Filed CAAC TA 16/2001

TA 16

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

MAR 12 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Carl Will, Permitting
RCRA Permits Management Program
Hazardous Waste Bureau
New Mexico Environment Department
2044-A Galisteo Street
P. O. Box 26110
Santa Fe, NM 87502-6110

Dear Mr. Will:

Subject: Submittal of the Closure Certification Report for the TA-16 Incinerator

The purpose of this letter is to submit the above referenced document for the Hazardous Waste Bureau's review and concurrence. The document contains the required independent engineer's certification as well as the required certifications by both the owner and cooperators for the Los Alamos National Laboratory.

If you should have any questions or concerns regarding this request, please feel free to contact either Gene Turner of my staff at (505) 667-5794 or Jack Ellvinger of ESH-19 at (505) 667-0633.

Sincerely,

David A. Gurulé, P.E.
Area Manager

LAAME:6GT-002

Enclosure

cc:
See page 2

6288

12

cc w/enclosure:
David Neleigh, Chief (6PD-N)
New Mexico/Federal Facilities Section
Environmental Protection Agency – Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

cc w/o enclosure:
James P. Bearzi, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2044-A Galisteo Street
P. O. Box 26110
Santa Fe, NM 87502-6110
Robert S. (Stu) Dinwiddie, RCRA Advisor
Hazardous Waste Bureau
New Mexico Environment Department
2044-A Galisteo Street
P. O. Box 26110
Santa Fe, NM 87502-6110
John Kieling, Program Manager, Permits
Hazardous Waste Bureau
New Mexico Environment Department
2044-A Galisteo Street
P. O. Box 26110
Santa Fe, NM 87502-6110
G. Turner, LAAME, LAAO
J. Stetson, PWT, LAAO
Earle Marie Hanson, ESA-DO, LANL, MS-P945
A. Sherrard, ESA-FM-ESH, LANL, MS-C924
E. Louderbough, LC-GL, LANL, MS-A187
J. Ellvinger, ESH-19, LANL, MS-K490
G. Bacigalupa, ESH-19, LANL, MS-K490

File Copy
atc

Contract 003CT0008-8L
Project No. 819592.07
February 2001

Los Alamos National Laboratory
Technical Area 16
Closure Certification Report
for the
Industrial Incinerator

Revision 0.0

Prepared by

Los Alamos National Laboratory
Hazardous and Solid Waste Group (ESH-19)
Los Alamos, New Mexico 87545

LA-UR-01-1019

CLOSURE CERTIFICATION REPORT FOR THE INDUSTRIAL INCINERATOR AT TECHNICAL AREA 16

REVISION 0.0

Facility ID No.:	NM0890010515
Facility Name:	Los Alamos National Laboratory
Legal Owner:	U.S. Department of Energy
Legal Operators:	U.S. Department of Energy Los Alamos Area Office 528 35th Street Los Alamos, New Mexico 87544 University of California P. O. Box 1663 Los Alamos, New Mexico 87545
Contact Person:	David A. Gurulé, P.E. Area Manager, Los Alamos Area Office U.S. Department of Energy Albuquerque Operations
Date:	February 2001

TABLE OF CONTENTS

LIST OF TABLES ii
ACRONYMS AND ABBREVIATIONS iii
EXECUTIVE SUMMARY iv

1.0 INTRODUCTION 1
1.1 Background 1
1.2 Purpose 1
1.3 Report Organization 2
1.4 Industrial Incinerator 2
1.5 Process Description 2
1.6 Waste and Treatment Residue 2

2.0 PERFORMANCE OF CLOSURE 4
2.1 Closure Activities 4
2.1.1 Refractory Brick 4
2.1.2 Hydraulic Oil 4
2.1.3 Incinerator 4
2.1.4 Concrete Pad 5
2.1.5 Transportainer 5
2.2 Pre-Closure Inspection 5
2.3 Deviations from the Closure Plan 5
2.4 Location of Supporting Documentation 5
2.5 Statement of Quality Assurance/Quality Control Adequacy 6

3.0 CERTIFICATIONS 7
3.1 Certification of Accuracy 7
3.2 Independent Registered Professional Engineer's Certification 8

4.0 REFERENCES 9

LIST OF TABLES

Table No.	Title
1	Disposition of Materials Generated from the Closure of the TA-16 Industrial Incinerator
2	Summary of Analytical Results for the Industrial Incinerator Refractory Brick

ACRONYMS AND ABBREVIATIONS

20.4.1 NMAC	New Mexico Administrative Code, Title 40, Chapter 4, Part 1
40 CFR	Code of Federal Regulations, Title 40
EPA	U.S. Environmental Protection Agency
ESA	Engineering Sciences and Applications Division
HE	high explosive(s)
I	ignitability
LANL	Los Alamos National Laboratory
NMED	New Mexico Environment Department
RCRA	Resource Conservation and Recovery Act
TA	technical area

EXECUTIVE SUMMARY

This report summarizes the actions performed in order to meet partial closure requirements for the Resource Conservation and Recovery Act (RCRA)-permitted Industrial Incinerator located at Technical Area 16 at Los Alamos National Laboratory. The closure plan, entitled "Los Alamos National Laboratory Closure Plan Technical Area 16 Industrial Incinerator," Revision 0, was submitted to the New Mexico Environment Department (NMED) on November 8, 1999. The closure plan addressed the decommissioning procedures to be followed during closure, the closure schedule, and the intent for closure certification. The closure plan for the Industrial Incinerator was approved by the NMED Water and Waste Management Division on October 19, 2000.

Closure of the Industrial Incinerator was performed in accordance with the approved closure plan. Due to the original nature of the waste and the treatment process, no RCRA constituents were present in the incinerator or associated components. Hydraulic oil, used in the feed system ram, was removed from the incinerator and recycled. The incinerator was recycled as scrap metal. The uncontaminated concrete pad and the staging transportainer were left in place to support other burn ground activities.

CLOSURE CERTIFICATION REPORT OF THE INDUSTRIAL INCINERATOR AT TECHNICAL AREA 16

1.0 INTRODUCTION

1.1 Background

This report summarizes the activities performed in order to meet closure requirements for the Industrial Incinerator and associated components located at Technical Area (TA) 16 at Los Alamos National Laboratory (LANL). The Industrial Incinerator was permitted under LANL's Hazardous Waste Facility Permit (NMEID, 1989) for incinerating trash potentially contaminated with high explosives (HE). The incinerator was operated in accordance with Module VII of the permit (NMEID, 1989) and incinerated only reactive (D003) and ignitable (I) spent solvent (F003) waste. In addition, the incinerator was operated under the Ignitable-Corrosive-Reactive exemption provided by the New Mexico Administrative Code, Title 20, Chapter 4, Part 1 (20.4.1 NMAC), Subpart V, Subpart O, §264.340(c), revised June 14, 2000 [6-14-00]. Under this exemption, the Industrial Incinerator was permitted under the Resource Conservation and Recovery Act (RCRA), but the permit conditions were limited to a waste analysis plan and a closure plan. The permit limited wastes burned in the incinerator to ignitable (D001), corrosive (D002), reactive (D003), and ignitable (I) spent solvents (F003). The incinerator was closed in accordance with the approved closure plan, entitled "Los Alamos National Laboratory Closure Plan Technical Area 16 Industrial Incinerator," Revision 0, and the incinerator closure requirements contained in 20.4.1 NMAC, Subpart V, Subpart O, §264.351.

1.2 Purpose

The purpose of this report is to present the activities conducted during the closure of the Industrial Incinerator and associated components at TA-16 and to demonstrate that closure was performed in accordance with the approved closure plan. Additionally, this report presents the independent registered professional engineer's certification, as required in 20.4.1 NMAC, Subpart V, §264.115 [6-14-00].

1.3 Report Organization

Section 1.0 presents the purpose of the closure certification report and provides a description of the Industrial Incinerator, the associated components, and the incinerated waste. Section 2.0 details the closure activities performed, including the decommissioning of the incinerator and associated components, and the disposition of the decommissioned materials. Section 3.0 presents the certification of accuracy of this report and the independent registered professional engineer's certification, as required in 20.4.1 NMAC, Subpart V, §264.115 [6-14-00].

1.4 Industrial Incinerator

The Industrial Incinerator consisted of a primary combustion chamber, a secondary combustion chamber, and a settling chamber. Both the primary and secondary chambers were equipped with propane burners. The outer shell was fabricated from hot-rolled carbon steel and was mounted on a four-inch-thick concrete pad. The interior of the incinerator was lined with tongue and groove refractory brick. The incinerator was batch loaded through a 40-inch by 22-inch door. Ash settled into and was manually removed from the bottom of the combustion chamber. A barometric damper port at the bottom of the stack was also used to remove ash particles.

1.5 Process Description

The Industrial Incinerator was used to burn trash from TA-16 that was potentially contaminated with HE. Waste potentially contaminated with HE was not stored at the incinerator, but was held in short-term storage (less-than-90-day) at the generation point. Prior to a scheduled incineration, waste was moved to the staging transportainer located proximal to the incinerator. Process knowledge and characterization of the waste confirmed that only low risk D003 and F003(I) waste was incinerated. Waste was loaded, both mechanically and manually, into the incinerator from the staging transportainer. The maximum amount of waste incinerated during a single scheduled incineration event was 810 pounds.

1.6 Waste and Treatment Residue

As previously stated, the Industrial Incinerator was used to burn trash from TA-16 that was potentially contaminated with HE. This trash consisted of combustible waste, such as paper, cardboard, kimwipes, cotton swabs, plastic bags, wooden spoons, rags, and packing material.

Waste streams designated as D003 and F003(I) were treated in the incinerator. Because the D003 and F003(I) characteristics were destroyed by incineration, the treatment residue (ash) was nonhazardous based upon application of the Derived-From and the Mixture Rule. The treatment residue (ash) from the incinerator was characterized and disposed of as nonhazardous New Mexico Special Waste under the New Mexico Solid Waste Act, 20.9.1 NMAC, Subpart VII, §707.

D003 Waste and Resulting Treatment Residue

The waste stream designated as D003 waste consisted primarily of potentially HE-contaminated trash. This waste was assigned U.S. Environmental Protection Agency (EPA) Hazardous Waste Number D003 because it may have exhibited the characteristic of reactivity, as specified in the Code of Federal Regulations, Title 40 (40 CFR), Part 261, Subpart C. Based on the Derived-From Rule in 40 CFR §261.3(c)(2)(i) and §261.3(d)(1), the residue derived from treatment (i.e., incineration) of this characteristic waste would be considered hazardous only if it exhibited the hazardous characteristic of reactivity. As determined by HE Spot Test results and process knowledge, the treatment residue generated from incineration of this D003 waste no longer exhibited the characteristic of reactivity and, therefore, the residue was nonhazardous.

F003(I) Waste and Resulting Treatment Residue

The waste stream designated as F003(I) waste consisted mainly of solvent contaminated rags and kimwipes used to wipe potentially HE-contaminated components. This waste was assigned EPA Hazardous Waste Number F003(I), a listed hazardous waste, because, once used, the rags and kimwipes contained spent nonhalogenated solvents and/or mixtures and may have exhibited the characteristic of ignitability (I), as specified in 40 CFR, Part 261, Subpart D. Based on the Mixture Rule in 40 CFR §261.3(a)(2)(iii), the residue derived from treatment (i.e., incineration) of this F003(I) waste was nonhazardous because it no longer exhibited the characteristic of ignitability.

2.0 PERFORMANCE OF CLOSURE

2.1 Closure Activities

Closure activities for the Industrial Incinerator and associated components at TA-16 began in June 2000 and concluded in November 2000. These activities consisted of determining the appropriate disposal for the incinerator and components, removing the hydraulic oil from the incinerator feed system ram, packaging the hydraulic oil in a 55-gallon drum, recycling the hydraulic oil, and removing the incinerator from the site for recycling as scrap metal. The concrete pad and the staging transportainer were left in place. Table 1 summarizes the disposition of all components.

2.1.1 Refractory Brick

The refractory brick was determined to be nonhazardous based on sampling for toxicity characteristic leaching procedure metals conducted prior to initiation of closure activities. Two samples of the refractory brick, one from each door of the combustion chamber, were collected on July 27, 1999. The samples were analyzed by Assaigai Analytical Laboratories, Inc., in Albuquerque, New Mexico, which operates under a Quality Assurance Plan and implements quality control procedures that meet the requirements of SW-846 (EPA, 1986). Chromium was detected in the refractory brick samples at concentrations below the regulatory level of 5.0 milligrams per liter, as specified in 40 CFR, Part 261, Subpart C. Analytical results of sampling are summarized in Table 2. The refractory brick was left in the Industrial Incinerator and recycled with the incinerator.

2.1.2 Hydraulic Oil

The hydraulic oil from the ram on the incinerator feed system was removed and placed into a 55-gallon drum. The hydraulic oil was contained in a closed system and was not exposed to any hazardous waste; therefore, the hydraulic oil was determined to be nonhazardous and no analysis was conducted. The hydraulic oil was sent to Mesa Oil for recycling.

2.1.3 Incinerator

As discussed in Section 1.6, all treatment residues (ash) associated with the Industrial Incinerator were nonhazardous. Therefore, once the hydraulic oil was removed, the incinerator was removed from the site and recycled as scrap metal by Gallegos Scrap Metal.

2.1.4 Concrete Pad

Visual inspection of the concrete pad revealed no oil or solvent staining. The concrete pad was left in place following removal of the Industrial Incinerator to support other burn ground activities.

2.1.5 Transportainer

Based on HE Spot Test results, the staging transportainer contained no HE contamination. The staging transportainer was left in place to support other burn ground activities. Rinsing the staging transportainer was not necessary.

2.2 Pre-Closure Inspection

As indicated in the closure plan, a pre-closure inspection was performed and no RCRA-regulated or non-RCRA-regulated waste was located in or around the Industrial Incinerator at the initiation of closure activities.

2.3 Deviations from the Closure Plan

The refractory brick was sampled prior to initiation of closure activities. Analyses indicated that the refractory brick was nonhazardous (see Table 2). Additional sampling was determined to be unnecessary. The refractory brick was left in the incinerator and was recycled with the incinerator.

The staging transportainer was not rinsed because, based on HE Spot Testing, no HE was present.

2.4 Location of Supporting Documentation

The following supporting documentation will be retained by the Engineering Sciences and Applications (ESA) Division at LANL, TA-16, Building 900:

- field logs,
- laboratory sample analysis reports,
- quality assurance/quality control documentation, and
- chain-of-custody forms.

2.5 Statement of Quality Assurance/Quality Control Adequacy

A review of the sampling and shipping procedures and analytical data has determined that the analytical data related to closure of the Industrial Incinerator are of acceptable quality and should therefore be accepted as valid.

3.0 CERTIFICATIONS

3.1 Certification of Accuracy

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 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 violations.

Document title: Closure Certification Report for the Industrial Incinerator at Technical Area 16 Revision 0.0

Name: _____ Date: 3/7/01
Dennis J. Erickson
Division Director for Environment, Safety, and Health Division
Los Alamos National Laboratory
Operator

Name: _____ Date: 3/12/01
David A. Gurulé, P.E.
Area Manager, Los Alamos Area Office
U.S. Department of Energy
Albuquerque Operations
Owner/Operator

3.2 Independent Registered Professional Engineer's Certification

This certification was prepared in accordance with generally accepted professional engineering principles and practice pursuant to the requirements of 20.4.1 NMAC, Subpart V, §264.115 [6-14-00] for an independent registered professional engineer's certification. These services have been performed with the care and skill ordinarily exercised by members of the profession practicing under similar conditions at the same time and in the same manner or in a similar locality. We make no other warranty either expressed or implied. The finding and certification are based on 1) reviewing the closure plan written for this unit, 2) reviewing data and documentation of the closure, 3) conversations with Ms. Ann Sherrard, LANL-ESA Division, regarding closure activities, 4) conversations with Mr. Gary Stoops, Weston, regarding closure activities, and 5) a site visit after closure for confirmation.

With the signature and seal below, I certify that the closure of the Industrial Incinerator at TA-16 was conducted in accordance with the closure plan written for the unit and that the information presented in this report is, to the best of my knowledge and belief, true, accurate, and complete.

Respectfully,

IT CORPORATION

Tyson Calvin Lansford
New Mexico Registered Professional Engineer No. 9755
Expires December 31, 2001

Date: February 14, 2001

4.0 REFERENCES

NMEID, 1989, "Hazardous Waste Facility Permit," November 8, 1989, New Mexico Health and Environment Department – Environmental Improvement Division, Santa Fe, New Mexico.

EPA, 1986, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA SW-846, 1986 and all approved updates, U.S. Government Printing Office, U.S. Environmental Protection Agency, Washington, D.C.

TABLES

Table 1

Disposition of Materials Generated from the Closure of the TA-16 Industrial Incinerator

Waste Material	Description	Final Disposition
Refractory brick	Nonhazardous	Recycled with incinerator by Gallegos Scrap Metal
Hydraulic oil	Nonhazardous	Recycled to Mesa Oil
Incinerator	Nonhazardous	Recycled as scrap metal by Gallegos Scrap Metal
Concrete pad	Nonhazardous	Left in place
Transportainer	Nonhazardous	Left in place

Table 2

Summary of Analytical Results for the Industrial Incinerator Refractory Brick

Analytes[1]	Sample ID 99DS496		Sample ID 99DS497		Regulatory Limits[3] (mg/L)
	Results (mg/L)[2]	Detection Limit (mg/L)	Results (mg/L)	Detection Limit (mg/L)	
Toxicity Characteristic Leaching Procedure (TCLP) Arsenic	ND[4]	0.1	ND	0.1	5.0
TCLP Barium	ND	0.1	ND	0.1	100.0
TCLP Cadmium	ND	0.02	ND	0.02	1.0
TCLP Chromium	0.47	0.02	0.30	0.02	5.0
TCLP Selenium	ND	0.05	ND	0.05	1.0
TCLP Silver	ND	0.04	ND	0.04	5.0
TCLP Lead	ND	0.1	ND	0.1	5.0
TCLP Mercury	ND	0.0002	ND	0.0002	0.2

[1]Methods: 1) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA SW-846, 1986 and all approved updates, U.S. Government Printing Office, U.S. Environmental Protection Agency, Washington, D.C. (SW-846) 1311/3010A/6010A Inductively Coupled Plasma TCLP; 2) SW-846 1311/3010A/7000 series Flame Atomic Absorption TCLP for lead; 3) SW-846 1311/7470 Cold Vapor Atomic Absorption TCLP for mercury.
[2]mg/L = milligram/liter
[3]40 CFR 261.24, Table 1
[4]ND = Not detected