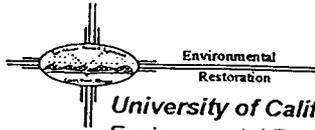


# Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION



**University of California**  
Environmental Restoration, MS M992  
Los Alamos, New Mexico 87545  
505-667-0808/FAX 505-665-4747



**U. S. Department of Energy**  
Los Alamos Area Office, MS A316  
Los Alamos, New Mexico 87544  
505-665-7203  
FAX 505-665-4504



Date: April 19, 1996  
Refer to: EM/ER:96-220

Mr. Benito Garcia  
NMED-HRMB  
P.O. Box 26110  
Santa Fe, NM 87502

**SUBJECT: FINAL ACCELERATED CLEANUP REPORTS 16-016F**

Dear Mr. Garcia:

Enclosed are the final reports and Certifications of Completion for the voluntary corrective actions completed in Fiscal Year 1995. The reports with potential release sites (PRs) listed in the Hazardous and Solid Waste Amendments (HSWA) Module of the Los Alamos National Laboratory's Resource Conservation and Recovery Act operating permit contain our request for no further action (NFA). Upon your approval of these reports, we will submit a permit modification request for NFA of these PRs.

For PRs not listed in the HSWA Module, reports are included as informational copies for your records.

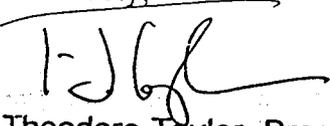
If you have any questions, please call David Bradbury at 505-665-6208.

Thank you for your timely attention to this matter.

Sincerely,

  
Jorg Jansen, Program Manager  
Environmental Restoration

Sincerely,

  
Theodore Taylor, Program Manager  
Los Alamos Area Office

JJ/TT/rfr



6002

April 19, 1996

- Enclosures: (1) Final Reports for HSWA: C-9-001, 6-007(f), 8-005, 16-016(b), 18-001(a), 19-002, 21-013(c), 21-013(d), 21-013(e), 21-024(d), 21-024(e), 21-024(h), 31-001, 33-016, 39-007(a), and 69-001
- (2) Final Reports for non-HSWA: C-0-036(a-d), C-0-041, C-10-001, C-21-027, C-36-001, 0-032, 1-001(f), 3-003(p), 3-022, 3-047(d), 3-051(c), 9-010(a-b), 16-011, 16-016(f), 20-003(c), 21-022(j), 39-002(c), 53-010, and 57-006
- (3) Certifications of Completion

Cy (w/enclosures):

- B. Driscoll, EPA, R.6, 6PD-N, (2 copies of HSWA)
- D. Griswold, ERD, AL, MS A906
- / J. Harry, EM/ER, MS M992
- B. Hoditschek, NMED-HRMB
- / R. Kern, NMED-HRMB
- N. Naraine, EM-453, DOE-HQ
- M. Shaner, P&PI, MS J591 (5 copies)
- N. Weber, Bureau Chief, NMED-AIP, MS J993
- J. White, ESH-19, MS K490
- S. Yanicak, NMED-AIP, MS J993
- RPF, MS M707

Cy (w/o enclosures):

- T. Baca, EM, MS J591
- D. Bradbury, EM/ER, MS M992
- T. Glatzmaier, DDEES/ER, MS M992
- D. McInroy, EM/ER, MS M992
- G. Rael, ERD, AL, MS A906
- W. Spurgeon, EM-453, DOE-HQ
- T. Taylor, LAAO, MS A316
- J. Vozella, LAAO, MS A316
- EM/ER File, MS M992

# Voluntary Corrective Action Completion Report for

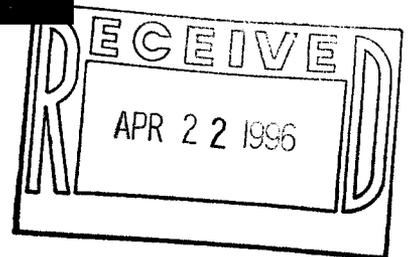
Potential Release Site  
16-016(f)  
Former Surface Disposal  
Area

Field Unit 3

Environmental  
Restoration  
Project

January 1996  
Revision 1

A Department of Energy  
Environmental Cleanup Program

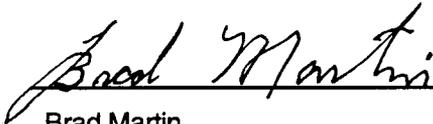


**Los Alamos**  
NATIONAL LABORATORY

LA-UR-96-190

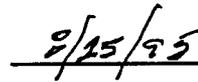
## CERTIFICATION OF COMPLETION

I certify that all work pertaining to the voluntary corrective action (VCA) 16-016(f) has been completed in accordance with the Department of Energy approved VCA plan entitled **VCA Plan for PRS 16-016(f), Former Surface Disposal Area**. Based on my personal involvement or inquiry of the person or persons who managed this clean up, a review of all data gathered and a visit to the site, to the best of my knowledge and belief, all criteria of the plan have been met or exceeded. I believe that the completion of the VCA is both protective to human health and the environment. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

  
\_\_\_\_\_

Brad Martin

Field Unit 3 Project leader  
Environmental Restoration Program  
Los Alamos National Laboratory

  
\_\_\_\_\_

Date Signed

---

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**2.0 CORRECTIVE ACTION ..... 1**

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## 1.0 DESCRIPTION

Potential Release Site (PRS) 16-016(f) is the site of a former surface disposal area. This PRS is not listed in the Hazardous and Solid Waste Amendments Module of the Los Alamos National Laboratory's (LANL's) Resource Conservation and Recovery Act (RCRA) Permit.

The site contained a small amount of friable asbestos and construction debris. The disposal area was located on a small hillside southeast of TA-16-360, a packaging facility. See Fig. 1 for location. The construction material has been located at this site since approximately 1960. Other debris associated with PRS 16-016(f) included black cellular foam glass (used as roof insulation), rusted cans, and broken drainage tile. Asbestos was the only contaminant of concern at this site.

## 2.0 CORRECTIVE ACTION

The cleanup followed the Voluntary corrective action (VCA) Plan for Potential Release Sites, Group 4. Activities began June 30, 1995, and ended August 1, 1995, as the final remedy for the PRS 16-016(b).

Three samples of the visible friable asbestos were collected and sampled February 17, 1995, by a team from the LANL Asbestos Abatement Program. The results of this analysis indicated that two of the samples were amosite and chrysotile, two kinds of asbestos. The other sample was a piece of fiberglass. These data are presented in Attachment A. As an obvious remedy, the visible asbestos and the surrounding soil in a radius of 3 ft and to a depth of 1 ft were removed. On-site air monitors measured airborne asbestos concentrations during removal for health and safety purposes; there were no abnormal readings. Approximately two 55 gal. barrels of asbestos and soil were generated and disposed of by LANL's Asbestos Abatement Program. Final disposal was made by Chemical Waste Management in Kettleman City, California in November 1995.

Once the asbestos was gone, the remaining debris, consisting of foam glass and construction waste, was removed with a backhoe. Asbestos trained personnel were present during this activity to spot and handle any asbestos that might have been present under the debris; however, no asbestos was found. The debris was field screened for high explosives (HE) and radioactivity before laborers removed the remaining material from the site to ensure there was no contamination. Field screening results were negative. The material was taken to the Los Alamos County Landfill for disposal. The total amount of waste was 35 yd<sup>3</sup>.

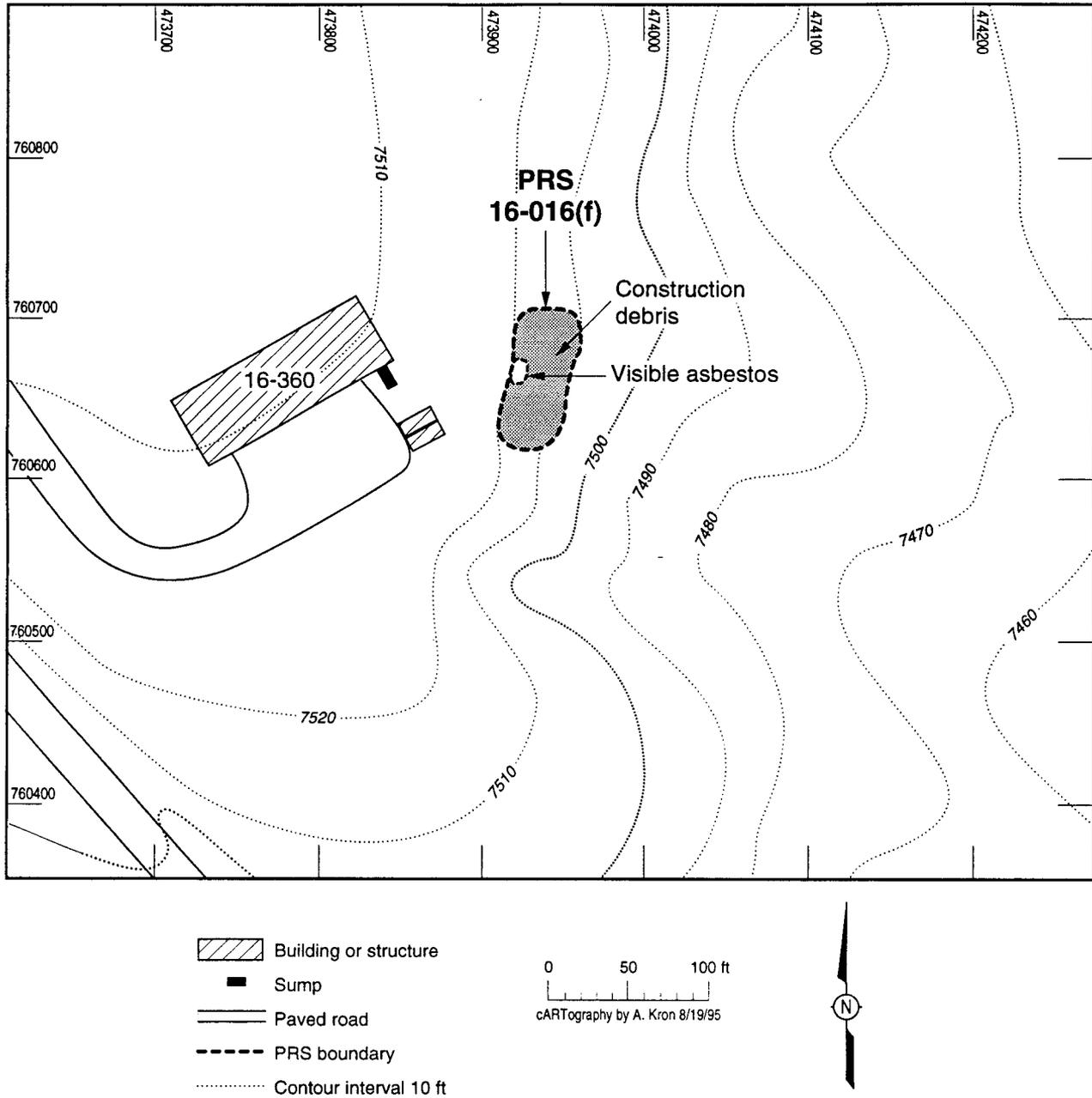


Fig. 1. Location of PRS 16-016(f).

No verification samples were collected at this site because there is no analytical method for asbestos in soil other than visual inspection. Friable asbestos, the only hazard at the site, was handled in accordance with LANL's Asbestos Abatement Program.

Site restoration and erosion controls were implemented as directed by the LANL's Water Quality and Hydrology Group (ESH-18). The site was regraded to minimize the effect of erosion, but was not reseeded because it is bare tuff.

### 3.0 COST SUMMARY

**TABLE 1**  
**VCA COSTS**

ACTIVITIES	COST
Planning	\$ 15 000
Cleanup	\$ 7 974
Disposal	<sup>a</sup>
Develop VCA report	\$ 10 000
TOTAL COST	\$ 32 974

<sup>a</sup> Disposal costs are included in the cleanup costs.

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**ATTACHMENT A      ANALYTICAL DATA**

Included in this attachment are three references that include the asbestos data.

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16-000615

**Los Alamos**  
NATIONAL LABORATORY  
**memorandum**

*Environment, Safety, and Health Division*  
ESH-17 Air Quality Group

To/MS: Distribution

From/MS: David Jardine, ESH-17, J978 *DJ*

Phone/FAX: 7-3615/5-8858

Symbol: ESH-17:95-282

Date: April 21, 1995

**THURSDAY, 20 APRIL, 1995 VISIT**

In company with James Merhege, Mark Romero, and David Brown of JCI, and Larry Ortiz, of ESH-5, I visited the rubble pile near TA-16, Bldg. 360, to investigate the extent of any asbestos contamination. The whole area is approximately 40 to 50 feet along the brow of a small slope and extending about 20 feet down into a shallow, wide wash. We found that the only area to have asbestos, was a small outcrop near the brow of the slope, just out from the edge of some trees and another one about 2 feet down slope from there. We determined that if the identifiable asbestos was hand picked, and an area of approximately 12 x 12 feet around those two spots was stripped several inches deep, and put into lined barrels, then we had no concern with the rest of the rubble.

We agreed that approximately 20 cubic feet, or two 55 gallon drums, should be sufficient to prevent any environmental or personnel danger. We also agreed that if any asbestos was found later during the general clean up that all work would stop until the additional contamination is addressed. JCI will issue an asbestos job memo and write a work practice as they do with any remediation or renovation job. The waste barrels would be handled as if from any other remediation work, be double wrapped and stored at Area J for final disposal at Kettleman City.

Not agreed upon, but I would propose, that if any more asbestos is found in the pile, that everything in that immediate area be treated as asbestos waste.

lm

Distribution:

J. Merhege, JCI, A199

D. Brown, JCI, A199 *CPMB*

L. Ortiz, ESH-5, K486

B. Gallimore, ESH-5, K486

V. Smith, Kaiser, M703

J. McCann, Neptune & Co, M773

ESH-17 File

16-000599

**Los Alamos**  
NATIONAL LABORATORY  
**memorandum**

*Chemical Science and Technology*  
*Responsible Chemistry for America*

Environmental Restoration Project, CST-7  
Los Alamos, New Mexico 87545

To/MS: File  
From/MS: Karen Schultz Paige, CST-7, MS E525  
Phone/FAX: 5-3527/5-4632  
Symbol: CST/ER KSP 95-004  
Date: Feb. 22, 1995

KSP

**ASBESTOS ANALYSIS FOR SWMU 16-016(f) AT TA-16-360**

On February 17, 1995, three samples were collected from SWMU 16-016(f), a disposal area located east of TA-16-360. The sample was collected by George Clines of Johnson Controls Inc. David Jardine (ESH-17) was also present. Attached is a copy of the analysis of the three samples. The results indicate that some of the materials associated with this SWMU (two of the three samples) contain asbestos.

Distribution:  
CST/ER File

ASBESTOS ANALYSIS

Record found

Record 1221 on screen

HSE-5 DATA SHEET NUMBER: 95-11335

JCI-SHEET NUMBER:

SAMPLED BY: CLINES G.

DATE: 02/17/95

GROUP: JCI

MS: A199

SAMPLE SOURCE: BULK/DEBRIS/OUTSIDE 16-360/3 SAMPLES SUBMITTED

EMPLOYEE: KAREN PAIGE

Z #:

GROUP: ER

SITE: TA-16

BLDG: 360

ROOM: OUTSIDE

OPERATION DESC: DEBRIS/ENVIRONMENTAL RESTORATION AREA

SPECIFIC ANALYSIS REQUESTED: ASBESTOS ID

DATE SAMPLE RECEIVED: 02/17/95

ANALYTICAL RESULTS & REMARKS: SAMPLE 1): IS FIBROUS GLASS; SAMPLE 2): (ROOFING MATERIAL):CONTAINS CHRYSOTILE ASBESTOS (5-15 %); SAMPLE 3): (CELOTEX ?): CONTAINS AMOSITE ASBESTOS ( > 50 %) 17 FEB 95 LWO

F2ENTER F3VIEW F4EXIT F5FORM CLR F6FLD CLR F7DELETE F8MODIFY F9REPORT F10MULTI

16-000613

**Los Alamos**  
NATIONAL LABORATORY  
**memorandum**

ER/D&D Team  
ESH-1 Health Physics Operations  
Los Alamos, New Mexico 87545

To/MS: Distribution  
From/MS: Pat LaFrate, ESH-1, MS K487  
Phone/FAX: 7-7137/7-6116  
Symbol: 95-ESH-1-ER\D&D-004  
Date: July 27, 1995

**SUBJECT: ANALYSIS OF SOIL SAMPLE TAKEN FROM TA-16-360**

On Thursday July 6, 1995 a radiation survey was conducted on a pile of soil and building rubble located on the east side of Building 360 at TA-16. A survey for the alpha contamination, using a Ludlum Model 139 showed no detectable activity. A beta/gamma survey, using an ESP-1/HP 260 and an ESP-2/SPA-6 did, however, indicate levels that appeared to be about twice the background in the area. For this reason, the JCI supervisor and Marty Peifer decided to discontinue the loading operation until a soil analysis could determine what contamination (if any) was present. This was done because Mr. Peifer was told that the soil was to be "free released" to the Los Alamos County Landfill.

A representative soil sample was taken from several survey points where elevated readings were found and was sent to TA-21 Decommissioning Project for analysis. Attached is a copy of the results. The analysis was performed on a Canberra Model 1200 Portable Gamma Spectroscopy System. The analysis showed typical concentrations of K-40, Pb-212, Bi-214 and Pb-214 (all naturally occurring isotopes) found in concrete. The analysis also showed a small amount of Cs-137, at a concentration which can be attributed to atmospheric fallout from weapons testing.

Based on the history of the area and the analytical results, the soil in question is suitable for release to the Los Alamos County Landfill.

If you have any questions please contact me at 667-7137.

PJL:pjl

Attachment

Distribution:

B. Martin, CST-18, MS E525  
K. Paige, CST-7, MS E525  
M. Peifer, ESH-1, MS K487  
V. Smith, Kaiser, MS M703

Cy: ER Project Files

\*\*\*\*\*  
\*\*\*\*\*

Report Generated On : 7-26-95 3:39:05 PM  
Collected By: pat

Sample Title : Soil Sample  
Spectrum File Name : C:\PROCCOUNT\CAMFILES\SOILSAMP\MAR00124.CNF  
Sample Identification : TA16-396 Soil  
Sample Type : MAR  
Sample Geometry :

Peak Locate Threshold : 5.00  
Peak Locate Range (in channels) : 1 - 4096  
Peak Area Range (in channels) : 1 - 4096  
Identification Energy Tolerance : 1.000 keV

Sample Size : 4.411E+02 grams

Sample Taken On : 7-18-95 2:13:18 PM  
Acquisition Started : 7-18-95 2:13:18 PM

Live Time : 800.0 seconds  
Real Time : 800.5 seconds

\*\*\*\*\*  
 \*\*\*\*\* N U C L I D E I D E N T I F I C A T I O N R E P O R T \*\*\*\*\*  
 \*\*\*\*\*

Sample Title: Soil Sample  
 Nuclide Library Used: C:\GENIEPC\CAMFILES\TA21.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/gram)	Activity Uncertainty
K-40	0.986	1460.81*	10.67	3.37521E+01	3.67121E+00
CS-137	0.997	661.65*	85.12	5.90090E-01	1.54478E-01
PB-212	0.731	74.81*	9.60	2.30037E+00	5.44485E-01
		77.11*	17.50	2.11702E+00	4.38269E-01
		87.20	6.30		
		89.80	1.75		
		115.19	0.60		
		238.63*	44.60	1.60669E+00	2.72313E-01
		300.09	3.41		
		609.31*	46.30	5.58268E-01	2.45599E-01
		768.36	5.04		
		806.17	1.23		
BI-214	0.321	934.06	3.21		
		1120.29	15.10		
		1155.19	1.69		
		1238.11	5.94		
		1280.96	1.47		
		1377.67	4.11		
		1385.31	0.78		
		1401.50	1.39		
		1407.98	2.48		
		1509.19	2.19		
		1661.28	1.15		
		1729.60	3.05		
		1764.49	15.80		
		1847.44	2.12		
		2118.54	1.21		
PB-214	0.716	74.81*	6.33	3.48872E+00	8.25759E-01
		77.11*	10.70	3.46241E+00	7.16795E-01
		87.20	3.70		
		89.80	1.03		
		241.98	7.49		
		295.21*	19.20	5.62851E-01	3.00201E-01
		351.92*	37.20	6.65866E-01	2.18246E-01
785.91	1.10				

\* = Energy line found in the spectrum.  
 @ = Energy line not used for Weighted Mean Activity  
 Energy tolerance used was 1.000  
 Nuclide confidence index threshold = 0.30  
 Errors quoted at 2.000 sigma

\*\*\*\*\*  
\*\*\*\*\* INTERFERENCE CORRECTED REPORT \*\*\*\*\*  
\*\*\*\*\*

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/gram)	Wt mean Activity Uncertainty
K-40	0.986	3.375207E+01	3.671208E+00
CS-137	0.997	5.900904E-01	1.544779E-01
FR-212	0.731	1.674197E+00	2.169760E-01
BI-214	0.321	5.582676E-01	2.455986E-01
FR-214	0.716	6.485917E-01	1.710502E-01

? = nuclide is part of an undetermined solution  
X = nuclide rejected by the interference analysis  
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

\*\*\*\*\* UNIDENTIFIED PEAKS \*\*\*\*\*

Peak Locate Performed on: 7-26-95 3:38:42 PM  
Peak Locate From Channel: 1  
Peak Locate To Channel: 4096

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
6	583.13	1.1709E-01	27.91

M = First peak in a multiplet region  
m = Other peak in a multiplet region  
F = Fitted singlet

Errors quoted at 2.000 sigma

TA-16-360  
Field Unit #3

HEALTH PHYSICS RELEASE TAG

008579

Item Description Soil (Debris) Tag Number \_\_\_\_\_ P/N \_\_\_\_\_

Individual Removing Item KAREN PAIGE Group CST-7 Phone 5-3527  
(Print Name)

Individual Removing Item [Signature] Date 7/27/95  
(Signature)

Note — Signature verifies that exterior and interior surfaces of the item have been monitored according to LANL requirements.

Survey Results (Check one or more, as applicable)\*

- Alpha NDA dpm Direct NDA dpm/100cm<sup>2</sup> Removable
- Beta-Gamma NDA dpm/mR/hr Direct NDA dpm/100cm<sup>2</sup> Removable
- "Volume" Contamination: Yes/No N/A uR/hr at Contact  Tritium N/A dpm/100cm<sup>2</sup> Removable

	Instrument	Model Number	HSE Number
1.	<u>17 Ind-139</u>	<u>[Signature]</u>	
2.	<u>ESP-1 HP-260</u>	<u>[Signature]</u>	
3.	<u>ESP-2 SPN-6</u>	<u>[Signature]</u>	

Disposition (Check one)

- Item is free from detectable radioactive contamination and may be released without controls.
- Item is below applicable release limits and may be released for controlled use at LANL.

Comments/Controls: Items Released to LOS  
Alamos County Landfill. Also Analyses  
Work also done See Attachment.

RCT [Signature] Survey Date 7/27/95  
(Print Name) (Signature)

Note — Signature verifies that monitoring information is complete and correct.

\*(NA = not applicable; NDA = no detectable activity/dose rate)