

C/007/039 Incoming
#5099



Dugout Canyon Mine
P.O. Box 1029
Wellington, Utah 84542
(435) 637-6360
Fax (435) 636-2897

May 16, 2016

Coal Regulatory Program
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Subject: Conditional Approval of Refuse Pile As-Built, Dugout Canyon Mine, C/007/0039, Task ID #5099

Dear Mr. Haddock:

Two clean copies are provided for incorporation to the above referenced amendment.

We anticipate to receive a stamped incorporated copy of the approved plan for insertion into Dugout's Mining and Reclamation Plan.

Should you have any questions please contact Bill King at (435) 636-2898 or David Spillman at (435) 636-2872.

Sincerely,

Bill King
Mining Engineer

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DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: Canyon Fuel Company, LLC

Mine: Dugout Canyon Mine, Waste Rock Site

Permit Number: C/007/039

Title: Waste Rock Site Phase I Expansion As-Built, Clean Copies, Task ID #5099

Description, Include reason for application and timing required to implement:

Inserting the Waste Rock Site Phase I Expansion As-Built Drawing and Subsoil Removal Letter

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

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

Please attach one (1) review copy of the application.

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.

David Spillman David Spillman, Engineering Manager
 Print Name Sign Name, Position, Date

Subscribed and sworn to before me this 16th day of May, 2016

Monica S. Clausung
 Notary Public

My commission Expires: 11-7-2019 }
 Attest: State of Utah } ss:
 County of Carbon



NOTARY PUBLIC
 MONICA S. CLAUSUNG
 Commission No. 686189
 Commission Expires
 NOVEMBER 07, 2019
 STATE OF UTAH

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining <div style="text-align: center; color: blue; font-weight: bold; font-size: 1.2em;">RECEIVED</div> <div style="text-align: center; color: red; font-weight: bold; font-size: 1.1em;">MAY 20 2016</div> <div style="text-align: center; color: blue; font-weight: bold; font-size: 1.1em;">DIV. OF OIL, GAS & MINING</div>
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Dugout M&RP, Refuse Pile Amendment, RA Plate 2-2

Dugout Canyon Mine Permit Number C/007/039

Canyon Fuel Company

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Dugout M&RP, Refuse Pile Amendment, Chapter 2
RA Attachment 2-1, EIS Subsoil Verification Document
Dugout Canyon Mine Permit Number C/007/039
Canyon Fuel Company

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EIS Environmental & Engineering Consulting

31 North Main Street * Helper, Utah 84526

Office – (435) 472-3814 * Toll free – (800) 641-2927 * Fax – (435) 472-8780

eisec@preciscom.net

www.eisenviro.com

December 1, 2015

To: William King
Mining Engineer
Canyon Fuel Company
Dugout Canyon Mine
Wellington, Utah

From: Leland Sasser
Soil Scientist
EIS Environmental & Engineering Consulting

Re: Dugout Canyon Mine
Soil Sampling Project, Waste Rock Expansion Area

On November 30, 2015 three soil sample pits were dug in the Dugout Canyon Mine waste rock expansion area.

Hole No. 1 is a soil similar to the one mapped by USDA-NRCS in Map Unit 50. It is loamy alluvium from sandstone and shale and has 40 to 80 inches of salvageable subsoil.

Pit #1

0 – 3 inches, dark gray coal waste material disturbed, no topsoil.

Sub-Soil

Bw 3 – 12 inches brown loam 5 to 15% gravel.

Bk 1 12 – 28 inches pale brown gravelly loam 15 to 30% lime coated gravel

Bk 2 28 – 62 inches very pale brown gravelly loam with fine sandy loam strata that had brown coloring from parent material, lime coated 15% to 30% gravel cobbles.

BCky 62 – 72 inches light brownish gray loam and clay loam with lime and gypsum veins and nests. 5% to 15% lime coated gravel.

Substratum

C 72 - 80 inches light brownish gray, highly weathered shale.

This soil would be in map unit C or D from 2006 Amendment.

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Pits 2 and 3 would be in Unit B of 2006 Amendment and are gravelly or cobbly alluvium over shale. Pits were not dug beyond 5 feet and no shale was seen in pits but it was noted in road cut.

Pit #2

Sub-Soil

A/B 0 – 5 inches disturbed gravelly loam, 15% to 30% gravel

Bk1 5 – 12 inches brown gravelly loam, 15 to 30% gravel

Bk2 12 – 40 inches white very cobbly loam, 30 to 60% lime coated cobbles and gravel

Substratum

C 40 – 60 inches light gray, very cobbly, sandy loam and loamy sand

Pit #3

Sub-Soil

A/B 0 – 4 inches disturbed gravelly loam 15 – 30% gravel

Bk1 4 – 10 inches brown gravelly loam, 15 to 30% lime coated gravel and cobbles

Bk1 10 – 35 inches pale brown very cobbly sandy loam, 35 to 65% lime coated gravel and cobbles

Substratum

C 35 – 50 inches light gray very cobbly sandy loam and loamy sand.

The area around pits 2 and 3 would have 20 to 40 inches of salvageable subsoil.

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LEGEND

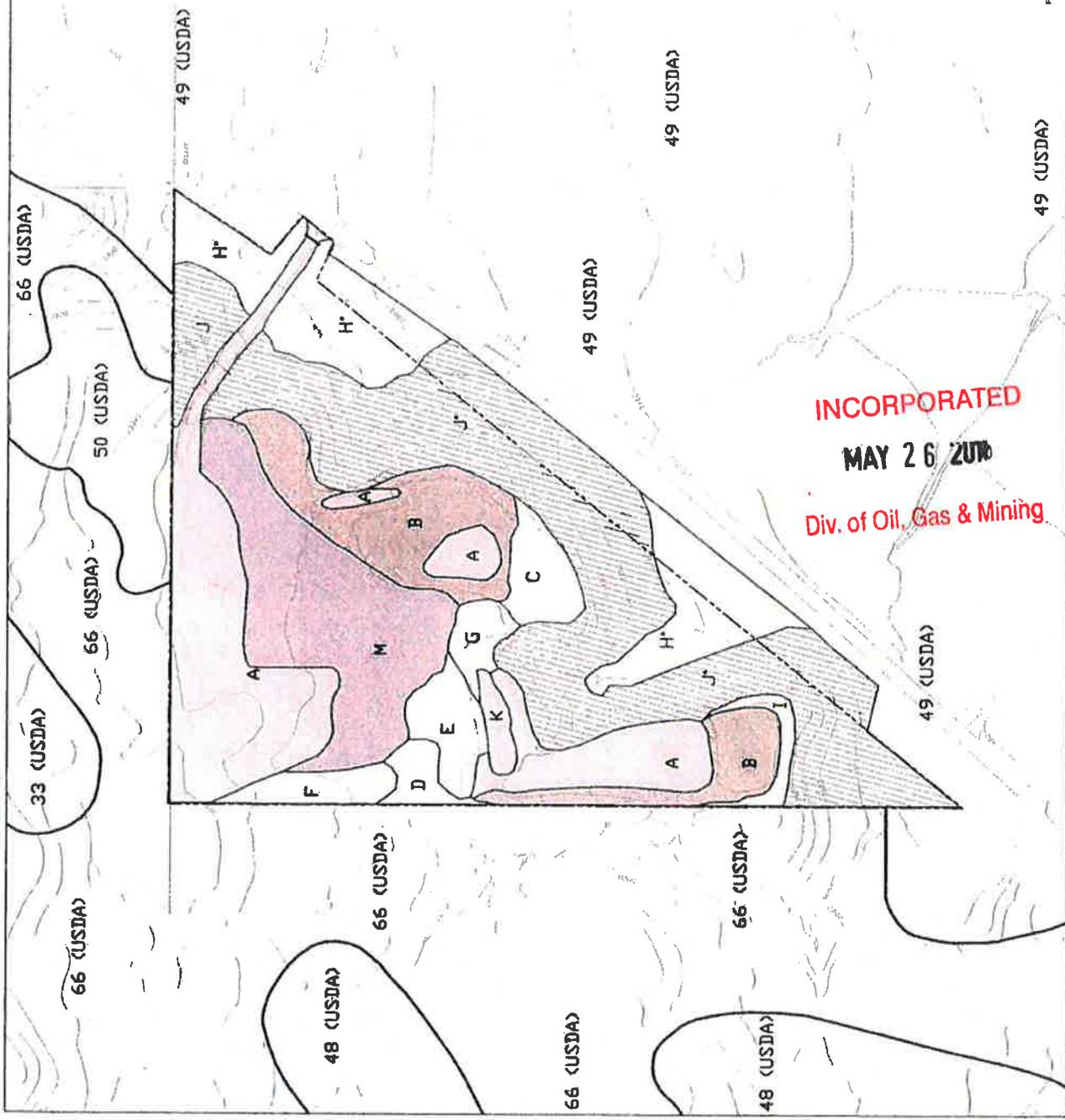
- A 0-15% clay in fine to medium sand
- B 16-35% clay in fine to medium sand
- C 36-50% clay in fine to medium sand
- D 51-65% clay in fine to medium sand
- E 66-80% clay in fine to medium sand
- F 81-95% clay in fine to medium sand
- G 96-100% clay in fine to medium sand
- H 0-15% clay in medium to coarse sand
- I 16-35% clay in medium to coarse sand
- J 36-50% clay in medium to coarse sand
- K 51-65% clay in medium to coarse sand
- L 66-80% clay in medium to coarse sand
- M 81-95% clay in medium to coarse sand

- 33 (USDA)
- 48 (USDA)
- 50 (USDA)
- 66 (USDA)
- 49 (USDA)

SCALE QUANTITIES (APPROXIMATE)

- 0-15% clay in fine sand
- 16-35% clay in fine sand
- 36-50% clay in fine sand
- 51-65% clay in fine sand
- 66-80% clay in fine sand
- 81-95% clay in fine sand
- 96-100% clay in fine sand

THIS MAP WAS PREPARED BY THE U.S. GEOLOGICAL SURVEY IN ACCORDANCE WITH THE SOIL CONSERVATION ACT OF 1935, AS AMENDED. THE SOILS SHOWN ON THIS MAP WERE DETERMINED BY FIELD AND LABORATORY METHODS. THE SOILS ARE CLASSIFIED ACCORDING TO THE SOIL TAXONOMY OF 1975. THE SOILS ARE CLASSIFIED AS TO THEIR CLAY CONTENT AND TO THEIR TEXTURE. THE SOILS ARE CLASSIFIED AS TO THEIR CLAY CONTENT AND TO THEIR TEXTURE.



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CF Canyon Fuel Company, LLC
 1000 S. 10th Street, Suite 100, Phoenix, AZ 85001
 (602) 998-1000

SOILS MAP RECEIVED

Project: Canyon Mills

Scale: 1" = 100'

DATE: 5/26/16

BY: [Signature]

EIS Environmental & Engineering Consulting

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December 4, 2015

To: William King
Mining Engineer
Canyon Fuel Company
Dugout Canyon Mine
Wellington, Utah

From: Leland Sasser
Soil Scientist
EIS Environmental & Engineering Consulting

Re: Dugout Canyon Mine
Soil Sampling Project, Waste Rock Expansion Area
Completion Report

After completion of the subsoil removal project, I visited the Waste Rock Expansion Area site.

The removal was done to the required depth and all the subsoil was removed.



Leland Sasser
Soil Scientist

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Dugout M&RP, Refuse Pile Amendment, Chapter 2

Section 242.100, Page 2-15 & 2-16

Dugout Canyon Mine Permit Number C/007/039

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The stored soil will be redistributed after recontouring of the site has occurred during reclamation activities. The refuse pile will be covered with 1 foot of equally blended coal waste and subsoil, approximately 2.6 feet of subsoil and approximately 0.4 feet of topsoil, to obtain a total depth of cover on the pile of 4 feet. The volume of material needed to cover the refuse pile is 91,720 CY.

There are currently topsoil and subsoil stockpiles located in the northeast portion of the site. Aero-Graphics, Inc. surveys estimated the volume in each stockpile as:

Topsoil Stockpiles volume = 8,549 CY

Subsoil Stockpile volume = 11,964 CY

Total cover material currently available in the stockpiles is estimated to be 20,513 CY.

During reclamation the berms and embankments that create the perimeter ditches and sediment pond will be pulled back to blend the undisturbed areas into the reclaimed refuse pile. This process will generate approximately 2,947 CY of additional cover material. The total available cover material at the refuse site is 23,460 CY

To reduce the volume of imported cover material the bottom foot of cover material will be a blend of coal waste and subsoil. Equal portions of coal waste and subsoil will be used to create this blended cover material. Thus, the volume of available cover material may be increased by 11,465 CY to a total of 34,925 CY.

Volume of cover material to be imported = $91,720 - 34,925 = 56,795$ CY

Summary of Volumes

Volume of material needed to obtain 4 feet of cover = 91,720 CY

Total cover material available at the site = 23,460 CY

Vol. of coal waste blended with sub-soil to produce the first foot of cover = 11,465

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Vol. of subsoil blended with coal waste to produce the first foot of cover = 11,465 CY

Volume of subsoil and topsoil needed to cover the pile = 80,255 CY

Volume of cover material to be imported from borrow site = 56,795 CY

Soils will be handled when they are in a loose or friable condition.

Contemporaneous Reclamation: In the future, the applicant may decide to demonstrate that two feet of cover material over the refuse pile is sufficient to meet reclamation standards for bond release. Additional information and clarification of the project will be provided at that time. An area on the refuse pile will receive reclamation treatments contemporaneously to justify the decrease of required cover soils from four feet to two feet for final reclamation.

Soil Thickness: The topsoil will be distributed to the disturbed areas illustrated on Figure RA 5-1.

Currently, it is planned that the refuse pile portion of the site be covered with approximately 48 inches of soil. Based on the proposed pile configuration this will require about 91,720 CY of soil. The remainder of the site area, not used for refuse storage will be covered with approximately 6 inches of substitute topsoil. Calculations of the soil cover volumes are presented in Attachment 2-2. Soils in the area designated as H and J (approximately 11.2 acres) are not currently planned for salvage, except in the area of the pond spillway (RA Plate 2-1).

Compaction. To prevent compaction of topsoil, soil-moving equipment will refrain from unnecessary operation over spread soil. Front-end-loaders and other wheel-mounted equipment may be used to transport and dump soil. However, to minimize compaction, only track-mounted equipment (e.g. bulldozers, trackhoes) will be used to spread the soil. The soil will be loosened prior to seeding as described in Section 341.200.

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Dugout M&RP, Refuse Pile Amendment, Chapter 2

RA Attachment 2-2 Soil Volume Calculation

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**RA ATTACHMENT 2-2
SOIL VOLUME CALCULATIONS**

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**Reclamation Soil Thickness
Dugout Refuse Pile Site**

The Refuse Pile is to be covered with 1 foot of equally blended coal waste and subsoil, approximately 2.6 feet of subsoil and approximately 0.4 feet of topsoil, to obtain a total depth of cover on the pile of 4 feet. The volumes of subsoil and topsoil needed to cover the pile are discussed below.

Area covered by the refuse pile = 548,552 ft²

To obtain the surface area to be covered by soil the above area must be adjusted to account for the 2: 1 slopes of the refuse pile. A 2: 1 slope increases the surface area by 11.8%.

Slope area = 393,449 ft²

Area of flatter space on top of the pile = 179,231 ft²

Adjusted slope area= 1.118 x 393,449 ft² = 439,876 ft²

Adjusted surface area of the pile to be covered = 619,107 ft²

The refuse pile will be covered with 4 feet of cover material. The cover material will consist of topsoil, subsoil, and a blend of coal waste and subsoil.

The volume of material needed to cover the refuse pile = 91,720 CY

Available Cover Material

There are currently topsoil and subsoil stockpiles located in the northwestern portion of the site. These stockpiles have been surrounded by a full containment berm. Olympus Aerial Surveys and EarthFax Engineering Group, LLC estimated the volume in each stockpile as well as the volume of soil in the containment berms.

Topsoil Stockpile volume = 8,549 CY

Subsoil Stockpile volume = 11,964 CY

Berm volume = 2,947 CY

Total cover material currently available to be placed in the new stockpiles = 20,513 CY

During reclamation the berms and embankments that create the perimeter ditches and sediment pond will be pulled back to blend the undisturbed areas into the reclaimed refuse pile. This process will generate approximately 2,947 CY of additional cover material.

Total available cover material = 23,460 CY

To reduce the volume of imported cover material the bottom foot of cover material will be a blend of coal waste and subsoil. Equal portions of coal waste and subsoil will be used to create this blended cover material. Thus, the volume of available cover material may be increased by 11,465 CY (619,107 ft² x 0.5 ft. / 27 ft³/CY) to a total of 34,925 CY.

The mixing of coal waste and subsoil, to produce the first foot of cover for the refuse pile, will occur only if the coal waste has been demonstrated through sampling and analysis to not be acid or toxic forming. Otherwise the entire 4 feet of cover material will be composed of subsoil and topsoil.

Volume of cover material needing to be imported = 91,720 – 34,925 = 56,795 CY

Summary of Volumes

Volume of material needed to obtain 4 feet of cover = 91,720 CY

Total cover material available at the site = 23,460 CY

Vol. of coal waste blended with sub-soil to produce the first foot of cover = 11,465 CY

Vol. of subsoil blended with coal waste to produce the first foot of cover = 11,465 CY

Volume of subsoil and topsoil needed to cover the pile = 80,255 CY

Volume of cover material to be imported from borrow site = 56,795 CY

Soil/Waste Rock Mixing Procedure

Depending on conditions there are many ways that the imported soil and coal waste can be effectively mixed. Examples of methods that may be used are:

1. Mixing with a tractor mounted tiller or similar equipment. On flatter areas of the pile a 6-inch layer of soil will be spread on the surface and then tilled with the coal waste to a depth of 12-inches. This tilled material may be left in place and the additional 3-feet of soil placed on top or the mixed material may be pushed onto the slopes as the initial 12' inches of soil cover;

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2. Mixing with an excavator or front end loader. Equal amounts of soil and coal waste will be dumped on the surface of the pile and mixed together using an excavator or front end loader. A dozer will then push the mixture onto the surface of the pile in a 12-inch layer;
3. Loading equal amounts of coal waste and soil into a dump truck. Trucks hauling soil to the site can be loaded with an equal amount of coal waste. Mixing will occur as the material is being loaded as well as when the load is dumped.

Additional mixing will occur when the mixture is pushed out over the pile by a dozer; and

4. Mixing with a dozer. A 6-inch layer of soil can be spread on the surface of the pile and then a dozer will push the soil and 6-inches of coal waste into a pile. The rolling action of the material in front of the dozer blade will mix the soil and coal waste. Additional mixing will occur as the material is pushed back out in a 12-inch layer;

Dugout M&RP, Refuse Pile Amendment, Chapter 2

RA Table 2-2, Soil Salvage Volumes

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RA TABLE 2-2
SOIL SAVLAGE VOLUMES

AREA	VOLUME ANTICIPATED (CY)	VOLUME SALVAGED APPROXIMATE (CY)	
		Topsoil	Subsoil
A	4719		1,787
B	15,559		3,549
C	5,467		2,778
D	2,957	2,083	
E	4,616	1,313	1,066
F	3,393	2,423	
G	2,603	2,595	
I	2,356		
K	206		407
M	5,116		2,084
H & J (Spillway)		135	293
TOTAL	46,992 CY	8,549 CY	11,964 CY

Soil Borrow Area (approximate available soil)

106,000 CY

*Exact Subsoil and Topsoil volumes are found on RA Plate 2-2

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