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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

May 7, 2001

Dave Miller, Resident Agent
Lodestar Energy, Inc.
HC 35 Box 380
Helper, Utah 84526

Re: Revised Permit to Include a Portion of Lease UTU-74804, Lodestar Energy Inc., Horizon Mine
[redacted]0-SR00B, O[redacted]

Dear Mr. Miller:

As indicated in our February 26, 2001 letter to you, the Division approved your application to permit a portion of lease UTU-74804. Issuance of the permit was contingent upon Lodestar Energy Inc., posting an acceptable surety with the Division. We have now received the surety as required and you will find enclosed two copies of your revised permit, which includes a portion of the Beaver Creek Federal Lease (UTU-74804).

Please read the permit carefully noting the special conditions. Have the permit signed by the appropriate company representative and return one copy to the Division. You will note that completing the requirements of the midterm review is a continuing condition of the permit. A copy of the Technical Analysis identifying the remaining midterm issues is also enclosed to aid you in responding.

Remember that, before Lodestar Energy, Inc. may conduct coal development or mining operations on the Federal lease, it must obtain Secretarial approval of the mining plan. The Division reserves the right to amend or rescind any requirements of the permit to conform to any terms or conditions imposed by the Secretary in the approval of the mining plan.

Thank you for your cooperation during the permitting process. If you have any questions, please call me.

Sincerely,

for Lowell P. Braxton
Director

drh/sm
Enclosures: (3)
cc: James Fulton, OSM
Richard Manus, BLM w/o
James Kohler, BLM w/o
Price Field Office
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FEDERAL **PERMIT** **May 7, 2001**
C/007/020

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
1594 West North Temple
Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

This permit, C/007/020, is issued for the State of Utah by the Utah Division of Oil, Gas and Mining (Division) to:

Lodestar Energy, Inc.
333 West Vine Street, Suite 1700
Lexington, Kentucky 40507-1628
(606) 255-4006

for the Horizon No. 1 Mine. A Performance Bond is filed with the Division in the amount of $711,000.00, payable to the State of Utah, Division of Oil, Gas and Mining and the Office of Surface Mining Reclamation and Enforcement (OSMRE). The Division must receive a copy of this permit signed and dated by the permittee.

Sec. 1 **STATUTES AND REGULATIONS** - This permit is issued pursuant to the Utah Coal Mining and Reclamation Act of 1979, Utah Code Annotated (UCA) 40-10-1 et seq, hereafter referred to as the Act.

Sec. 2 **PERMIT AREA** - The permittee is authorized to conduct coal mining and reclamation operations on the following described lands within the permit area at the Horizon Mine situated in the State of Utah, Carbon County, and located in:

Township 13 South, Range 8 East, SLM

Section 8: W1/2SE1/4, SE1/4SW1/4, S1/2SW1/4NE1/4, S1/2NE1/4SW1/4, NE1/4NE1/4SW1/4NE1/4, S1/2SW1/4SW1/4, NE1/4SW1/4SW1/4, S1/2NW1/4SW1/4SW1/4, S1/2NE1/4SW1/4NE1/4, NE1/4NE1/4SW1/4, SE1/4NW1/4NE1/4SW1/4, SE1/4SE1/4SE1/4NW1/4, SE1/4SE1/4NW1/4SW1/4, Portion NW1/4NE1/4SW1/4NE1/4, Portion NE1/4NW1/4SW1/4NE1/4, Portion SE1/4NW1/4SW1/4NE1/4, Portion SW1/4NW1/4SW1/4NE1/4, Portion SW1/4NW1/4NE1/4SW1/4,

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Section 17: NW1/4NE1/4, N1/2NW1/4SW1/4, NE1/4SW1/4, NW1/4SE1/4, N1/2SE1/4SW1/4, N1/2SW1/4SE1/4, SW1/4NE1/4, NW1/4

Section 18: NE1/4NE1/4

Section 7: SE1/4SE1/4SE1/4, S1/2SW1/4SE1/4SE1/4, NE1/4SW1/4SE1/4SE1/4, S1/2SE1/4SW1/4SE1/4, Portion NE1/4NE1/4SE1/4SE1/4,
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Portion NW1/4SW1/4SE1/4SE1/4,
Portion NE1/4SE1/4SW1/4SE1/4,
Portion NW1/4SE1/4SW1/4SE1/4,
Portion SW1/4NW1/4SE1/4SE1/4

The permit area of the Horizon Mine contains 711 acres, more or less, consisting of 305 acres, more or less of Fee coal and 406 acres, more or less of Federal leased coal. The permittee is authorized to conduct coal mining and reclamation operations on the foregoing described property subject to the conditions of all applicable conditions, laws and regulations.

Sec. 3 **COMPLIANCE** - The permittee will comply with the terms and conditions of the permit, all applicable performance standards and requirements of the State Program.

Sec. 4 **PERMIT TERM** - This permit becomes effective on May 7, 2001 and expires on October 11, 2001.

Sec. 5 **ASSIGNMENT OF PERMIT RIGHTS** - The permit rights may not be transferred, assigned or sold without the prior written approval of the Division Director. Transfer, assignment or sale of permit rights must be done in accordance with applicable regulations, including but not limited to 30 CFR 740.13{e} and R645-303-300.

Sec. 6 **RIGHT OF ENTRY** - The permittee shall allow the authorized representative of the Division, including but not limited to inspectors, and representatives of the Office of Surface Mining Reclamation and Enforcement (OSM), without advance notice or a search warrant, upon presentation of appropriate credentials and without delay to:

(a) have the rights of entry provided for in 30 CFR 840.12, R645-400-220, 30 CFR 842.13 and R645-400-110;

(b) be accompanied by private persons for the purpose of conducting an inspection in accordance with R645-400-100 and R645-400-200 when the inspection is in response to an alleged violation reported to the Division by a private person.

Sec. 7 **SCOPE OF OPERATIONS** - The permittee shall conduct underground coal mining activities only on those lands specifically designated as within the permit area on the maps submitted in the approved plan and approved for the term of the permit and which are subject to the performance bond.

Sec. 8 **ENVIRONMENTAL IMPACTS** - The permittee shall take all possible steps to minimize any adverse impact to the environment or public health and safety resulting from noncompliance with any term or condition of the permit, including, but not limited to:

(a) Any accelerated or additional monitoring necessary to determine the nature of noncompliance and the results of the noncompliance;

(b) Immediate implementation of measures necessary to comply; and

(c) Warning, as soon as possible after learning of such noncompliance, any person whose health and safety is in imminent danger due to the noncompliance.

Sec. 9 DISPOSAL OF POLLUTANTS -The permittee shall dispose of solids, sludge, filter backwash or pollutants in the course of treatment or control of waters or emissions to the air in the manner required by the approved Utah State Program and the Federal Lands Program which prevents violation of any applicable state or federal law.

Sec. 10 CONDUCT OF OPERATIONS - The permittee shall conduct its operations:

(a) In accordance with the terms of the permit to prevent significant, imminent environmental harm to the health and safety of the public; and

(b) Utilizing methods specified as conditions of the permit by the Division in approving alternative methods of compliance with the performance standards of the Act, the approved Utah State Program and the Federal Lands Program.

Sec. 11 EXISTING STRUCTURES - As applicable, the permittee will comply with R645-301 and R645-302 for compliance, modification, or abandonment of existing structures.

Sec. 12 RECLAMATION FEE PAYMENTS - The operator shall pay all reclamation fees required by 30 CFR Part 870 for coal produced under the permit, for sale, transfer or use.

Sec. 13 AUTHORIZED AGENT - The permittee shall provide the names, addresses and telephone numbers of persons responsible for operations under the permit to whom notices and orders are to be delivered.

Sec. 14 COMPLIANCE WITH OTHER LAWS - The permittee shall comply with the provisions of the Water Pollution Control Act (33 USC 1151 et seq.), and the Clean Air Act (42 USC 7401 et seq.), UCA 26-11-1 et seq., and UCA 26-13-1 et seq.

Sec. 15 PERMIT RENEWAL - Upon expiration, this permit may be renewed for areas within the boundaries of the existing permit area in accordance with the Act, the approved Utah State Program and the Federal Lands Program.

Sec. 16 CULTURAL RESOURCES - If, during the course of mining operations, previously unidentified cultural resources are discovered, the permittee shall ensure that the site(s) is not disturbed and shall notify the Division. The Division, after coordination with OSM, shall inform the permittee of necessary actions required. The permittee shall implement the mitigation measures required by Division within the time frame specified by Division.

Sec. 17 APPEALS - The permittee shall have the right to appeal as provided for under R645-300-200.

Sec. 18 SPECIAL CONDITIONS - The permittee shall comply with the special conditions in Attachment A.

The above conditions (Secs. 1-18) are also imposed upon the permittee's agents and employees. The failure or refusal of any of these persons to comply with these conditions shall be deemed a failure of the permittee to comply with the terms of this permit and the lease. The permittee shall require his agents, contractors and subcontractors involved in activities concerning this permit to include these conditions in the contracts between and among them. These conditions may be revised or amended, in writing, by the mutual consent of the Division and the permittee at any time to adjust to changed conditions or to correct an oversight. The Division may amend these conditions at any time without the consent of the permittee in order to make them consistent with any federal or state statutes and any regulations.

THE STATE OF UTAH

By [signature], Associate Director, Mining

Date: May 8, 2001

I certify that I have read, understand and accept the requirements of this permit and any special conditions attached.

PERMITTEE (Authorized Representative)

By:_____

Date:_____

Attachment A

Conditions

Condition #1 - Lodestar Energy, Inc. must comply with all of the requirements of the midterm review as currently specified and in accordance with their respective timeframes. The Technical Analysis that discusses the remaining midterm deficiencies is attached.

Condition #2 - Underground coal mining and reclamation activities in federal coal lease UTU-74804 may not commence until a mining plan approval is authorized by the Secretary of the Interior.

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State of Utah

Utah Oil Gas and Mining

Coal Regulatory Program

Horizon Mine
Midterm Review
C/007/020-MT99-3
Technical Analysis
March 13, 2001

TABLE OF CONTENTS

INTRODUCTION 1

SUMMARY OF OUTSTANDING DEFICIENCIES 3

GENERAL CONTENTS 7
- PERMIT APPLICATION FORMAT AND CONTENTS 7

ENVIRONMENTAL RESOURCE INFORMATION 9
- FISH AND WILDLIFE RESOURCE INFORMATION 9
  - Protection and Enhancement Plan 9
- SOILS RESOURCE INFORMATION 9

OPERATION PLAN 11
- TOPSOIL AND SUBSOIL 11
- SPOIL AND WASTE MATERIALS 12
  - Coal mine waste 13
  - Excess spoil 13

RECLAMATION PLAN 15
- APPROXIMATE ORIGINAL CONTOUR RESTORATION 15
- BACKFILLING AND GRADING 17
- REVEGETATION 20
  - General requirements 20
- MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS 21
  - Affected area maps 21
  - Mining facilities maps 21
  - Mine workings maps 21
  - Monitoring and sample location maps 22

TECHNICAL ANALYSIS

INTRODUCTION

In accordance with R645-303-211, the Division reviews each active permit during its midterm. The review was initiated at the midpoint of the permit term on 3/23/99 for the Horizon Mine. However, because of overlapping problems with enforcement with Division Order 99B, the midterm review was put on hold for nearly a year. The Midterm Review for the Horizon Mine commenced again when the latest response from Lodestar Energy, Inc. was received on April 25, 2000. The midterm was reviewed and found deficient. The permittee resubmitted the midterm on January 12, 2001. The midterm review includes the following:

- An AVS check to ensure that Ownership and Control information is current and correct.
- A review of the plan to ensure that the requirements of all permit conditions, division orders, notice of violation abatement plans, and permittee-initiated plan changes are appropriately incorporated into the plan document.
- A review of the applicable portions of the permit to ensure that the plan contains commitments for application of the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area.
- An evaluation of the reclamation bond to ensure that coverage adequately addresses permit changes approved subsequent to permit approval.

SUMMARY OF OUTSTANDING DEFICIENCIES

The Technical Analysis regarding the proposed permit changes is not complete at this time, pending submittal of additional information by the Permittee and further review by the Division, to address outstanding deficiencies in the proposal. A summary of those outstanding deficiencies is provided below. Additional comments, concerns, and deficiencies may also be found withing the analysis and finding make in the Draft Technical Analysis which have not been presented in this summary. Upon finalization of this review, any outstanding deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the Division, result in denial of the proposed permit changes, or may result in other executive or enforcement actions as deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

R645-301-121.300, The Permittee must give the Division copies of the midterm response that can be directly incorporated into the approved MRP. 7

R645-301-231.100, Describe in the MRP narrative what measures will be taken to protect the topsoil which is being stored in layer on interim reclamation slopes. 12

R645-301-231.400, R645-301-120 and R645-301-130, 234.200, Calculate the volumes of topsoil in the stockpile and update Appendix 8-1, Topsoil Stockpile Table. 12

R645-301-234.300, Include on Plate 3-1 and in the narrative in section 3.3.5.1 topsoil layered on the interim reclamation slopes as "topsoil storage areas." 12

R645-301-241 Indicate in section 3.5.2 the method(s) to be used to ensure quality control during the removal of 20 inches of topsoil from the interim reclamation slopes. 20

R645-301-242.400 Correct the discrepancy between the approved MRP (Sections 3.5.4 and 8.8) which indicate topsoil will be replaced to a depth of 20 inches and Plate B of Appendix 8-1 which incorrectly assumes a ten-inch topsoil replacement depth. 20

R645-301-244 Re-insert critical information from the plan concerning erosion control in Section 3.5.4.4. of the submittal and on page 3-43, "Erosion and Water Pollution Control." 20

R645-301-353.100, Plate 3-7 is not correct and must be changed. All interim reclamation areas maybe redisturbed. Or the Permittee may provide detailed information on the reclamation of these areas showing all the requirements and performance standards of the regulations have been met for final reclamation. 21

R645-301-521, R645-301-521.150 and R645-301-521.165, Provide the topsoil stockpile dimensions (area, depth, cross sections). 12

R645-301-536.300 and R645-301-244, Locate Plate 5-5 which shows areas where interim reclamation will be redisturbed to salvage the topsoil before grading as mentioned in section 3.5.2. of the submittal and a Plate A in Appendix 3-8 delineating coal mine waste locations as indicated in the MRP section 3.3.2.5 and in the submittal page 3-44 under "Acid and Toxic Forming Materials." 20

R645-301-536.300 and R645-301-731.311 and R645-301-746 Describe in the narrative and show on a map a plan for removing the coal mine waste from the stream channel of Portal Canyon and identify a location for the burial of coal mine waste which will be uncovered during grading to final contour. 20

R645-301-542.200 and R645-301-521.190, The Permittee must be consistent about describing the existence of highwalls. On page 3-40 section Elimination of Highwalls, Spoil Piles and Depressions the permittee states that all highwalls will be eliminated yet in the next sentence the permittee states that no highwalls exist on the current disturbed area. Note: The same inconsistency is found in other section of the submittal. 17

R645-301-542.200, Show the highwall boundary on the cross sections on Figure 3-6. The highwall boundary is usually considered the area disturbed when the portal face up areas were constructed. The Division needs this information to make a finding about highwall eliminate. 17

R645-301-542.200, Show the location of the disturbed area boundaries for each cross sections shown on Plate 3-7a and Figure 3-6 must be shown. The Division needs that information to make a finding about AOC compliance. 17

R645-301-542.200, The Permittee must show the location of the cross sections Figure 3-6 on Plate 3-7 or an equivalent map. The Division needs that information to make a finding about highwall elimination. 17

R645-301-553.130 and R645-301-121.200, Include the slope stability analysis for the reclaimed slopes in the PAP. The slope stability studies in Appendix 3-3 are for the operational not reclaimed slopes. 19

R645-301-553.252 and R645-301-542, The Permittee will show on Plate 3-7a the location of all coal mine waste before and after final reclamation. 19

R645-301-553.300 and R645-301-542, The Permittee will address how the coal seams will be covered during final reclamation. Also, the Permittee will show the location of the coal seams on the cross sections. 19

R645-301-553.600 and R645-301-521.190, The Permittee must show that the highwalls associated with the Horizon Mine were created before the passage of SMCRA, August 3, 1977, or the permittee must remove all reference to highwall remnants being retained after final reclamation. 17

R645-301-746.120, The permittee will either remove all coal mine waste from in or near the Portal Canyon drainage or show that the buried coal mine waste will not have an adverse effect of surface water runoff. The Division is concerned that over time erosion in the drainage could be exposed the buried coal mine waste. 19

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

The redline-strike-out pages provided in this response do not fit into the approved MRP. The wording in the midterm response does not flow correctly from one page to the next. Prior to approval the permittee must give the Division copies of the midterm response that can be directly incorporated into the MRP.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must be provided the following in accordance with:

R645-301-121.300, The Permittee must give the Division copies of the midterm response that can be directly incorporated into the approved MRP.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

FISH AND WILDLIFE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.21; R645-301-322.

Analysis:

Protection and Enhancement Plan

The Plan (page 10-38) states that Horizon will monitor road kills and report numbers quarterly to the DWR; and remove killed deer and elk from the road between the Wildcat Coal Loadout and the mine site. Appendix 10-1 reports road kills for 1997 through 2000. As stated in previous reviews a commitment should be made in the MRP to report numbers of road kills and kills removed from the road in the **Annual Reports**.

As part of a mitigation program the Permittee is to recreate a riparian vegetative community along Jewkes Creek channel below the sediment pond to the road. The channel was reconstructed during road construction activities. During the site inspection, completed revegetation work was observed however, the success of that work could not be evaluated due to the early season.

Findings:

Information found in the plan and on site relevant to this midterm review have been resolved to be consistent with the requirements of this section.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

Soil descriptions for #63, Midfork family-Podo association; #72, Pathead-Curecanti family association; #107, Shupert-Winetti complex; #109 Silas-Brycan loams; #124, Uinta family-Podo association are found in Chapter 8.

Findings:

The requirements of this section of the regulations are considered adequate.

OPERATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

The following soils issues were identified in the last Mid Term permit review:

- The Division is unable to make a determination verifying the topsoil stockpile volumes as shown in the Appendix 8-1 Topsoil Stockpile Table.
- The current topsoil stockpile dimensions, configuration, cross sections and resulting depth, area, and soil volumes need to be determined

Topsoil for reclamation of the 5.49 acres is available from three sources:

- Interim reclamation sites (Areas D & E on Plate A, Appendix 8-1) that hold 779 cubic yards of topsoil soil in a layer 20 inches deep (according to the submittal section 3.5.2);
- From the topsoil pile that was created in November of 1996; and,
- As a last resort, from the slopes of Areas A, B, and C which hold 975 cubic yards from the county road construction in a layer 11 inches deep (according to the existing MRP section 8.8.1) .

At its creation, the topsoil pile stored 13, 741 cubic yards of consolidated material. The reason the Division is requesting a recalculation of the volume within the topsoil stockpile is that the Permittee disturbed the pile and an unknown volume of soil material was lost. Incredibly, the April 25, 2000 submittal suggested there were 22,090 cubic yards in the topsoil pile. This table is riddled with multiplication errors and ultimately, the author of the table did not use the correct formula for calculating volumes using cross sections. The average end area method should be used.

The cover letter accompanying this submittal states that the Permittee has not yet been able to determine the volume of material remaining in the topsoil pile. As no new information has been received from the Division for review, the following key points from the July 28, 2000 Technical Analysis are reprinted here for reference:

In the current approved MRP, Appendix 8-1 "Topsoil Stockpile Table" shows a surveyed 10,993 in-place cubic yards in the topsoil stockpile...

Topsoil Stockpile Table provided in Appendix 8-1 was created by two separate surveys, once in May of 1997 and again in September/October 1997...

In November 1999, Horizon dug several test pits within the topsoil stockpile boundary to verify the amount of topsoil in the stockpile...

Plate 8-3, Topsoil Stockpile and Cross-Sections, shows... that soil has been excavated from the area, not stockpiled, with operations topography below the pre-mining topography. The current topsoil stockpile dimensions, configuration, cross sections and resulting depth, area, and soil volumes need to be determined...

Also identified in the last Mid Term permit review:

- Topsoil lacks protection within the contemporaneous reclamation areas (Plate A, App 8-1 and Section 3.5-1.)

Several slopes (Plate A, Appendix 8-1) in the disturbed area have been dressed with topsoil and seeded in accordance with R645-301-234.300. However, no sediment control has been placed at the base of these interim or contemporaneously reclaimed slopes to catch soil before it is washed down onto the operations pad. The Division recommends that a silt fence is employed to retain the soil on the slopes. The MRP narrative should describe its use. Slopes which have been layered with topsoil should be designated as topsoil storage areas on the surface facilities map and on site with signs.

Findings

Information provided in the proposed amendment is not considered adequate to meet the requirement of this section. Prior to approval, the permittee must provide the following in accordance with:

R645-301-231.100, Describe in the MRP narrative what measures will be taken to protect the topsoil which is being stored in layer on interim reclamation slopes.

R645-301-234.300, Include on Plate 3-1 and in the narrative in section 3.3.5.1 topsoil layered on the interim reclamation slopes as "topsoil storage areas."

R645-301-231.400, R645-301-120 and R645-301-130, 234.200, Calculate the volumes of topsoil in the stockpile and update Appendix 8-1, Topsoil Stockpile Table.

R645-301-521, R645-301-521.150 and R645-301-521.165, Provide the topsoil stockpile dimensions (area, depth, cross sections).

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

Coal mine waste

The Permittee has committed not to bring any coal mine waste to the surface. If the Permittee finds that mining conditions are different that anticipated and that coal mine waste must be brought to the surface they will get Division approval before bring the coal mine waste to the surface. The Permittee is also authorized to ship coal mine waste to the Sunnyside Cogeneration facility.

Excess spoil

The Permittee states, on pages 3-10 and 3-11 that there will not be any excess spoil associated with this permit. However, on page 3-10, he states that sediment pond, ditch, and other clean out material will be placed in two areas as shown on the map or the company may elect to take the material to ECDC. The Permittee also stated that they will take samples of the clean out material as dictated by the intended use and approved by the Division.

Findings:

The information provided meets the minimum regulatory requirements of this section.

RECLAMATION PLAN

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

The Permittee states in Section 3.5.4 of the submittal the following about restoring the site to the approximate original contours:

> Approximate Original Contour. The area of the Horizon surface facilities was disturbed by previous mining activities. No pre-mining topographic maps of the area are known to exist. The reclamation plan has been designed to backfill and grade the site to achieve the assumed approximate original contour (i.e., to blend into the surrounding topography) and eliminate highwalls associated with the Horizon Mine.

The requirements to achieve the approximate original contour are couched in terms of the backfilling and grading requirements. The mining and reclamation plan must provide the basis for determining whether the proposed backfilling and grading plan will (1) minimize off-site effects; (2) achieve a final surface configuration that closely resembles the general surface configuration to the land before mining; (3) provide a subsurface foundation for a vegetative cover capable of stabilizing the surface from erosion and (4) support the postmining land use.

The major off-site impacts that the Division is concerned about are erosion and water quality. The Division usually assumes that those off-site impacts are minimized if the hydrologic requirements are met. Those requirements will be addressed in other sections of the TA.

The reclaimed surface should closely resemble the general surface configuration to the land before mining. While the ideal reclamation plan would have premining and postmining contours identical to each other, that situation is not usually practical or desirable. The term AOC does not mean that the reclaimed surface has the same elevation as the premining surface. Rather AOC means that the reclaimed surface will blend into the surrounding area. Such a surface will have slope lengths and gradients similar to those in the surrounding areas and ensure effective erosion control.

The Horizon Mine is in a steep narrow canyon. The permittee has limited options for reclaiming the site because surrounding steep slopes. Some reclaimed slope will have 1.5 H to 1 V grades. Those steep slopes can make reclamation work more difficult and limit reclamation options.

The cross sections on Plate 3-7a show the existing (operational) grades and the proposed reclamation grade. The permittee does not show the location of the disturbed area boundaries on the cross sections. That information is needed by the Division to determine extent of possible reclamation activities.

The cross sections in Figure 3-6 show the portal face ups and how they will be reclaimed. The highwalls are shown to be reclaimed by placing fill in front of the lower portion of the highwalls and then cutting material from the upper sections of the highwalls. The proposed cuts and fills show that parts of the highwalls will be eliminate.

The cross sections on Figure 3-6 are not shown on Plate 3-7 or an equivalent map. The location of the disturbed area boundaries and the extent of the highwall is not shown on Figure 3-6. Without that information, the Division cannot make a finding that the highwalls will be completely eliminated. Therefore, the permittee must give the Division the following:

- Cross sections referenced to the existing and proposed reclaimed surfaces
- Cross sections that show the disturbed area boundaries
- The highwall boundary (the highwall boundary is considered the area disturbed to construct the portal face up area.)

On page 3-44 the permittee states the following:

> However, if field conditions indicate that all available materials are not sufficient to eliminate the existing highwalls without exceeding the performance criteria outlined in the proceeding paragraph, small sections of highwall may be retained. Division approval will be obtained before any highwalls are retained. If it is necessary to retain any pre-existing highwalls at the site the analyses will be performed to show that the retained highwalls are stable and compatible with the postmining land use. Specifically, this analysis will address the requirements of Section R645-301-553.600 through R645-553.650 of the regulations.

R645-301-553.600 through R645-553.650 refer only to for pre-SMCRA highwalls. If the permittee proposes to retain highwall remnants then the permittee must show that the highwalls were created prior to the passage of SMCRA, August 3, 1977.

The cut and fill quantities are approximately equal. The Permittee estimates that 13,810 cubic yards of cut material are available and 13,476 cubic yards of fill material are needed. The cut to fill ratio is 1.02. Therefore, the permittee has enough fill material to complete reclamation.

No spoil piles exist in the disturbed areas. Therefore, the permittee has met those requirements.

The Division considers that the permittee has met the requirements for providing a subsurface foundation for a vegetative cover capable of stabilizing the surface from erosion if the soils and vegetation requirements are met.

The Division's main concern with the relationship between AOC and the postmining land use involves drainage restoration. Jewkes Creek will be restored so that it blends into the upstream and downstream sections. The ephemeral stream in the pad area will also be restored so that it blends into the upstream drainage and the connection into Jewkes Creek. The slide slopes have no major flow channels, therefore runoff from those areas flows overland until it enters a permanent drainage.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must be provided the following in accordance with:

R645-301-542.200, The Permittee must show the location of the cross sections Figure 3-6 on Plate 3-7 or an equivalent map. The Division needs that information to make a finding about highwall elimination.

R645-301-542.200, Show the location of the disturbed area boundaries for each cross sections shown on Plate 3-7a and Figure 3-6 must be shown. The Division needs that information to make a finding about AOC compliance.

R645-301-542.200, Show the highwall boundary on the cross sections on Figure 3-6. The highwall boundary is usually considered the area disturbed when the portal face up areas were constructed. The Division needs this information to make a finding about highwall eliminate.

R645-301-542.200 and R645-301-521.190, The Permittee must be consistent about describing the existence of highwalls. On page 3-40 section Elimination of Highwalls, Spoil Piles and Depressions the permittee states that all highwalls will be eliminated yet in the next sentence the permittee states that no highwalls exist on the current disturbed area. Note: The same inconsistency is found in other section of the submittal.

R645-301-553.600 and R645-301-521.190, The Permittee must show that the highwalls associated with the Horizon Mine were created before the passage of SMCRA, August 3, 1977, or the permittee must remove all reference to highwall remnants being retained after final reclamation.

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

Analysis:

In the Slope Stability section of the Backfilling and Grading section of the submittal the Permittee states that all reclaimed slopes will have a safety factor of 1.3 or greater. In addition all reclaimed slopes will have slopes that do not exceed the angle of repose, which is assumed to be between 30° to 35°. A discussion about the angle of repose is located on in the Slope Stability section however, but the Permittee did not include a slope stability analysis for the reclaimed slopes in the submittal or MRP. The Permittee must include the slope stability analysis so that the Division can analyze the report.

Appendix 3-3 contains information of slope stability studies for the operational phase of mining. The slopes analyzed were the mine bench, the access road and the sediment pond. All those slopes were constructed for the operational phase of mining and are scheduled to be reclaimed. Therefore, the permittee must give the Division slope stability analysis for the critical reclaimed slopes.

The Permittee states that no coal seams are currently exposed in the disturbed area. However, if any coal seams were exposed during backfilling and regrading then the coal seams would be covered with 4 feet of nontoxic and noncombustible materials. On page 3-40 section Elimination of Highwalls, Spoil Piles and Depressions the permittee states that access to the coal seam are by means of shallow angle slopes that drop 6 feet to 12 feet before intercepting the coal seams. To verify those claims, the Division needs the Permittee to show the location of the coal seams on the reclamation cross sections.

The acid- and toxic- forming materials that have been identified in the disturbed area are buried waste materials (coal mine waste) from previous mining operations. See Plate A in Appendix 3-8 and Plate 5.5. The plan has a commitment (page 3-39) that during reclamation excavation, if any waste is uncovered, it will be buried beneath 4 feet of nonionic fill. It is likely that in recreating the approximate contours of the site, the coal mine waste will be encountered. This waste is high in boron and must be covered, as boron is toxic to plants.

Section 3.3.2.5 of the existing MRP discusses the coal mine waste buried within the operations pad. The existing MRP indicates that approximately 2500 CY - 2700 CY of waste are buried 4 feet deep within the pad (locations should be shown on a plate in Appendix 3-8 and on Plate 5-5). This information is restated in the submittal, page 3-44, under "Acid and Toxic Forming Materials." The plate in Appendix 3-8 is entitled Sweets Canyon, Pond Utilities. It did not have the information mentioned on coal mine waste burial locations. Plate 5-5 could not be located. However, the location of buried coal mine waste is shown on Plate 5-7.

Coal mine waste burial locations are indicated on the recently submitted Plate 3-7, Reclamation Topography. This map shows coal mine waste buried very close to the drainage of Portal Canyon. And, it appears from this map and Plate 3-7A, Post Mining X-Sections, that the grading operations in areas G-G', H-H' and J-J' will uncover coal mine waste. R645-301-746.120 requires that all coal mine waste be placed in a manner to minimize adverse effects of leachate and surface water runoff. The Division is concerned that coal mine waste in or near the Portal Canyon drainage will be exposed. Therefore, the permittee needs to either remove the coal mine waste from the drainage area or show that the surface water will not be contaminated.

The Permittee could make plans to remove all topsoil layered in areas D and E (Plate A, Appendix 8-1 of the submittal) prior to grading, so that the slopes of areas D and E can be used as a coal mine waste burial location. The current grading plan does not adequately address this issue.

Table 3-1 show the cut and fill estimates for the disturbed area. The disturbed area is 9.15 acres. An average cut of 2.67 feet over 3.211 acres will yield 13,810 CY. An average fill depth of 3.983 feet over 2.183 acres will require 13,476 CY. The MRP indicates on page 3-35 Section 3.5.4 and again in section 8.8, page 8-25, that topsoil will be spread 20 inches deep over the 5.49 acres regraded site, however, Plate B, Appendix 8-1 indicates that only 10 inches will be applied to the graded site.

Plate 5-5 is mentioned in section 3.5.2 as showing areas where topsoil layered on slopes will be redisturbed, but this plate could not be found. These areas are shown on Plate 3-7 as the lower slopes in Areas B, D, and E. Section 3.5.2 indicates that the topsoil from these slopes will be removed and safely stored in the topsoil pile. This section should also indicate the method to be used to ensure that the designated amount of soil is removed. Methods recommended by the Division in the The Practical Guide to Reclamation Manual, available on line at http\\www.dogm.nr.state.ut.us., are the presence of a qualified soil scientist on site, pedestals, and staking.

Section 3.5.4.4 has been gutted with this submittal. Taken out were references to:

- Silt fences at the bottom of regraded slopes,
- Mulching during seeding,
- Matting on slopes > 2.5h : 1v.

Section 3.5.4 refers to temporary sediment control measures as needed under the heading of erosion and water pollution control. This section should refer to the measures outlined in section 3.5.5.3, Mulching, wherein it is described that 2000 lbs/acre of mulch will be incorporated into the topsoil and erosion control matting will be used on slopes > 2.5h : 1v.

The Permittee does not propose to leave any cut and fill terraces. Nor do they propose to leave any settled and revegetated fills.

The highwall issues are cover in the AOC section of this TA.

Findings:

The information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provided the following in accordance with:

R645-301-553.130 and R645-301-121.200, Include the slope stability analysis for the reclaimed slopes in the PAP. The slope stability studies in Appendix 3-3 are for the operational not reclaimed slopes.

R645-301-553.300 and R645-301-542, The Permittee will address how the coal seams will be covered during final reclamation. Also, the Permittee will show the location of the coal seams on the cross sections.

R645-301-746.120, The permittee will either remove all coal mine waste from in or near the Portal Canyon drainage or show that the buried coal mine waste will not have an adverse effect of surface water runoff. The Division is concerned that over time erosion in the drainage could be exposed the buried coal mine waste.

R645-301-553.252 and R645-301-542, The Permittee will show on Plate 3-7a the location of all coal mine waste before and after final reclamation.

R645-301-242.400 Correct the discrepancy between the approved MRP (Sections 3.5.4 and 8.8) which indicate topsoil will be replaced to a depth of 20 inches and Plate B of Appendix 8-1 which incorrectly assumes a ten-inch topsoil replacement depth.

R645-301-536.300 and R645-301-244, Locate Plate 5-5 which shows areas where interim reclamation will be redisturbed to salvage the topsoil before grading as mentioned in section 3.5.2. of the submittal and a Plate A in Appendix 3-8 delineating coal mine waste locations as indicated in the MRP section 3.3.2.5 and in the submittal page 3-44 under "Acid and Toxic Forming Materials."

R645-301-536.300 and R645-301-731.311 and R645-301-746 Describe in the narrative and show on a map a plan for removing the coal mine waste from the stream channel of Portal Canyon and identify a location for the burial of coal mine waste which will be uncovered during grading to final contour.

R645-301-244 Re-insert critical information from the plan concerning erosion control in Section 3.5.4.4. of the submittal and on page 3-43, "Erosion and Water Pollution Control."

R645-301-241 Indicate in section 3.5.2 the method(s) to be used to ensure quality control during the removal of 20 inches of topsoil from the interim reclamation slopes.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General requirements

No reclamation or permanent revegetation has been conducted on site. Plate 3-7, Reclamation Topography, show areas of interim reclamation which may be redisturb during final reclamation and areas of interim reclamation. This comment leads one to believe that the areas shown as interim reclamation will not be re-disturbed during final reclamation. It is this reviewers understanding that no final reclamation was approved or occurred on site. All areas shown as interim reclamation are potential topsoil storage areas or waste burial areas and may be redisturbed. The plate is not correct and must be changed or provide detailed information for the reclamation of these areas showing that all the requirements and performance standards of the regulations have been met.

Findings:

Information found in the proposed changes to the plan relevant to this midterm review do not meet the minimum regulatory requirements of this section. The permittee must provide the following in accordance with:

R645-301-353.100, Plate 3-7 is not correct and must be changed. All interim reclamation areas maybe redisturbed. Or the Permittee may provide detailed information on the reclamation of these areas showing all the requirements and performance standards of the regulations have been met for final reclamation.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Affected area maps

The boundaries of the disturbed area, as well as those of its component areas of previous and proposed disturbance, are shown adequately on Plates 3-1, 3-6, and 3-7.

Mining facilities maps

The locations and approximate dimensions of all mine facilities are shown on Plate 3-1--Surface Facilities. Included on this map are all buildings, portals, fans and earthen structures (pads, cuts and embankments), both of the large main drainage bypass culverts, the mine supply substation adjacent to the main portals, the large main substation at the mouth of the canyon, the Main Haul Road, the Hiawatha Fan Portal Access Road, the conveyor from the mine, the coal storage and loading facilities, the topsoil storage area and the sediment pond. This plate was certified in 1996, after its latest revision, by Richard B. White, a professional engineer registered in the state of Utah.

Design details of the sediment pond are shown on Plate 7-6--Sedimentation Pond Detail Map. This plate was certified in 1996 by Richard B. White, a professional engineer registered in the state of Utah.

Cross-sections of main channel culverts indicating culvert size and trash rack are shown in Figure 7-8.

Mine workings maps

The location and extent of all known abandoned underground mine workings, including mine openings to the surface within the proposed permit and adjacent areas, are shown on Plate 3-3--Five Year Mine Plan. There are no active underground mines and there has been no surface mining within the permit and adjacent areas.

Monitoring and sample location maps

Both geologic and groundwater information were obtained from test borings done at sites designated LMC-1, LMC-2, LMC-3, and LMC-4. The locations of these sites are shown on Plate 6-1--Geology and Plate 7-1--Water Monitoring Locations.

Information on water quality and quantity was obtained from monitoring stations designated 1, 2, 3, 4, 5, 6, and 7. The elevations and locations of these sites are shown on Plate 7-1--Water Monitoring Locations.

Findings:

The information provided meets the minimum regulatory requirements of this section.

The Division should deny the submittal. The permittee needs to address the deficiencies that are listed in this memo before the midterm can be completed.

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