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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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December 4, 2001

TO: Internal File

FROM: Joseph C. Helfrich, Sr. Reclamation Specialist/Biologist, Team Lead

RE: Adit #1 Reclamation Plan, Castle Gate Holding Co. Castle Gate Mine C/007/004-AM01B-1

SUMMARY:

On May 1, 2001, the Division received an amendment to revise the Castle Gate Reclamation Plan (MRP) for the #1 Adit facility. The submittal changes in Appendix 3-2 include incorporation of best management practices such as extreme roughening and the placement of filter fabric on the channel bottom. The site to be re-graded and contoured is 1.5 acres. There is an ephemeral stream channel in the middle of the site. There has been no topsoil salvaged from the pre-SMCRA site. Soil will be tested for suitability for use as topsoil substitute. There is also a producing spring in one of the old portals. The proposal also addresses the diversion of the spring water into the Price River. This Technical Memo is a review of the response to the Division's technical analysis of the May 1 submittal.

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

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

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

On page 3.5-10 of the application it states that "the stone retaining walls and concrete brows over the portal entrances will be left for historical reference." The applicant has addressed

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the resource information required by this section of the regulations and ensured that the proposed structures to remain are compatible with the post mining land use. A letter from the Carbon County Historical Society is provided in Appendix 3.5H.

Findings:

The information provided is adequate to meet this section of the regulations

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The vegetation resource information is provided for in Chapter nine sections 9.1-9.3 of the current operation and reclamation plan. The seed mixes to be used in reclamation of the #1 Adit facility are also provided for in chapter 9 sections 9.4-1(2). There are three seed mixes listed in chapter 9, they are seed mix #1, #4, and #5. The application suggests species list #1 as the seed mix to be used for the reclamation of the #1 Adit. However chapter 9 prescribes seed mix #5 for pre and post SMCRA areas within 20' of the edge of reclamation channels. This reviewer discussed the construction of reclamation channels at the Adit with the staff Hydrologist Mike Suflita and reviewed the surface Post mining topography map. It seemed apparent to us that reclamation channels would be created in the process of reclaiming the Adit. With that in mind the applicant should be aware of the seeding procedures described in the MRP when conducting reclamation activities at the Adit.

On page 3.5-9 of the application it states that "The reclamation plan shows 1.5 acres of the 3 acres of pre SMCRA receiving reshaping, diversion construction, resoiling, and revegetation activities." Chapter 3, page 9-2 of the reclamation plan refers to the previously mined areas as being shown on maps 3.2-1, 3.3-1, and 3.5-1. These maps are not provided and should be included in chapter three of the MRP.

Findings:

The information provided is adequate to meet this section of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

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

Analysis:

The fish and wildlife information is provided for in chapter ten of the current operation and reclamation plan. The most recent raptor survey was conducted in 1981 for the power lines associated with the development of the Crandall Canyon facility. Dianna Whittington, (U. S. F. &W. S.), and Chris Colt, (DWR) have concurred with this reviewer's analysis and rationale not to conduct a current Raptor Survey with the stipulation that reclamation activities are conducted during the Fall of the year. Reclamation is scheduled after July 15, 2001, which would not pose a direct threat to fledglings or adult birds that may be actively utilizing nests in the area. In addition there is a fair amount of activity adjacent to the #1 Adit site that includes automobile and railroad traffic, as well as activity from the Willow Creek wash plant and UP&L power plant. It would therefore seem unlikely that reclamation activities would have a negative impact on nesting birds in the area. The applicant has also been provided a copy of the current TES list, (endangered or threatened species of plants or animals).

Findings:

The information provided is adequate to meet this section of the regulations.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

Chapter 4 of the operation and reclamation plan, (Land Use), refers the reviewer to several sections of Chapter 3. Section 3.5-2 provides a description of the facilities for the #1 Adit. Prior to the implementation of SMCRA the area was developed and used for mining. Section 3.5-4 of the application lists the post mining land use of the Adit as wildlife habitat.

Plate 4-1 identifies the surface ownership for the Castle Gate facilities including the #1 adit. The surface ownership of the property where the #1 Adit is located is Plateau Mining Corporation.

Findings:

The information provided is adequate to meet this section of the regulations.

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MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Archeological Site Maps

An Archeological site map is not required for the proposed changes to the reclamation of the #1 Adit

Cultural Resource Maps

A Cultural Resource map is not required for the proposed changes to the reclamation of the #1 Adit.

Affected Area Boundary Maps

Plate 3.5-1 identifies the areas disturbed by mining practices.

Existing Structures and Facilities Maps

Existing Structures and Surface Facilities are identified on Plate 3.5-1. The disturbance is identified as pre-1977 disturbance.

Existing Surface Configuration Maps

The existing surface configuration is identified on Plate 3.5-2

Vegetation Reference area Maps

The current operation and reclamation plan contains several vegetation maps and an AML reference area map. According to Paul Baker the AML reference area may contain some alfalfa. This reviewer met with Johnny Pappas to evaluate the proposed reference area. At the time of the field visit there did not appear to be any alfalfa in the reference area located in Sowbelly canyon.

Findings:

The information provided is adequate to meet this section of the regulations

OPERATION PLAN

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Protection and Enhancement Plan

The fish and wildlife information is provided for in chapter 10 of the MRP. Section 10.2-6 states that "Restoration of disturbed areas will ultimately be achieved by natural succession of the reclaimed and stabilized mine sites. Plans for such reclamation activities are included in chapter ix." Chapter 9 section 9.4-2(1) states, "Wildlife enhancement will be created by the development of micro-topographic features such as swales and rises during regrading; and by the species specified above."

Endangered and Threatened Species

The applicant has been provided a copy of the current TES list, (endangered or threatened species of plants or animals).

Bald and Golden Eagles

Dianna Whittington, (U. S. F. & W. S.), and Chris Colt, (DWR) have concurred with this reviewer's analysis and rationale not to conduct a current Raptor Survey with the stipulation that reclamation activities are conducted during the Fall of the year. Reclamation is scheduled after July 15, 2001, which would not pose a direct threat to fledglings or adult birds that may be actively utilizing nests in the area. In addition there is a fair amount of activity adjacent to the #1 Adit site that includes automobile and railroad traffic, as well as activity from the Willow Creek wash plant and UP&L power plant. It would therefore seem unlikely that reclamation activities would have a negative impact on nesting birds in the area.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

There is an underground spring located in one of the portals that is currently flowing at approximately 2 gallons per minuet. The applicant has proposed to transport the spring flow to the Price River by way of a culvert located at the lower end of the disturbed area. The current application does not address how the spring water is to be transported from the portal to the culvert. The distance from the portal to the culvert location is approximately 100'. In a previous conversation with Johnny Pappas he indicated that he intended to reclaim that area as riparian habitat. A discussion should be provided to address how the flow will be transported down

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gradient from the portal to the culvert. This recommendation has been provided to Staff Hydrologist Mike Suflita for inclusion in his review.

Findings:

The information provided is adequate to meet this section of the regulations

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

The requirements for this section of the regulations have been addressed in either the Vegetation Resource Information section or the Revegetation section of the Reclamation Plan.

Findings:

Additional information that may be required is identified in the corresponding sections of this technical analysis. The information provided is adequate to meet this section of the regulations

RECLAMATION PLAN

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

Chapter 4 of the operation and reclamation plan, (Land Use), refers the reviewer to several sections of Chapter 3. Section 3.5-2 provides a description of the facilities for the #1 Adit. Prior to the implementation of SMCRA the area was developed and used for mining. Section 3.5-4 of the application lists the post mining land use of the Adit as wildlife habitat.

Findings:

The information provided is adequate to meet this section of the regulations

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

The analysis of the information required in this section has been addressed under the Fish and Wildlife information section of the Operation Plan. The information provided is adequate to meet this section of the regulations

Findings:

Additional information that may be required is identified in the corresponding section of this technical analysis. The information provided is adequate to meet this section of the regulations

CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

According to the applicant the major portions of the Castle Gate surface facilities and disturbed areas were reclaimed in 1994. The substations at Hardscrabble and Sowbelly canyons and the disturbed area associated with the #1 Adit did not undergo reclamation at that time. Apparently they were to be included with the reclamation of the Crandall Canyon facilities. In 1998, a timetable for reclamation of the #1 Adit was provided to the Division.

Findings:

The information provided is adequate to meet this section of the regulations.

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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

As noted in the analysis of the vegetation resource information the applicant should be aware of the seeding procedures described in the MRP when conducting reclamation activities at the Adit.

Timing

Revegetation timing is described in section 9.5-4 of chapter 9 of the MRP. Spring, (March 15 to May 15), and Fall, (October 15 until freezing conditions), are the two time frames identified for planting.

Mulching and other soil stabilizing practices

The application suggests the addition of 1 to 1.5 tons of certified noxious weed free straw mulch to be spread over the seeded growth media. The straw mulch will then be sprayed with a tackifier and mulch mixture at about 500 pounds per acre.

Standards for success

The standards for revegetation success are described in sections 9.5-6,(1),(2) of the MRP. The current operation and reclamation plan contains several vegetation maps and an AML reference area map. A representative reference area should be established in order to accurately describe the standards for revegetation success.

Findings:

The information provided is adequate to meet this section of the regulations.

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:

Reclamation monitoring and sampling location maps

As noted by staff Hydrologist Mike Suflita, reclamation monitoring and/or sampling location maps would probably not be required for the reclamation of the #1 Adit. Mr. Suflita has based his opinion on his recent review of the revised Castle Gate Water Monitoring plan, and the relatively small size, (1.5 acres), of the reclaimed area.

Reclamation treatments maps

Reclamation treatment maps are provided for in exhibit 3.5.3A.

Findings:

The information provided is adequate to meet this section of the regulations.

RECOMMENDATIONS:

The application is recommended for approval.