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U.S. Department of Energy
Los Alamos Area Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
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1999
RECEIVED

Date: May 11, 1999
Refer to: EM/ER:99-122

Kieling

Mr. James Bearzi
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

SUBJECT: SUBMITTAL OF APPENDIX A, ECOLOGICAL SCOPING CHECKLIST, AND APENDIX B, SURFACE WATER ASSESSMENT, OF THE VCM PLAN FOR CONSOLIDATED PRS 21-027(d)-99

Dear Mr. Bearzi:

Enclosed are two copies of Appendix A, Ecological Scoping Checklist, and Appendix B, Surface Water Assessment (formerly known as 4.5 assessments) of the "Voluntary Corrective Measure Plan for consolidated PRS 21-027(d)-99." The voluntary corrective measure (VCM) plan was submitted to you on April 12, 1999, and our cover letter indicated that Appendices A and B would be forwarded to the New Mexico Environment Department upon their completion. The completed Ecological Scoping Checklist recommends no further action, and the surface water assessment resulted in a relatively low score of 35.5 for the site.

The two appendices are enclosed in a plastic sleeve. This sleeve can either be attached to the VCM plan, or the appendixes can be removed from the sleeve and inserted into the VCM plan document.

If you have any questions or concerns please feel free to call Dave McInroy at (505) 667-0819 or Deba Daymon at (505) 667-9021.

Sincerely,

Julie A. Canepa

Julie A. Canepa, Program Manager
LANL/ER Project

Sincerely,

T. J. Taylor

Theodore J. Taylor, Program Manager
DOE/LAAO

JC/TT/JJ/gt

Enclosures: 1) Appendix A: Ecological Scoping Checklist
2) Appendix B: Surface Water Assessment (Formerly Known as A.5 Assessments)

10526

Cy (w/encs.):
M. Buska, EM/ER, MS M992
D. Daymon, EES-13, MS M992
A. Dorries, EES-13, MS M992
D. McInroy, EM/ER, MS M992
J. Mose, LAAO, MS A316
T. Taylor, LAAO, MS A316
J. Kieling, NMED-HRMB
RPF, MS M707

Cy (w/o encs.):
EM/ER File, MS M992
Tracker RM 604, MS M992

APPENDIX A
ECOLOGICAL SCOPING CHECKLIST

This checklist is in preparation and will be forwarded upon completion.

A-1.0 PART A—SCOPING MEETING DOCUMENTATION

Site ID	PRS 21-027(d)-99, In Situ Vitrification (ISV) Test Site at TA-21
Form of Site Releases (solid, liquid, vapor). (Describe all relevant known or suspected mechanisms of release (spills, dumping, material disposal, outfall, explosive testing, etc.), and describe potential areas of release. Reference locations on a map, as appropriate.)	The release at the site was diesel fuel from a tank that used to be located at the site. It is not clear whether the release was from a spill or leak from the tank. The contamination was confined to the subsurface soil.
List of Primary Impacted Media (Indicate all that apply.)	Surface soil: Surface water/sediment: Subsurface: The material appears to be fill of unknown origin. Impacted media was sampled down to approximately 10 ft to the soil/tuff interface. No other media were affected. Groundwater: Other, explain:
FIMAD Vegetation Class Based on Arcview Vegetation Coverage (Indicate all that apply.)	Water: Bare ground/unvegetated: The site has been used as a parking lot and was at least in part covered with asphalt. The portion that was not covered with asphalt was bare ground with no vegetation in the immediate area. Spruce/fir/aspen/mixed conifer: Ponderosa pine: Piñon juniper/juniper savannah: Grassland/shrubland: Developed:
Is T&E Habitat Present? (If applicable, list species known or suspected to use the site for breeding or foraging.)	The site is on the border of the core habitat for the Mexican spotted owl. This site is within an area that the owl may be assumed to forage with a moderate to low frequency. This site is within an area where the potential for foraging for the peregrine falcon is low.
Provide List of Neighboring/ Contiguous/Upgradient sites (Include a brief summary of COPCs and the form of releases for relevant sites and reference a map, as appropriate. Use this information to evaluate the need to aggregate sites for screening.)	MDA V [PRS 21-018(a)] is located immediately south of the PRS. MDA B (PRS 21-015) is located immediately to the west of the PRS. PRSs 21-013(b,g) are also south of MDA V and drain into the canyon approximately 200 ft to the south of the PRS. The releases from the MDAs would be organic, inorganic, and radionuclides in the subsurface. Potential releases from 21-013(b,g) would be surface runoff. PRS 21-023(c) is adjacent to and east of the outfall from 21-027(d)-99. This PRS was a septic tank outfall. None of the sites should be aggregated.

Surface Water Erosion Potential Information (Summarize information from SOP 2.01, including the run-off subscore [maximum of 46], terminal point of surface water transport, slope, and surface water run-on sources.)	Site Setting score: 14 Surface water run-off score: 14.5, includes a score of 9.5 for the terminal point of surface water transport Surface water run-on score: 7, includes a score of 7 for natural drainages onto site Total score: 35.5
Other Scoping Meeting Notes	

A-2.0 PART B—SITE VISIT DOCUMENTATION

Site ID	PRS 21-027(d)-99 - In Situ Vitrification (ISV) Site at TA-21
Date of Site Visit	4/9/99
Site Visit Conducted By	Richard Mirenda and Ray Wright

Receptor Information:

Estimate Cover	Relative vegetative cover (high, medium, low, none) = Relative wetland cover (high, medium, low, none) = Relative structures/asphalt, etc. cover (high, medium, low, none) = high, covered with asphalt over much of the area or bare ground where asphalt not present.
Field Notes on the FIMAD Vegetation Class (to assist in ground-truthing the Arcview information)	Site visit confirmed that no vegetation is present at the site.
Field Notes on T&E Habitat (if applicable) (Consider the need for a site visit by a T&E subject matter expert to support the use of the site by T&E receptors.)	The site does not present any foraging or nesting habitat for T&E species.
Are ecological receptors present at the site? (yes/no/uncertain) (Describe the general types of receptors present at the site [terrestrial and aquatic], and make notes on the quality of habitat present at the site.)	No. Site was a parking lot and covered with asphalt. It is not suitable for foraging or nesting of terrestrial receptors. No aquatic habitat are present on or near the site.

Contaminant Transport Information:

Surface Water Transport (Field notes on the erosion potential, including a discussion of the terminal point of surface water transport, if applicable.)	No evidence of erosion was observed. The area is relatively flat (approximately 1–2% slope) and was covered with asphalt. An asphalt drainage channel is located around the perimeter of MDA V to direct surface runoff away from the PRS. Surface water runoff eventually would go into the canyon located approximately 200 ft south of the site.

Are there any off-site transport pathways (surface water, air, or groundwater)? (yes/no/uncertain) (Provide explanation)	No. The release from the fuel tank is subsurface and, because it was covered with asphalt, is unlikely to move. Groundwater is approximately 1200 ft below the site and is unlikely to be affected because there is no hydraulic head to promote downward movement.
Is interim action needed to limit off-site transport? (yes/no/uncertain) (Provide explanation/ recommendation to project lead for IA SMDP.)	No. The release is subsurface and is unlikely to move. Analytical data are pending.

Ecological Effects Information:

Physical Disturbance (Provide list of major types of disturbances, including erosion and construction activities, review historical aerial photos where appropriate.)	The site has been physically disturbed. The area was cleared and covered with asphalt. It had been used as a parking lot. It is also devoid of any vegetation. No evidence of erosion was observed in the area.
Are there obvious ecological effects? (yes/no/uncertain) (Provide explanation and apparent cause [e.g., contamination, physical disturbance, other].)	No. The site had been cleared so no ecological impacts from site use were observed.
Is interim action needed to limit apparent ecological effects? (yes/no/uncertain) (Provide explanation and recommendations to mitigate apparent exposure pathways to project lead for IA SMDP.)	No. The release is subsurface and is unlikely to move. Analytical data are pending.

No Exposure/Transport Pathways:

If there are no complete exposure pathways to ecological receptors on site and no transport pathways to off-site receptors, the remainder of the checklist should not be completed. Stop here and provide additional explanation/justification for proposing an ecological no further action recommendation (if needed). At a minimum, the potential for future transport should include likelihood that future construction activities could make contamination more available for exposure or transport.

The release of diesel fuel was detected at the soil/tuff interface, which was variable in depth, and decreased with depth beyond that point. Analytical data are pending. In addition, the characterization of extent indicated that the release was confined to a small area and had not migrated from the initial release point. The site was also devoid of any vegetation and covered with asphalt, and no evidence of burrowing animals was observed in the vicinity of the site. Therefore, because of the depth of the detected release, the lack of any transport pathways away from the area, and the lack of any receptors at the site, the site is proposed for an ecological no further action.

Adequacy of Site Characterization:

Do existing or proposed data provide information on the nature, rate, and extent of contamination? (yes/no/uncertain) (Provide explanation; consider if the maximum value was captured by existing sample data.)	

Do existing or proposed data for the site address potential transport pathways of site contamination? (yes/no/uncertain) (Provide explanation; consider if other sites should aggregated to characterize potential ecological risk.)	

Additional Field Notes:

Provide additional field notes on the site setting and potential ecological receptors.

Signatures and certifications:

Checklist completed by (provide name, organization, and phone number)

Name (printed): Richard Miranda

Name (signature): Richard Miranda

Organization: MK / PMC

Phone number: 662-1329

Date completed: 4/29/98

Verification by a member of ER Project Ecological Risk Task Team (provide name, organization, and phone number)

Name (printed): LARS SOLHOLT

Name (signature): Lars F. Solholt

Organization: LM/ER

Phone number: 667-2258

APPENDIX B
SURFACE WATER ASSESSMENT (FORMERLY KNOWN AS 4.5 ASSESSMENTS)

This assessment is in preparation and will be forwarded upon completion.

Los Alamos National Laboratory

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

Surface Water Assessment
Erosion Matrix for PRS 21-027(d)

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential Low 0.1	Medium 0.5	High 1.0	Calculated Score
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%	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.			5.0
		If yes, score 5 and proceed with section.			
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	9.5
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	0.0
		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
**Select either structures or natural drainages.*					
MAX. POSSIBLE EROSION MATRIX SCORE:	**100**			**Total Score**	35.5

REVISED PART B

Report Printed 5/4/99 7:49:40 AM.

Los Alamos National Laboratory
SURFACE WATER
SITE ASSESSMENT

Revised Part B. Please discard previous.

SITE INFORMATION

1a) PRS Number 21-027(d) **1b) Structure Number** **1c) FMU Number** 80

2. Date/Time (M/D/Y H:M am/pm) 4/12/99

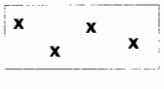
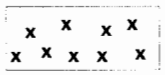
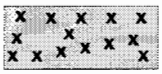
SITE SETTING (check all that apply)

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 north side of Los Alamos Canyon between MDA-B and MDA-V. Former drain line from secondary containment around AOC-21-028, AST for diesel.

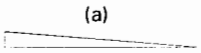
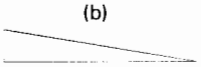
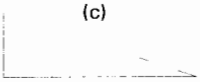
4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees, structures, asphalt, etc.)

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

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

Explanation: Sparse ground cover where AST was originally located. Pine needles and trees cover location of former outfall.

5. Steepest slope at the area impacted:

(a)  (b)  (c) 

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

Explanation: Flat near former tank location, gradually steepens toward canyon.

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: Outfall located on slope where some minimal evidence of runoff occurs.

RUNOFF FACTORS, CONT'D

6b) Where does evidence of runoff terminate?

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

Explanation: Runoff sheet flows over slope and infiltrates into local sediments

Y / N

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

Explanation: None observed

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 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.)**

Veenis, Steve

11. Signature of Water Quality/Hydrology Representative

SW 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:

Site re-evaluated as part of field assessment for AOC-21-028. Original assessment performed on 9/23/97.

Los Alamos National Laboratory

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

Surface Water Assessment
Erosion Matrix for PRS C-21-028

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential Low 0.1	Medium 0.5	High 1.0	Calculated Score
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%	25-75%	<25%	13.0
Slope	13	0-10%	10-30%	>30%	1.3
Surface Water Factors-Run-off (46)					
Visible evidence of runoff discharging? (Yes/No)	5	If no, score of 0 for runoff section.			0.0
		If yes, score 5 and proceed with section.			
Where does runoff terminate?	19	Other	Bench Setting	Drainage/Wetland	0.0
Has runoff caused visible erosion? (Yes/No)	22	Sheet	Rill	Gully	0.0
		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.			0.0
**Select either structures or natural drainages.*					
MAX. POSSIBLE EROSION MATRIX SCORE:	**100**			**Total Score**	15.3

Report Printed 5/4/99 7:50:02 AM.

Los Alamos National Laboratory
SURFACE WATER
SITE ASSESSMENT

SITE INFORMATION

1a) PRS Number C-21-028 **1b) Structure Number** **1c) FMU Number** 80

2. Date/Time (M/D/Y H:M am/pm) 4/12/99

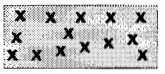
SITE SETTING (check all that apply)

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 north side of LA Canyon between MDA-B and MDA-V. Former catch basin around diesel AST.

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: Sparse vegetation where AST was originally located.

5. Steepest slope at the area impacted:

(a) (b) (c)

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

Explanation: Flat area between MDAs

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: None observed

RUNOFF FACTORS, CONT'D

6b) Where does evidence of runoff terminate?

- ( ) **Drainage or wetland (name)** Los Alamos Canyon
- ( ) **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: None observed

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.)**

Veenis, Steve

11. Signature of Water Quality/Hydrology Representative

SV 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:

Site currently within boundary of ISV project ongoing for MDA-V. Project has no impact on the PRS.