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OK

Canyon Fuel Company, LLC.
Skyline Mine
A Subsidiary of Arch Western Bituminous Group, LLC

Gregg Galecki, Environ. Coordinator
HCR 35, Box 380
Helper, UT 84526
(435) 448-2636 - Office
(435) 448-2632 - Fax

RECEIVED
JUL 12 2006
DIV. OF OIL, GAS & MINING

July 11, 2006

C/007/005
Task 2574

Mr. D. Wayne Hedberg
Permit Supervisor
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

RE: Application to Reduce Silt Fencing for Sediment Control, Response to Deficiency letter sent 6/13/2006, Canyon Fuel Company, LLC, Skyline Mine, C/007/005, Task ID #2503

Dear Mr. Hedberg:

Please find enclosed with this letter Skyline Mine's response to a deficiency letter dated June 13, 2006. Included in this letter is RUSTLE2 Soil Loss calculations for areas where silt fencing is currently being used as sediment control. The calculations are intended to be used in conjunction with the Vegetation and Groundcover report submitted in February 2006 as a demonstration that the silt fencing can be removed in the cited locations. The following table is intended to serve as cross-reference for the M&RP ASCA areas that are being modified to be Small Exemption Areas (SAE) and no longer require silt fencing.

M&RP	Vegetation Report	RUSTLE2 Report
Area 7 - text change only	Table 5 - Conveyor Entrance	No calculations
Area 10a	Tables 2 & 3 – Rail Loadout	Pages 6-9
Area 23 – text change only		
Area 24	Tables 1 &6 – Waste Rock site	Pages 4-5
Area 30a	Table 4 – Conveyor Loops	Pages 4 & 6
Area 32	Table 7 – South Fork Topsoil	
Area 34 – text change only		
Area 35 and 36	Tables 8,9,10 James Canyon Topsoil, Lower Road, Upper Road	Pages 12-17

There are sites in both the Vegetation and RUSTLE2 reports that are not addressed in the current amendment. Specifically, the Waste Rock site (Veg. Table 1) and the Conveyor Entrance (Veg. Table 5) did not need to be addressed as part of this amendment. These sites were mistakenly included in the Vegetation field studies, yet provide support for a previous decision to eliminate the silt fencing.

When reviewing the James Canyon Upper Road and Lower Road concerning soil loss, keep in mind that these areas are already being treated with deep-gouging, and are effectively being treated independent of the calculated soil loss. Also, the Soil Loss calculations indicate the James Canyon Topsoil pile is effectively equivalent to the reference area and both Photo G and data from the Vegetation report indicate filtration is adequately achieved with vegetation.

The modifications necessary concerning the removal of silt fences have been accurately documented in the text. This submittal includes completed C1 and C2 forms, and eight (8) copies of the RUSTLE2 Sediment Control Calculations report. Please note that the C2 form submitted on February 8, 2006, asks to add the Sediment Control Calculations report conducted by Mt. Nebo Scientific to Volume 5 as Section 21a.

We at Skyline Mine, appreciate your review of this application. If you have any questions, please call me at (435) 448-2636.

Sincerely,

Gregg A. Galecki

Gregg A. Galecki
Environmental Coordinator, Skyline Mine
Canyon Fuel Company, LLC

enclosures

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☒ New Permit ☐ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Canyon Fuel Company, LLC
Mine: Skyline Mine **Permit Number:** C/007/005
Title: Sediment control removal in Section 3.2 of M&RP
Description, Include reason for application and timing required to implement:
Supplemental information to Task ID #2503 - Modification to the M&RP to eliminate silt fencing

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
☐ Yes ☒ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes ☒ No 6. Does the application require or include public notice publication?
☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☐ Yes ☒ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☐ Yes ☒ No 9. Is the application submitted as a result of a Violation? NOV # _____
☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
☐ Yes ☒ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes ☒ No 15. Does the application require or include soil removal, storage or placement?
☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
☐ Yes ☒ No 17. Does the application require or include construction, modification, or removal of surface facilities?
☒ Yes ☐ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
☐ Yes ☒ No 19. Does the application require or include certified designs, maps or calculation?
☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
☐ Yes ☒ No 21. Have reclamation costs for bonding been provided?
☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
☐ Yes ☒ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Wesley K Sorensen — Wesley K Sorensen — 7/11/06
Print Name — Sign Name, Position, Date

Subscribed and sworn to before me this 11 day of July, 2006

Vicky Sue Miller
Notary Public

My commission Expires: 1-5, 2008
Attest: State of UTAH } ss:
County of CARBON)

VICKY SUE MILLER
NOTARY PUBLIC • STATE of UTAH
1776 KENILWORTH RD.
HELPER, UTAH 84526
COMM. EXPIRES 1-5-2008

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining
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APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Canyon Fuel Company, LLC
Mine: Skyline Mine **Permit Number:** C/007/005
Title: Supplemental Information to Task 2503 - Silt Fence Removal

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☒ Add	☐ Replace	☐ Remove	MR&P Volume 5, Section 21a - RUSLE2 Soil Loss Calculations
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining
Seven (7) redline/strikeout copies and seven (7)clean copies submitted	RECEIVED JUL 12 2006 DIV. OF OIL, GAS & MINING

SECTION 21a

RECEIVED
JUL 12 2006
DIV. OF OIL, GAS & MINING

Sediment Control Calculations using Revised Universal Soil Loss Equation Version2

(RUSLE2)

Table of Contents

Introduction

This report is intended to provide quantitative data addressing soil erosion control at seven locations currently being treated with silt fences at or near Skyline Mine. The data was produced using the Revised Universal Soil Lose Equation Version2 (RUSLE2).

The vegetation and ground cover data used in the (RUSLE2) calculations were taken from "Vegetation and Ground Cover Monitoring for Sediment Control 2005 at the Skyline Mine" by MT. Nebo Scientific, Inc. Information about overstory, understory, litter, bare ground, and rock cover came from tables 1-4 and 8-10. The types of shrubs, forbs, and grasses are found in the raw data part of the "Vegetation and Ground Cover Monitoring for Sediment Control 2005 at the Skyline Mine".

Also in the (RUSLE2) calculations the average monthly precipitation totals and average year precipitation total for these seven locations were need. There is significant change in elevation from the Mine site to some of the locations requiring two different monthly precipitation totals to be used. One was for the Skyline Mine site and the other one was for Scofield, Utah. The data for Scofield, Utah is dated but trended with current water patterns. The data was taken from the web site http://www.wrcc.dri.edu/htmlfils/ut/ut.ppt.html "Utah Monthly Average Precipitation (Inches)" that averages 20 years worth of data. A copy of the data is included on page 18 of this report.

The reference data was generated from Table 6, and the raw data portions of the "Vegetation and Ground Cover Monitoring for Sediment Control 2005 at the Skyline Mine". The two reference areas were applied to locations that had similar vegetation. The reference data was then used on the same locations (slope, length, and precipitation) to provide a comparison of the soil erosion when compared to the reference data.

Table1: Date Comparison for all Locations

Location	Actual	Reference
Waste Rock Site Reclaimed Hillside	Soil loss erod. portion: 0.0018 t/ac/yr Detachment on slope: 0.0018 t/ac/yr	Soil loss erod. portion: 0.0021 t/ac/yr Detachment on slope: 0.0021 t/ac/yr
Rail Load Out (east side of road at upper entrance)	Soil loss erod. portion: 0.0073 t/ac/yr Detachment on slope: 0.0073 t/ac/yr	Soil loss erod. portion: 0.0077 t/ac/yr Detachment on slope: 0.0077 t/ac/yr
Rail Load Out loops (west side of road at upper entrance)	Soil loss erod. portion: 0.0040 t/ac/yr Detachment on slope: 0.0040 t/ac/yr	Soil loss erod. portion: 0.0047 t/ac/yr Detachment on slope: 0.0047 t/ac/yr
Conveyor Loops (near T-43 and T-60)	Soil loss erod. portion: 0.0033 t/ac/yr Detachment on slope: 0.0033 t/ac/yr	Soil loss erod. portion: 0.0038 t/ac/yr Detachment on slope: 0.0038 t/ac/yr
James Canyon Topsoil Pile	Soil loss erod. portion: 0.0040 t/ac/yr Detachment on slope: 0.0040 t/ac/yr	Soil loss erod. portion: 0.0039 t/ac/yr Detachment on slope: 0.0039 t/ac/yr
James Canyon Road Lower	Soil loss erod. portion: 0.0150 t/ac/yr Detachment on slope: 0.0150 t/ac/yr	Soil loss erod. portion: 0.0130 t/ac/yr Detachment on slope: 0.0130t/ac/yr
James Canyon Road Upper	Soil loss erod. portion: 0.0110 t/ac/yr Detachment on slope: 0.0110 t/ac/yr	Soil loss erod. portion: 0.0110 t/ac/yr Detachment on slope: 0.0110 t/ac/yr

Table 1 summarizes that all the sites currently treated with silt fences have less erosion soil loss than the referenced areas, with the exception of James Canyon Topsoil pile and the James Canyon Lower Road which essentially are equal to the reference areas. Photo (G) from the Vegetation Report clearly illustrates the James Canyon Topsoil pile is well-vegetated and James Canyon Reclaimed Road sections (Photos H and I) are deep-gouged, adding to the vegetative treatment that is already implemented. The RUSTLE2 calculations combined with the vegetation survey and site photos support the removal of the silt fencing as a sediment control treatment.

Waste Rock Site Reclaimed Hillside

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table1 Waste Rock Site Reclaimed Hillside

Inputs:
Location: Scofield UT
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 35.0 ft
Avg. slope steepness: 29 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0018 t/ac/yr
Detachment on slope: 0.0018 t/ac/yr
Soil loss for cons. plan: 0.0018 t/ac/yr
Sediment delivery: 0.0018 t/ac/yr

Crit. slope length:
Surf. cover 84.80 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	84.80

Waste Rock Site Reclaimed Hillside Reference Area

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table1 Waste Rock Site Reclaimed Hillside Reference area

Inputs:
Location: Scofield UT
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 35.0 ft
Avg. slope steepness: 29 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0021 t/ac/yr
Detachment on slope: 0.0021 t/ac/yr
Soil loss for cons. plan: 0.0021 t/ac/yr
Sediment delivery: 0.0021 t/ac/yr

Crit. slope length:
Surf. cover: 83.5 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	83.5

Rail Load out (east side of road at upper entrance)

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table2 Rail Load Out (east side of road at upper entrance)

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 200 ft
Avg. slope steepness: 35 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0073 t/ac/yr
Detachment on slope: 0.0073 t/ac/yr
Soil loss for cons. plan: 0.0073 t/ac/yr
Sediment delivery: 0.0073 t/ac/yr

Crit. slope length:
Surf. cover: 93.1 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	93.1

Rail Load out (east side of road at upper entrance) Reference Area

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table2 Rail Load Out (east side of road at upper entrance) Reference area

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 200 ft
Avg. slope steepness: 35 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0077 t/ac/yr
Detachment on slope: 0.0077 t/ac/yr
Soil loss for cons. plan: 0.0077 t/ac/yr
Sediment delivery: 0.0077 t/ac/yr

Crit. slope length:
Surf. cover: 83.5 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	83.5

Rail Load out loops (west side of road at upper entrance)

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table3 Rail Load out loops (west side of road at upper entrance)

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 17.5 ft
Avg. slope steepness: 29 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0040 t/ac/yr
Detachment on slope: 0.0040 t/ac/yr
Soil loss for cons. plan: 0.0040 t/ac/yr
Sediment delivery: 0.0040 t/ac/yr

Crit. slope length:
Surf. cover: 90 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	90

Rail Load out loops (west side of road at upper entrance) Reference Area

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table3 Rail Load out loops (west side of road at upper entrance) Reference area

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 17.5 ft
Avg. slope steepness: 29 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0047 t/ac/yr
Detachment on slope: 0.0047 t/ac/yr
Soil loss for cons. plan: 0.0047 t/ac/yr
Sediment delivery: 0.0047 t/ac/yr

Crit. slope length:
Surf. cover: 83.5 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	83.5

Conveyor Loops (near T-43 and T-60)

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table4 Conveyor Loops (near T-43 and T-60)

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 8.00 ft
Avg. slope steepness: 38 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0033 t/ac/yr
Detachment on slope: 0.0033 t/ac/yr
Soil loss for cons. plan: 0.0033 t/ac/yr
Sediment delivery: 0.0033 t/ac/yr

Crit. slope length:
Surf. cover: 88.33 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	88.33

Conveyor Loops (near T-43 and T-60) Reference Area

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table4 Conveyor Loops (near T-43 and T-60) Reference area

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 8.00 ft
Avg. slope steepness: 38 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0038 t/ac/yr
Detachment on slope: 0.0038 t/ac/yr
Soil loss for cons. plan: 0.0038 t/ac/yr
Sediment delivery: 0.0038 t/ac/yr

Crit. slope length:
Surf. cover: 83.5 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass	83.5

James Canyon Topsoil Pile

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table8 James Canyon Topsoil Pile

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 124.48 ft
Avg. slope steepness: 16 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass\aspen	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0040 t/ac/yr
Detachment on slope: 0.0040 t/ac/yr
Soil loss for cons. plan: 0.0040 t/ac/yr
Sediment delivery: 0.0040 t/ac/yr

Crit. slope length:
Surf. cover: 91.30 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass\aspen	91.30

James Canyon Topsoil Pile Reference Area

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table8 James Canyon Topsoil Pile Reference area

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 124.48 ft
Avg. slope steepness: 16 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass\aspen	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.0039 t/ac/yr
Detachment on slope: 0.0039 t/ac/yr
Soil loss for cons. plan: 0.0039 t/ac/yr
Sediment delivery: 0.0039 t/ac/yr

Crit. slope length:
Surf. cover: 99.05 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass\aspen	99.05

James Canyon Road Lower

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table9 James Canyon Road Lower

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 300 ft
Avg. slope steepness: 50 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass\aspen	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.015 t/ac/yr
Detachment on slope: 0.015 t/ac/yr
Soil loss for cons. plan: 0.015 t/ac/yr
Sediment delivery: 0.015 t/ac/yr

Crit. slope length:
Surf. cover: 89.3 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass\aspen	89.3

James Canyon Road Lower Reference Area

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table9 James Canyon Road Lower Reference area

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 300 ft
Avg. slope steepness: 50 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass\aspen	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.013 t/ac/yr
Detachment on slope: 0.013 t/ac/yr
Soil loss for cons. plan: 0.013 t/ac/yr
Sediment delivery: 0.013 t/ac/yr

Crit. slope length:
Surf. Cover: 99.05 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass\aspen	99.05

James Canyon Road Upper

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table10 James Canyon Road Upper

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 1000 ft
Avg. slope steepness: 35 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass\aspen	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.011 t/ac/yr
Detachment on slope: 0.011 t/ac/yr
Soil loss for cons. plan: 0.011 t/ac/yr
Sediment delivery: 0.011 t/ac/yr

Crit. slope length:
Surf. cover: 99.05 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass\aspen	99.05

James Canyon Road Upper Reference Area

RUSLE2 Profile Erosion Calculation Record

Info: Information was take in from the "Vegetation and Ground Cover Monitoring for Sediment Control 2005" by MT. NEBO SECIENTIFIC, INC.

File: profiles\Table10 James Canyon Road Upper

Inputs:
Location: Skyline Mine
Soil: sandy clay loam (h OM, s-m perm)
Horiz. overland flow path length: 1000 ft
Avg. slope steepness: 35 %

Management	*Vegetation*	*Yield units*	*Yield (# of units)*
Highly disturbed land\long term vegetation\dense grass	Highly disturbed land\range grass\aspen	lb	6670

Contouring: a up-and-down slope
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

Outputs:
Soil loss erod. portion: 0.011 t/ac/yr
Detachment on slope: 0.011 t/ac/yr
Soil loss for cons. plan: 0.011 t/ac/yr
Sediment delivery: 0.011 t/ac/yr

Crit. slope length:
Surf. cover: 99.05 %

Date	*Operation*	*Vegetation*	*Surf. res. cov. after op, %*
6/8/06	basic/general\begin growth	Highly disturbed land\range grass\aspen	99.05

Utah Monthly Average Precipitation (Inches)

Place	Period of Record	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Scofield Utah	1969-1984	1.87	1.63	1.76	1.29	1.46	.85	.91	1.42	1.32	1.55	1.55	1.61	17.22
Skyline Mine	1984-2004	2.55	2.88	2.41	2.32	1.80	1.17	1.39	1.49	1.94	2.10	2.64	2.21	24.90

Reference

1. "Vegetation and Ground Cover Monitoring for Sediment Control 2005 at the Skyline Mine" MT. Nebo Scientific, Inc.

2. "Utah Monthly Average Precipitation (Inches)" http://www.wrcc.dri.edu/htmlfils/ut/ut.ppt.html