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TO: John Kieling, Prog. Mgr., DOE Facilities, HRMB
THRU: James H. Davis, Ph.D., Chief, SWQB *JHD*
THRU: *JK* Glenn Saums, Prog. Mgr., SWQB
FROM: *BH* Barbara Hoditschek, Env. Spec., SWQB
DATE: July 6, 1999
SUBJECT: Surface Water Quality Bureau Final Report On 3011 RCRA Grant: The Oversight of Los Alamos National Laboratory Removal Activity



Attached is the final report requirement. If you have any questions concerning this deliverable, please contact Ms. Barbara Hoditschek of my staff at 827-0596. Thank you for your cooperation in this endeavor.



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**New Mexico Environment Department-Surface Water Quality Bureau Final Report
For The 3011 RCRA Grant:
The Oversight of Los Alamos National Laboratory Removal Activity**

Submitted to the NMED-Hazardous and Radioactive Materials Bureau, July 2, 1999

Introduction

The NMED-Surface Water Quality Bureau (SWQB) agreed to work in cooperation with the Hazardous and Radioactive Materials Bureau (HRMB) regarding a 3011-grant comment entitled "The Oversight of Los Alamos National Laboratory (LANL) Removal Activities." The grant provided funds to SWQB to complete the following activities:

1. Complete the review of seven (7) removal action documents for RCRA Solid Waste Management Unit (SWMU) sites located at LANL. Removal activities were defined by Region 6 EPA as work completed in an Interim Action (IA) and/or Voluntary Corrective Action (VCA) document. The document review was to include field inspections, and review of sampling and analysis plans for each grant site. Comments were to be provided to HRMB, LANL, and to appropriate stakeholders (such as neighboring Indian Pueblos).
2. Coordinate with San Ildefonso and Bandelier National Monument (BNM) representatives, LANL, and HRMB to ensure that appropriate regulatory standards and technical consistency are met.
3. Coordinate project activities such that LANL RCRA/HSWA programmatic issues are addressed, and provide HRMB with the necessary involvement regarding environmental justice issues associated with the document reviewed.

Summary of SWQB Activities Conducted to Meet the Grant Requirements

The SWQB choose seven (7) SWMU sites located at Los Alamos National Laboratory (LANL) which had IA or VCA documentation in-house at HRMB. The sites chosen also reflected sites located in Canyons which had surface water tributaries which tract to or through Indian Pueblo (San Ildefonso) land and BNM properties. These sites also exhibited high to medium erosion potential survey scores which indicated surface water concerns were present.

The sites chosen were:

SWMU # 01-001(d), Hillside 138, VCA
SWMU # 01-001(f), Hillside 140, VCA
SWMU # 01-003(d), Surface Disposal Site, VCA
SWMU # 10-003(a-o) and 10-007, Liquid Waste and Landfill Disposal Sites
SWMU # 33-006(a), Firing Site, IA
SWMU # 35-003(d, l, q) Former Waste Water Treatment Facilities, IA
SWMU # 53-002(a), Disposal Lagoon, IA

All SWMUs, except one, have potential to impact San Ildefonso Pueblo land. SWMU # 33-006(a) is located adjacent to BNM.

SWQB staff worked with LANL staff to assure that all seven grant sites were surveyed for erosion potential. DOE/LANL, NMED-SWQB, and NMED DOE/OB staff had cooperatively developed a screening method for erosion potential which could be applied to SWMUs. An example of the screening method is included as Attachment One.

The erosion potential survey (designated by LANL as the AP 4.5 process and later changed to SOP 2.01) was a tool which the SWQB and LANL found useful in determining potential impact to surface water due to sediment released from SWMU sites during storm water events. SWQB and LANL also formed a Surface Water Assessment Team (SWAT) to review all high and medium scored sites. During these reviews the seven grant sites were addressed. The SWAT review process took into consideration other pertinent data such as analytical data (water and/or sediment data) collected at site as well as the SOP 2.01 score. A recommendation was then made by the SWAT (which consisted of LANL and NMED representatives) to address the erosion potential at a site by applying Best Management Practices (BMPs). Copies of these recommendations were sent to the LANL Environmental Restoration (ER) Program and the NMED-SWQB and HRMB. In addition, grant activities were discussed with HRMB at monthly LANL

Working Group (LWG) Meetings. Erosion Potential Assessments and SWAT Recommendations for each of the seven (7) sites in included as Attachment Two.

SWQB visited each site with LANL representatives and documented any deficiencies regarding stabilization measures (BMPs). All sites with deficiencies were reinspected after corrections were made, and found to be in satisfactory condition.

SWQB staff also met several times with, and provided documentation to, San Idefanso Pueblo and BNM representatives concerning the grant activities, findings and recommendations. At no time did these representative indicate that any of their regulatory standards and/or technical consistency were not met with regard to the grant sites.

In order to insure that communication regarding the grant activities was made available to other stakeholders with interest in environmental restoration at DOE/LANL, SWQB made a presentation to the Natural Resource Trustee Council (NRTC) for LANL. In addition, in coordination with DOE/LANL a tour to view the majority of the grant sites was arranged for the NRTC. A copy of the agenda can be found as Attachment Three.

The tour was attended by all except the Department of Interior and San Ildefanso representatives (see the list of representatives as part of Attachment Three). These representatives however, contacted me after the tour and were given an undated on what happened at the tour. At the conclusion of the tour, each council member was also requested to submit their comments to SWQB regarding any of the sites visited at the tour (see Attachment Four).

To date only comments from NMED-HRMB and the DOE/LANL have been received. These comments have been included at Attachment Five.

Conclusions and Final Recommendations

1. SWQB will continue to work as a resource to the NRTC of LANL as a whole, and to any of its membership individually. SWQB is committed to working with these parties to insure that natural resources as well as other surface water concerns are addressed during the application of stabilization methods for protection of surface waters.
2. SWQB considers the stabilization methods (BMPs) applied to the grant sites appropriate, and is committed to work with DOE/LANL to assure that they are maintained and monitored to verify that they continue working.
3. SWQB has established with HRMB that the erosion potential survey scores will be used by SWQB in reviewing documentation (e.g. IA, VCA, NFA) on SWMUs for assessing surface water concerns. If required, SWQB will assist HRMB during public hearings and/or environmental justice issues associated with the grant sites.

Attachment One

Erosion Potential Screening Survey Assessment Sheets Used by LANL

**Environmental Restoration Program
CONSTITUENT ASSESSMENT**

Part A: page 1 of 1

SITE INFORMATION

1. SWMU/IRP# _____ 2. Date/Time (M/D/Y H:M am/pm) _____
 3. ER Point of Contact _____ 4. OU-Other/POC _____
 5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)
 6. Site Ranking Score _____
 7. Description of the historical operations of this SWMU/IRP:

8. Description of the current operations of this SWMU/IRP (if any):

PRS STATUS

Action/Status to Date (check all that apply)

	Date Completed or Anticipated
<input type="radio"/> None	
Field Investigation <input type="radio"/> Phase I <input type="radio"/> Phase II	_____
Interim Measures <input type="radio"/> IM <input type="radio"/> BMPs	_____
Accelerated Cleanup <input type="radio"/> VCA <input type="radio"/> VCM	_____
Other <input type="radio"/> Monitoring <input type="radio"/> CMA	_____
Report Status <input type="radio"/> RFI Report <input type="radio"/> SAP	_____
Other	_____

NFA/DOU. If checked, supply criteria number(s): _____

SAMPLE INFORMATION

Y/N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated: _____
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

13. Signature of OU/Other Representative _____

**SURFACE WATER
SITE ASSESSMENT**

SITE INFORMATION

1a) SWMU/ IRP # 1b) Structure Number 1c) OU Number

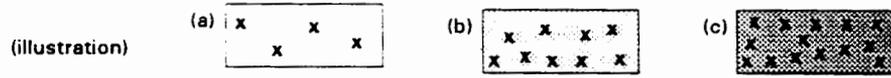
2. Date/Time (M/D/Y H:M am/pm)

SITE SETTING (check all that apply)

3. On mesa/hill top (a). In the canyon floor/drainage basin, but not in an established channel (c).
 Within a bench of a canyon or drainage basin (b). Within established channel in the canyon floor or drainage basin (d).

Explanation:

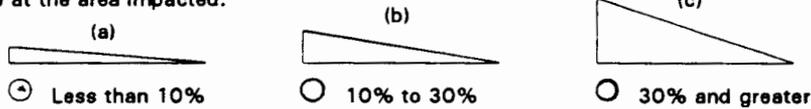
4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees,



Estimated % of ground/canopy cover: 0% to 25% 25% to 75 75% to 100

Explanation:

5. Steepest slope at the area impacted:



Explanation:

RUNOFF FACTORS

Y / N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

6a) Is runoff channelized? If yes, describe Man-made channel. Natural channel.

Explanation:

**SURFACE WATER
SITE ASSESSMENT**

RUNOFF FACTORS, CONT'D

6b) Where does evidence of runoff terminate?

- Drainage or wetland (name)
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Explanation:

Y / N

- 6c) Has runoff caused visible erosion at the site? If yes, explain below Sheet Rill Gully

Explanation:

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #7 or #9)

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation:

8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation:

9. Are natural drainage patterns directing stormwater onto site?

Explanation:

ASSESSMENT FINDING:

10. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

11. Signature of ER Representative

_____ Initials of independent reviewer.

Check here when information is entered in database:

**SURFACE WATER
SITE ASSESSMENT**

Part B: Page 3 of 3

This page is for Notes, recommendations, and photos.

Y / N

12 a) Is there visible trash/debris on the site?

b) Is there visible trash/debris in a watercourse?

Description of existing BMPs:

Are BMPs being properly maintained? If no, describe in "Other Internal Notes."

Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Recommended BMPs (Best Management Practices) for this site:

Los Alamos National Laboratory

Environment, Safety & Health Division
 ESH-18 Water Quality & Hydrology Group

Surface Water Assessment Erosion Matrix for

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	
Slope	13	0-10%	10-30%	>30%	
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			

Attachment Two

**Erosion Potential Survey Assessment Scores and Surface Water Assessment Team (SWAT)
Recommendations for Each of the Seven Grant Sites**

SWMU # 01-001 (d) Hillside 138

**Surface Water Assessment Team (SWAT)
Recommended and Proposed Actions for PRS 1-001(d)**

PRS:	<u>1-001(d)</u>	FMU Contact:	<u>Edward Hoth</u>
SWAT Meeting Date:	<u>11/10/1997</u>	ER Contact:	<u>Terry Rust</u>
Official Submittal Date:	<u>6/2/1998</u>	Erosion Matrix:	<u>745</u>
Constituent Data:	<u>Yes</u>		

General SWAT Comments:

Known as Hillside 138, had a Remedial Action completed in August of 1996. 20 cu yds of soil contaminated with Hg and Pb were removed from the lower portion of the site. The site was reseeded and covered with jute matting, straw bale check dams were staked down slope of excavated areas and an earthen berm was built below the entire area. The excavated area now has zero discharge of surface water runoff from the site. The adjacent drainage, which also receives runoff from town-site areas above, is monitored for surface water quality at two locations.

Date of Part B Revision: _____ Revisit Recommended: _____ Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Continued inspection & maintenance of existing BMPs	ER
Item: 2 Fulfillment of 8 quarters of surface water monitoring requirement described in the Remedial Action Status Report for the site (January 1997)	ESH-18

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Continued inspection & maintenance of existing BMPs. Inspection and maintenance is ongoing.	ER	Ongoing	
Item: 2 Fulfillment of 8 quarters of surface water monitoring requirement described in the Remedial Action Status Report for the site. ESH-18 was tasked with installing the monitoring stations. ER will follow up with ESH-18 to ensure they were installed and are being operated.	ESH-18	Ongoing	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
BMPs include: Straw bales and jute matting on hillside, reseeded, earth berm with matting at edge of roadbed on bench. BMPs installed 5/31/96.

Tabular List of BMPs:

earth berm
muhching
seeding, permanent
straw bale barrier

Frequency: 3 Months Contact: Marv Jane Winch Records Held: Pueblo Complex

General Comments:

The site is inspected on a monthly basis or after rainfall events greater than .5 inches. The surface water monitoring requirements described in the Remedial Action Status Report (Jan 97) began in October 1996.

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

LANL-ER-AP-4.5
Part A, page 1 of 4

SITE INFORMATION

1. PRS Number 1-001 (a) 2. Date/Time (M/D/Y H:M am/pm) 1/22/97 3:45:00 PM
3. ER Point of Contact C. Newton 4. FMU/Responsible Party Contact Brad Martin
5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)
6. Site Ranking System (SRS) # 49
7. Description of the historical operations of this PRS:
Septic tank (hillside 138)
8. Description of the current operations of this PRS (if any):

PRS STATUS

Action/Status to Date (check all that apply)

- | | Date Completed or Anticipated |
|--|-------------------------------|
| <input type="checkbox"/> None | |
| <input checked="" type="checkbox"/> Field Investigation <input type="checkbox"/> Phase I <input type="checkbox"/> Phase II | |
| <input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMPs | |
| <input checked="" type="checkbox"/> Accelerated Cleanup <input checked="" type="checkbox"/> VCA <input type="checkbox"/> VCM | |
| <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> Monitoring <input type="checkbox"/> CMs | |
| <input type="checkbox"/> Report Status <input type="checkbox"/> RFI Report <input type="checkbox"/> SAP | |
| <input type="checkbox"/> NFA/DOU. If checked, supply criteria numbers: | |

SAMPLE INFORMATION

Y/N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated: _____
2) Provide list of COPCs identified in RFI Work Plan as an attachment.

C. Newton

13. Signature of ER Representative

Los Alamos National Laboratory
 SURFACE WATER
 SITE ASSESSMENT

LANL-ER-AP-4 5
 Part B: page 2 of 4

SITE INFORMATION

1a) PRS Number 1-001(d) 1b) Structure Number N/A 1c) FMU Number _____
 2. Date/Time (M/D/Y H:M am/pm) 3/12/97 10:00:00 AM

SITE SETTING (check all that apply)

3. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Source location on hillside contained on bench above Los Alamos Canyon. Adjacent drainage discharges into LA Canyon.

4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

(illustration) (a)

x		x	
	x		x

 (b)

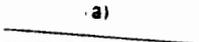
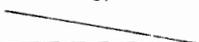
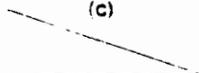
x	x	x	x
x	x	x	x

 (c) 

Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100%

Explanation: Primarily rock and jute matting. Pine needles with associated ponderosa/pinon canopy.

5. Steepest slope at the area impacted:

(a)  (b)  (c) 

Less than 10% 10% to 30% 30% and greater

Explanation: Source area located on bench, outfall previously discharged into adjacent drainage along cliff face.

RUNOFF FACTORS

Y/N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

6a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Run-off from upper portion of site (source area) terminates into roadbed on bench. Adjacent channel exists on eastern boundary of site which also receives flow from townsite location above.

RUNOFF FACTORS, CONT'D

60) Where does evidence of runoff terminate?

Drainage or wetland (name): Los Alamos

Within bench of canyon setting (name): Los Alamos

Other (i.e., retention pond, meadow, mesa top): _____

Explanation: Upper source area has zero discharge after remediation and stabilization measures were built. Adjacent drainage continues into LA Canyon.

Y/N

60) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Small rills on hillside. Sediment transport retained in immediate area by BMPs in place.

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #7 or #9)

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: _____

8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation: _____

9. Are natural drainage patterns directing stormwater onto site?

Explanation: Sheet flow down hillside.

ASSESSMENT FINDING:

10. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

S. Veenis

11. Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for ESH-18 notes, recommendations, and photos.

2 / N

12. a) Is there visible trash/debris on the site?
- b) Is there visible trash/debris in a watercourse?

Description of existing BMPs:

BMPs include: Straw bales and jute matting on hillside, reseeding, earth berm with matting at edge of roadbed on bench

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Site has been remediated and is undergoing 8 quarter monitoring requirement. Site now has zero discharge from upper source area due to earthen berm. Monitoring is occurring in adjacent drainage area.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 1-001(d)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0 1	Medium 0 5	High 1 0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13 0
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6 5
Slope	13	0-10%	10-30%	>30%	13 0
Surface Water Factors Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5 0
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19 0
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	11 0
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			0 0
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0 0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7 0
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			74 5**

** Indicates BMPs in place. Erosion potential without BMP's would be greater.

SWMU # 01-001 (f) Hillside 140

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 1-001(f)

PRS:	1-001(f)		
SWAT Meeting Date:	2/4/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	6/2/1998	ER Contact:	Terry Rust
Constituent Data:	Yes	Erosion Matrix:	56.7

General SWAT Comments:

Hillside 140 and Aggregates C & D (OU 1078 Work Plan) within townsite near Los Alamos Canyon. Interim Action performed in 1996 to remove elevated hot spots of Uranium "hot spots" using FIDLER. Geomating, reseeding and straw bales were placed to reduce erosion potential at site. In 1997, trees were removed near the site as part of the Fire Risk Management efforts. The site was re-evaluated and found to have caused no further impacts to erosion potential.

Date of Part B Revision: _____ Revisit Recommended: _____ Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:

Item: 1 Maintain current BMPs for inspection.	Owner: ER
---	-----------

Actions Proposed by ER, FM or ESH-18:

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 BMPs will be inspected with ESH-18 and maintained as needed	ER	Ongoing	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

BMPs in place: reseeding, jute mat, straw bale check dams. Site appears stable. Located near a storm water monitoring location E 030. Hillside 140. BMPs installed 9/30/94.

Tabular List of BMPs:

covering, poly-jute
mulching
seeding, permanent
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Requested that NMED review and respond to RFI Report, VCA Report and the submittal of supplemental information provided in 1996 prior to proposing additional actions at this site.

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

LANL-ER-AP-4.5
Part A: page 1 of 4

SITE INFORMATION

PRS Number: 1-0016 Date/Time (M/D/Y H:M am/pm) 1/22/97 3:45:00 PM

Please attach existing map, if available.

ER Point of Contact: C. Newton

HSWA Area of Concern (AOC)

FMU/Responsible Party Contact: DOE

Site Ranking System (SRS) #: 49

Description of the historical operations of this PRS:

Septic tank (nurside 140)

Description of the current operations of this PRS (if any):

PRS STATUS

Action/Status to Date: Check all that apply

None

Accelerated Cleanup (VCA, VCM)

Field Investigation (Phase I, Phase II)

Other: (Monitoring, CMS, etc.)

Interim Measures (IM,BMP)

NFA/DOU. If checked, supply NFA/DOU criteria #

Check as appropriate:

Plan

Field work

Report

DATE ANTICIPATED

SAMPLE INFORMATION

Y / N

Have surface soil, surface sediment (depth <= 12 inches), or surface water samples been collected as identified above, that reflect current site conditions?

If yes: 1) Attach data.

2) Include analyte name, value, units, location ID, sample ID, depth, and media (soil, tuff, etc.)

If data is pending: 1) List date data are anticipate

2) List contaminants of potential concern (COPCs) identified in RFI Work Plan.


Signature of ER Representative

Check here when information is entered in database:

Los Alamos National Laboratory
SURFACE WATER
SITE ASSESSMENT

LANL-ER-AP-4.5
Part B: page 2 of 4

SITE INFORMATION

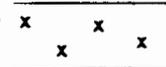
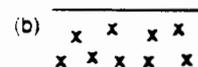
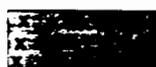
1a) PRS Number 1-001(f) 1b) Structure Number N/A 1c) FMU Number _____
2. Date/Time (M/D/Y H:M am/pm) 6/2/97

SITE SETTING (check all that apply)

3. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

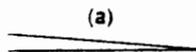
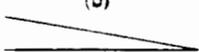
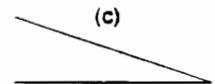
Explanation: Within the rim of the canyon.

4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

(illustration) (a)  (b)  (c) 
Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100%

Explanation: Pine needles, rock ground cover. Ponderosa pine canopy cover. Trees have been thinned as part of the Fire Break Management efforts.

5. Steepest slope at the area impacted:

(a)  (b)  (c) 
 Less than 10% 10% to 30% 30% and greater

Explanation: On slope behind condominiums.

RUNOFF FACTORS

Y / N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

6a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Located in/near natural drainage.

RUNOFF FACTORS, CONT'D

6b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Los Aiamos Canyon
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____

Explanation: Small tributary of LA Canyon.

Y / N

6c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Mostly exposed tuff/bedrock below site.

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #7 or #9)

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: _____

8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation: _____

9. Are natural drainage patterns directing stormwater onto site?

Explanation: Sheet flow from above site.

ASSESSMENT FINDING:

10. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

S. Veenis

11. Signature of Water Quality/Hydrology Representative

Initials of independent reviewer.

Check here when information is entered in database:

This page is for ESH-18 notes, recommendations, and photos.

Y / N

12. a) Is there visible trash/debris on the site?
b) Is there visible trash/debris in a watercourse?

Description of existing BMPs:

BMPs in place: reseeding, jute mat, straw bale check dams. Site appears stable. Located near a storm water monitoring location E 030. Hillside 140.

-
- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
 Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs should be upgraded and maintained, especially below site within the drainage channel. Tires and visible debris downstream from site. Possibly from Bailey Bridge PRS 1-003 (Agg. B).

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 1-001(f)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			4.0
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	1.0
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5.0
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19.0
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
					If no, score as 0. If yes, calculate as appropriate.
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			0.0
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0.0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7.0
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			56.7

SWMU # 01-003 (d) Surface Disposal Site

**Los Alamos National Laboratory
SURFACE WATER
SITE ASSESSMENT**

LANL-ER-AP-4.5
Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 8/12/97 10:30:00 AM 2a) Location Number: 1-003(d)

SITE INFORMATION

2b) FMU Number: _____

3. Latitude: _____ Longitude: _____

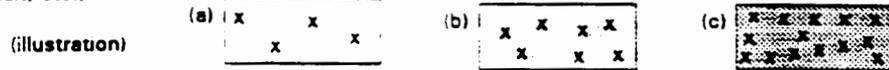
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). On the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: On hillside in Los Alamos Canyon. Just over edge of mesa top.

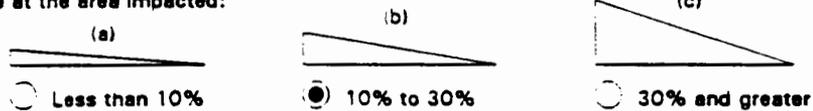
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Rock, grass and small bushes.

7. Steepest slope at the area impacted:



Explanation: _____

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: _____

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) _____
- Within bench of canyon setting (name) Los Alamos Canyon
- Other (i.e., retention pond, meadow, mesa top) _____

Coordinates of termination point: Latitude: _____ Longitude: _____

Explanation: _____

Y / N

c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Small rills at various locations on steepest portion of hillside. No evidence along bench at bottom of hill.

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: _____

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation: _____

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Sheet flow from slope.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

T. Lemke

Signature of Water Quality/Hydrology Representative

SL Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

YIN

is there visible trash or debris on the site?

Erosion Matrix Score:

49.5

is there visible trash or debris in a watercourse?

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

No BMPs site is resceded

Are BMPs being properly maintained? If no, describe in "Other Internal Notes."

Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Debris primarily metal from old metal paint cans.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 1-003(d)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			40
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	65
Slope	13	0-10%	10-30%	>30%	65
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			50
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	95
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	110
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			00
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			00
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			70
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			495

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

LANL-ER-AP-4 5
Part A: page 1 of 4

SITE INFORMATION

1. PRS Number 1-003(d) 2. Date/Time (M/D/Y H:M am/pm) 1/22/97
3. ER Point of Contact T. Rust 4. FMU/Responsible Party Contact DOE
5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)
6. Site Ranking System (SRS) # 38
7. Description of the historical operations of this PRS:
Surface disposal site (Can Dump)

8. Description of the current operations of this PRS (if any):

PRS STATUS

Action/Status to Date (check all that apply)

- | | Date Completed or Anticipated |
|--|-------------------------------|
| <input type="checkbox"/> None | |
| <input checked="" type="checkbox"/> Field Investigation <input type="checkbox"/> Phase I <input type="checkbox"/> Phase II | |
| <input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input type="checkbox"/> BMPs | |
| <input type="checkbox"/> Accelerated Cleanup <input type="checkbox"/> VCA <input type="checkbox"/> VCM | |
| <input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMs | |
| <input type="checkbox"/> Report Status <input type="checkbox"/> RFI Report <input type="checkbox"/> SAP | |
| <input type="checkbox"/> NFA/DOU. If checked, supply criteria number(s): | |

SAMPLE INFORMATION

Y / N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated: _____
2) Provide list of COPCs identified in RFI Work Plan as an attachment.

T. Rust

13. Signature of ER Representative

14. Report Printed 1/13/98 1:08:12 PM

SWMU # 10-003 (a through o) Liquid Waste Disposal Sites

**Surface Water Assessment Team (SWAT)
Recommended and Proposed Actions for PRS 10-003(a)**

PRS:	10-003(a)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	Yes	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:		Owner:
Item: 1	Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2	Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:		Owner:	Target Date:	Actual Date:
Item: 1	Adequate maps will be provided.	ER	Oct 98	
Item: 2	ER Plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
Sand bags and straw bales placed up-slope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
SURFACE WATER
SITE ASSESSMENT

LANL-ER-AP-4.5
Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM

2a) Location Number: 10-003(a)

2b) FMU Number: _____

SITE INFORMATION

3. Latitude: _____ Longitude: _____

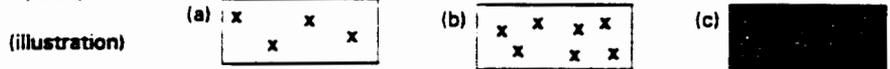
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PSR part of 10-007.

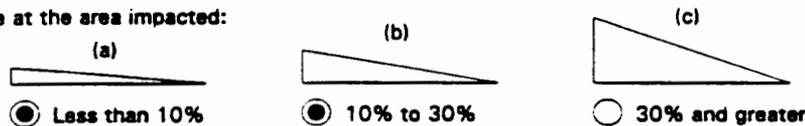
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

Is there visible trash or debris on the site?

Erosion Matrix Score: 59.2

Is there visible trash or debris in a watercourse?

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(a)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			•
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(b)

PRS:	10-003(b)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting area of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate maps will be provided	ER	Oct 98	
Item: 2 ER Plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch

Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM

2a) Location Number: 10-003(b)

SITE INFORMATION

2b) FMU Number: _____

3. Latitude: _____ Longitude: _____

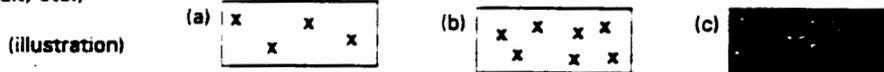
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades: this PRS part of 10-007.

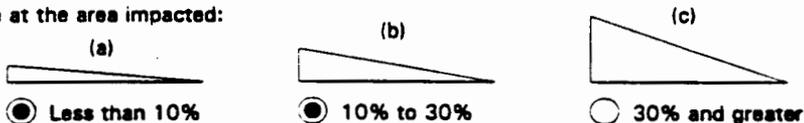
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Coordinates of termination point: Latitude: Longitude:

Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site

Explanation:

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

MA Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(b)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(b) 2. Date (M/D/Y): 11/12/97 Time (am/pm) 9:40:00 AM
 3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
 5. HSWA Yes 6. Site Ranking System (SRS) # 35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, disposal pit (TA-10-42) that was part of a liquid waste disposal complex which served the radiochemistry laboratory, TA-10-1. It was a liquid disposal pit constructed of reinforced concrete with a steel cover. It was 2 ft wide, 2 ft long, and 5 ft deep. The disposal pit was excavated to a depth of 18.6 ft during the 1963 D&D activities. The excavation was then backfilled with material taken from other parts of Bayo Canyon as well as D&D debris.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	08/01/94
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM: _____ BMPs: 11/01/96
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	_____
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	_____
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report SAP: _____ RFI RPTs: 04/18/96 06/03/96	_____
SAP INFO: _____	_____
<input checked="" type="checkbox"/> NFA/DOU If checked, supply HH NFA criteria number and date: <u>5</u> _____	

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
 If yes: 1) List date data are anticipated: _____
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Beverly Martin
 13. Signature of ER Representative
Beverly Martin

**Surface Water Assessment Team (SWAT)
Recommended and Proposed Actions for PRS 10-003(c)**

PRS:	<u>10-003(c)</u>		
SWAT Meeting Date:	<u>8/18/1998</u>	FMU Contact:	<u>Edward Hoth</u>
Official Submittal Date:	<u>9/23/1998</u>	ER Contact:	<u>Terry Rust</u>
Constituent Data:	<u>No</u>	Erosion Matrix:	<u>59.2</u>

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:		Owner:
Item: 1	Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2	Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:		Owner:	Target Date:	Actual Date:
Item: 1	Adequated maps will be provided.	ER	Oct 98	
Item: 2	ER Plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency Annual Contact Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm)

2a) Location Number:

SITE INFORMATION

2b) FMU Number:

3. Latitude: Longitude:

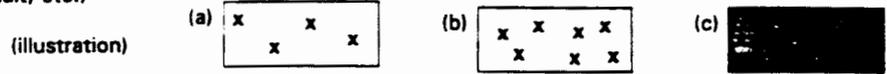
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

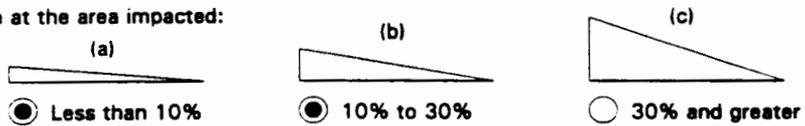
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Coordinates of termination point: Latitude: Longitude:

Explanation: Channel on the outside of silt felce, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

- 9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

- 10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site

Explanation:

- 11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

- 12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

Is there visible trash or debris on the site?

Erosion Matrix Score:

59.2

Is there visible trash or debris in a watercourse?

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

Are BMPs being properly maintained? If no, describe in "Other Internal Notes."

Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(d)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low	Medium	High	
		0.1	0.5	1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				13
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
					If no, score as 0. If yes, calculate as appropriate.
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			*
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

LANL-ER-AP-4.5
Part A

SITE INFORMATION

1. PRS Number: 10-003(d) 2. Date (M/D/Y): 11/12/97 Time (am/pm): 1:30:00 PM
3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
5. HSWA Yes 6. Site Ranking System (SRS) #35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a liquid disposal pit (no structure number) discovered during the 1963 D&D of TA-10. It was 1 ft in diameter and was located 2 ft south of PRS 10-003(b).

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated	
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	08/01/94	
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM: _____	
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	BMPs: 11/01/96	
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	_____	
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report SAP: _____ RFI RPTs: 04/18/96 06/03/96	_____	
SAP INFO: _____	_____	
<input checked="" type="checkbox"/> NFA/DOU If checked, supply HH NFA criteria number and date: _____ 5 _____	_____	

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
If yes: 1) List date data are anticipated: _____
2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Brad Martin for
13. Signature of ER Representative
Brad Martin

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(d)

PRS:	10-003(d)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate maps will be provided.	ER	Oct 98	
Item: 2 ER Plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency Contact

Records Held:

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm)

2a) Location Number:

SITE INFORMATION

2b) FMU Number:

3. Latitude: Longitude:

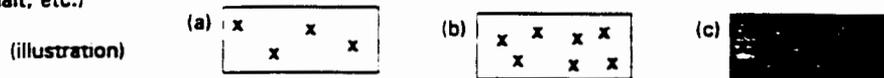
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

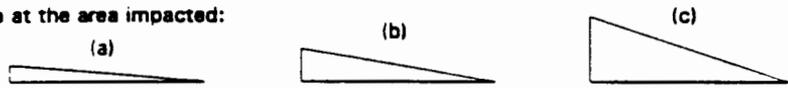
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Less than 10% 10% to 30% 30% and greater

Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
 - Within bench of canyon setting (name) _____
 - Other (i.e., retention pond, meadow, mesa top) _____
- Coordinates of termination point: Latitude: _____ Longitude: _____
- Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully
- Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?
- Explanation: Culvert under road.
10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?
- Explanation: _____
11. Are natural drainage patterns directing stormwater onto site?
- Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

WA

Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score:

59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(d)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				13
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			.
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(d) 2. Date (M/D/Y): 11/12/97 Time (am/pm): 1:30:00 PM

3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin

5. HSWA Yes 6. Site Ranking System (SRS) # 35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a liquid disposal pit (no structure number) discovered during the 1963 D&D of TA-10. It was 1 ft in diameter and was located 2 ft south of PRS 10-003(b).

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated	
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	08/01/94	
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM:	
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	BMPs:	11/01/96
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS		
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP:	
	RFI RPTs:	04/18/96 06/03/96
SAP INFO:		
<input checked="" type="checkbox"/> NFA/DOU If checked, supply HH NFA criteria number and date: <u>5</u>		

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
 If yes: 1) List date data are anticipated:
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Lynn McNeil for
13. Signature of ER Representative
B. D. Martin

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(e)

PRS:	10-003(e)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:		Owner:
Item:	1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item:	2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:		Owner:	Target Date:	Actual Date:
Item:	1 Adequate maps will be provided	ER	Oct 98	
Item:	2 ER Plan will be discussed and provide asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-slope for diversion. silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Contact:

Records Held:

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm)

2a) Location Number:

SITE INFORMATION

2b) FMU Number:

3. Latitude: Longitude:

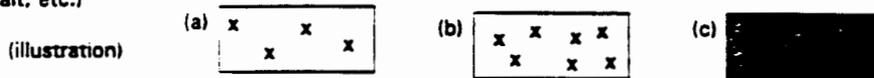
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

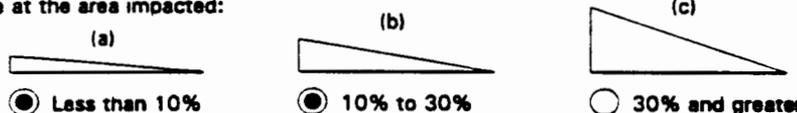
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

Is there visible trash or debris on the site?

Erosion Matrix Score:

59.2

Is there visible trash or debris in a watercourse?

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

Are BMPs being properly maintained? If no, describe in "Other Internal Notes."

Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(e)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

LANL-ER-AP-4.5
Part A

SITE INFORMATION

1. PRS Number: 10-003(e) 2. Date (M/D/Y): 11/12/97 Time (am/pm): 1:45:00 PM
3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
5. HSWA Yes 6. Site Ranking System (SRS) #35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a liquid disposal pit (no structure number) discovered during the 1963 D&D of TA-10. It was 4 square feet and was located 40 ft north of PRS 10-003(a).

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated	
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	07/01/94	
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM:	
	BMPs:	11/01/96
<input type="checkbox"/> VCA <input type="checkbox"/> VCM		
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS		
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP:	RFI RPTs: 04/18/96 06/03/96
SAP INFO:		
<input checked="" type="checkbox"/> NFA/DOU If checked, supply HH NFA criteria number and date: <u>5</u>		

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
If yes: 1) List date data are anticipated: _____
2) Provide list of COPCs identified in RFI Work Plan as an attachment.

[Handwritten Signature]
13. Signature of ER Representative

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(f)

PRS:	10-003(f)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:		Owner:
Item: 1	Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2	Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:		Owner:	Target Date:	Actual Date:
Item: 1	Adequate site maps will be provided	ER	Oct 98	
Item: 2	ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion. silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 2a) Location Number:

SITE INFORMATION 2b) FMU Number:

3. Latitude: Longitude:

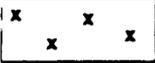
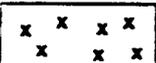
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

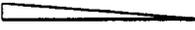
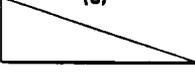
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

(illustration) (a)  (b)  (c) 

Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100%

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:

(a)  (b)  (c) 

Less than 10% 10% to 30% 30% and greater

Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name)
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Coordinates of termination point: Latitude: Longitude:

Explanation:

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation:

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation:

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site

Explanation:

11. Are natural drainage patterns directing stormwater onto site?

Explanation:

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative



Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score:

59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(f)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(g)

PRS:	10-003(g)		
SWAT Meeting Date:	3/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate maps will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-slope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM 2a) Location Number: 10-003(g)
 2b) FMU Number: _____

SITE INFORMATION

3. Latitude: _____ Longitude: _____

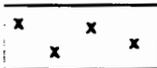
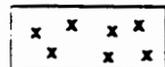
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

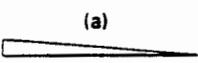
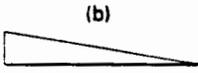
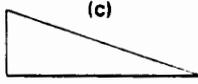
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

(illustration) (a)  (b)  (c) 

Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100%

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:

(a)  (b)  (c) 

Less than 10% 10% to 30% 30% and greater

Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(g)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
					If no, score as 0. If yes, calculate as appropriate.
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			.
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(g) 2. Date (M/D/Y): 11/12/97 Time (am/pm): 1:55:00 PM
 3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
 5. HSWA Yes 6. Site Ranking System (SRS) #35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, an industrial waste manhole (TA-10-50) constructed of reinforced concrete. It was 4 ft wide by 5 ft long by 5 ft deep. the manhole was along the industrial waste line leading from the radiochemistry laboratory. A drain pipe from the manhole discharged to a leach field in the stream channel approximately 125 ft NNE of the manhole.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated	
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	07/01/94	
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM:	
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	BMPs:	11/01/96
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS		
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP:	
SAP INFO: <input type="text"/>	RFI RPTs:	04/18/96 06/03/96
<input checked="" type="checkbox"/> NFA/DOU	If checked, supply HH NFA criteria number and date: <input type="text"/> 5 <input type="text"/>	

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
 If yes: 1) List date data are anticipated: _____
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Henry McManis
13. Signature of ER Representative
 R. I. McManis

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(o)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				13
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
					If no, score as 0. If yes, calculate as appropriate.
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			•
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(o) 2. Date (M/D/Y): 11/18/97 Time (am/pm) 9:20:00 AM
 3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
 5. HSWA Yes 5. Site Ranking System (SRS) #35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, decontamination holes (PRS 10-003(o)) located near the stream bed leach field (PRS 10-003(n)), which served the liquid waste disposal complex. The decon holes may have been part of the leach field.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	<u>07/01/94</u>
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM: <u> </u>
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	BMPs: <u>11/01/96</u>
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	<u> </u>
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report SAP: <u> </u> RFI RPTs: <u>04/18/96</u> <u>06/03/96</u>	<u> </u>
SAP INFO: <u> </u>	<u> </u>
<input checked="" type="checkbox"/> NFA/DOU If checked, supply HH NFA criteria number and date: <u>5</u> <u> </u>	

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data if available.
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
 If yes: 1) List date data are anticipated:
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Beverly Martin
13. Signature of ER Representative
Beverly Martin

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(h)

PRS:	10-003(h)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site maps will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name)
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Coordinates of termination point: Latitude: Longitude:

Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site

Explanation:

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(h)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				13
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
		If no, score as 0. If yes, calculate as appropriate.			
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			•
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(h) 2. Date (M/D/Y): 11/12/97 Time (am/pm): 2:15:00 PM

3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin

5. HSWA Yes 6. Site Ranking System (SRS) # 35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, industrial waste manhole (TA-10-51) constructed of reinforced concrete. Measured 4 ft wide by 5 ft long by 5 ft deep. It was along the industrial waste line leading from the radiochemistry laboratory.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	<u>06/01/94</u>
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input type="checkbox"/> BMP	IM: <u> </u>
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	BMPs: <u> </u>
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	<u> </u>
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP: <u> </u> RFI RPTs: <u>04/18/96</u> <u>06/03/96</u>
SAP INFO: <u> </u>	<u> </u>
<input checked="" type="checkbox"/> NFA/DOU	If checked, supply HH NFA criteria number and date: <u>5</u> <u> </u>

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
 If yes: 1) List date data are anticipated:
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Beverly Martin for
13. Signature of ER Representative
Bred Martin

**Surface Water Assessment Team (SWAT)
Recommended and Proposed Actions for PRS 10-003(i)**

PRS:	<input type="text" value="10-003(i)"/>		
SWAT Meeting Date:	<input type="text" value="8/18/1998"/>	FMU Contact:	<input type="text" value="Edward Hoth"/>
Official Submittal Date:	<input type="text" value="9/23/1998"/>	ER Contact:	<input type="text" value="Terry Rust"/>
Constituent Data:	<input type="text" value="No"/>	Erosion Matrix:	<input type="text" value="59.2"/>

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:		Owner:
Item: 1	Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2	Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:		Owner:	Target Date:	Actual Date:
Item: 1	Adequate site map will be provided	ER	Oct 98	
Item: 2	ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Contact: Records Held:

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

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 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM

2a) Location Number: 10-003(i)

2b) FMU Number:

SITE INFORMATION

3. Latitude: Longitude:

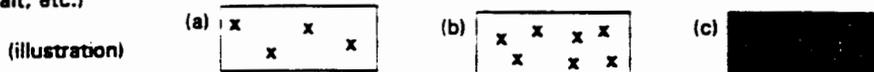
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

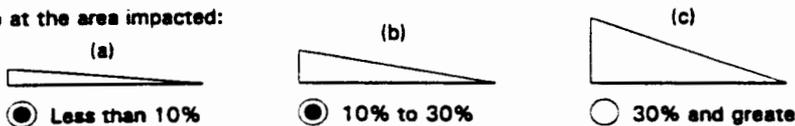
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score:

59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(i)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
					If no, score as 0. If yes, calculate as appropriate.
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

**Surface Water Assessment Team (SWAT)
Recommended and Proposed Actions for PRS 10-003(j)**

PRS:	10-003(j)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:		Owner:
Item: 1	Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2	Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site maps will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provide asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Contact: Records Held:

General Comments:

Los Alamos National Laboratory
 SURFACE WATER
 SITE ASSESSMENT

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM

2a) Location Number: 10-003(j)

SITE INFORMATION

2b) FMU Number: _____

3. Latitude: _____ Longitude: _____

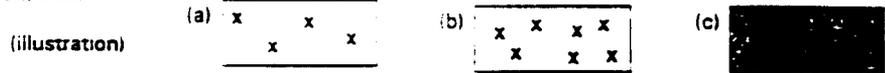
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse. extent of shades: this PRS part of 10-007.

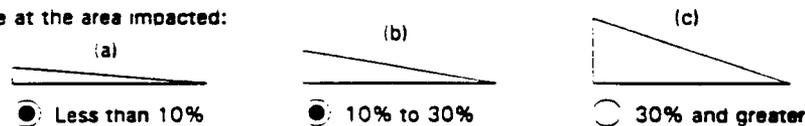
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
 - Within bench of canyon setting (name) _____
 - Other (i.e., retention pond, meadow, mesa top) _____
- Coordinates of termination point: Latitude: _____ Longitude: _____
- Explanation: Channel on the outside of slit fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully
- Explanation: Slit fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

- 9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?
Explanation: Culvert under road.
- 10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?
Explanation:
- 11. Are natural drainage patterns directing stormwater onto site?
Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

- 12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(j)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				13
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
*Select either structures or natural drainages.					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(j) 2. Date (M/D/Y): 11/12/97 Time (am/pm): 3:00:00 PM
3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
5. HSWA Yes 6. Site Ranking System (SRS) # 35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a stainless steel tank (no structure number) that was part of the septic system, TA-10-39. It had a capacity of 200 gal. TA-10-39 was removed during the 1963 D&D.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	<u>06/01/94</u>
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM: _____
	BMPs: <u>11/01/96</u>
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	_____
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	_____
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report SAP: _____	RFI RPTs: <u>04/18/96</u> <u>16 03 96</u>
SAP INFO: _____	_____

NFA/DOU If checked, supply HH NFA criteria number and date: 5 _____

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
- If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
- If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data available.
 3) Please attach existing map, showing where samples were taken, if available
- Yes No **12. Are data pending?**
- If yes: 1) List date data are anticipated: _____
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Henry McWalter
13. Signature of ER Representative

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(k)

PRS:	10-003(k)		
SWAT Meeting Date:	3/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	40	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site maps will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch

Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm): 7/22/97 3:00:00 PM

2a) Location Number: 10-003(k)

2b) FMU Number: _____

SITE INFORMATION

3. Latitude: _____ Longitude: _____

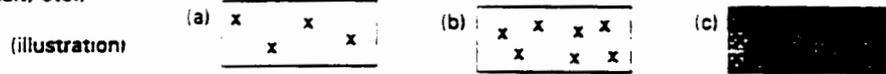
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse. extent of shades; this PRS part of 10-007.

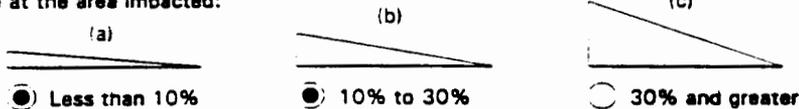
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges. 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to fiat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____

Coordinates of termination point: Latitude: _____ Longitude: _____

Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site. some sediment accumulated on the NE corner of the site. sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site

Explanation:

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Y N Is there visible trash or debris on the site?
- Y N Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Y N Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Y N Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(k)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			0
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(k) 2. Date (M/D/Y): 11/18/97 Time (am/pm): 9:10:00 AM
3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
5. HSWA Yes 6. Site Ranking System (SRS) #35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a stainless steel tank (no structure number) that was part of the septic system, TA-10-39. It had a capacity of 200 gal. TA-10-39 was removed during the 1963 D&D.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	<u>06/01/94</u>
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM: _____
	BMPs: <u>11/01/96</u>
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	_____
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	_____
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP: _____ RFI RPTs: <u>04/18/96</u> <u>06/03/96</u>
SAP INFO: _____	_____

NFA/DOU If checked, supply HH NFA criteria number and date: 5

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
If yes: 1) List date data are anticipated: _____
2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Henry McManus for
13. Signature of ER Representative

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(I)

PRS:	10-003(I)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site maps will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provide asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Contact: Records Held:

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM 2a) Location Number: 10-003(I)
 2b) FMU Number: _____

SITE INFORMATION

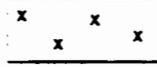
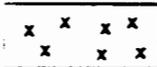
3. Latitude: _____ Longitude: _____
 4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse. extent of shades: this PRS part of 10-007.

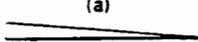
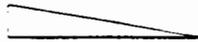
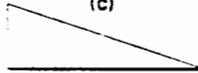
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

(illustration) (a)  (b)  (c) 

Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side. the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:

(a)  (b)  (c) 

Less than 10% 10% to 30% 30% and greater

Explanation: From old road to flat area 10-30%. next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS. CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____
- Coordinates of termination point: Latitude: _____ Longitude: _____
- Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation: _____

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(I)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			•
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(I) 2. Date (M/D/Y): 11/18/97 Time (am/pm) 9:15:00 AM
3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin
5. HSWA Yes 6. Site Ranking System (SRS) # 35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a stainless steel tank (no structure number) that was part of the septic system, TA-10-39. It had a capacity of 200 gal. TA-10-39 was removed during the 1963 D&D.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

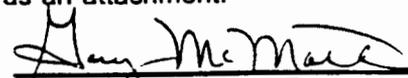
9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated
<input type="checkbox"/> Field Investigation <input type="checkbox"/> Phase I <input type="checkbox"/> Phase II	<u>06/01/94</u>
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM: _____
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	BMPs: <u>11/01/96</u>
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	_____
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP: _____ RFI RPTs: <u>04/18/96</u> <u>06/03/96</u>
SAP INFO: _____	_____

NFA/DOU If checked, supply HH NFA criteria number and date: 5 _____

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
If yes: 1) Attach data
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
If yes: 1) List date data are anticipated: _____
2) Provide list of COPCs identified in RFI Work Plan as an attachment.


13. Signature of ER Representative

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(m)

PRS:	10-003(m)		
SWAT Meeting Date:	3/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:

	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site map will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency Contact Records Held:

General Comments:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channeilization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(m)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			*
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

SITE INFORMATION

1. PRS Number: 10-003(m) 2. Date (M/D/Y): 11/18/97 Time (am/pm): 9:20:00 AM

3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin

5. HSWA Yes 6. Site Ranking System (SRS) # 35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a clay drain pipe (no structure number) that connected PRSs 10-003(a-c) (TA-10-41, -42, and -43). It was discovered 10 ft below the surface during the 1963 D&D of TA-10. The clay pipe and disposal pits were excavated to a depth of 18.6 ft during the 1963 D&D activities. The excavation was then backfilled with material taken from other parts of Bayo Canyon as well as D&D debris.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated	
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	08/01/94	
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM:	
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	BMPs:	11/01/96
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS		
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP:	RFI RPTs: 04/18/96 06/03/96
SAP INFO:		
<input checked="" type="checkbox"/> NFA/DOU If checked, supply HH NFA criteria number and date: 5		

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
 If yes: 1) List date data are anticipated:
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Beverly Martin
13. Signature of ER Representative
Beverly Martin

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(n)

PRS:	10-003(n)		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hoth
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59 2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: Revisit Recommended Revisit Date:

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site map will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31.97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency Contact Records Held:

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM

2a) Location Number: 10-003(n)

SITE INFORMATION

2b) FMU Number: _____

3. Latitude: _____ Longitude: _____

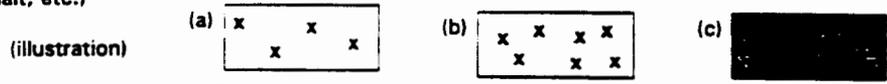
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

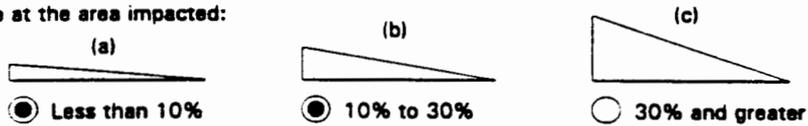
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name)
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Coordinates of termination point: Latitude: Longitude:

Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site

Explanation:

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

- Is there visible trash or debris on the site?
- Is there visible trash or debris in a watercourse?

Erosion Matrix Score: 59.2

Recommended BMPs (Best Management Practices) for this site:

Description of existing BMPs:

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Existing BMPs prevent any additional channelization, no additional BMPs recommended, maintenance and operation of BMPs. Three photographs taken.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 10-003(n)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			13
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	2.2
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			•
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59.2

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-003(o)

PRS:	<u>10-003(o)</u>		
SWAT Meeting Date:	<u>8/18/1998</u>	FMU Contact:	<u>Edward Hoth</u>
Official Submittal Date:	<u>9/23/1998</u>	ER Contact:	<u>Terry Rust</u>
Constituent Data:	<u>No</u>	Erosion Matrix:	<u>59.2</u>

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: _____ Revisit Recommended: Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	<u>ER</u>
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	<u>ER</u>

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site map will be provided	<u>ER</u>	<u>Oct 98</u>	
Item: 2 ER plan will be discussed and provided asap	<u>ER</u>	<u>FY99</u>	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

<u>sandbags</u>
<u>silt fence</u>
<u>straw bale barrier</u>

Frequency: Annual Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM

2a) Location Number: 10-003(o)

2b) FMU Number:

SITE INFORMATION

3. Latitude: Longitude:

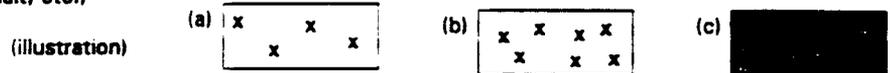
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse, extent of shades; this PRS part of 10-007.

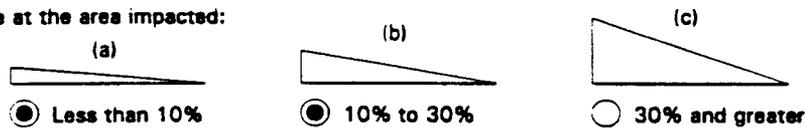
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100%

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____

Coordinates of termination point: Latitude: _____ Longitude: _____

Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site, sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation:

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative



Initials of independent reviewer.

Check here when information is entered in database:

SWMU # 10-007 Landfill Disposal Site

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 10-007

PRS:	10-007		
SWAT Meeting Date:	8/18/1998	FMU Contact:	Edward Hotn
Official Submittal Date:	9/23/1998	ER Contact:	Terry Rust
Constituent Data:	No	Erosion Matrix:	59.2

General SWAT Comments:

Former liquid waste disposal complex located within the floodplain of Bayo Canyon. Excavation of building and contaminated material were completed in 1963 to a depth of 18 feet. Recent investigation have determined that contamination remaining at depth is being brought to the surface by vegetation in some areas.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: _____

Revisit Comments:

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Obtain adequate site map depicting are of concern with existing BMPs plotted showing relationship to the adjacent watercourse.	ER
Item: 2 Provide ER plan for further investigation/remediation and how monuments at site relate to the 10-year plan.	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Adequate site map will be provided	ER	Oct 98	
Item: 2 ER plan will be discussed and provided asap	ER	FY99	

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
Sand bags and straw bales placed up-lope for diversion, silt fence installed on down-slope side, entire area fenced and signs posted. BMPs installed 3/31/97

Tabular List of BMPs:

sandbags
silt fence
straw bale barrier

Frequency: Annual Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

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1. Date/Time (M/D/Y H:M am/pm) 7/22/97 3:00:00 PM

2a) Location Number: 10-007

2b) FMU Number: _____

SITE INFORMATION

3. Latitude: _____ Longitude: _____

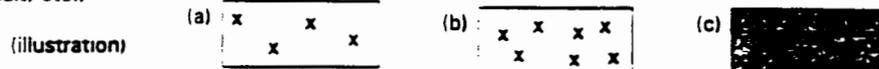
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Located adjacent to watercourse. extent of shades: this PRS part of 10-007.

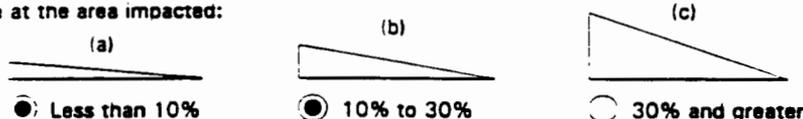
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Some spots 20-75% internal to the side, the extent on the down stream edges, 75-100% and 25-75%.

7. Steepest slope at the area impacted:



Explanation: From old road to flat area 10-30%, next to watercourse 0-10%.

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Looks like natural drainage small less than 1.0 foot deep, covered with pine needles.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Bayo Canyon
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____
- Coordinates of termination point: Latitude: _____ Longitude: _____

Explanation: Channel on the outside of silt fence, discharges into main channel.

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Silt fence installed on the down slope of the site, some sediment accumulated on the NE corner of the site. sheet flow from site if any

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Culvert under road.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation:

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Minimal on the W end, straw bales installed.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

M. Alexander

Signature of Water Quality/Hydrology Representative



Initials of independent reviewer.

Check here when information is entered in database:

SITE INFORMATION

1. PRS Number: 10-007 2. Date (M/D/Y): 11/18/97 Time (am/pm): 9:25:00 AM

3. ER Point of Contact Beverly Martin 4. FMU/Responsible Party Contact Beverly Martin

5. HSWA Yes 6. Site Ranking System (SRS) # 35

7. Description of the historical operations of this PRS:

Per the approved OU 1079 RFI work plan, a landfill located in and near the stream channel and was used to dispose of building debris from the 1963 D&D. The size of the landfill is unknown. However, it was sited within the excavation created by the removal of the liquid disposal complex. Some items in the landfill included concrete from the two firing site detonation control buildings (TA-10-13 and -15) and soil from the vicinity of the inspection building (TA-10-8), one of the battery buildings (TA-10-14), and building TA-10-13. The landfill was created during the 1963 D&D and has not been removed.

8. Description of the current operations of this PRS (if any):

None. Site was D&D'd in early 1960s and is now vacant.

PRS STATUS

9. Action/Status to Date (check all that apply)

<input type="checkbox"/> None	Date Completed or Anticipated
<input type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	<u>07/01/94</u>
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input checked="" type="checkbox"/> BMP	IM: _____
	BMPs: <u>11/01/96</u>
<input type="checkbox"/> VCA <input type="checkbox"/> VCM	_____
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMS	_____
<input type="checkbox"/> Report Status <input type="checkbox"/> SAP <input checked="" type="checkbox"/> RFI Report	SAP: _____ RFI RPTs: <u>04/18/96</u> <u>06/03/96</u>
SAP INFO: _____	_____
<input checked="" type="checkbox"/> NFA/DOU If checked, supply HH NFA criteria number and date: <u>5</u> _____	

SAMPLE INFORMATION

- Yes No **10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, and media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **11. Have surface water samples been collected that reflect current site conditions?**
 If yes: 1) Attach data
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
- Yes No **12. Are data pending?**
 If yes: 1) List date data are anticipated: _____
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

Mary McMath for
13. Signature of ER Representative
 R. L. M. e.

SWMU # 33-006 (a) Firing Site

**Surface Water Assessment Team (SWAT)
Recommended and Proposed Actions for PRS 33-006(a)**

PRS:	<u>33-006(a)</u>	FMU Contact:	<u>Peter Bussoini</u>
SWAT Meeting Date:	<u>9/30/1998</u>	ER Contact:	<u>John McCann</u>
Official Submittal Date:	<u>10/1/1998</u>	Erosion Matrix:	<u>EE</u>
Constituent Data:	<u>Yes</u>		

General SWAT Comments:

Inactive shot pad at TA-33 South Site. Adjacent to and partially included in 33-004(j). BMPs have been installed within the drainage area.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: 10/8/1998

Revisit Comments:

Site visited to determine effectiveness of BMPs. Condition of straw bale check dams was good.

Actions Recommended at SWAT Meeting:	Owner:
Item: 1. Maintain inspection and maintenance of BMPs	ER
Item: 2. Determine effectiveness of BMPs and improve if appropriate	ER

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1. Inspection and maintenance of BMPs is ongoing	ER	Ongoing	Ongoing
Item: 2. Site revisited and BMPs were found to be effective in reducing sediment transport.	ER	Oct 98	Oct 98

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
Sand bag berms and straw bales in place as interim measure. BMPs installed 8/31/96. BMPs were installed within drainage in November of 1998.

Tabular List of BMPs:

sandbags
straw bale barrier

Frequency: 3 Months Contact: Linda Fluk Records Held: ICF Kaiser

General Comments:

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

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1. Date/Time (M/D/Y H:M am/pm) 8/1/97 12:40:00 PM

2a) Location Number: 33-006(a)

2b) FMU Number: _____

SITE INFORMATION

3. Latitude: _____ Longitude: _____

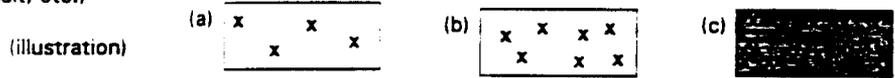
4. Source of coordinate information: Survey GPS Engineering Scaling

SITE SETTING (check all that apply)

5. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: 33-006(a) boundnes cover majority of TA-33 South Site.

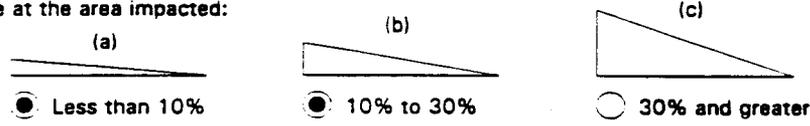
6. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Shrapnel, depleted uranium and miscellaneous debns scattered throughout site.

7. Steepest slope at the area impacted:



Explanation: _____

RUNOFF FACTORS

Y / N

8. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:

a) Is runoff channelized? If yes, describe: Man-made channel. Natural channel.

Explanation: Man-made channel located at south end of site SE of old firing pad.

RUNOFF FACTORS, CONT'D

b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Chaquenui Canyon
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____

Coordinates of termination point: Latitude: _____ Longitude: _____

Explanation: _____

Y / N

- c) Has runoff caused visible erosion at the site? If yes, explain below: Sheet Rill Gully

Explanation: Rill erosion present throughout site.

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

9. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: 33-008(a) - Old landfill contributes run-on to 33-006(a) 33-008(a) at head of drainage.

10. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation: _____

11. Are natural drainage patterns directing stormwater onto site?

Explanation: Sheet flow from surrounding slopes and old activity areas.

ASSESSMENT FINDING:

12. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

T. Lemke

Signature of Water Quality/Hydrology Representative

Initials of independent reviewer.Check here when information is entered in database:

This page is for internal ESH-18 notes, recommendations, and photos.

Y / N

is there visible trash or debris on the site?

Erosion Matrix Score:

56

is there visible trash or debris in a watercourse?

Recommended BMPs (Best Management Practices) for this site:

Visible debris should be cleaned up.

Description of existing BMPs:

Are BMPs being properly maintained? If no, describe in "Other Internal Notes."

Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Shrapnel, depleted uranium and miscellaneous debris

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 33-006(a)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			1.0
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	6.5 25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5.0
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19.0
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	11.0
		If no, score as 0. If yes, calculate as appropriate.			
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7.0
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0.0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			.
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			56.0

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

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Revised Part A. Please discard previous.

SITE INFORMATION

1. PRS Number 33-006(a) 2. Date/Time (M/D/Y H:M am/pm) 11/18/97 10:54:00 AM
3. ER Point of Contact K. Beguin 4. FMU/Responsible Party Contact Pete Bussoini
5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)
6. Site Ranking System (SRS) # 50

7. Description of the historical operations of this PRS:
 The shot pad at South Site where implosion studies were conducted. Since shrapnel from detonations is widespread, the extent of the PRS has been redefined to cover an area with radius of approximately 1.1 mile.

8. Description of the current operations of this PRS (if any):
 None.

PRS STATUS

Action/Status to Date (check all that apply)

	Date Completed or Anticipated
<input type="radio"/> None	
<input checked="" type="radio"/> Field Investigation <input type="radio"/> Phase I <input type="radio"/> Phase II	<u>8/1/94</u>
<input checked="" type="radio"/> Interim Measures <input checked="" type="radio"/> IM <input checked="" type="radio"/> BMPs	<u>4/23/97</u>
<input type="radio"/> Accelerated Cleanup <input type="radio"/> VCA <input type="radio"/> VCM	
<input type="radio"/> Other <input type="radio"/> Monitoring <input type="radio"/> CMs	
<input checked="" type="radio"/> Report Status <input checked="" type="radio"/> RFI Report <input type="radio"/> SAP	<u>9/29/97</u>
<input checked="" type="radio"/> NFA/DOU. If checked, supply criteria number(s): <u>5</u>	

SAMPLE INFORMATION

Y / N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated:
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

K. Beguin

13. Signature of ER Representative

SWMU # 35-003 (d, l, q) Former Wastewater Treatment Facilities

**Surface Water Assessment Team (SWAT)
Recommended and Proposed Actions for PRS 35-01**

35-003(d)

PRS:	35-003(d)		
SWAT Meeting Date:	11/5/1998	FMU Contact:	Se
Official Submittal Date:	11/9/1998	ER Contact:	Gabriel
Constituent Data:	Yes	Erosion Matrix:	00

General SWAT Comments:

Site of the former pump pit (TA-35-8) associated with the wastewater treatment plant, it was adjacent to the pipe trench (PRS No. 35-003(q)) and the holding tanks (PRS No. 35-003(d)). The pump pit was about 10 ft wide and 14 ft long and housed two large capacity electric pumps and associated valves and piping used to transfer the liquid in the holding tanks among the tanks and to TA-35-7. The pump pit contained floor drains that discharged to the daylight diversion channel.

An Interim Action was performed at this site in 1996. The area was backfilled and reseeded. An earth berm to divert run-off to riprap-lined channel.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: 11/17/1998

Revisit Comments:

Site visit with Steve Veenis, Jeff Waltersheid and Barbara Hoditschek. Upper berm has been breached in two places due to sheet flow from asphalt and base coarse parking lot. Lower berm breached at northeast corner due to run-on from northern asphalt channel. The remainder of the site looks good with approximately 50% vegetative cover.

Actions Recommended at SWAT Meeting:

Item: 1 Revisit site to determine if final stabilization has been achieved. If not, recommend appropriate measures.	Owner: ER/ESH-18
---	----------------------------

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Site was be revisited to access final stabilization measures. More recommendations were made.	ER/ESH-18	1/1/99	11/98

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

BMP in place: Earth berm to divert run-off to riprap-lined channel. Area backfilled and reseeded 1996. Additional work completed in 12/98 included fixing breached berm, provided extra riprap and compaction of soils at site

Tabular List of BMPs:

earth berm
riprap
seeding, permanent
straw bale barrier

Frequency	3 Months	Contact	Mary Jane Winch	Records Held:	Pueblo Complex
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General Comments:

Site IA completed in 12/98.

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

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SITE INFORMATION

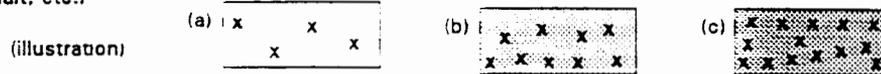
1 a) PRS Number 35-003(d) 1b) Structure Number 35-7 1c) FMU Number 75
 2. Date/Time (M/D/Y H:M am/pm) 3/6/97 8:57:00 AM

SITE SETTING (check all that apply)

3. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Downslope from former Building 35-7.

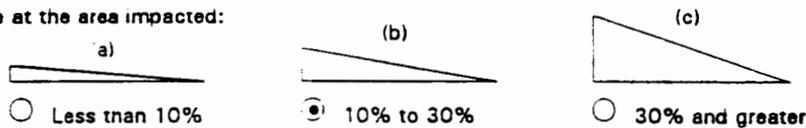
4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75 75% to 100

Explanation:

5. Steepest slope at the area impacted:



Explanation:

RUNOFF FACTORS

Y / N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 6a) Is runoff channelized? If yes, describe Man-made channel. Natural channel.

Explanation: Earth berm stabilized with jute mat, diverts run-off to nprap-lined channel leading to Pratt Canyon, tributary to Ten Site Canyon.

RUNOFF FACTORS, CONT'D

5b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Pratt Canyon
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____

Explanation:

Y / N

5c) Has runoff caused visible erosion at the site? If yes, explain below Sheet Rill Gully

Explanation:

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Former building upstream Building 35-7.

8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation:

9. Are natural drainage patterns directing stormwater onto site?

Explanation:

ASSESSMENT FINDING:

10. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

D. Mays

11. Signature of Water Quality/Hydrology Representative

[Signature] Initials of independent reviewer.

Check here when information is entered in database:

This page is for ESH-18 notes, recommendations, and photos.

Y / N

- 12 a) Is there visible trash/debris on the site?
- b) Is there visible trash/debris in a watercourse?

Description of existing BMPs:

Area backfilled and reseeded. BMP in place: Earth berm to divert run-off to nrap-lined channel.

insulation

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Rill/Gully erosion is beginning to form at interim action site.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 35-003(d)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			40
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	65
Slope	13	0-10%	10-30%	>30%	65
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			50
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	190
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	110
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			70
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			00
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			00
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59**

** Indicates BMPs in place. Erosion potential without BMPs would be greater.

Los Alamos National Laboratory
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CONSTITUENT ASSESSMENT

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Revised Part A. Please discard previous.

SITE INFORMATION

1. PRS Number 35-003(d) 2. Date/Time (M/D/Y H:M am/pm) 11/25/96 9:15:00 AM
 3. ER Point of Contact L. Dale 4. FMU/Responsible Party Contact FMU-75
 5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)
 6. Site Ranking System (SRS) # 69

7. Description of the historical operations of this PRS:

Former wastewater treatment plant (WTP) holding tank building (TA-35-10) that housed four 50,000-gal. concrete storage tanks used for six month decay holding time for the treated liquid from SWMU 35-003(a, b, c) for La-140 and Ba-140. *The holding tank building is located on the site between the two main tanks. It was used to hold the treated effluent from the two main tanks before it was discharged to the river. The building was demolished in 1985. The site is currently inactive. The PRS is closely related to PRS 35-003(l and q) with which it was evaluated.*

8. Description of the current operations of this PRS (if any):

Structure was decommissioned in 1985. Site currently inactive. This PRS is closely related to PRS 35-003(l and q) with which it was evaluated.

PRS STATUS

Action/Status to Date (check all that apply)

None	Date Completed or Anticipated
<input checked="" type="radio"/> Field Investigation <input checked="" type="radio"/> Phase I <input type="radio"/> Phase II	_____
<input type="radio"/> Interim Measures <input type="radio"/> IM <input type="radio"/> BMPs	_____
<input type="radio"/> Accelerated Cleanup <input type="radio"/> VCA <input type="radio"/> VCM	_____
<input type="radio"/> Other <input type="radio"/> Monitoring <input type="radio"/> CMs	_____
<input checked="" type="radio"/> Report Status <input checked="" type="radio"/> RFI Report <input type="radio"/> SAP	6/1/96
<input type="checkbox"/> NFA/DOU. If checked, supply criteria number(s): _____	

SAMPLE INFORMATION

Y/N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated: _____
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

A. Pratt

13. Signature of ER Representative

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 35-003(I)

PRS:	35-003(I)		
SWAT Meeting Date:	11/5/1998	FMU Contact:	Sara Helmick
Official Submittal Date:	11/9/1998	ER Contact:	Gabriela Lopez-Escobed
Constituent Data:	Yes	Erosion Matrix:	59

General SWAT Comments:

Site of the former pump pit (TA-35-8) associated with the wastewater treatment plant, it was adjacent to the pipe trench (PRS No. 35-003(q)) and the holding tanks (PRS No. 35-003(d)). The pump pit was about 10 ft wide and 14 ft long and housed two large capacity electric pumps and associated valves and piping used to transfer the liquid in the holding tanks among the tanks and to TA-35-7. The pump pit contained floor drains that discharged to the daylight diversion channel.

An Interim Action was performed at this site in 1996. The area was backfilled and reseeded. An earth berm to divert run-off to riprap-lined channel.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: 11/17/1998

Revisit Comments:

Site visit with Steve Veenis, Jeff Waltersheid and Barbara Hoditscnek. Upper berm has been breached in two places due to sheet flow from asphalt and base coarse parking lot. Lower berm breached at northeast corner due to run-on from northern asonait channel. The remainder of the site looks good with approximately 50% vegetative cover.

Actions Recommended at SWAT Meeting:

Item: 1 Revisit site to determine if final stabilization has been achieved. If not, recommend appropriate measures.	Owner: ER/ESH-18
---	----------------------------

Actions Proposed by ER, FM or ESH-18:

Item: 1 Site was revisited to access final stabilization measures. Additional recommendations were made.	Owner: ER	Target Date: 1/99	Actual Date: 11/98
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INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment

BMP in place: Earth berm to divert run-off to riprap-lined channel. Area backfilled and reseeded 1996. Additional work completed in 12/98 included fixing breached berm, provided extra riprap and compaction of soils at site.

Tabular List of BMPs:

- earth berm
- riprap
- seeding, permanent
- straw bale barrier

Frequency 3 Months Contact Mary Jane Winch

Records Held: Pueblo Complex

General Comments:

Site IA was performed in 12/98

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

SITE INFORMATION

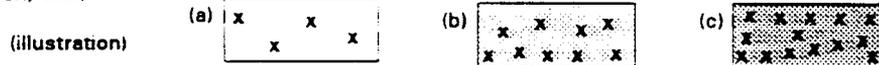
1a) PRS Number 1b) Structure Number 1c) FMU Number
 2. Date/Time (M/D/Y H:M am/pm)

SITE SETTING (check all that apply)

3. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation:

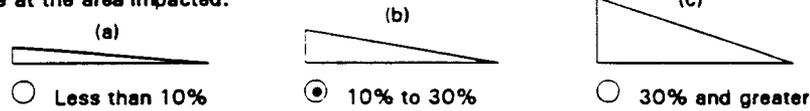
4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100%

Explanation:

5. Steepest slope at the area impacted:



Explanation:

RUNOFF FACTORS

Y / N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 6a) Is runoff channeled? If yes, describe Man-made channel. Natural channel.

Explanation:

RUNOFF FACTORS, CONT'D

6b) Where does evidence of runoff terminate?

- Drainage or wetland (name)
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Explanation:

Y / N

- 6c) Has runoff caused visible erosion at the site? If yes, explain below Sheet Rill Gully

Explanation:

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Former building upstream Building 35-7.

8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation:

9. Are natural drainage patterns directing stormwater onto site?

Explanation:

ASSESSMENT FINDING:

10. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

D. Mays

11. Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database

This page is for ESH-18 notes, recommendations, and photos.

Y / N

12 a) Is there visible trash/debris on the site?

b) Is there visible trash/debris in a watercourse?

Description of existing BMPs:

Area backfilled and reseeded. BMP in place: Earth berm to divert run-off to nrap-lined channel.

BMPs not in place should be higher than BMP

Are BMPs being properly maintained? If no, describe in "Other Internal Notes."

Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Rill/gully erosion is beginning to form at interim action site.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 35-003(I)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			4.0
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5.0
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19.0
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	11.0
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7.0
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0.0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			0.0
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59**

** Indicates BMPs in place. Erosion potential without BMPs would be greater.

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2014-10-12
12-03

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

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Part A: page 1 of 4

SITE INFORMATION

1. PRS Number 2. Date/Time (M/D/Y H:M am/pm)
3. ER Point of Contact 4. FMU/Responsible Party Contact
5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)
6. Site Ranking System (SRS) #

7. Description of the historical operations of this PRS:

Potential soil contamination exposed by storm water erosion through an area impacted by a former liquid waste holding tank 35-003(d), and former pipe trench 35-003 (q). All associated with the former TA-3 WWTP. See attached data.

8. Description of the current operations of this PRS (if any):

PRS STATUS

Action/Status to Date (check all that apply)

	Date Completed or Anticipated
<input type="radio"/> None	
<input checked="" type="radio"/> Field Investigation <input checked="" type="radio"/> Phase I <input type="radio"/> Phase II	<input type="text"/>
<input type="radio"/> Interim Measures <input type="radio"/> IM <input type="radio"/> BMPs	<input type="text"/>
<input type="radio"/> Accelerated Cleanup <input type="radio"/> VCA <input type="radio"/> VCM	<input type="text"/>
<input type="radio"/> Other <input type="radio"/> Monitoring <input type="radio"/> CMs	<input type="text"/>
<input checked="" type="radio"/> Report Status <input checked="" type="radio"/> RFI Report <input type="radio"/> SAP	<input type="text" value="6/1/96"/>
<input type="radio"/> NFA/DOU. If checked, supply criteria number(s): <input type="text"/>	

SAMPLE INFORMATION

Y / N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated:
2) Provide list of COPCs identified in RFI Work Plan as an attachment.

A. Pratt

13. Signature of ER Representative

Surface Water Assessment Team (SWAT) Recommended and Proposed Actions for PRS 35-003(q)

PRS:	35-003(q)		
SWAT Meeting Date:	11/5/1998	FMU Contact:	Sara Helmick
Official Submittal Date:	11/9/1998	ER Contact:	Gabriela Lopez-Escobed
Constituent Data:	Yes	Erosion Matrix:	59

General SWAT Comments:

Site of the former pump pit (TA-35-8) associated with the wastewater treatment plant, it was adjacent to the pipe trench (PRS No. 35-003[q]) and the holding tanks (PRS No. 35-003[d]). The pump pit was about 10 ft wide and 14 ft long and housed two large capacity electric pumps and associated valves and piping used to transfer the liquid in the holding tanks among the tanks and to TA-35-7. The pump pit contained floor drains that discharged to the daylight diversion channel.

An Interim Action was performed at this site in 1996. The area was backfilled and reseeded. An earth berm to divert run-off to riprap-lined channel.

Date of Part B Revision: _____ Revisit Recommended Revisit Date: _____

Revisit Comments:

Site visit with Steve Veenis, Jeff Waltersheid and Barbara Hoditschek. Upper berm has been breached in two places due to sheet flow from asphalt and base coarse parking lot. Lower berm breached at northeast corner due to run-on from northern asphalt channel. The remainder of the site looks good with approximately 50% vegetative cover.

Actions Recommended at SWAT Meeting:	Owner:
Item: 1 Revisit site to determine if final stabilization has been achieved. If not, recommend appropriate measures.	ER/ESH-18

Actions Proposed by ER, FM or ESH-18:	Owner:	Target Date:	Actual Date:
Item: 1 Site was revisited to access final stabilization measures. Additional recommendations were made.	ER	1/99	11/98

INSPECTION & MAINTENANCE INFORMATION

Description of Existing BMPs from Erosion Assessment
 BMP in place: Earth berm to divert run-off to riprap-lined channel. Area backfilled and reseeded 1996. Additional work completed in 12/98 included fixing breached berm, provided extra riprap and compaction of soils at site

Tabular List of BMPs:

earth berm
riprap
seeding, permanent
straw bale barrier

Frequency: 3 Months Contact: Mary Jane Winch Records Held: Pueblo Complex

General Comments:

Site IA was performed in 12/98

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

SITE INFORMATION

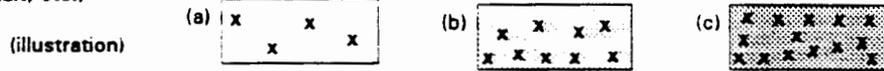
1a) PRS Number 35-003(q) 1b) Structure Number 35-7 1c) FMU Number 75
 2. Date/Time (M/D/Y H:M am/pm) 8/6/97 8:57:00 AM

SITE SETTING (check all that apply)

3. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: Dowslope from former Building 35-7.

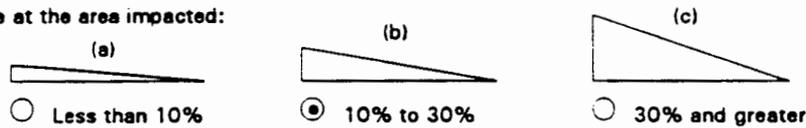
4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)



Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation:

5. Steepest slope at the area impacted:



Explanation:

RUNOFF FACTORS

Y / N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 6a) Is runoff channelized? If yes, describe Man-made channel. Natural channel.

Explanation: Earth berm stabilized with jute mat, diverts run-off to riprap-lined channel leading to Pratt Canyon, tributary to Ten Site Canyon.

RUNOFF FACTORS, CONT'D

6b) Where does evidence of runoff terminate?

- Drainage or wetland (name)
- Within bench of canyon setting (name)
- Other (i.e., retention pond, meadow, mesa top)

Explanation:

Y / N

- 6c) Has runoff caused visible erosion at the site? If yes, explain below Sheet Rill Gully

Explanation:

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #9 or #11)

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Former building upstream Building 35-7.

8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation:

9. Are natural drainage patterns directing stormwater onto site?

Explanation:

ASSESSMENT FINDING:

10. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

D. Mays

11. Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.
Check here when information is entered in database:

This page is for ESH-18 notes, recommendations, and photos.

- Y / N
- 12 a) Is there visible trash/debris on the site?
- b) Is there visible trash/debris in a watercourse?

Description of existing BMPs:

Area backfilled and reseeded. BMP in place: Earth berm to divert run-off to riprap-lined channel.

- Are BMPs being properly maintained? If no, describe in "Other Internal Notes."
- Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Rill/gully erosion is beginning to form at interim action site.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 35-003(q)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			4.0
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	6.5
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5.0
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19.0
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	11.0
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7.0
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0.0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			0.0
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			59**

** Indicates BMPs in place. Erosion potential without BMPs would be greater.

Los Alamos National Laboratory
Environmental Restoration Program
CONSTITUENT ASSESSMENT

LANL-ER-AP-4.5
Part A: page 1 of 4

SITE INFORMATION

1. PRS Number 2. Date/Time (M/D/Y H:M am/pm)
3. ER Point of Contact 4. FMU/Responsible Party Contact

5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)

6. Site Ranking System (SRS) #

7. Description of the historical operations of this PRS:

Potential soil contamination exposed by storm water erosion through an area impacted by a former liquid waste holding tank 35-003(d), and former pipe trench 35-003 (q). All associated with the former TA-3 WWTP. See attached data.

8. Description of the current operations of this PRS (if any):

PRS STATUS

Action/Status to Date (check all that apply)

	Date Completed or Anticipated
<input type="radio"/> None	
<input checked="" type="radio"/> Field Investigation <input checked="" type="radio"/> Phase I <input type="radio"/> Phase II	<input type="text"/>
<input type="radio"/> Interim Measures <input type="radio"/> IM <input type="radio"/> BMPs	<input type="text"/>
<input type="radio"/> Accelerated Cleanup <input type="radio"/> VCA <input type="radio"/> VCM	<input type="text"/>
<input type="radio"/> Other <input type="radio"/> Monitoring <input type="radio"/> CMs	<input type="text"/>
<input checked="" type="radio"/> Report Status <input checked="" type="radio"/> RFI Report <input type="radio"/> SAP	<input type="text"/>
<input type="radio"/> NFA/DOU. If checked, supply criteria number(s): <input type="text"/>	

SAMPLE INFORMATION

Y / N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
If yes: 1) Attach data.
2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated:
2) Provide list of COPCs identified in RFI Work Plan as an attachment.

A. Pratt

13. Signature of ER Representative

SWMU # 53-002 (a) Disposal Lagoon

- **5-004** - Past evidence of historic trench location and old septic tank. PRS boundary extends over mesa edge onto lower "bench type" setting. Septic system removed in 1985. Samples collected recently but data is pending.

Recommended Action: Re-evaluate data at future SWAT meeting when pending data is received.

ER Contact - Gabriela Lopez-Escobed
FM Contact – David Padilla

- **53-012(b)** - Outfall from cooling tower 53-62 located directly to north (03A048). No sampling has been performed for this site.

Recommended Action: Collect samples to determine if COPCs are located within drainage. Determine if storm water sources are connected to the NPDES outfall.

ER Contact - Gabriela Lopez-Escobed
FM Contact – Jim Fraser



- **53-002(a)** - Located between Sandia and Los Alamos canyons. Former NPDES outfall from lagoons at TA-53. Outfall at east end of lagoons has riprap. East of site there are a series of straw bale barriers surrounding former discharge area above cliffs.

Recommended Action: Ownership of BMPs at site must be determined for inspection/maintenance concerns.

ER Contact - Gabriela Lopez-Escobed
FM Contact – Jim Fraser

- **35-016(c)** - Includes two formerly permitted inactive outfalls (NPDES Permit Nos. 04A088 and 04A012) that discharged non-contact cooling water from a warehouse (TA-35-67). They were established in 1964. 1985 had combined the drain line to outfall 04A088 with the drain line to outfall 04A012. The outfall was deactivated in 1987. PRS extends from canyon edge to bench within Ten-Site Canyon.

Los Alamos National Laboratory
**SURFACE WATER
 SITE ASSESSMENT**

LANL-ER-AP-4.5
 Part B: page 2 of 4

SITE INFORMATION

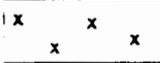
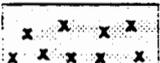
1a) PRS Number 53-008 1b) Structure Number 53-621 1c) FMU Number 61
 2. Date/Time (M/D/Y H:M am/pm) 10/29/97 2:25:00 PM

SITE SETTING (check all that apply)

3. On mesa top (a). In the canyon floor, but not in an established channel (c).
 Within a bench of a canyon (b). Within established channel in the canyon floor (d).

Explanation: On mesa top adjacent to TA-53 lagoons. Boneyard spread along south and east sides of lagoons. Located between Sandia and Los Alamos canyons.

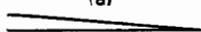
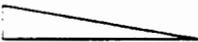
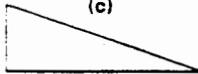
4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

(illustration) (a)  (b)  (c) 

Estimated % of ground/canopy cover: 0% to 25% 25% to 75% 75% to 100

Explanation: Very little ground cover. Canopy cover consists primarily of junipers.

5. Steepest slope at the area impacted:

(a)  (b)  (c) 

Less than 10% 10% to 30% 30% and greater

Explanation:

RUNOFF FACTORS

Y / N

6. Is there visible evidence of runoff discharging from site? If yes, answer a) - c) below:
 6a) Is runoff channelized? If yes, describe Man-made channel. Natural channel.

Explanation:

RUNOFF FACTORS, CONT'D

6b) Where does evidence of runoff terminate?

- Drainage or wetland (name) Los Alamos
- Within bench of canyon setting (name) _____
- Other (i.e., retention pond, meadow, mesa top) _____

Explanation:

Y / N

- 6c) Has runoff caused visible erosion at the site? If yes, explain below Sheet Rill Gully

Explanation: Rill erosion is widespread across the site, primarily adjacent to the roadway. Two small gullies are present at the southeast corner of the lagoons.

RUN-ON FACTORS

Please rate the potential for storm water to run on to this site: (Check EITHER #7 or #9)

7. Are structures (i.e., buildings, roof drains, parking lots, storm drains) creating run-on to the site?

Explanation: Storm water flowing across and along side the roadway is causing erosion.

8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?

Explanation:

9. Are natural drainage patterns directing stormwater onto site?

Explanation: Sheet flow from the surrounding area.

ASSESSMENT FINDING:

10. Based on the above criteria and the assessment of this site, does soil erosion potential exist? (REFER TO EROSION POTENTIAL MATRIX.)

T. Lemke

11. Signature of Water Quality/Hydrology Representative

 Initials of independent reviewer.

Check here when information is entered in database:

This page is for ESH-18 notes, recommendations, and photos.

Y / N

12 a) is there visible trash/debris on the site?

b) Is there visible trash/debris in a watercourse?

Description of existing BMPs:

Are BMPs being properly maintained? If no, describe in "Other Internal Notes."

Are BMPs effectively keeping sediment in place and reducing erosion potential?

OTHER INTERNAL NOTES:

Very little vegetation in many locations and evidence of current erosion.
Debris on site consists of scrap metal stored in the boneyard.

Los Alamos National Laboratory

Environment, Safety and Health Division
 ESH-18 Water Quality and Hydrology Group

AP 4.5 Surface Water Assessment Erosion Matrix for PRS 53-008

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
Site Setting (43)					
On mesa top	1	Defined based on topographic setting			10
Within bench of canyon	4				
Within the canyon floodplain but not watercourse	13				
Within bottom of canyon channel in watercourse	17				
Estimated % ground and canopy cover	13	>75%	25-75%	<25%	6.5
Slope	13	0-10%	10-30%	>30%	13
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section. If yes, score 5 and proceed with section.			5.0
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	19.0
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	22.0
If no, score as 0. If yes, calculate as appropriate.					
Surface Water Factors-Run-on (11)					
Structures adversely affecting run-on (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7.0
Current operations adversely impacting (Yes/No)	4	If yes, score as 4. If no, score as 0.			0.0
Natural drainages onto site (Yes/No)	7*	If yes, score as 7. If no, score as 0.			7.0
<i>*Select either structures or natural drainages.</i>					
MAX. POSSIBLE EROSION MATRIX SCORE:	100	Total Score			61.8

Los Alamos National Laboratory
 Environmental Restoration Program
 CONSTITUENT ASSESSMENT

LANL-ER-AP-4 5
 Part A: page 1 of 4

SITE INFORMATION

1. PRS Number 53-008 2. Date/Time (M/D/Y H:M am/pm) 11/21/97 2:50:00 PM
 3. ER Point of Contact C. R. Mynard 4. FMU/Responsible Party Contact 61/Jim Fraser
 5. HSWA Area of Concern (AOC) (check both if AOC is on HSWA Permit)
 6. Site Ranking System (SRS) # 38
 7. Description of the historical operations of this PRS:
Storage yard for shielding.

3. Description of the current operations of this PRS (if any):

Storage area, boneyard, located on east side of surface impoundments, PRS 53-002(a and b), enclosed by fence. Storage for shielding blocks, trailers.

PRS STATUS

Action/Status to Date (check all that apply)

	Date Completed or Anticipated
<input type="checkbox"/> None	
<input checked="" type="checkbox"/> Field Investigation <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> Phase II	<u>5/1/95</u>
<input type="checkbox"/> Interim Measures <input type="checkbox"/> IM <input type="checkbox"/> BMPs	
<input checked="" type="checkbox"/> Accelerated Cleanup <input checked="" type="checkbox"/> VCA <input type="checkbox"/> VCM	<u>11/23/96</u>
<input type="checkbox"/> Other <input type="checkbox"/> Monitoring <input type="checkbox"/> CMs	
<input type="checkbox"/> Report Status <input type="checkbox"/> RFI Report <input type="checkbox"/> SAP	
<input type="checkbox"/> NFA/DOU. If checked, supply criteria number(s): <u>0</u>	

SAMPLE INFORMATION

Y / N

10. Have surface/sediment (depth less than 12 inches) samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, sample ID, SAL, depth, & media (soil, tuff, etc.)
 3) Please attach existing map, showing where samples were taken, if available.
11. Have surface water samples been collected that reflect current site conditions?
 If yes: 1) Attach data.
 2) Include analyte name, value, units, location ID, filtered/non-filtered, & flow data, if available.
 3) Please attach existing map, showing where samples were taken, if available.
12. Is data pending? If yes: 1) List date data are anticipated:
 2) Provide list of COPCs identified in RFI Work Plan as an attachment.

C. R. Mynard

13. Signature of ER Representative

Attachment Three

Natural Resource Trustee Council for LANL Agenda for Tour of The Grant Sites

Agenda Los Alamos National Laboratory

Environmental Restoration Project

Wednesday, June 2, 1999

Natural Resource Trustee Council for LANL

Tour of the

Environmental Restoration (ER) Project

Best Management Practices

9:00- 9:15 a.m.	Welcome Guests at the TA-21 Parking Lot	Vocke Veenis <i>Hoditschek</i>
9:15 – 9:30 a.m.	Brief Introduction of the ER Project	Veenis
9:30- 10:00 a.m.	Travel to TA-21 to view a Septic Tank with an Outfall <i>21-024(G)</i>	Veenis Rhodes
10:00 – 11:30 a.m.	Travel to Hillsides 138 and 140 to view Former Septic Systems and then travel to view a Former Surface Disposal Site (“Can Dump Site”) <i>1-001(d,f)</i>	Veenis Rhodes
11:30 – 12:30 p.m.	Travel to Bayo Canyon to view a Former Liquid Waste and Landfill Disposal Site <i>10-003(a-d), 10-007</i>	Veenis Rhodes
12:30 – 1:30 p.m.	Working Lunch – Bayo Canyon	All
1:30 – 2:30 p.m.	Travel to TA 3-056(c) to view a Former Transformer Storage Area for PCBs	Veenis Rhodes
2:00 – 3:00 p.m.	Travel to TA 35 to view a Former Waste Water Treatment Facility <i>35-003(d,e,g)</i>	Veenis Rhodes
3:00 – 3:30 p.m.	Return to TA-21 to get cars Visitors return home	All <i>Hoditschek</i>

Natural Resource Trustee Council Personnel Attending the Environmental Restoration Project Tour on Wednesday, June 2, 1999

**NATURAL RESOURCE TRUSTEE COUNCIL TOUR
PARTICIPANTS**

*No Bandidia Rep.
No Jemez rep.*

✓ Cynthia Gurule Abeyta, U. S. Geological Survey *for Paul Blanchard*
830-7958, Fax: 820-7998 *(assts San Ildefonso)*

Joel David Lusk, U. S. Fish and Wildlife Service *for Karen Cathay & Dept Interior*
761-4525, Fax: 346-2542 *Steve Spencer*

✓ Barbara Hoditschek, New Mexico Environment Department
827-0596, Fax: 827-0160

✓ Eliza Frank, New Mexico Environment Department, HRMB
827-1558, x 1042 -work, Fax: 827-1544

Bob Wingo, New Mexico Environment Department, DOE Oversight Bureau
672-0443, Fax: 672-0466

✓ Ralph Ford-Schmid, New Mexico Environment Department
DOE Oversight Bureau
672-0443, Fax: 672-0466

? Joe Chavarria, Santa Clara Pueblo
753-7326, Fax: 753-8988

? Robert Gutierrez, Santa Clara Pueblo
753-7326, Fax: 753-8988

✓ Kevin Tafoya, Santa Clara Pueblo
753-7326, Fax: 753-8988

David Sarracino, San Ildefonso Pueblo
455-7656, Fax: 455-7351, or 455-1120

✓ Don Diego Gonzalez, Cochiti Pueblo
986-0020, Fax: 989-9836

✓ William M. Turner, New Mexico Attorney General's Office
827-6939, Fax: 827-1049

✓ Allen J. Sedik, Bureau of Indian Affairs *for Robert Baroche*
346-7507, Fax: 346-7512

✓ Steve McWilliams, Santa Fe National Forest *for Penny Luehring (Dept. Agric.)*
438-7854, Fax: 438-7834

Natural Resource Trustee Council Personnel Attending the Environmental Restoration Project Tour on Wednesday, June 2, 1999

**NATURAL RESOURCE TRUSTEE COUNCIL TOUR
PARTICIPANTS**

CONTINUATION

LOS ALAMOS NATIONAL LABORATORY STAFF

- ✓ Robert Vocke, EMP
- ✓ Carey Bare, ESH-20
- ✓ Sam Loftin, ESH-20
- ✓ Steve Veenis, ESH-18/EM/ER
- ✓ Val Rhodes, EM/ER
- ✓ Dave Bradbury, EM/ER
- ✓ Gracia Coffin, EM/ER (*meet & greet*)
- ✓ Tony Gallegos, EES-15
- ✓ Trung Nguyen, ER/Health and Safety Team Member
- TORY GEORGE early - meet & greet*

Lunches (including sodas and bottled waters) will be provided for all personnel, including the van drivers

**PRS 1-001(d)
Hillside 138**



Environmental Restoration Project PRS Completion Summary Sheet

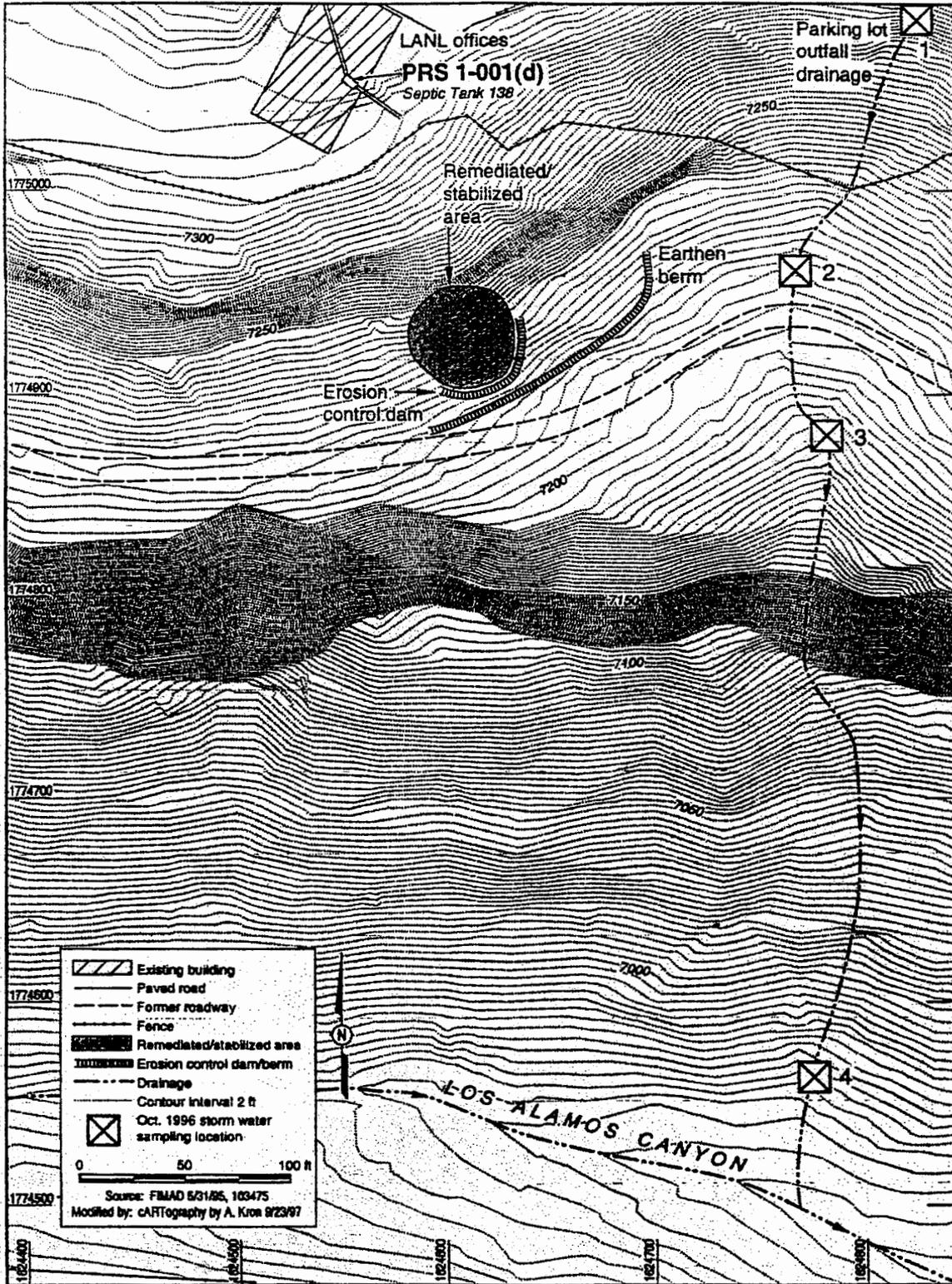
Brief Description: PRS 1-001(d) is located in former TA-1 and includes former Septic Tank 138, the associated outfall, and Hillside 138. The septic tank served historical Laboratory buildings K, Y, and V (now removed). Discharges from the outfall flowed over the canyon rim and onto the hillside. Hillside 138 (immediately below the canyon rim) consists of the upper outfall and bench area, a steep cliff, the lower outfall and bench area, a second cliff, and a gradual slope to the bottom of the canyon.

Contaminants: Elevated levels of collocated mercury, lead, plutonium, and cesium.

Method of Cleanup: Remedial action activities were implemented to address the potential for residual contaminants associated with the lower outfall and bench area to migrate to a nearby storm water drainage that flows to the main watercourse in Los Alamos Canyon. The remedial action included implementing storm water and pollution controls, removing contaminated soils, implementing final stabilization measures, and initiating a storm water monitoring program.

Start Date: August 13, 1996.

Completion Date: January 10, 1997.



PRS 1-001(d) Hillside 138 storm water sampling locations.

Site History:

Potential Release Site (PRS) 1-001(d) is the location of former Septic Tank 138 and the associated outfall area. Past discharges from the Septic Tank 138 outfall flowed over the canyon rim and onto the hillside area below, which is known as Hillside 138. Septic Tank 138 served buildings K, Y, and V within former TA-1. Building K was used as a chemical stockroom and contained a still for repurifying mercury. Building Y contained a cryogenics and physics laboratory that handled tritium, deuterium, uranium-238, and polonium-210. Building V housed the original uranium and beryllium machine shop at TA-1.

PRS 1-001(d) consists of the following distinct areas: the upper outfall and bench area, a steep cliff, the lower outfall and bench area, a second cliff, and a gradual slope to the bottom of Los Alamos Canyon.

Environmental Restoration (ER) Investigations:

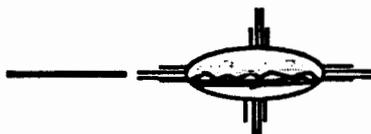
Surface and subsurface soil samples were collected from the upper and lower outfall areas, the defined bench areas, and the drainages associated with Hillside 138 as part of the 1992/1993 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). Results from these sampling efforts indicated that soils located in two distinct areas (one on the upper bench and one on the lower bench) contained elevated levels of collocated mercury, lead, plutonium, and cesium.

The results of the human health screening and risk assessments indicate that potential exposure to Chemicals of Potential Concern (COPCs) in soil should not result in adverse noncarcinogenic health effects or an unacceptable radiation dose to recreational users. As a result, this PRS is currently proposed for no further action (NFA) under RCRA.

All results from the RFI are described in detail in the RFI Report for TA-1, Aggregate F, which was submitted to the Environmental Protection Agency (EPA) in July 1995. EPA issued a Notice of Deficiency (NOD) in November 1995, and LANL submitted a response to the NOD in February 1996.

ER Actions/Assessments:

Per a request from the NMED Surface Water Quality Bureau (SWQB) request, a Remedial Action Plan and Storm Water Pollution Prevention Plan (SWPPP) were submitted to SWQB to address concerns regarding water quality near the site. The concerns are based on the results of August 1995 storm water samples collected at the base of Hillside 138 by the Agreement in Principle (AIP) section of the NMED.



Those samples contained low levels of mercury. Two grab samples were collected during an unusually severe "2-inch per hour" storm event. The samples were analyzed for mercury in accordance with 40 CFR 136 methodology specified for water and waste water samples; results were 0.48 and 0.53 μL .

The objective of the remedial action field activities was to minimize the potential for residual contaminants associated with the lower outfall and bench area to migrate to a nearby storm water drainage that flows to the main water course in Los Alamos Canyon. Remedial action field activities have consisted of removing contaminated soil, installing interim storm water and pollution controls, implementing final stabilization measures, and implementing a storm water monitoring program.

In January 1996, interim storm water and pollution prevention controls were implemented by installing straw bales (an erosion control dam) on the downgradient side of the site. The erosion control dam remained in place during the soil removal activities conducted in August and September 1996. Up to 2 ft of surface soils and weathered tuff were excavated by hand until intact tuff was encountered.

This effort, which removed approximately 20 y^3 of collocated mercury- and plutonium-contaminated material, reduced the average mercury concentration at the site by 60%.

Final stabilization, storm water, and pollution control measures [best management practices (BMPs)] include the installation of erosion control blankets and the construction of an earthen berm. The site was stabilized in October 1996 by securing erosion control blankets over all disturbed areas. In December 1996, additional measures were employed by constructing and stabilizing (using erosion control blankets) a 2-ft-high earthen berm on the downgradient side of the stabilized site. The stabilized site and the earthen berm were seeded in spring 1997.

The cleanup objective for the site was achieved via the remedial action field activities by (1) significantly reducing the amount of mercury at the site, (2) preventing erosion of any remaining material at the site, and (3) isolating the site from the drainage and the Los Alamos Canyon watercourse. In January 1997, a SWPPP Addendum was completed to address post-cleanup activities. The activities outlined in the SWPPP Addendum addressed storm water monitoring in the drainage east of the site as well as an inspection schedule for the BMPs.

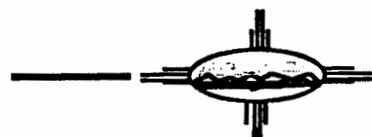
The storm water monitoring program was initiated in October 1996 and is on-going. Grab samples were collected in October 1996 and May, August, and September 1997 at locations along the storm water drainage located east of Hillside 138 (Fig. 1). A summary of all storm water sampling information is provided in the following table:

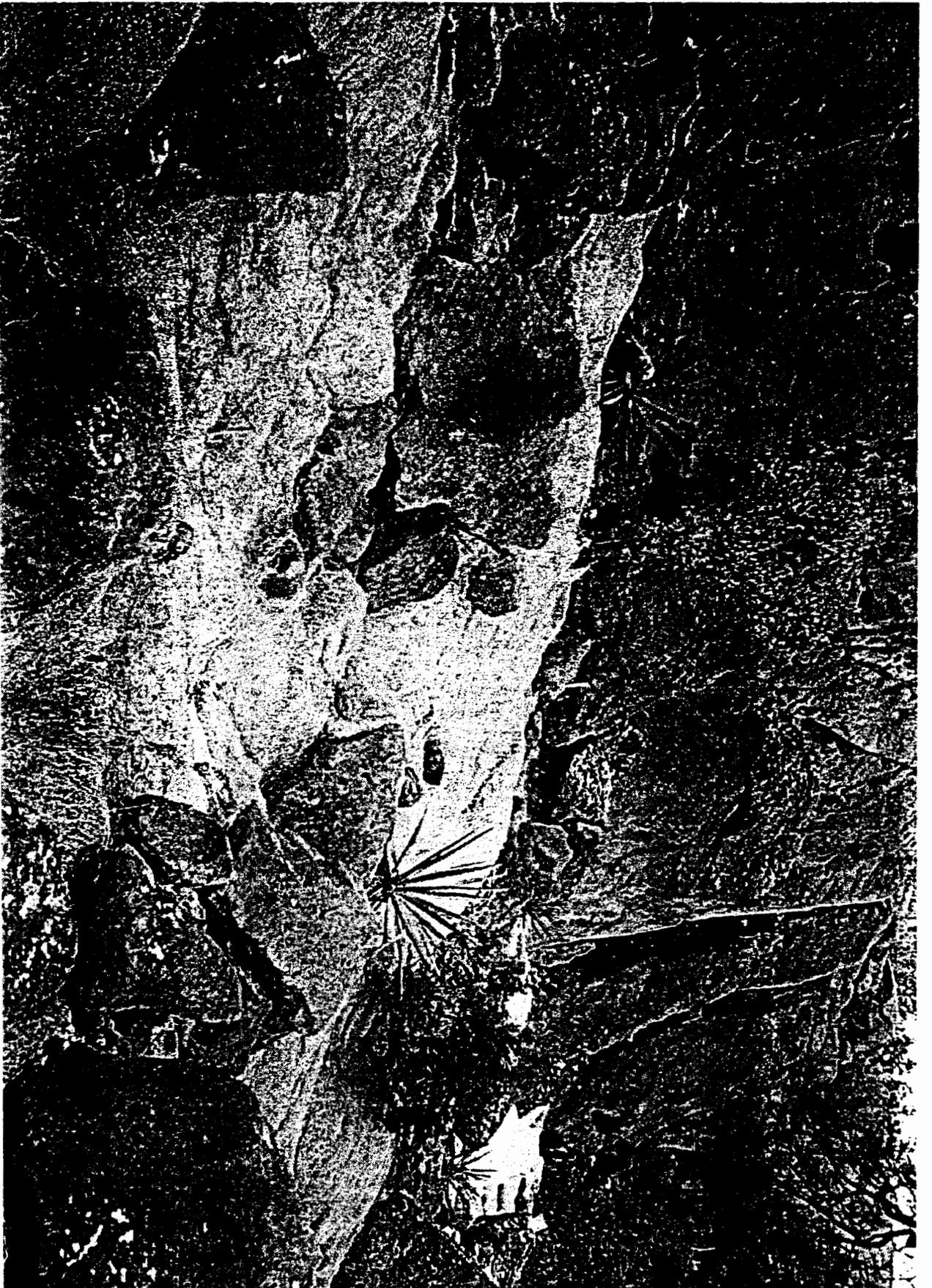
Date Collected	Sample ID	Sample Location	Mercury Detection Limit (mg/L)	Mercury Result (mg/L)
10/04/96	H204A96G	1	0.0002	ND
10/04/96	H304A96G	2	0.0002	ND
10/04/96	H104A96G	3	0.0002	ND
10/04/96	H404A96G	4	0.0002	ND
05/20/97	Upper Hill 138	1	0.0002	ND
05/20/97	Lower Hill 138	4	0.0002	ND
08/05/97	Lower Hill 138	4	0.0002	ND
09/22/97	Lower Hill 138	4	0.0002	0.0007

ND - not detected

The results were compared to the WQCC Wildlife Standard limit of 0.012 µ/L. The minimum detection limits listed in 40 CFR 136 and 20 NMAC 6.1 3103(k) are 0.2 µ/L. Because the detection limit is greater than the wildlife standard of 0.012 µ/L any detected mercury is above the standard.

To continue with the storm water monitoring program (per the SWPPP Addendum) and to guarantee collection of "first flush" samples, one automated storm water sampler was installed near Location 4 in May 1998. One additional automated storm water sampler is scheduled to be installed at Location 1 by July 1998.





PRS 1-001(d) Hillside 138 after cleanup.



ER-96-038-036-11
PRS 1-001(d)

PRS 1-001(d) Removal of contaminated soil from slope in Los Alamos Canyon

PRS 1-001(f)

Hillside 140

**Voluntary Corrective Action Completion Report
Potential Release Site 1-001(f)
Hillside 140 Septic Outfall**

DESCRIPTION

This report outlines the Voluntary Corrective Action (VCA) activities at Potential Release Site (PRS) 1-001(f), also referred to as Hillside 140. This PRS is located within Department of Energy (DOE) boundaries at the western edge of former Technical Area (TA)-1 on the northern rim of Los Alamos Canyon in the vicinity of the current Ridge Park Village Condominiums (Figure 1). The site is included in Table A of the Hazardous and Solid Waste Amendments (HSWA) module to the Los Alamos National Laboratory (LANL), Resource Conservation and Recovery Act permit.

SWMU 1-001(f) consists of the former location of Septic Tank 140 and the associated outfall which flowed into a side canyon of Los Alamos Canyon. The tank served building HT as part of the sanitary septic system. During decontamination efforts in 1975, the tank and associated piping and surrounding soil were removed. Decontamination efforts were not conducted at the upper and lower outfall areas associated with Hillside 140 due to inaccessibility by heavy equipment.

Phase I RFI sampling activities at the upper and lower outfall areas were performed in July 1992 and August 1993 in accordance with the RFI Work Plan for Operable Unit 1078. Surface soil sampling results from the 1992 investigation show that total uranium concentrations were greater than the screening action level (SAL) of 160 parts per million (ppm) in five of the samples. In 1993, additional soil samples were collected to determine the lateral and vertical extent of contamination. Results from the 1993 investigation detected no isotopic-uranium concentrations greater than SALs and no further lateral extent of uranium contamination. Preliminary risk assessment results for the recreational land use indicate that these concentrations are below levels of concern. Results of the Phase I RFI and risk assessment are provided in the RFI Report for Solid Waste Management Units (SWMUs), TA-1, Aggregates C and D. However, due to the close proximity to the Ridge Park Village Condominiums, the VCA activities were proposed at Hillside 140 as part of LANL's best management practices.

CORRECTIVE ACTION

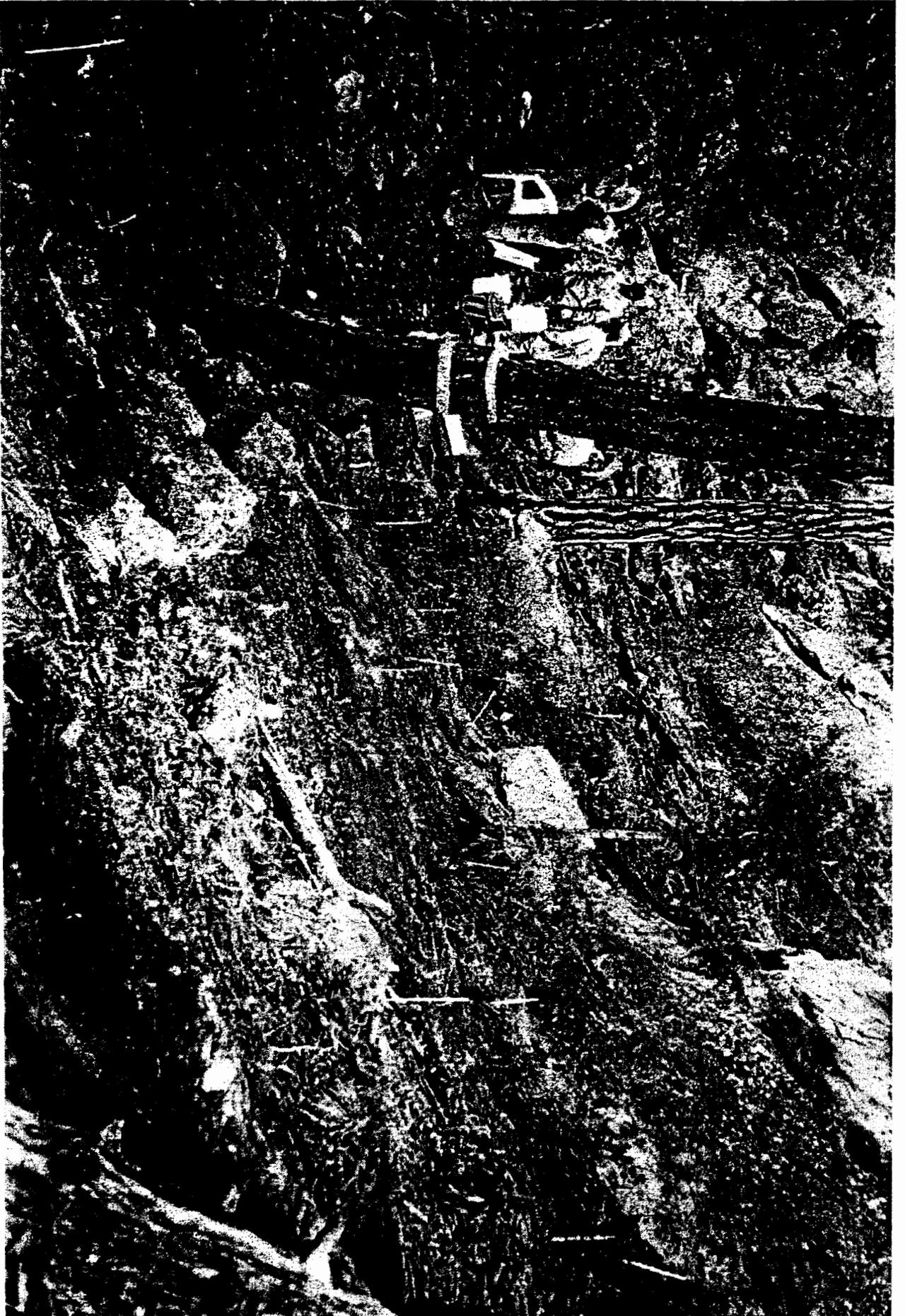
The cleanup of Hillside 140 was conducted in accordance with the activities outlined in the VCA Plan for SWMU 1-001(f) Hillside 140 Septic Outfall. Actual field time consisted of 13 days to prepare the site for field activities and conduct radiological surveys of the site, excavate and bag soil, and transport soil from the site to the waste management area. The total volume of soil removed from the hillside was approximately 15 cubic yards, filling six and one-half B-25 boxes. The containerized soil is scheduled for disposal at TA-54, Area G.

Initial field activities consisted of extensive site preparation and two radiological surveys. Site preparation included establishing the waste management area, building and renovating hiking trails into the area of concern, constructing stormwater sediment dams, and delineating and flagging areas of concern. Radiological surveys (one using a Field Instrument for Detection of Low Energy (gamma) Radiation [FIDLER] with VIOLINIST electronics and one using a Ludlum 2221 with a 44-40 shielded Geiger-Mueller probe) were conducted at points corresponding to the 1992/1993 RFI Phase I sampling locations. As outlined in the Hillside 140 VCA Plan, statistical correlations were established between the radiological survey data and 1992/1993 fixed laboratory data for uranium. A summary of these data and correlations are provided in Annex A.



**PRS 1-001(f) - Hillside 140/Uranium (H)
Jute mat controlling potential surface erosion**

PRS 1-001(f) - Hillside 140/Uranium (H) - Before cleanup



PRS 1-003 (d)

Environmental Restoration Project PRS Completion Summary Sheet

Brief Description: PRS 1-003(d), the site of a surface disposal area for some former Zia Co. shops, is located on the north side of Los Alamos Canyon, south of the Los Alamos County Utility Department storage yard.

Contaminants: Empty paint cans, debris, and dried paint.

Method of Cleanup: The paint cans and debris were collected and bagged by hand. The bags were manually transported up to the Tri-Square parking lot and then transported to the Los Alamos County Landfill. The paint dumping area was cleaned up by breaking up the dried paint, shoveling it into bags, and transporting it to SM 271 for off-site disposal.

Start Date: July 18, 1995

Completion Date: August 31, 1995

3.3 Remediation of the Paint Spill Area

3.3.1 Remedial Implementation

Based upon the screening and analysis results from the paint spill area precleanup samples, the paint and underlying soil required cleanup. The paint and the soil were excavated, placed into 6-mil-thick plastic-lined containers, and transported by backpack along the DOE perimeter fence to a mobile waste storage area (trailer) located behind the Tri-Square Building Complex. During excavation activities, the paint was observed to be up to 30-in. thick within the main channel of the upper slope. A total of seven 55-gal. drums of paint and soil were removed from the site. The soil that had been sampled as part of precleanup activities was removed during this excavation. Therefore, the analytical results for the precleanup soil samples were not included in subsequent data analysis steps.

Paint, as well as paint chips and fragments, remain on the upper slope and cliff areas where removal was determined to be unsafe. After the paint that could be taken away safely was removed from the hillside and cliff, samples were collected and sample locations were surveyed, then site restoration activities began. To stabilize the area and minimize erosion and migration of any remaining paint, the paint spill area on the upper bench was covered with jute matting and local deadwood. The site was visited by representatives from New Mexico Environmental Department (NMED)/Agreement in Principle (AIP) and LANL's ESH Water Quality Group (ESH-18) to check the adequacy and completeness of the stabilization efforts and to discuss the need for run-on protection for the site. After visiting the site and reviewing the results of the VCA, the risk assessment, and the land use scenario, NMED and ESH-18 agreed that run-on protection was not needed for the site. However, they did request that native grass seed be hand broadcast over the site and the site access path to speed the revegetation process and further help to stabilize the affected area. This was accomplished in March 1996, was then photo-documented, and inspected by NMED/AIP and ESH-18 upon completion.

The removal of the empty paint cans from the lower area was accomplished with minimal, if any, disturbance of the vegetation or topsoil and, therefore, required no site restoration upon completion of the field activities.

Los Alamos County Electrical Utility Yard

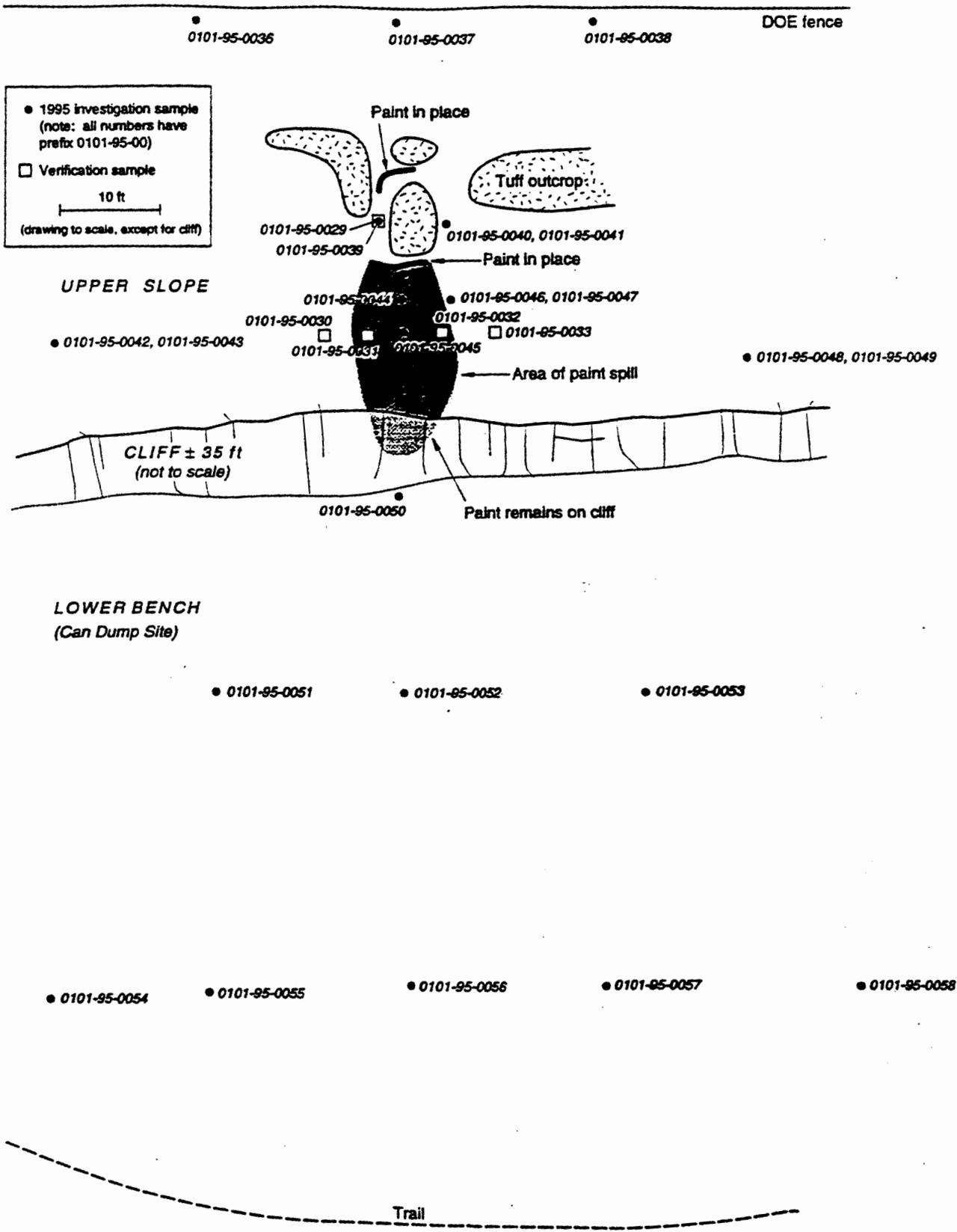


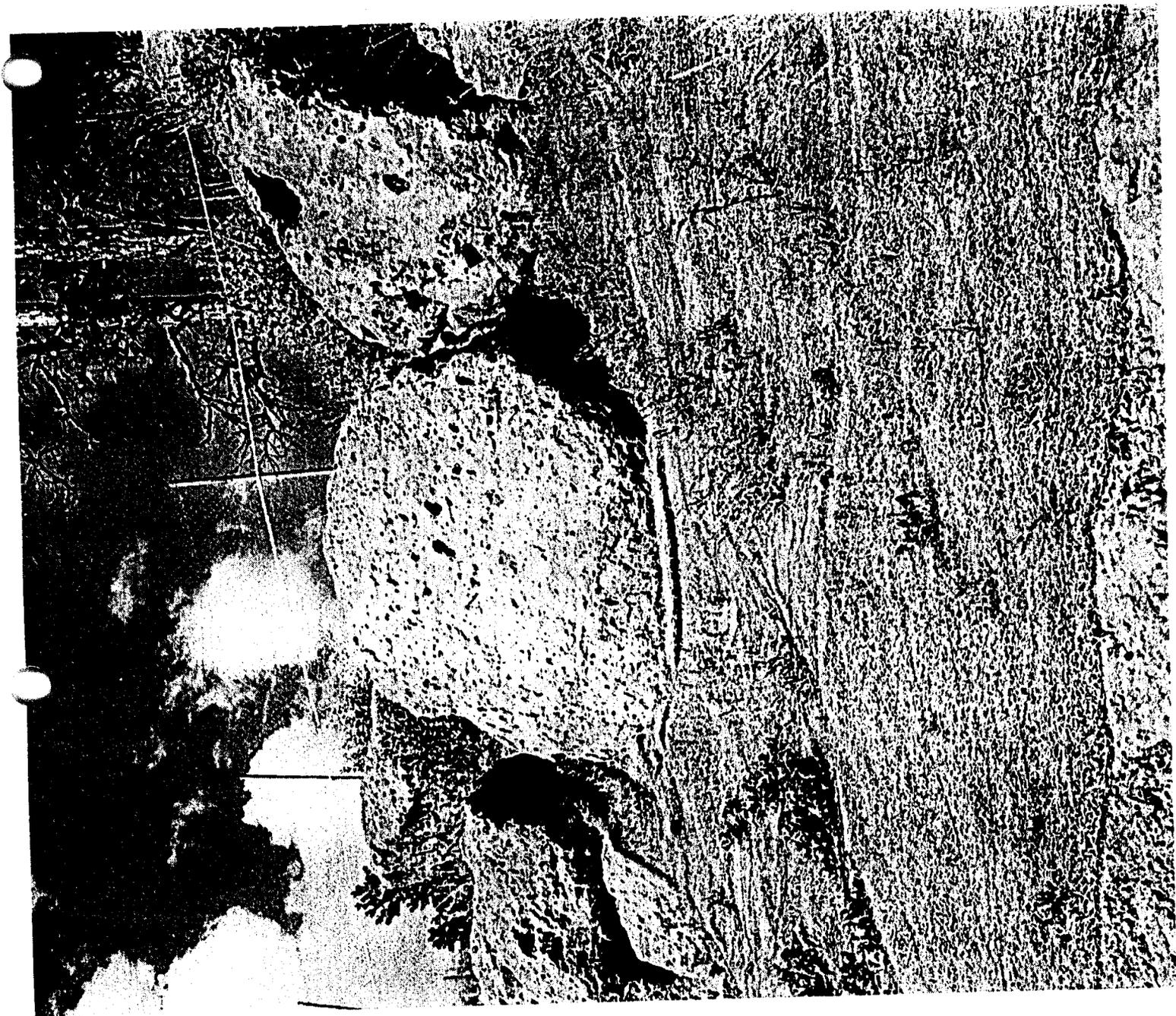
Fig. 3.3.2-1. Location of 1995 confirmatory samples.



PRS 1-003(d) - Screening and sampling of paint spill area



PRS 1-003(d) Can Dump Site (paint pool) - Before cleanup



PRS 35-003 (d,l, and q)

TA-35

Environmental Restoration Project PRS Completion Summary Sheet

Brief Description:

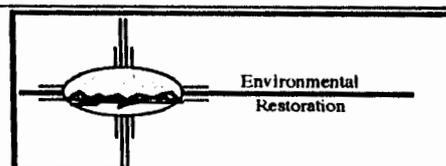
- PRS Nos. 35-003(d, l, and q)
- Located at the east end of TA-35, east of the former radioactive wastewater treatment plant and Air Filter Building (TA-35-7)
- PRS Nos. 35-003(d, l, and q) comprise a former pump pit, pipe trench, and liquid waste holding tank associated with the former wastewater treatment plant. Historically, while the plant was in operation, these structures periodically overflowed and spilled contaminated liquid which flowed down an adjacent drainage and into a tributary of Ten Site Canyon informally known as Pratt Canyon. The structures were removed in the 1980's as part of a D&D effort, and the area of the structures, including the drainage were buried beneath approximately 20 ft of non-compacted backfill. A stormwater discharge pipe has concentrated flow through the drainage area, such that erosion has cut through the 20 ft of emplaced fill and has exposed the contaminated strata, and eroded contaminated material is transported through Pratt Canyon into Ten Site Canyon. An Interim Action was proposed to divert stormwater away from the site, and to correct past erosion and prevent future erosion within the drainage channels.

Contaminants: Gross-beta activity

Method of Cleanup: The Interim Action included the relocation of the stormwater pipe to divert stormwater away from Pratt Canyon to the south side of Ten Site Mesa, backfilling and compacting 1,100 yd³ of clean soil within the erosion channels to restore the site to even grade, construction of a berm to divert stormwater in the vicinity of the former erosion channels to an existing storm water culvert, and site restoration, including repaving and revegetating the affected areas. No waste was generated and no sampling was required as part of the Interim Action scope of work.

Start Date: August 30, 1996

Completion Date: September 17, 1996



1.0 INTRODUCTION

TA-35

This document describes the interim action (IA) best management practices implemented at Potential Release Site (PRS) Nos. 35-003(d, l, and q), which are located within Los Alamos National Laboratory (hereafter referred to as the Laboratory) Technical Area (TA) 35. Field activities were implemented in accordance with the Interim Action Plan for Potential Release Sites 35-003(d, l, and q) (LANL 1996, 54915) (hereafter referred to as the IA plan), except as noted in Section 2.1.

The site addressed by the IA encompasses part of three potentially contaminated PRSs, which are located about 150 ft east of the former Air Filter Building (TA-35-7). The IA corrected past erosion and will prevent further erosion of noncompacted backfill material at the east end of Ten Site Mesa where a pump pit (TA-35-8, PRS No. 35-003[d]); a pipe trench (TA-35-9, PRS No. 35-003[l]); and a liquid waste holding tank (TA-35-10, PRS No. 35-003[q]) were located. The site drains into a small tributary of Ten Site Canyon, which is informally referred to as "Pratt Canyon" in the Resource Conservation and Recovery Act facility investigation (RFI) report for PRSs in this area (LANL 1996, 54422) (hereafter referred to as the RFI report).

Collectively the PRSs cover an area approximately 150 ft by 200 ft. The site slopes moderately eastward approximately 125 ft to the mesa edge, which slopes into Pratt Canyon (approximate slope of 1:1). The storm water from this site flows into Pratt Canyon, which is the effluent discharge area for the former wastewater treatment plant. Surface storm water runoff from the southern part of TA-35 discharged from a 12-in.-diameter corrugated metal pipe (CMP) at the southeast corner of the IA site and was the major contributor to the erosion. The storm water flowed across the site creating deep erosion channels.

The IA was performed to prevent storm-water-induced transport of contamination from the PRSs, as discussed in the RFI report (LANL 1996, 54422), into Mortandad Canyon. The IA was also necessary to minimize the possibility that storm water runoff might transport known radioactive contamination from PRS No. 35-003(r) until further characterization and final disposition of that PRS are completed.

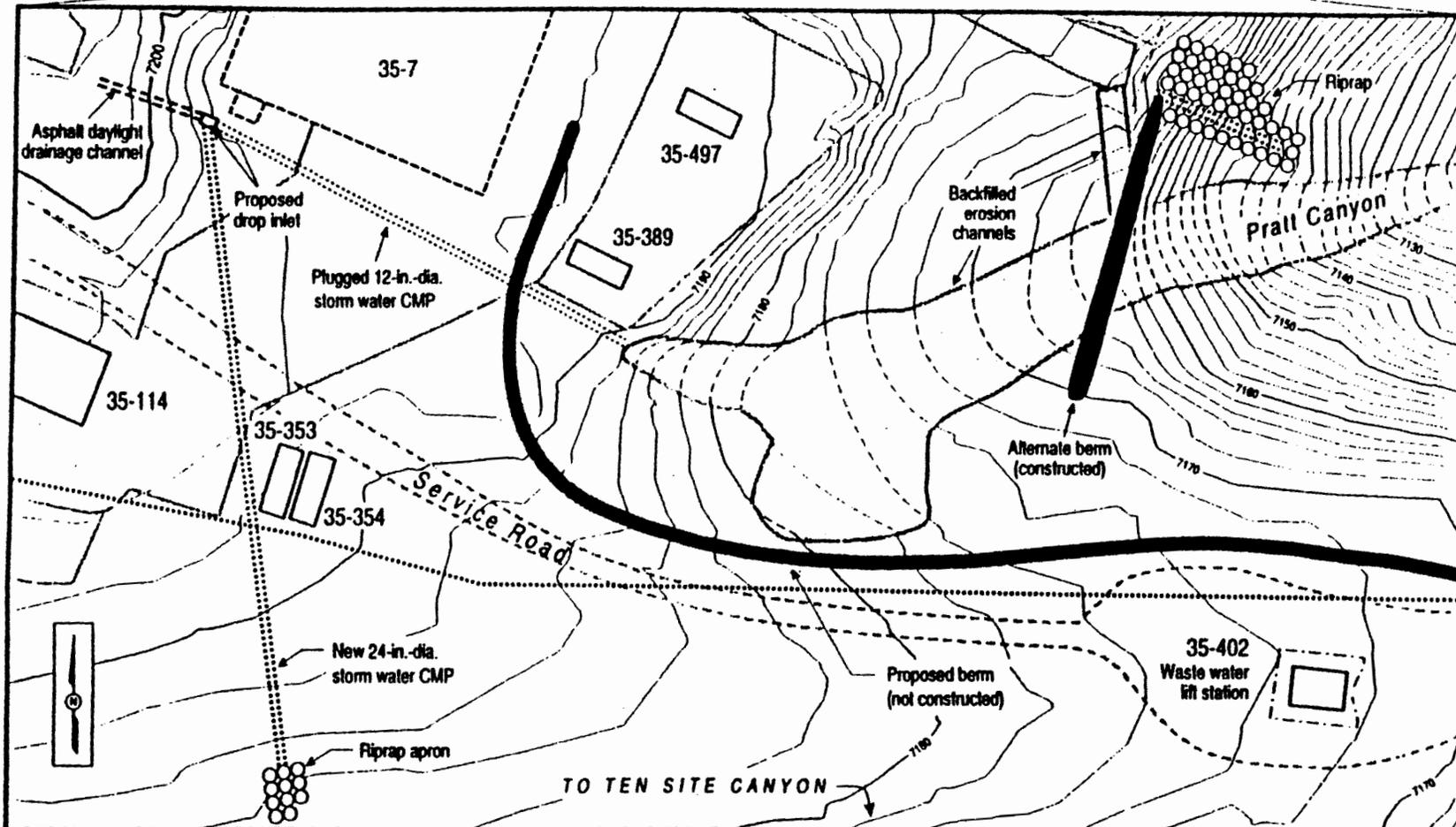
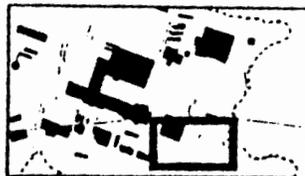
A detailed description of the site and the Phase I characterization data can be found in the RFI report (LANL 1996, 54422).

2.0 INTERIM ACTION

The IA consisted of (1) backfilling, compacting, and revegetating the erosion channels; (2) relocating a storm water CMP discharge, which was the major cause of the erosion; and (3) constructing a 2-ft-high, 100-ft-long berm above the slope break at the head of Pratt Canyon, which was designed to divert additional storm water that is not captured by the relocated CMP northeastward to an existing storm water outfall (see Figure 2-1). By relocating the storm water CMP discharge to the southern rim of Ten Site Mesa, storm water has been diverted from known radioactively contaminated sites including PRS Nos. 35-003(d, l, and q) and 35-003(r). Backfilling and compacting the erosion channels will prevent the erosion of potentially contaminated soil at PRS Nos. 35-003(d, l, and q) and will minimize the potential for release until further characterization is performed and a final disposition decision is made.

The IA began on September 3, 1996, and was completed on September 23, 1996. Activities included conducting a health and safety survey; performing a utilities markout survey; backfilling, compacting, and revegetating the erosion channels; constructing a diversion berm near the head of the former erosion channels; plugging the 12-in.-diameter storm water CMP; and installing a new 24-in.-diameter CMP, which has an inlet at the southwest corner of former TA-35-7 and extends southward to Ten Site Canyon. The new CMP extends 240 ft to the south along a 1% slope at a depth of 4 ft near the inlet and surfaces at the point of discharge. A riprap apron was placed at the discharge point.

TA-35



F2-1 / IA COMPL RPT_35-003(d,l,q) / 091696

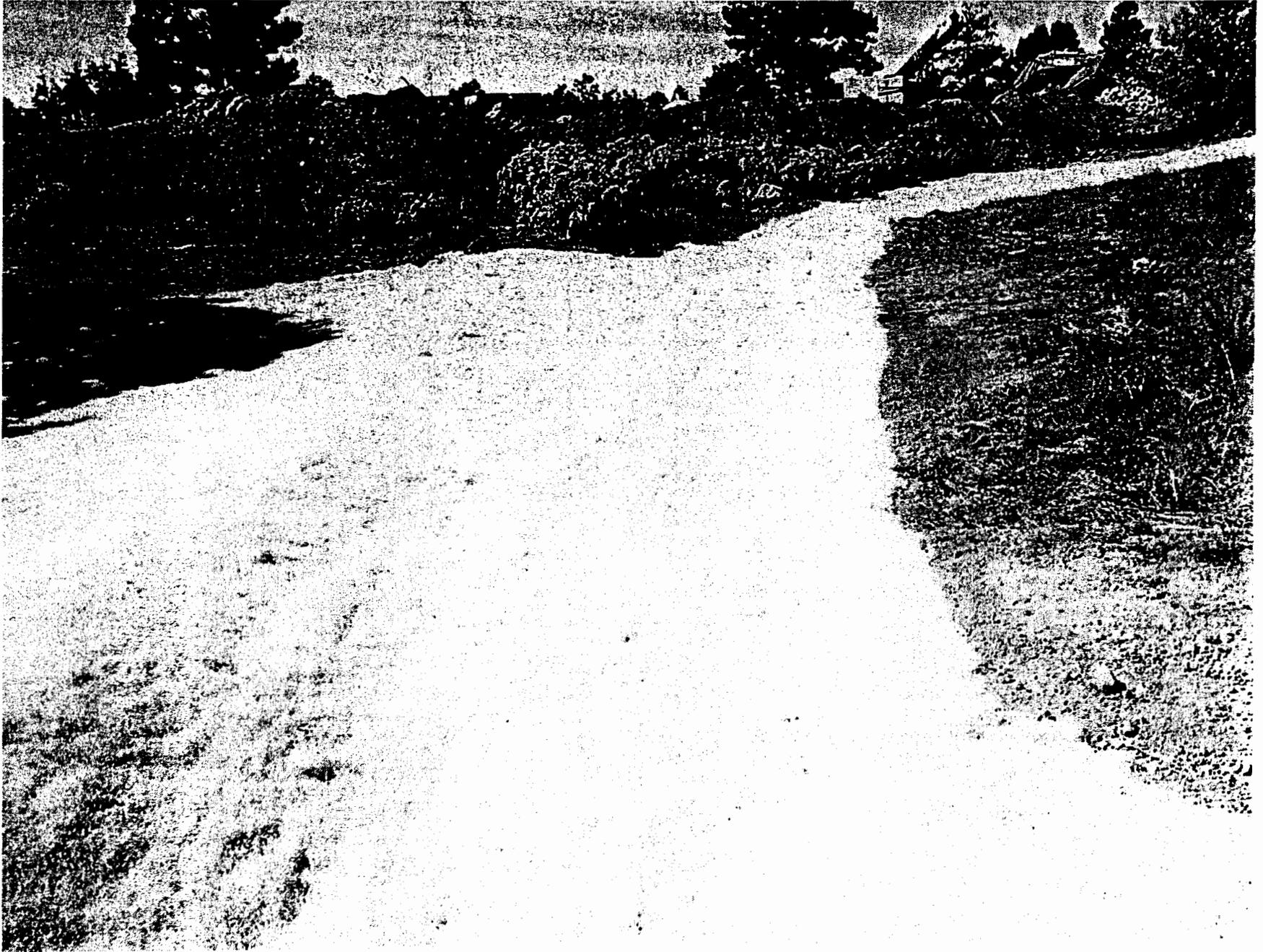


	Building or structure location		Paved area		Fence
	Former building or structure location		Unpaved road		Storm drain

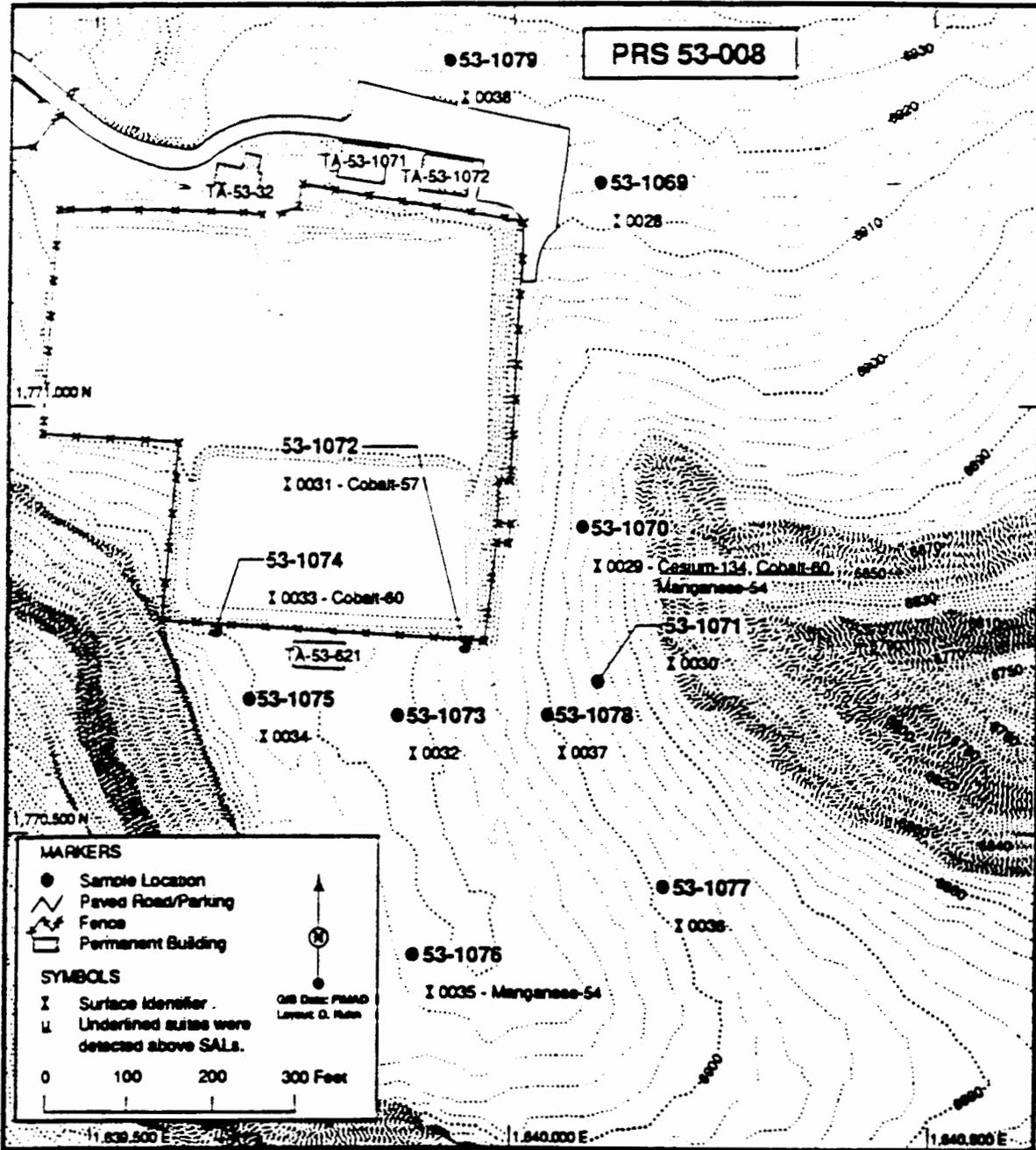
Figure 2-1. Site map of interim action erosion control and drainage at PRS Nos. 35-003(d, l, and q).



TA-35 - Severe gullying



TA-35 Interim Action using jute mat for erosion control



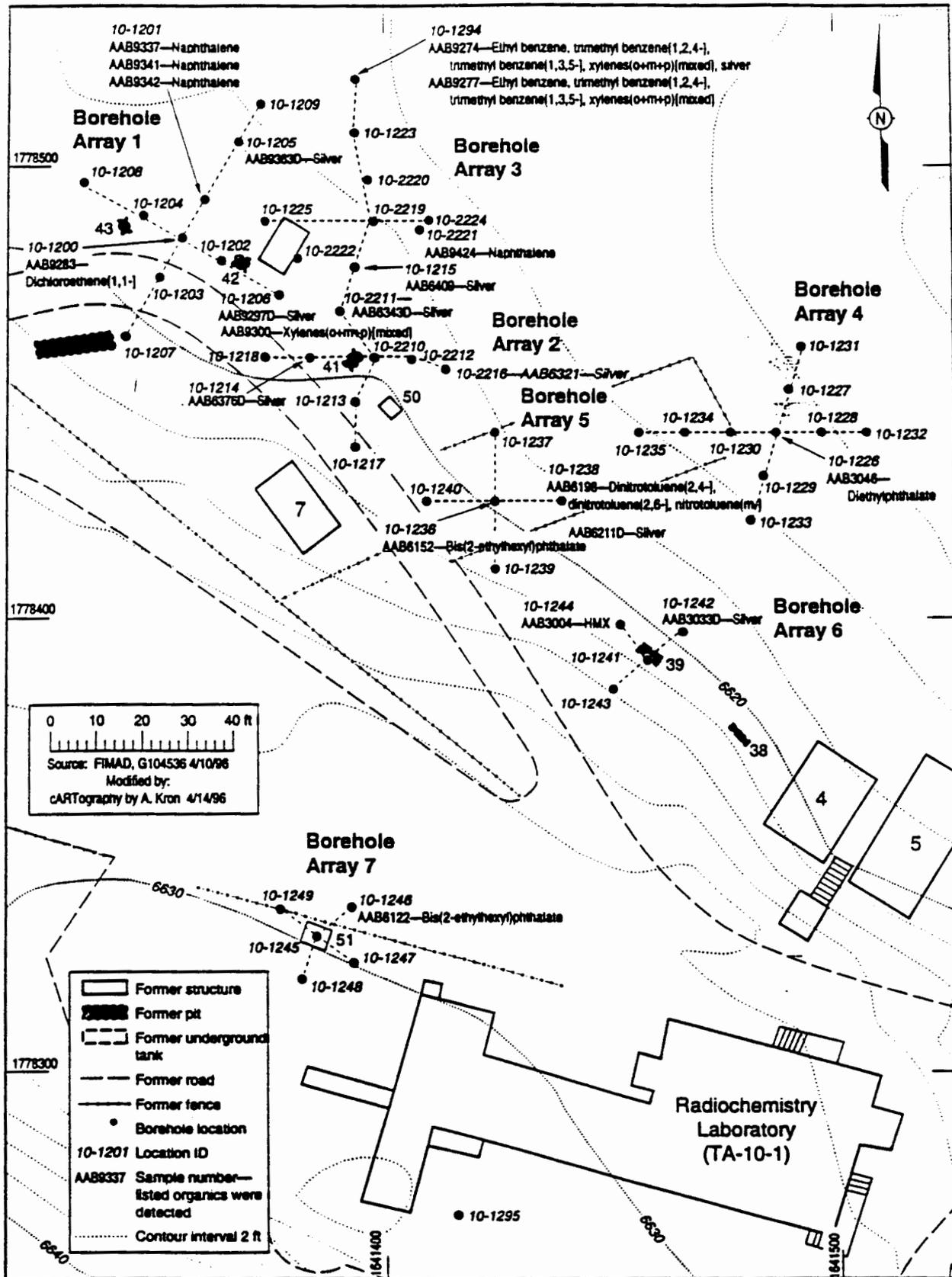


Fig. 5.3.4-1. Locations of samples collected at PRSs 10-003(a-o) and 10-007, and locations of detected organic analytes and inorganic analytes greater than background.

Bayo Canyon

area in which elevated concentrations of strontium-90 were detected in surface soil and plants. This exclusion zone was constructed using steel posts and snow fencing. The resulting fence is approximately 4 ft tall, and "Soil Contamination Area" signs are posted every 30 ft along the fence. Fig. 2 shows the location of the exclusion zone. Attachment A includes photographs of the exclusion zone fence and postings.

4.2 Storm Water Runoff Control Measures

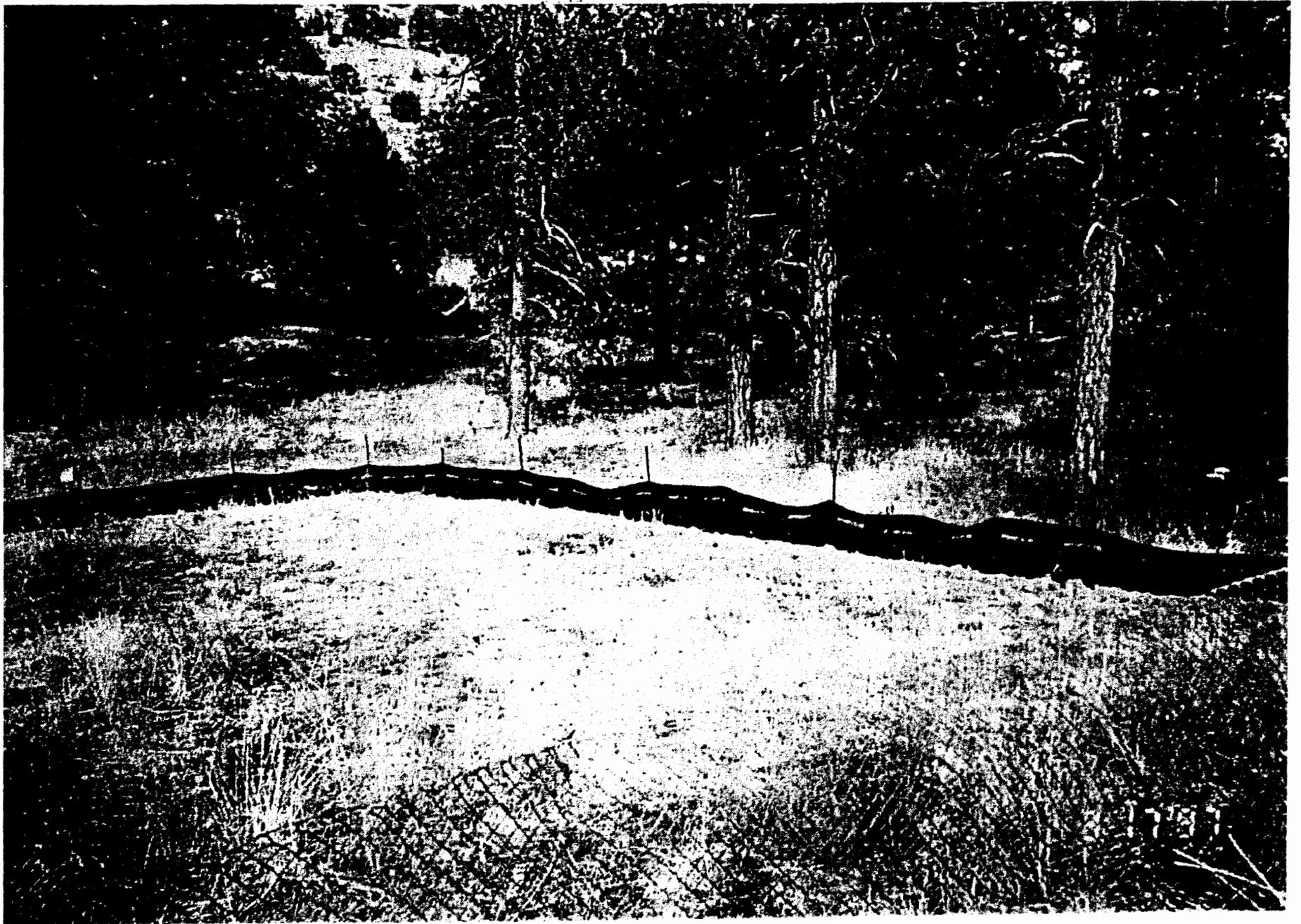
Contaminated-surface soil and plant litter are present at the site, and this material could be mobilized during storm water runoff events. Therefore, storm water control measures were installed to prevent soil and plant debris from being transported off site. These measures included the following.

- A silt fence was installed inside the exclusion zone fence along the northern and eastern portions of the site to trap soil or debris that might be transported by sheet flow across the contaminated area. Fig. 2 shows the location of the silt fence. Attachment A includes photographs of the silt fence.
- Straw bales were placed along the edge of a channel that emerges from a culvert along the western portion of the site as a measure to prevent a potential high-discharge storm event from flowing onto the site. Fig. 2 shows the configuration of the straw bales. Attachment A includes a photograph of the storm water controls.

In addition to these measures, the condition of the storm water runoff control measures will be inspected on a monthly basis and/or within 72 hours of rainfall events that exceed one-half inch in the Bayo Canyon area.

5.0 CONCLUSIONS

The interim action activities conducted in the TA-10 Central Area are expected to limit the access of people and foraging animals to the area with elevated strontium-90 concentrations, and to prevent soil and plant debris from being transported off site during storm water runoff events. This interim action is expected to mitigate the potential for exposure to strontium-90





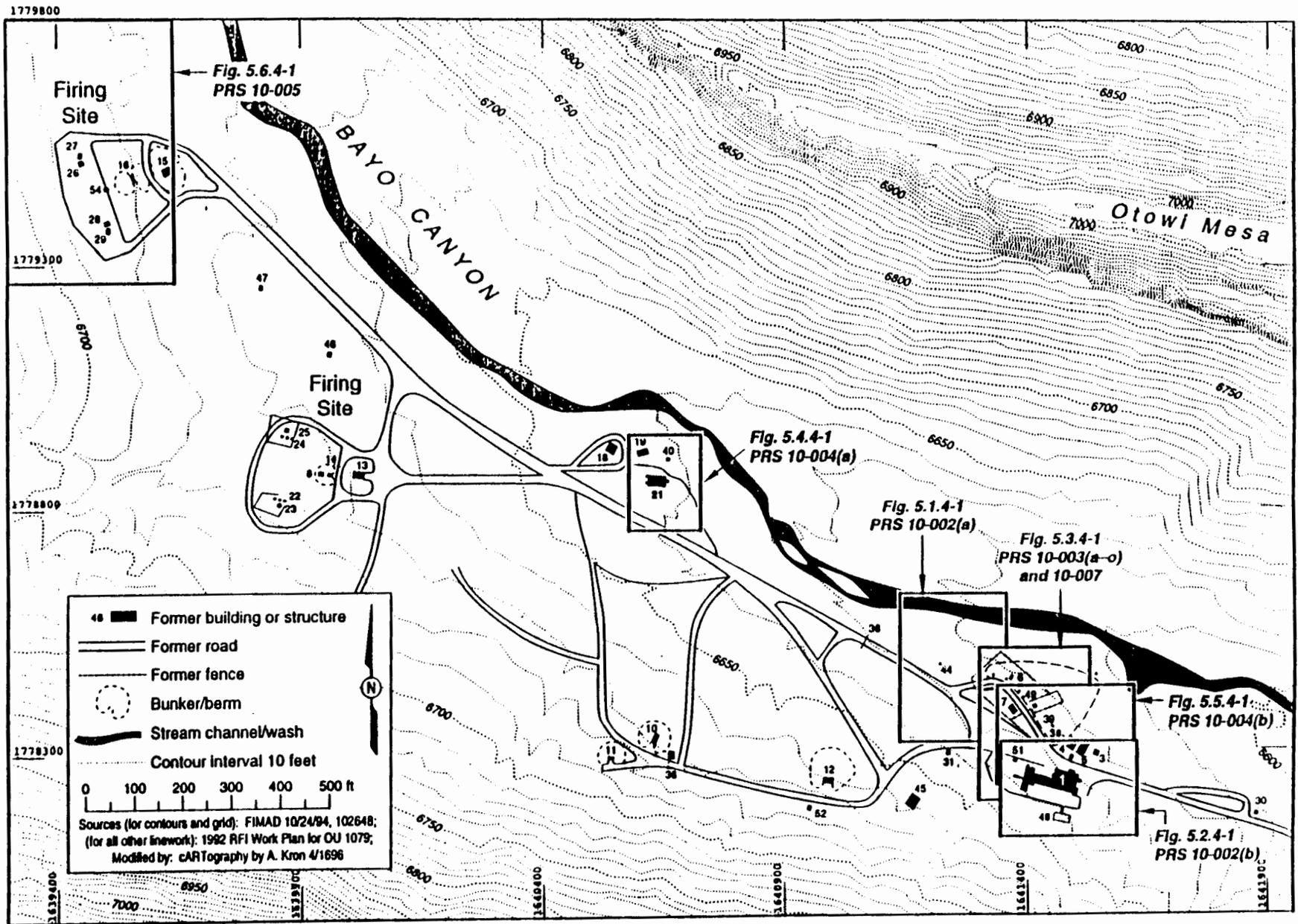


Fig. 1.1-3 Index map of investigation areas within the TA-10 Subsurface Aggregate.

**INTERIM ACTION COMPLETION REPORT
POTENTIAL RELEASE SITE 53-002(a)
SURFACE IMPOUNDMENTS**

1.0 INTRODUCTION

Potential release site (PRS) 53-002(a) consists of two surface impoundments: NE and NW. The surface impoundments, placed in operation in the early 1970s, are located in Technical Area (TA)-53 adjacent to the Los Alamos Meson Physics Facility (LAMPF) (see Figure 1-1). The surface impoundments, which are no longer in use, received sanitary wastes, small amounts of industrial wastes, and radioactive wastes. Sanitary waste is now pumped by lift stations to Los Alamos National Laboratory's (LANL) Central Treatment Facility. Radioactive waste is now treated in the south impoundment [PRS 53-002(b)].

The sludge within the surface impoundments contains low-level radioactive fission products from the accelerator and polychlorinated biphenyl (PCBs), less than 5 parts per million (ppm), as contaminants of potential concern (COPCs).

This PRS is proposed for Resource Conservation and Recovery Act (RCRA) closure for RCRA-regulated hazardous constituents. Non-RCRA-regulated radioactive constituents will be regulated by DOE Orders. A closure plan (Interim Status Closure Plan, Surface Impoundments, TA-53-166 Northeast and TA-53-166 Northwest, Technical Area 53, August 1994, Revision 1) has been prepared for this PRS. Section 5.2.7 of the plan describes actions necessary to stabilize the site before closure.

As a best management practice, the site was stabilized by covering the exposed sludge in the surface impoundments with a geotextile filter fabric cover. The cover stabilizes the site by preventing the intrusion of wildlife into the exposed sludge. By suppressing the generation of dust, the cover also prevents any airborne release of radioactive contaminants.

Weekly inspections of the geotextile cover have shown it to be an effective barrier to wildlife intrusion and an effective method of containing contaminants.

2.0 INTERIM ACTION

The surface impoundments were stabilized by installing a geotextile filter fabric cover over the exposed sludge. The cover is similar to a daily landfill cover and is designed to effectively contain contaminants and prevent contact with the sludge by wildlife.

The geotextile filter fabric was spread out over the top of the exposed sludge to the gunite side walls of the dike to form a cover. The areas where the geotextile fabric sections join to form the cover were connected by lapping the sections approximately one foot. The cover is held in-place around the perimeter and at the side laps with 2 x 4 lumber covered with sand bags. The interior area of the cover is held in-place with sand bags. The cover is permeable, which allows rain water to flow through the cover and later evaporate through the cover. The cover will allow additional materials to be removed from the surface impoundments, if required.

3.0 MONITORING AND CONFIRMATORY SAMPLING

Not applicable.

4.0 INSPECTION AND MAINTENANCE

The cover will continue to be inspected weekly as required by 20 NMAC 4.1 Section 265.226(a)(2) until closure is complete.

Attachment Four

**SWQB Request for Comments From Representatives of the Natural Resource Trustee
Council Regarding the Grant Sites**

Subject: Comments regarding June 2, 1999, tour for the Natural Resource Trustee Council to LANL sites on the NMED-SWQB grant

Date: Thu, 03 Jun 1999 12:01:39 -0600

From: Barbara Hoditschek <barbara_hoditschek@nmenv.state.nm.us>

To: cdesaillan@ago.state.nm.us, Charisse_Sydoriak@nps.gov, Karen_Cathey@fws.gov, joel_lusk@fws.gov, jaypecos@ix.netcom.com, ddiego@ix.netcom.com, stephen_spencer@ios.doi.gov, pluehring/r3@fs.fed.us, quasho@nmia.com, Senatorbil@aol.com, depo@la-tierra.com, dsarraci@trail.com

CC: jvozella@lanl.gov, vocke@lanl.gov, carmenr@lanl.gov, dbradbury@lanl.gov, vrhodes@lanl.gov, veeniss@lanl.gov, ralph_fordschmid@nmenv.state.nm.us, eliza_frank@nmenv.state.nm.us

Thank you all for participating in the tour. Thank you also to DOE/LANL for their hospitality and effectively organizing the tour. As I mentioned when we departed, I would like the Council membership to provide feed back to the NMED-Surface Water Quality Bureau (SWQB) regarding the tour. Your comments are important in assisting us in establishing a unified approach to addressing surface water concerns at LANL sites. Your comments can be specific and relate to the sites we toured, or general and refer to your particular concerns regarding LANL sites and/or the NMED's approach towards addressing surface water concerns at LANL sites. Please feel free to call me if you have any questions regarding the surface water assessment strategy we outlined at the beginning of the tour. Also feel free to consult with the NMED-SWQB regarding any other concerns you may have regarding surface water protection in general. Please e-mail your comments to me before June 18, 1999, since I need to compile them for a presentation to the Hazardous and Radioactive Materials Bureau and the EPA Region 6. Thank you again for your cooperation. Hope to hear from you soon.

Subject: Feedback concerning Stabilization Measures Applied At Grant Sites Toured on Jun2, 1999

Date: Fri, 04 Jun 1999 08:53:43 -0600

From: Barbara Hoditschek <barbara_hoditschek@nmenv.state.nm.us>

To: Senatorbil@aol.com

Thank you all for attending and/or sending representatives to the tour. I also thank DOE/LANL for their hospitality. I think they did a good job in organizing this tour. As I mentioned before we departed at the end of the tour, I would like the Council membership to provide me with some input as to whether the Environment Department is heading in the right direction regarding our efforts to stabilize high and medium erosion sites at LANL. The sites we saw on the tour of course, only represent a small sample of sites with high and medium erosion potential, however, the approach will be similiar. If you would like copies of the recommendations for stabilization at other sites, you can e-mail your request to me. In addition, feel free to call me if you have any questions concerning the process of evaluating these sites and/or any other surface water concerns you may have regarding LANL sites. Your comments on this tour are necessary and welcome. NMED-SWQB believes the input from the Council is important in establishing a unified approach in resolving surface water issues associated with LANL sites. Your comments can focus on your specific concerns with regard to protection of the natural resourses under your care, or they can be directed at specific concern regarding the sites at the sites we toured. Please send your comments no later than June 18, 1999, since I will need to compile them in a presentation to the NMED-Hazardous and Radioactive Materials Bureau and the EPA Region 6. Once again, thank you for your cooperaiton, and hope to hear from you soon.

Attachment Five

Comments From Attendees of The Tour of The Grant Sites

Subject: BMP Field Assessment**Date:** Thu, 03 Jun 1999 09:15:27 -0600**From:** Bob Vocke <vocke@lanl.gov>**To:** cdesaillan@ago.state.nm.us, Charisse_Sydoriak@nps.gov, Karen_Cathey@fws.gov, joel_lusk@fws.gov, jaypecos@ix.netcom.com, ddiego@ix.netcom.com, stephen_spencer@ios.doi.gov, pluehring/r3@fs.fed.us, jbruin/r3_santafe@fs.fed.us, quasho@nmia.com, Senatorbil@aol.com, depo@la-tierra.com, dsarraci@trail.com**CC:** jvozella@lanl.gov, u109949@lanl.gov, tom_baca@lanl.gov, barbara_hoditschek@mercury.nmenv.state.nm.us, carmenr@lanl.gov, dbradbury@lanl.gov, vrhodes@lanl.gov

Trustee Council Members:

The Best Management Practice (BMP) Field Assessment as held on June 2, 1999 (agenda attached and pasted below). Of the tentative listing of attendees Joel Lusk, David Sarracino, and Carey Bare were unable to attend. Before providing my observations, I would like to thank Carmen, Val, Steve, and Dave for a job well done.

The following are my observations from the Field Assessment.

The BMPs should be viewed as integral to "adaptive management" of the Laboratory's watersheds.

BMPs require a graded approach to surveillance and maintenance.

BMPs are conducted in the context of watershed management and are not necessarily reflective of ecosystem management and NRDA-related restoration.

ER remedial actions, voluntary corrective actions, and interim actions reviewed during the Field Assessment were not conducted based on eco-risk driven criteria.

Barbara Hoditschek (NMED) and Steve Veenis (LANL ESH-18) requested feedback on BMPs based on the Field Assessment.

MEMORANDUM (for transmittal via email)

Date: June 10, 1999

To: Barbara Hoditschek

Thru: John Kieling

From: Eliza Frank

Subj: Comments regarding PRSs addressed in the 3011 RCRA grant

PRSs under consideration by trustees:

01-001(d)	10-003(a-o)	35-003(d, l, q)
01-001(f)	10-007	53-002(a)
01-003(d)	33-006(a)	

General status on listed PRSs:

- ▶ none have received NFA determinations from HRMB to date;
- ▶ none are on the current list of PRSs being considered for NFA;
- ▶ several still need a significant amount of investigation/assessment; and
- ▶ despite any aggregation approach by LANL in addressing PRSs, HRMB still intends to evaluate NFA determinations one PRS at a time. Aggregation of PRSs as a result of the ER group's response to the draft watershed management protection plan may provide for comprehensive risk evaluations or remediation actions, but each PRS will appear individually on the HSWA module. The final determination of which PRSs will be included in a particular aggregated area has not been submitted to HRMB. Regardless, there will still be PRSs outside of priority aggregated areas that will require attention (i.e. MDAs).

Specific status:

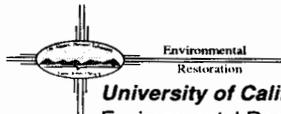
- ▶ 01-001(d), a.k.a. hillside 138, an ecorisk evaluation is still needed.
- ▶ 01-001(f), a.k.a. hillside 140 (adjacent to condos), the 1996 VCA was driven by rad screening and therefore does nothing to facilitate an NFA. Chemical concerns will need to be evaluated.
- ▶ 01-003(d), a.k.a. can dump area and paint spill, lacks adequate delineation of the extent of contamination and an ecorisk evaluation.
- ▶ 33-006(a), an inactive shot pad, needs a risk assessment.
- ▶ 35-003(d, l, q), the holding tank, pump pit and pipe trench associated with a waste water treatment plant. In the past, there have been significant compliance issues at this PRS (e.g. the IA Plan was not approved because it was submitted *following* the action).
- ▶ 53-002(a), surface impoundments for cooling water at LANCE, was aggregated into an overall lagoons "investigation." A work plan was reviewed by HRMB (10/98) and work is scheduled for this fiscal year. An RFI has not yet been conducted at this PRS. Much work lies ahead. During the IA geotextile was placed over the surface impoundments. EPA approved the plan, but questioned the need and cost effectiveness for the action.
- ▶ 10-003(a-o) and 10-007, former firing pads and liquid waste disposal complex

associated with former radiochemistry lab. The EPA stated in their NOD (5/19/97) for the RFI report for 10-001(a-d) that the sample grid implemented for the RFI was "appropriate for determining if there is gross contamination over a very large area, but does not specifically address the firing pads," nor is the report sufficient to ensure that no human health risk is associated with the PRSs. LANL asserts that rad is the primary concern, but HRMB has not eliminated the need for further documentation regarding chemical concerns. The IA conducted only addressed rad components. The IA report acknowledges that the placement of snow and silt fencing, as well as BMPs, is a short-term solution until a final remedy is selected for this area. In addition, as of August 24, 1998, HRMB ceased document review of some of the reports submitted on TA 10. LANL requested time to allow for consolidation of documents and to review the content in light of the criteria set forth in HRMB's Document Requirement Guide dated 3/4/98.

Regarding sampling, discussions are taking place within HRMB to arrange for some soil and sediment sampling by June 30, 1999. No sampling work plan has been prepared to date. I will keep you informed of any planned sampling activities as they develop.

Important Note: As a result of the annual unit audit (AUA) required under the new fee regulations, some PRSs have under gone consolidation (similar SWMUs have been grouped under a single PRS number). The PRSs under this grant that were effected are noted below.

Consolidated Unit Number (under AUA)	Former Unit Number(s)
01-001(a)-99	includes: 01-001(d) and 01-001(f)
10-002(a)-99	10-003(a-o), 10-007
35-003(a)-99	35-003(d, l, q)



University of California
 Environmental Restoration Project, 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
 Environmental Restoration Program
 Los Alamos, New Mexico 87547
 505-667-2000/FAX 505-665-4504

LIBRARY COPY



Date: September 28, 1998
 Refer to: EM/ER:98-367

Dr. Robert S. Dinwiddie
 NMED-HRMB
 PO Box 26110
 Santa Fe, NM 87502-2100

**SUBJECT: ADDITIONAL INFORMATION IN RESPONSE TO RSI FOR
 TA-1, AGGREGATES N & P RFI REPORT PRSs
 1-001(s & u), 1-006(s) & 1-007(I) (FORMER OU 1078,
 FU 1)**

Dear Dr. Dinwiddie:

Enclosed please find additional information to the response to the New Mexico Environment Department Hazardous and Radioactive Materials Bureau's request for supplemental information (RSI) on the Resource Conservation and Recovery Act Facility Investigation (RFI) Report for Technical Area 1, Potential Release Sites 1-001 (s & u), 1-006(s), and 1-007(I). The RSI was received on July 7, 1998 and the first response was delivered to your office on August 6, 1998.

If you have any questions, please contact Dave McInroy at (505) 667-0819 or Joe Mose at (505) 667-5808.

Sincerely,

Julie A. Canepa, Program Manager
 LANL/ER Project

Sincerely,

Theodore J. Taylor, Program Manager
 DOE/LAO

JC/TT/WN/rfr

Enclosure: Additional Information to the RSI For TA-1, Aggregates N & P RFI Report, PRSs 1-001(s & u), 1-006(s) & 1-007(I) (Former OU 1078, FU 1)

HswA LANL 1/1078/1

LANL 1/1078, 1

Cy (w/ enc.):

R. Michelotti, CST-7, MS E525
J. Mose, LAAO, MS A316
W. Neff, CST-7, MS E525
J. Newlin, CST-7, MS M992
D. Neleigh, EPA, R.6, 6PD-N
C. Rodriguez, CIO/ER, MS M992
T. Taylor, LAAO, MS A316
T. Trujillo, AL-ERD, MS A906
S. Rae, ESH-18, MS K497
J. White, ESH-19, MS K490
B. Garcia, NMED-HRMB
M. Leavitt, NMED-GWQB
J. Parker, NMED-HRMB
G. Saums, NMED-SWQB
S. Yanicak, NMED-AIP, MS J993
EM/ER File (CT# C502), MS M992
RPF, MS M707

Information Only (w/o enc.):

T. Baca, EM, MS J591
A. Dorries, TSA-10, MS M992
T. George, EM/ER, MS M992
T. Longo, DOE-HQ, EM-453
D. McInroy, EM/ER, MS M992
J. Plum, LAAO, MS A316
G. Rael, AL-ERD, MS A906
J. Vozella, LAAO, MS A316
EM/ER File, MS M992

**Data Submittal in Response to
Request for Supplemental Information
TA-1, Aggregates N&P RFI Report
September 1997**

INTRODUCTION

To facilitate review of this data submittal, the New Mexico Environmental Department's (NMED's) comments are included verbatim. The comments are divided into general and specific categories as presented in the letter. Los Alamos National Laboratory's (LANL's) responses follow each NMED comment. This data submittal includes information from responses to comments that referenced the project file or field logbooks. It is the data package that was to follow the Response to the Request for Supplemental Information.

GENERAL COMMENTS

NMED Comment

1. *LANL failed to provide a complete set of the analytical results from the samples obtained as part of this corrective action. LANL should provide all field screening and analytical data (including QA/QC data) obtained during this investigation and/or used in support of this document.*

LANL Response

1. At the time this report was written, it was accepted practice not to include a complete set of analytical results. The majority of the requested data is being retrieved. Data compiling has begun but the complete data set will require approximately 30 to 45 additional days to compile and evaluate for completeness. Therefore, the complete data package will be submitted by September 30, 1998. In response to the request, LANL will provide tables of the analytical laboratory results and the field screening data. The table below identifies the content of each table that will be provided.

Table	Description
Aggregates N&P Inorganic data	Inorganic chemical fixed laboratory analyses
Aggregates N&P Radionuclide data	Radionuclide fixed laboratory analyses
Aggregates N&P Organic data	Organic chemical fixed laboratory analyses
Aggregates N&P Laboratory QA/QC data	Laboratory QA/QC data such as surrogates and matrix spikes
Aggregates N&P Field QA/QC data	Field QA/QC data from blanks such as rinsate and trip blanks
Aggregates N&P Mobile Laboratory data	Analytical results from the MRAL and MCAL
Aggregates N&P Field Screening data	Field screening results such as hand held instruments

SPECIFIC COMMENTS

NMED Comment

7. *PRS 1-001(s), Location 2, page 59: LANL should clarify if discreet soil samples from boreholes 2-14 and 2-15 were obtained for fixed analytical laboratory analyses in support of the elevated beta/gamma readings noted during field screening.*

LANL Response

7. Samples were collected from boreholes 2-14 and 2-15 (one sample per borehole), screened using radiological field instruments, and submitted to the Mobile Radiological Analysis Laboratory (MRAL) for analysis. Based on information in the project file and field log books, the beta/gamma readings in both boreholes was 340 counts per minute (cpm), which was considered "slightly elevated" by the Site Safety Officer. These results will be presented in the analytical data compiled in response to General Comment No. 1. The samples were not submitted to a fixed laboratory for further analysis.

The data has been compiled and the following information is attached.

Type of Data	Description of Attachment
Information that discusses collection of the samples and rad van analytical data for the samples.	February/March 1994 RFI (pre-characterization) at Location 2, Boreholes 2-14 and 2-15 -Copy of pages from the Field Team Leader Health and Safety Officer's logbooks. -Daily field activities report for 2/15/94 -Spreadsheet of the rad van data which is also included in the previously mentioned table, TA-1 Aggregates N & P, Rad Van Data.

Aggregates N & P Analytic Data Introduction

This section presents the analytical data for the regular, field QA/QC, and laboratory QC samples. The data was downloaded from the Facility for Information Management, Analysis, and Display (FIMAD). Any inconsistencies found, based on known values, were corrected locally, summarized, and submitted to CDM personnel for correction in FIMAD.

The analytical data collected during the RFI is attached. This data is for fixed-laboratory results. The tables are composed of all chemical results including nondetected values. The fields displayed include analytical suite (ANALYTICAL_SUITE), location ID (LOC_ID), sample ID (SAMPLE_ID), depth and units (DEPTH), sample medium (MEDIA), sample matrix (STD_MATRIX), date of collection (COLL_DATE/TIME), date of analysis (AN_DATE), analytical laboratory (LAB), request number (REQUEST), analyte name (ANALYTE), sample results (STD_RESULTS) and units (STD_UNITS), analytical laboratory qualifiers (LAB_QUAL), LANL baseline validation qualifiers (LANL_QUAL), and the RFI focused data validation qualifier (FV_QUAL)—which is based on the laboratory qualifier, the LANL baseline validation qualifier, and the results of the focused validation.

To augment the information presented in the laboratory QC data tables, the additional field of sample type (SAMPLE_TYPE) is included to clarify the type of QC sample. The date of collection field (COLL_DATE/TIME) is not included in the laboratory QC data tables because it is not applicable.

Specific Table Notes

1. "NONE" in the FV_QUAL field indicates that no qualifier flag was assigned during focused validation; "NONE" in the LAB_QUAL or LANL_QUAL fields indicates that a null value was downloaded from FIMAD. "N/A" in the FV_QUAL field (only used in the QC data sets) indicates that a focused validation qualifier field is not applicable. "NONE" and "N/A" were added to the data set locally and are not in FIMAD.
2. "NULL" in any field, other than qualifier fields, indicates that a null value was downloaded from FIMAD. "NULL" was added to the data set locally and is not in FIMAD.

General Table Notes

3. Request number 20629 is not available in FIMAD, so a hard copy of the analytical report is attached.
4. Request numbers 16785, 16811, and 16915 were available in FIMAD, but did not have any laboratory QC data associated with them. Copies of these analytical reports are provided, they indicate that no QC samples were run with these sample batches.
5. Laboratory QC data for request numbers 16286, 16966, 16986, and 17205 were added to the data set because they were batched with request number 17391 and the laboratory QC data was only reported with them and not 17391.
6. Request numbers 16856 and 16911 were batched with request number 16844, therefore laboratory QC data only appears in the data set for request number 16844.
7. Request number 20489 was batched with request number 20484, therefore laboratory QC data only appears in the data set for request number 20484.
8. Request number 20566 was batched with request number 20554, therefore laboratory QC data only appears in the data set for request number 20554.
9. Request number 20806 was batched with request number 20805, therefore laboratory QC data only appears in the data set for request number 20805.

Copies of analytical reports discussed in the introduction

EM-9 ANALYTICAL SERVICE AGREEMENT
Samples Assigned Report

REQUEST NBR
16915

ANALYTICAL SECTION: RADCM

PROGRAM FUND CODE: M75B

PRIORITY CODE: 3

SAMPLE DISPOSAL: Discard

AGREEMENT DATE: 11-MAR-94

SCREENING DATA: Samples Screened: Counts BELOW Background!

CUSTOMER: CAN; Carl A. Newton

MAIL STOP: J521

PHONE: 667-8676

SIGNATURE: *Kyle Gray*

KG

TOTAL SAMPLES: 2

COUNTS:

ANALYSIS	TECHNIQUE	ANALYST	DUE	NBR SAMPLES
ALPHA, RV	PC	BLL	08-JUN-94	2
AM-241, RV	G	BLL	08-JUN-94	2
BETA, RV	PC	BLL	08-JUN-94	2
CO-60, RV	G	BLL	08-JUN-94	2
CS-137, RV	G	BLL	08-JUN-94	2
GAMMA, RV	G	BLL	08-JUN-94	2

REMARKS:

SAMPLES:

ANALYSIS	SAMPLE	TECHNIQUE	MATRX	TYPE	PRESERVATIVES	HAZARDS	COLLECTED	DUE	ANALST
ALPHA, RV	94.03946-Cut-1	PC	SS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
	94.03947-Cut-1	PC	MS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
AM-241, RV	94.03946-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
	94.03947-Cut-1	G	MS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
BETA, RV	94.03946-Cut-1	PC	SS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
	94.03947-Cut-1	PC	MS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
CO-60, RV	94.03946-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
	94.03947-Cut-1	G	MS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
CS-137, RV	94.03946-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
	94.03947-Cut-1	G	MS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
GAMMA, RV	94.03946-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL
	94.03947-Cut-1	G	MS		NO PRESERVS	NO HAZARDS	04-MAR-94	08-JUN-94	BLL

120 days

Agreement

Sample Nbr

Customer Number

Date Collected

16915

94.03947

AAA8320

04-MAR-94

16915

94.03946

AAA8321

04-MAR-94

HSE-9 Sample Priority Authorization Form

Customer Name: Carl Newton
Danny Kattner, DC

HSE-9 Request #'s: _____

Group: EGS-3

Program Code: M73E

Mail Stop: 6335

Phone: 604-8676

Sample Matrix: Soil

Number of Samples: 1

Requested Analytical Report Due Date: 22 April 94

Comments: _____

PRIORITY 1 -

This is the highest priority level that can be assigned to any sample. Samples assigned a priority 1 status will be moved to the top of the assignment que. The analyst will complete the analysis and issue a final report as soon as possible. This priority level gives the analyst pre-approval for overtime if it is required for the timely completion of the requested analysis.

Group Leader Authorization: _____

Date: 4-12-94

HSE-9 Group Leader Authorization: _____

Date: 4/12/94

PRIORITY 2 -

Samples assigned a priority 2 status will be moved to the top of the analysis que but will not supersede any existing or future priority 1 status samples. The analyst will complete the analysis as soon as possible during the analyst's normal working hours. Overtime will not be authorized for samples with a priority 2 status. Samples with a priority 2 status will be scheduled for analysis on a first-come, first-served basis.

Group Leader Authorization: _____

Date: _____

***** EM-9 ANALYTICAL REPORT *****

Prepared by: B. LOCKHART on 21-Apr-1994

REQUEST NUMBER: 16915 MATRIX: SS ANALYST: BRET LOCKHART PROGRAM CODE: M75B

OWNER: Carl A. Newton GROUP: EES-3 MAIL-STOP: C335 PHONE: 7-8676

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAA8321	94.03946	ALPHA, RV	PC	339.48	333.3599	PCI/G	3/30/94	AAA8321
AAA8321	94.03946	AM-241, RV	G	0.24	2.7	PCI/G	3/31/94	AAA8321
AAA8321	94.03946	BETA, RV	PC	1269.3	346.73	PCI/G	3/30/94	AAA8321
AAA8321	94.03946	CO-60, RV	G	0.21	0.57	PCI/G	3/31/94	AAA8321
AAA8321	94.03946	CS-137, RV	G	- 1.51	0.82	PCI/G	3/31/94	AAA8321
AAA8321	94.03946	GAMMA, RV	G	18.85	2.16	PCI/G	3/30/94	AAA8321
AAA8320	94.03947	ALPHA, RV	PC	- 7.38	83.28	PCI/G	3/31/94	AAA8320
AAA8320	94.03947	AM-241, RV	G	- 0.35	1.36	PCI/G	3/31/94	AAA8320
AAA8320	94.03947	BETA, RV	PC	43.77	90.73	PCI/G	3/31/94	AAA8320
AAA8320	94.03947	CO-60, RV	G	0.56	0.73	PCI/G	3/31/94	AAA8320
AAA8320	94.03947	CS-137, RV	G	- 1.4	0.82	PCI/G	3/31/94	AAA8320
AAA8320	94.03947	GAMMA, RV	G	- 17.02	2.68	PCI/G	3/31/94	AAA8320

***** EM-9 QUALITY ASSURANCE REPORT *****

Prepared by: B. LOCKHART on 21-Apr-1994

REQUEST NUMBER: 16915 MATRIX: SS ANALYST: BRET LOCKHART PROGRAM CODE: M75B

OWNER: Carl A. Newton GROUP: EES-3 MAIL-STOP: C335 PHONE: 7-8676

NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

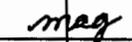
- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within EM-9

REPORT NUMBER: 24108

 _____ Analyst	 _____ Reviewer	 _____ Section Leader	 _____ QA Officer
<u>4/21/94</u> Date	<u>4/28/94</u> Date	<u>5/10/94</u> Date	<u>5/10/94</u> Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in
'Quality Assurance for Health and Environmental Chemistry: 1991,' LA-12436-MS, Vol. 1, pp. 21-22.

9 ANALYTICAL SERVICE AGREEMENT
Samples Assigned Report

REQUEST NBR
16811

SIS	SAMPLE	TECHNIQUE	MATRX	TYPE	PRESERVATIVES	HAZARDS	COLLECTED	DUE	ANALST
GAMMA, RV	94.03059-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	27-MAY-94	BLL

agreement	Sample Nbr	Customer Number	Date Collected
16811	94.03056	AAA8285	17-FEB-94
5811	94.03057	AAA8286	17-FEB-94
811	94.03058	AAA8288	17-FEB-94
16811	94.03059	AAA8289	17-FEB-94

***** EM-9 ANALYTICAL REPORT *****

Prepared by: B. LOCKHART on 2-Mar-1994

REQUEST NUMBER: 16811 MATRIX: SS ANALYST: BRET LOCKHART PROGRAM CODE: M75B

OWNER: Carl A. Newton GROUP: EES-3 MAIL-STOP: C335 PHONE: 7-8676

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAA8285	94.03056	ALPHA, RV	PC	0.0	83.28	PCI/G	3/02/94	AAA8285
AAA8285	94.03056	AM-241, RV	G	0.0	0.675	PCI/G	3/02/94	
AAA8285	94.03056	BETA, RV	PC	54.45	90.73	PCI/G	3/02/94	AAA8285
AAA8285	94.03056	CO-60, RV	G	0.0	0.473	PCI/G	3/02/94	
AAA8285	94.03056	CS-137, RV	G	0.0	0.78	PCI/G	3/02/94	
AAA8285	94.03056	GAMMA, RV	G	- 2.75	2.16	PCI/G	3/02/94	AAA8285
AAA8286	94.03057	ALPHA, RV	PC	7.38	83.28	PCI/G	3/02/94	AAA8286
AAA8286	94.03057	AM-241, RV	G	0.0	0.701	PCI/G	3/02/94	
AAA8286	94.03057	BETA, RV	PC	- 3.2	90.73	PCI/G	3/02/94	AAA8286
AAA8286	94.03057	CO-60, RV	G	0.24	0.74	PCI/G	3/02/94	
AAA8286	94.03057	CS-137, RV	G	0.0	0.828	PCI/G	3/02/94	
AAA8286	94.03057	GAMMA, RV	G	- 0.77	2.16	PCI/G	3/02/94	AAA8286
AAA8288	94.03058	ALPHA, RV	PC	29.52	98.3	PCI/G	3/02/94	AAA8288
AAA8288	94.03058	AM-241, RV	G	0.0	0.675	PCI/G	3/02/94	
AAA8288	94.03058	BETA, RV	PC	20.28	90.73	PCI/G	3/02/94	AAA8288
AAA8288	94.03058	CO-60, RV	G	0.0	0.473	PCI/G	3/02/94	
AAA8288	94.03058	CS-137, RV	G	0.0	0.78	PCI/G	3/02/94	
AAA8288	94.03058	GAMMA, RV	G	- 1.58	2.16	PCI/G	3/02/94	AAA8288
AAA8289	94.03059	ALPHA, RV	PC	7.38	83.28	PCI/G	3/02/94	AAA8289
AAA8289	94.03059	AM-241, RV	G	0.0	0.675	PCI/G	3/02/94	
AAA8289	94.03059	BETA, RV	PC	- 35.23	90.73	PCI/G	3/02/94	AAA8289
AAA8289	94.03059	CO-60, RV	G	0.0	0.473	PCI/G	3/02/94	
AAA8289	94.03059	CS-137, RV	G	0.0	0.78	PCI/G	3/02/94	
AAA8289	94.03059	GAMMA, RV	G	- 0.57	2.16	PCI/G	3/02/94	AAA8289

REPORT NUMBER: 23095 (continued)

***** EM-9 QUALITY ASSURANCE REPORT *****

Prepared by: B. LOCKHART on 2-Mar-1994

REQUEST NUMBER: 16811 MATRIX: SS ANALYST: BRET LOCKHART PROGRAM CODE: M75B

OWNER: Carl A. Newton GROUP: EES-3 MAIL-STOP: C335 PHONE: 7-8676

NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

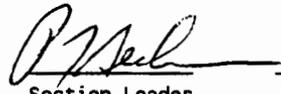
- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within EM-9

REPORT NUMBER: 23095

 _____ Analyst	 _____ Reviewer	 _____ Section Leader	 _____ QA Officer
<u>3/2/94</u> _____ Date	<u>3/4/94</u> _____ Date	<u>3/2/94</u> _____ Date	<u>3/10/94</u> _____ Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceding data was evaluated using the standard statistical criteria set forth in
'Quality Assurance for Health and Environmental Chemistry: 1991,' LA-12436-MS, Vol. I, pp. 21-22.

EM-9 ANALYTICAL SERVICE AGREEMENT
Samples Assigned Report

REQUEST NBR
16785

ANALYTICAL SECTION: RADCM

PROGRAM FUND CODE: M75B

PRIORITY CODE: 2

SAMPLE DISPOSAL: Discard

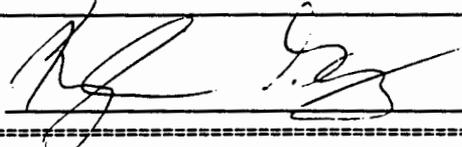
AGREEMENT DATE: 23-FEB-94

SCREENING DATA: Samples Screened: Counts BELOW Background!

CUSTOMER: CAN; Carl A. Newton

MAIL STOP: J521

PHONE: 667-8676

SIGNATURE: 

KG

TOTAL SAMPLES: 2

COUNTS:

ANALYSIS	TECHNIQUE	ANALYST	DUE	NBR SAMPLES
ALPHA, RV	PC	BLL	19-MAR-94	2
AM-241, RV	G	BLL	19-MAR-94	2
BETA, RV	PC	BLL	19-MAR-94	2
CO-60, RV	G	BLL	19-MAR-94	2
CS-137, RV	G	BLL	19-MAR-94	2
GAMMA, RV	G	BLL	19-MAR-94	2

REMARKS:

TA-1 OU1078

SAMPLES:

ANALYSIS	SAMPLE	TECHNIQUE	MATRX	TYPE	PRESERVATIVES	HAZARDS	COLLECTED	DUE	ANALST
ALPHA, RV	94.02720-Cut-3	PC	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
	94.02771-Cut-1 ^{PC}	PC	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
AM-241, RV	94.02720-Cut-3	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
	94.02771-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
BETA, RV	94.02720-Cut-3	PC	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
	94.02771-Cut-1	PC	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
CO-60, RV	94.02720-Cut-3	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
	94.02771-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
CS-137, RV	94.02720-Cut-3	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
	94.02771-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
GAMMA, RV	94.02720-Cut-3	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL
	94.02771-Cut-1	G	SS		NO PRESERVS	NO HAZARDS	17-FEB-94	19-MAR-94	BLL

Agreement	Sample Nbr	Customer Number	Date Collected
16785	94.02720	AAA8272	17-FEB-94
16785	94.02771	AAA8287	17-FEB-94

REPORT NUMBER: 23096

***** EM-9 ANALYTICAL REPORT *****

Prepared by: B. LOCKHART on 2-Mar-1994

REQUEST NUMBER: 16785 MATRIX: SS ANALYST: BRET LOCKHART PROGRAM CODE: M75B

OWNER: Carl A. Newton GROUP: EES-3 MAIL-STOP: C335 PHONE: 7-8676

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAA8272	94.02720	ALPHA, RV	PC	11.07	83.28	PCI/G	3/02/94	AAA8272
AAA8272	94.02720	AM-241, RV	G	0.0	0.825	PCI/G	3/02/94	
AAA8272	94.02720	BETA, RV	PC	- 20.28	90.73	PCI/G	3/02/94	AAA8272
AAA8272	94.02720	CO-60, RV	G	0.42	0.79	PCI/G	3/02/94	
AAA8272	94.02720	CS-137, RV	G	0.15	0.696	PCI/G	3/02/94	
AAA8272	94.02720	GAMMA, RV	G	- 3.	2.16	PCI/G	3/02/94	AAA8272
AAA8287	94.02771	ALPHA, RV	PC	- 3.69	83.28	PCI/G	3/02/94	AAA8287
AAA8287	94.02771	AM-241, RV	G	0.0	0.825	PCI/G	3/02/94	
AAA8287	94.02771	BETA, RV	PC	- 16.01	90.73	PCI/G	3/02/94	AAA8287
AAA8287	94.02771	CO-60, RV	G	0.0	0.589	PCI/G	3/02/94	
AAA8287	94.02771	CS-137, RV	G	0.09	0.696	PCI/G	3/02/94	
AAA8287	94.02771	GAMMA, RV	G	- 4.63	2.16	PCI/G	3/02/94	AAA8287

REPORT NUMBER: 23096 (continued)

***** EM-9 QUALITY ASSURANCE REPORT *****

Prepared by: B. LOCKHART on 2-Mar-1994

REQUEST NUMBER: 16785 MATRIX: SS ANALYST: BRET LOCKHART PROGRAM CODE: M75B

OWNER: Carl A. Newton GROUP: EES-3 MAIL-STOP: C335 PHONE: 7-8676

NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

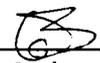
There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within EM-9

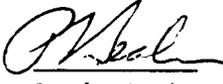
REPORT NUMBER: 23096



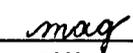
Analyst



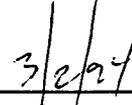
Reviewer



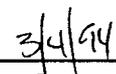
Section Leader



QA Officer



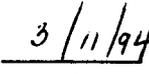
Date



Date



Date



Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1991,' LA-12436-MS, Vol. I, pp. 21-22.

REPORT NUMBER: 32584

***** CST ANALYTICAL REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11

OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAC2089	94.32250	U-234	RAS	1.225	0.0895	PCI/G	1/04/95	
AAC2089	94.32250	U-235	RAS	0.043	0.0095	PCI/G	1/04/95	
AAC2089	94.32250	U-238	RAS	0.996	0.0755	PCI/G	1/04/95	

***** CST QUALITY ASSURANCE REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11
OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194
NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

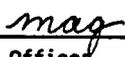
- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

REPORT NUMBER: 32584

_____		_____	
Analyst	Reviewer	Team Leader	QA Officer
_____	3/7/95	_____	3/8/95
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceding data was evaluated using the standard statistical criteria set forth in
'Quality Assurance for Health and Environmental Chemistry: 1992,' LA-12790-MS, Vol. I, pp. 19-20.

REPORT NUMBER: 32583

***** CST ANALYTICAL REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11

OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAC2089	94.32250	PU-238	RAS	0.02	0.003	PCI/G	1/04/95	
AAC2089	94.32250	PU-239	RAS	6.878	0.41	PCI/G	1/04/95	

REPORT NUMBER: 32583 (continued)

***** CST QUALITY ASSURANCE REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11
OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194
NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

REPORT NUMBER: 32583

_____	<i>DLD</i>	_____	<i>mag</i>
Analyst	Reviewer	Team Leader	QA Officer
_____	<i>3/7/95</i>	_____	<i>3/8/95</i>
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

he control status of the preceeding data was evaluated using the standard statistical criteria set forth in
'Quality Assurance for Health and Environmental Chemistry: 1992,' LA-12790-MS, Vol. I, pp. 19-20.

REPORT NUMBER: 32579

***** CST ANALYTICAL REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11

OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAC2089	94.32250	H2O-	GRAV	13.8		%	12/29/94	

REPORT NUMBER: 32579 (continued)

***** CST QUALITY ASSURANCE REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11
OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194
NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

REPORT NUMBER: 32579

_____		_____	
Analyst	Reviewer	Team Leader	QA Officer
_____	3/7/95	_____	3/8/95
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceding data was evaluated using the standard statistical criteria set forth in
'Quality Assurance for Health and Environmental Chemistry: 1992,' LA-12790-MS, Vol. I, pp. 19-20.

REPORT NUMBER: 32581

***** CST ANALYTICAL REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11

OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAC2089	94.32250	H-3	LS	624.	215.	PCI/L	12/29/94

REPORT NUMBER: 32581 (continued)

***** CST QUALITY ASSURANCE REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11
OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194
NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

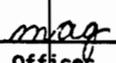
- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

REPORT NUMBER: 32581

_____		_____	
Analyst	Reviewer	Team Leader	QA Officer
_____	3/7/95	_____	3/8/95
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1992,' LA-12790-MS, Vol. I, pp. 19-20.

REPORT NUMBER: 32580 (continued)

***** CST QUALITY ASSURANCE REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11
OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194
NOTEBOOK: PAGE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Blind QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

- Only qualitative data requested
- Only Open (non-blind) QC samples run with this sample batch.
- No QC samples run with this sample batch.
- No QC samples for this constituent and matrix type available within CST

REPORT NUMBER: 32580

_____	<i>DLD</i>	_____	<i>mag</i>
Analyst	Reviewer	Team Leader	QA Officer
_____	<i>3/7/95</i>	_____	<i>3/8/95</i>
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceding data was evaluated using the standard statistical criteria set forth in
'Quality Assurance for Health and Environmental Chemistry: 1992,' LA-12790-MS, Vol. I, pp. 19-20.

REPORT NUMBER: 32580

***** CST ANALYTICAL REPORT *****

Prepared by: DLD on 7-Mar-1995

REQUEST NUMBER: 20629 MATRIX: SS ANALYST: 211 PROGRAM CODE: MA11

OWNER: Janet S. Brewer GROUP: CST-7 MAIL-STOP: E525 PHONE: 5-9194

NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL TECHNIQUE	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
AAC2089	94.32250	CS-137	G	0.048	0.022	PCI/G	1/09/95	
