

P.7.



GARY E. JOHNSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous and Radioactive Materials Bureau
2044 Galisteo Street
P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-1557
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PETER MAGGIORE
SECRETARY

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

ASWH LANCIS/mj/06

June 18, 1999

Mr. Theodore Taylor, Project Manager
Los Alamos Area Office
Department of Energy
528 35th Street, Mail Stop A316
Los Alamos, New Mexico 87544

Dr. John Browne, Director
Los Alamos National Laboratory
P. O. Box 1663, Mail Stop A100
Los Alamos, New Mexico 87545

**RE: Administrative Completeness and Fee Assessment
TA 6 Eastern and Western Aggregates RFI Report
Los Alamos National Laboratory
NM0890010515**

Dear Mr. Taylor and Mr. Browne:

The Corrective Action Section of the New Mexico Environment Department's (NMED) Hazardous and Radioactive Materials has completed the Administrative Completeness Review of the RFI Report (LAUR-98-3710) for TA 6 Eastern and Western Aggregates dated September 30, 1998 and referenced by EM/ER:98-396.

The document has been determined to be administratively complete and a fee of \$8,100.00 is assessed for its continued review. The worksheet used for calculating the associated Document Review Fee is attached. Should you disagree with the amount of the assessed fee, you may file an Administrative Appeal under the provisions of Title 20 New Mexico Annotated Code (NMAC) 4.2.302.1.

Payment of this fee is due within sixty (60) days of the receipt of this letter. Should the Return Receipt be returned to NMED without a date, receipt of the fees are due sixty (60) days from the date of this letter.

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3047

Payment should be made by certified check or money order payable to the **New Mexico Environment Department Hazardous Waste Permits Fund 339** and remitted to the following address:

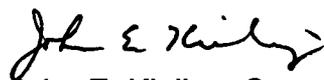
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044A Galisteo Street
P.O. Box 26110
Santa Fe, New Mexico 87502
Attn: Cynthia Abeyta

Should you require an extension of the sixty(60)-day period, a written request for extension must be received by the NMED a minimum of fourteen (14) calendar days prior to the end of the sixty(60)-day period. This fourteen(14)-day period is necessary to ensure that the Facility receives written approval prior to the expiration of the sixty(60)-day payment period.

Upon receipt of the fee, NMED staff will initiate the processing of the document in accordance with the timeline established in 20 NMAC 4.2.201.7 which states, " NMED shall review and approve or disapprove a corrective action document within one-hundred eighty (180) days after the document is accepted for review by NMED and the applicable fee has been assessed and paid. The Secretary may allow an additional sixty (60) days for review upon a determination that good cause exists for the additional review time. The review period set by this subsection shall be tolled during all periods in which NMED is awaiting a response by the facility to a Request for Supplemental Information or a Notice of Deficiency and during all time periods in which further action cannot be taken due to public hearing requirements."

Should you have any questions regarding this letter, please contact me at (505) 827-1558 x1012 or Mr. Roland Rocha at (505) 827-1558 x1041.

Sincerely,



John E. Kieling, Supervisor
DOE Corrective Action Section
Hazardous and Radioactive Materials Bureau

JEK:rr

Mr. Taylor and Dr. Browne
Administrative Completeness and Fee Assessment
TA 6 Eastern and Western Aggregates RFI Report
June 18, 1999
Page 3

cc w/ attachment:

J. Canepa, LANL EM/ER, MS M992
M. Kirsch, LANL EM/ER, MS M992
D. McInroy, LANL EM/ER, MS M992
R. Rocha, NMED HRMB
N. Silva, NMED HRMB
J. Vozella, DOE LAAO, MS A316
P. Young, NMED HRMB
File: Reading and HSWA LANL 98-396

ATTACHMENT
Corrective Action Document
Review Fee Worksheet

DOCUMENT	BASIC REVIEW FEE	ADDITIONAL UNIT FEE	NUMBER OF UNITS	TOTAL FEE
CMI Report	\$9,300.00	\$500.00		
CMS Report	\$7,100.00	\$500.00		
RFI Report	\$7,100.00	\$500.00	3	\$8,100.00
RFI Work plan	\$6,500.00	\$500.00		
CMS Work plan	\$6,500.00	\$500.00		
CMI Plan	\$6,500.00	\$500.00		
Facility Wide Workplan	\$6,500.00	\$500.00		
QAPP/QMP	\$6,500.00	\$500.00		
RCRA Implementation Plan (RIP)	\$6,500.00	\$500.00		
RFA	\$4,600.00	\$500.00		
VCM/Expedited Plan or Report	\$1,000.00	\$250.00		
VCA Plan or Report	\$500.00	\$250.00		
ICM Plan or Report	\$1,800.00	\$250.00		
Release Assessment	\$1,500.00	\$250.00		
Phase Report (on an approved RFI)	\$1,500.00	\$250.00		
Petition for NFA Review	\$6,000.00	\$250.00		
Facility Wide Document	\$15,000.00	None		
WORKSHEET TOTAL¹				\$8,100.00

¹Payment should be made by certified check or money order payable to the **New Mexico Environment Department Hazardous Waste Permits Fund 339.**

EXECUTIVE SUMMARY

Twenty potential release sites (PRSs) in Technical Area (TA) 6 at the Los Alamos National Laboratory (LANL) were investigated to determine whether contaminants are present and pose an unacceptable risk to human health or the environment. Eighteen of the PRSs in this report are proposed for no further action (NFA) for the first time; PRSs 06-003(c&g) have been proposed previously for NFA based on human health risk assessments. These two PRSs have been reevaluated as part of an integrated human health, ecological, and surface water assessment.

From early in the Manhattan Project in 1943 until approximately 1952, the 20 PRSs played a role in explosive detonator development and testing. With the exceptions of the asphalt pad associated with the inactive firing site at PRS 06-004(c), and a remaining clay pipe drain line associated with the septic tank at PRS 06-002, each structure associated with these PRSs has been removed or burned.

TA-6 is a research area that is not currently used for Laboratory operations. It is a secured area with controlled access. The landscape containing the PRSs has been revegetated with grasses, shrubs, and ponderosa pine.

To facilitate human health and ecological risk assessment, the 20 PRSs were grouped into two aggregates, an Eastern Aggregate and a Western Aggregate, separated by approximately 500 ft of forest and meadow. Each group was designated on the basis of geographic proximity, similarity of contaminants, and common human health and ecological exposure areas.

The Eastern Aggregate consists of two solid waste management units (SWMUs), PRSs 06-002 and 06-003(c), and four areas of concern (AOCs).

PRS	Description
06-002	A 1000-gal. steel septic tank (structure number TA-6-41) that received process wastewater from PRS 06-003 and sanitary wastewater from C-06-020
06-003(c)	An inactive firing site used for water recovery shots
C-06-005	Building TA-6-13 used for detonator assembly, a chemistry laboratory, and for explosives storage
C-06-006	Building TA-6-14 used for explosives pressing and storage

PRS	Description
C-06-016	Magazine TA-6-28 used for explosives storage
C-06-020	Building TA-6-19 used as an employee resthouse

The Western Aggregate consists of SWMU 06-003(g) and 13 AOCs.

PRS	Description
C-06-003	Building TA-6-11, used as a control building for explosives shots
06-003(g)	Building TA-6-10, an inactive firing pad that was converted for the recrystallization of the high explosive (HE) pentaerythritol tetranitrate (PETN)
C-06-007	Building TA-6-15, used to house a boiler for steam generation
C-06-008	Magazine TA-6-16, used for explosives processing
C-06-009	Magazine TA-6-17, used for shake testing of explosives
C-06-010	Magazine TA-6-21, used for explosives storage
C-06-011	Magazine TA-6-22, used for explosives processing
C-06-012	Magazine TA-6-23, used for detonator storage
C-06-013	Magazine TA-6-24, used for explosives storage
C-06-014	Magazine TA-6-25, used for explosives storage
C-06-015	Magazine TA-6-27, used for explosives storage
C-06-017	Magazine TA-6-29, used for explosives storage

PRS	Description
C-06-018	Magazine TA-6-30, used for explosives storage
C-06-021	Magazine TA-6-26, used for explosives storage

All 20 PRSs were potentially contaminated with HE, primarily PETN, and inorganic chemicals associated with operations and the decommissioning of structures. The total quantities of PETN and other HE used in TA-6 operations were relatively small. The maximum amount of PETN released at this site is estimated to have been 0.03 lb. Acetone and carbon tetrachloride, used in PETN recrystallization, were chemicals of potential concern (COPCs) at PRS-06-002. Radioactive materials were used in component recovery testing at the inactive firing pad, PRS 06-003(c). In January 1960, 16 of the 20 structures associated with PRSs were decommissioned by burning. Construction materials, such as electrical conduit, galvanized iron pipe, and copper wiring, might have vaporized and been deposited as inorganic contaminants in surface soils across the site.

Sampling campaigns at the PRSs that make up the two aggregates were first conducted in 1994 and 1995. Limited resampling was conducted in 1997 and 1998. A total of 61 soil samples were collected and analyzed for the Eastern Aggregate and 135 samples collected and analyzed for the Western Aggregate. Except for the more extensive sampling conducted at PRSs 06-003(c&g), each PRS had a minimum of one sample location in the footprint of a former structure and two perimeter sample locations (upgradient and downgradient) of the former structure. A surface soil sample (0–0.5 ft) and a subsurface soil sample (typically 2–3 ft) were collected from each location. A limited number of tuff samples were taken from depths of 7–10 ft in each aggregate; these samples were used to evaluate contaminant transport into tuff. Although the area is relatively flat and erosion potential is low, in order to evaluate surface water transport of COPCs, samples were collected from two locations in a defined shallow surface drainage channel to the south of the Western Aggregate.

Upon evaluation of the analytical results of the Phase 1 sampling conducted in 1994 and 1995, several data gaps were identified. These data gaps included that detection limits for antimony and cadmium were not low enough to permit comparison with soil background values, the absence of fixed-laboratory PETN analysis, and the apparent failure to define the extent of contamination due to the elevated detection limits for some analytes.

The 1997 and 1998 resampling was conducted to correct the data gaps in the sampling record. Eighteen samples from seven locations were collected in the Eastern Aggregate; 42 samples from 19 locations were collected in the Western Aggregate. Two additional locations were sampled downgradient of the Western Aggregate to evaluate the potential for waterborne migration of contaminants.

In 1994 and 1995 all surface soil samples were collected as discrete samples using a stainless steel scoop; subsurface samples were collected with a stainless steel hand auger following Environmental Restoration (ER) Project sampling standard operating procedures. All 1998 surface soil samples were collected as discrete samples using a stainless steel scoop; subsurface samples were collected to depths of 10 ft using a Central Mine Equipment Model 45 drill rig with hollow stem augers and stainless steel core barrels.

All samples collected during the 1994, 1995, 1997, and 1998 campaigns were field screened for HE, radioactivity, and volatile organic compounds (VOCs) and, with the exception of two HE detects in the Western Aggregate, all field screening showed concentrations or counts at or below background.

Based on the number and distribution of sample locations across the site, it is believed that the data set is sufficient to characterize the two aggregates. Sample collection and analyses are considered adequate to identify potential contaminants present at the aggregate. Inorganic chemicals, probably associated with the former structure decommissioning, were the primary COPCs considered in the reported risk evaluations. HE, organic chemicals, and radionuclides were reported infrequently in site samples, and when reported were at trace levels. No specific spatial analysis was performed of contaminant extent. However, simple mapping of COPCs and exploratory analysis indicate that contaminants were observed infrequently at discrete, isolated locations across the aggregate. There is no indication of a substantial release or migration of hazardous chemicals across the site. Furthermore, any incidents of locally elevated contaminant concentrations appear to be limited to former structure footprints and consist of inorganic chemicals probably associated with razed former structures. The observed inorganic chemicals are relatively immobile, with no substantial migration of surface contamination into the subsurface. All analytic results for samples collected from greater than five-foot depths were below background values for inorganic chemicals and less than detection limits for organic chemicals. Based on the results of ecological and human health risk assessments, no adverse effects are anticipated at the Eastern or Western Aggregate of TA-6.

Table ES-1 provides a description of and rationale for the NFA recommendation for each PRS.

**TABLE ES-1
SUMMARY OF PROPOSED ACTIONS**

PRS Number	PRS Description	HSWA ^a	Radionuclide Component ^b	Proposed Action ^c	Rationale for Recommendation	Section Number
06-002	Septic Tank	Yes	No	NFA Criterion 5	Available data indicate that contaminants pose an acceptable level of human health and ecological risk.	2.0
C-06-003	Control Building	No	No	NFA, Criterion 5	Available data indicate that contaminants pose an acceptable level of human health and ecological risk.	3.0