treatability study conducted:

Use of one or two test methods found suitable to separate mercury (Hg) and high explosives (HE) and determine the efficiency of the method(s).

Person conducting the treatability study:

Jose G. Archuleta, Dynamic Experimentation Group (DE-1)

Type of waste subject to the treatability study:

- HE infused with Hg metal
- Cellulose products used for filtering and handling of HE/Hg
- Ethanol/silicone oil with HE and Hg (sludge)

Waste from Vacuum Thermal Stability testing (VTS) used to certify HE samples for laboratory use, and waste from mercury porosimetry testing of HE samples for measurement of pore volumes in the material.

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

Prior to 2008. Waste was stored in a satellite accumulation area.

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

Waste Category	Date of Treatment	Amount of Waste Treated
Legacy waste in cast iron container (total)	2/17/09	2892 grams
Cellulose products (total)	2/24/09	23 grams
HE infused with Hg metal (total)	2/26/09	736 grams

A total of 339 ml of mercury/sludge waste was transferred from satellite accumulation area #419 at Technical Area 9, Building 21, Room 117.

Waste was removed from storage when treatment began for each sample.

Date the treatability study was concluded:

March 4, 2009

Final disposition of residues:

The waste is composed of:

- Solid insoluble residue powder
- Cellulose filter paper with trace HE
- Silicone fluid with insoluble debris
- Acetone wash with HE
- Mercury metal

Mercury metal (filtered through gold adhesion pin hole filter) was reclaimed/recycled back into the pool for reuse in vacuum thermal stability testing.

The Following list provides information of the Products from the separation study of mercury from high explosives to be disposed of at off-site facilities:

Product	Approximate Quantity	Disposition
Mercury metal	2900 g	Placed in mercury stock (DE-1)
Mercury oxide (dirty)	10 g	WPF # 40191
Explosive solids	3 g	WPF # 39507 & <1% HE Indust. Waste
Insoluble none explosive solids	150 g	Lab Trash & <1% Indust. Waste
Cellulose	23 g	Lab Trash & <1% Indust. Waste
Acetone	4 liters	Distilled and reused in cleaning of parts
Silicone oil	1.5 liters	Reused in heating bath operations
Water	0.5 liters	WPF # 36058
Sodium hydroxide (1.5 M)	0.25 liters	WPF # 36058