

# Los Alamos National Laboratory

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

## Surface Water Assessment Erosion Matrix for PRS R-22

CRITERIA EVALUATED	Value	Erosion/Sediment Transport Potential			Calculated Score
		Low 0.1	Medium 0.5	High 1.0	
<b>Site Setting (43)</b>					
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%	1.3
<b>Surface Water Factors-Run-off (46)</b>					
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	0.0
					If no, score as 0. If yes, calculate as appropriate.
<b>Surface Water Factors-Run-on (11)</b>					
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
<i>*Select either structures or natural drainages.</i>					
<b>MAX. POSSIBLE EROSION MATRIX SCORE:</b>	<b>100</b>	<b>Total Score</b>			<b>32.8</b>



6/14/01 HWP R-22  
 HSWA LAND HWP R-22

Los Alamos National Laboratory  
SURFACE WATER  
SITE ASSESSMENT

Part B: page 2 of 4

SITE INFORMATION

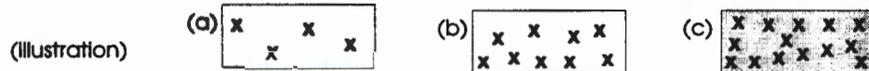
1a) PRS Number  1b) Structure Number  1c) FMU Number   
2. Date/Time (M/D/Y H:M am/pm)

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: Located on mesa top east of TA-54

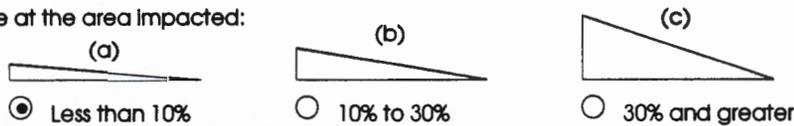
4. Estimated ground and/or canopy cover at site: (deciduous leaves, pine needles, rocks, vegetation, trees,



Estimated % of ground/canopy cov  0% to 25%  25% to 75%  75% to 100%

Explanation: Pinon and juniper, very little soil on top of exposed volcanic tuff.

5. Steepest slope at the area impacted:



Explanation: Area is generally flat with a gradual slope towards the east.

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: Some natural drainage swales exist across the site.

**RUNOFF FACTORS, CONT'D**

6b) Where does evidence of runoff terminate?

 Drainage or wetland (name) Pajarito Canyon Within bench of canyon setting (name) Other (i.e., retention pond, meadow, mesa top)**Explanation:** Runoff from area terminates into Pajarito Canyon to the south-southeast.

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:** No structural impact.  8. Are current operations (i.e., fire hydrants, NPDES outfalls) adversely impacting run-on to the site?**Explanation:** No operational impact.  9. Are natural drainage patterns directing stormwater onto site?**Explanation:** No upslope run-on.**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**\_\_\_\_\_  
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/debrts on the site?

b)   Is there visible trash/debrts 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 eroslon potential?

**OTHER INTERNAL NOTES:**

**Photographs of the proposed R-22 Mesa top water discharge area**



**View of mesa top discharge area. Approximately 60 yards East of well site.**



**View of mesa top discharge area. Approximately 60 yards North east of well site.**

**Photographs of the proposed R-22 Mesa top water discharge area**



**View towards the R-22 well from the proposed water discharge area.**