

# UNCLASSIFIED

FACSIMILE TRANSMITTAL SHEET



## U. S. DEPARTMENT OF ENERGY

LOS ALAMOS AREA OFFICE  
Office of Environment and Projects

FAX Number: (505) 665-4504 (Unclassified), Voice Confirm Number: (505) 667-5288

DATE: 2 15 96 # PAGES TO FOLLOW: 6  
TO: Joel Dougherty FAX NO. 214 665 6660  
FROM: Bonnie Koch 505 665 7202

REMARKS:

Totals data for existing piles plus associated sample collection logs. Only one sample above 500 ppm. All rest well below.

Call if you have questions. Thank you.



0128  
TA-00

TL170

**TABLE 3. Results of TAL Metals Analysis of Unprocessed Soil Berm Samples, SWMU 0-016, Inactive Firing Range**

Analyte <sup>1</sup>	Sample No.					Background UTL <sup>2</sup>	RCRA TC Limit <sup>3</sup>
	95-0751 01	95-0751 02	95-0751 03	95-0751 04	95-0751 05		
ALUMINUM	6300	5500	6200	5500	7200	123000	none <sup>4</sup>
ANTIMONY	ND <sup>5</sup> (14)	ND <sup>5</sup> (14)	ND <sup>5</sup> (14)	ND <sup>5</sup> (14)	ND <sup>5</sup> (14)	2.5 (max) <sup>2</sup>	none <sup>4</sup>
ARSENIC <sup>3</sup>	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.4)	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.3)	11.5	100
BARIUM <sup>3</sup>	84	80	82	83	89	1140	2000
BERYLLIUM	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.2)	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.1)	3.31	none <sup>4</sup>
CADMIUM <sup>3</sup>	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.2)	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.1)	2.7 (max) <sup>2</sup>	20
CALCIUM	1700	1500	1400	1600	1800	54400	none <sup>4</sup>
CHROMIUM <sup>3</sup>	5.7	4.8	4.7	4.6	5.7	34.2	100
COBALT	ND <sup>5</sup> (11)	ND <sup>5</sup> (11)	ND <sup>5</sup> (12)	ND <sup>5</sup> (11)	ND <sup>5</sup> (11)	51.1	none <sup>4</sup>
COPPER	9.1	24	11	8.0	9.2	15.7	none <sup>4</sup>
IRON	7600	7800	8200	7700	8400	35600	none <sup>4</sup>
LEAD <sup>3</sup>	45	620	130	71	46	39.0	100
MAGNESIUM	1400	ND <sup>5</sup> (1100)	ND <sup>5</sup> (1200)	ND <sup>5</sup> (1100)	1400	16100	none <sup>4</sup>
MANGANESE	280	250	280	240	280	1030	none <sup>4</sup>
MERCURY <sup>3</sup>	ND <sup>5</sup> (0.11)	ND <sup>5</sup> (0.11)	ND <sup>5</sup> (0.12)	ND <sup>5</sup> (0.11)	ND <sup>5</sup> (0.11)	0.1 (max) <sup>2</sup>	4
NICKEL	ND <sup>5</sup> (9.1)	ND <sup>5</sup> (9.2)	ND <sup>5</sup> (9.4)	ND <sup>5</sup> (9.2)	ND <sup>5</sup> (9.2)	26.7	none <sup>4</sup>
POTASSIUM	ND <sup>5</sup> (1100)	ND <sup>5</sup> (1100)	ND <sup>5</sup> (1100)	ND <sup>5</sup> (1200)	ND <sup>5</sup> (1100)	6180	none <sup>4</sup>
SELENIUM <sup>3</sup>	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.2)	ND <sup>5</sup> (1.1)	ND <sup>5</sup> (1.1)	1.7 (max) <sup>2</sup>	20
SILVER <sup>3</sup>	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.4)	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.3)	none <sup>4</sup>	100
SODIUM	ND <sup>5</sup> (1100)	ND <sup>5</sup> (1100)	ND <sup>5</sup> (1200)	ND <sup>5</sup> (1100)	ND <sup>5</sup> (1100)	1880	none <sup>4</sup>
THALLIUM	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.4)	ND <sup>5</sup> (2.3)	ND <sup>5</sup> (2.3)	0.9 (max) <sup>2</sup>	none <sup>4</sup>
VANADIUM	13	ND <sup>5</sup> (11)	ND <sup>5</sup> (12)	ND <sup>5</sup> (11)	14	66	none <sup>4</sup>
ZINC	36	32	36	34	41	101	none <sup>4</sup>

Note: -Shaded areas indicate RCRA-regulated metals.

-Sample No. 95-0751 05 is a field duplicate of Sample No. 95-0751 01

- All results are reported in units of mg/kg.
- Upper Tolerance Limits for LANL Soil Background Data.
- The maximum background soil concentration is used rather than the UTL.
- No value established
- ND = Not Detected above laboratory detection limit. Detection limit is shown in parentheses.
- The RCRA Toxicity Characteristic Limit in Table 1 of 40 CFR 261.24 is multiplied by a factor of 20 as a guideline to determine if the values for "totals" analyses are approaching the TC limit for hazardous waste designation.

August 18, 1995

Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID 0100-95-0751

Date 7/20/95

Time 1345

Sample Type Soil - Surface

Technical Area 00

Operable Unit 1071

Sample Location Firing Range Un-Processed Soil Berms

WEST END

QA/QC Type None

Composite:  Yes  No

Name (Print) Andrew Crowder

Composite Type: Spatial

Signature

Grabs: 6



Location ID	Start Depth	End Depth	Units
1 NA West End, South Side	0	0	
2 NA ↓, Slope S.	0	0	
3 NA West End, Top	0	0	
4 NA West End, Top	0	0	
5 NA ↓, Slope N.	0	0	
6 NA West end, North Side	0	0	

These Samples were collected using LANL ER SOP 08.09

ID	Analysis	Container	Preservative	C of C Control No.
01	METTAL EPA 6010, SW 846	125 ml Polyethylene	Ice	1071-95-0581

Weather Partly Cloudy, 70° F, 2-4 kt South Wind

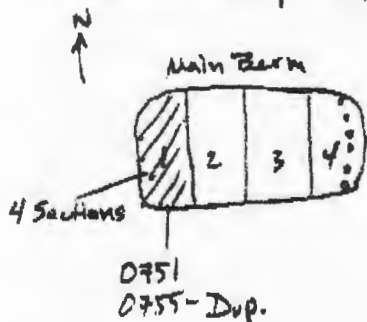
Sample Description Silty Sand, some fine to med. gravel, (Sand fine to Cse), moist

Field Screening

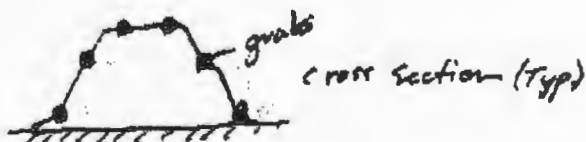
Loc ID	Depth	Screening Method	Result	Units	Comments
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Photo (Roll, Frame, Azimuth, Subject, Participants): N/A

Comments: Dup. of 0100-95-0751



- Compositied from 6 grabs collected with even spacing beginning on South side of berm and over the top to the north side (Main Berm)
- Section 1 (See diagram)





Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID 0100-95-0752

Date 7/20/95

Time 1401

Sample Type Soil - Surface

Technical Area 00

Operable Unit 1071

Sample Location Firing Range Un-Processed Soil Berms  
WEST END OF MIDDLE

QA/QC Type None

Composite:  Yes  No

Name (Print) Andrew Crowder

Composite Type: Spatial

Signature Andrew Crowder

Grabs: 6

Location ID	Start Depth	End Depth	Units
1 NA } South Side	0	0	
2 NA }	0	0	
3 NA } TOP	0	0	
4 NA }	0	0	
5 NA } North Side	0	0	
6 NA }	0	0	

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	METAL SW 846, EPA 6010	125 ml Polyethylene	Ice	1071-95-0581

Weather Partly Cloudy, 70°F, 2-4 kt south wind

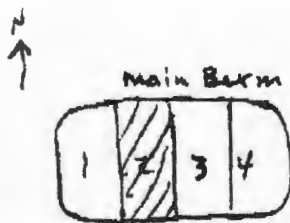
Sample Description Silty fine to coarse sand, some fine gravel, moist

Field Screening

Loc ID	Depth	Screening Method	Result	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants): N/A

Comments: Collected as 6 grabs from north, top, and south sides of berm in section 2.



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SAMPLE COLLECTION LOG FOR SAMPLE ID 0100-95-0753

Date 2/20/95 Time 1410  
 Technical Area 00 Operable Unit 1071

Sample Type Soil - Surface  
 Sample Location Firing Range Un-Processed Soil Berms  
 EAST END OF MIDDLE

QA/QC Type None  
 Composite:  Yes  No

Name (Print) Andrew Crowder  
 Signature *Andrew Crowder*

Composite Type: Spatial

Grabs: 6

Location ID	Start Depth	End Depth	Units
1 NA } s. side	0	0	
2 NA }	0	0	
3 NA } Top	0	0	
4 NA }	0	0	
5 NA } n. side	0	0	
6 NA }	0	0	

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	METAL SW 846 EPA 6010	125 ml Polyethylene	Ice	1071-95-0581

Weather Partly Cloudy, 70°F, 2-4 kt south wind

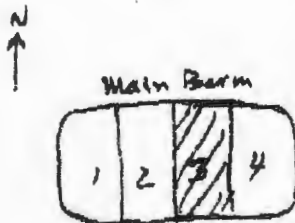
Sample Description Silty fine-grained sand, some f. gravel, moist

Field Screening

Loc ID	Depth	Screening Method	Result	Units	Comments

Photo (Roll, Frame, Azimuth, Subject, Participants): n/a

Comments: -6 grabs collected from north, top, and south sides of berm.  
 -Composite collected in section 3.



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SAMPLE COLLECTION LOG FOR SAMPLE ID 0100-95-0754

Date 7/20/85 Time 1418

Technical Area 00 Operable Unit 1071

QA/QC Type None

Composite:  Yes  No

Composite Type: Spatial

Grabs: 6

Sample Type Soil - Surface

Sample Location Firing Range Un-Processed Soil Berms

EAST END

Name (Print) Andrew Crowder

Signature



Location ID	Start Depth	End Depth	Units
1 NA } S. Side	0	0	
2 NA }	0	0	
3 NA } Mid/Top	0	0	
4 NA }	0	0	
5 NA } N. Side	0	0	
6 NA }	0	0	

These Samples were collected using LANL ER SOP 06.09

ID	Analysis	Container	Preservative	C of C Control No.
01	METAL SW 846 EPA 6010	125 ml Polyethylene	Ice	1071-95-0581

Weather Partly Cloudy, 70°F, 2-4 kts South wind

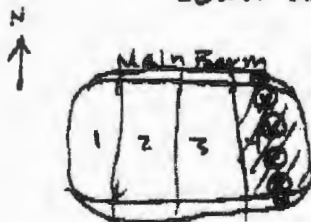
Sample Description Silty fine - to coarse sand, some fine gravel, moist

Field Screening

Loc ID	Depth	Screening Method	Result	Units	Comments
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Photo (Roll, Frame, Azimuth, Subject, Participants): N/A

Comments: - Collected from 6 grabs - up south side, over top, and down north side in Section 4.





Los Alamos National Laboratory Environmental Restoration Program

SAMPLE COLLECTION LOG FOR SAMPLE ID 0100-95-0755

Date 7/20/95 Time 1345

Technical Area 00 Operable Unit 1071

QA/QC Type Field Duplicate

Composite:  Yes  No

Composite Type: Spatial

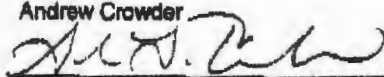
Grabs: 6

Sample Type Soil - Surface

Sample Location Firing Range Un-Processed Soil Berms WEST END

Name (Print) Andrew Crowder

Signature



Location ID	Start Depth	End Depth	Units
1 NA West End, S. Side	0	0	
2 NA W. End Slope S	0	0	
3 NA W. End Top S.	0	0	
4 NA W. End Top N.	0	0	
5 NA W. End Slope N	0	0	
6 NA W. End N. Side	0	0	

These Samples were collected using LANL ER SOP 08.09

ID	Analysis	Container	Preservative	C of C Control No.
01	METAL SW 846, EPA 6010	125 ml Polyethylene	Ice	1071-95-0581

Weather Part Cloudy, 90°F 2-4 kst Southerly wind

Sample Description Silty fine to coarse sand, some fine gravel, moist

Field Screening

Loc ID	Depth	Screening Method	Result	Units	Comments
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Photo (Roll, Frame, Azimuth, Subject, Participants): N/A

Comments: Dup. of 0100-95-0751

- Compositied from 6 grabs taken from north, top, and south sides of main berm in section 1. (See diagram).

