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Governor
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Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

March 10, 2017

Kenneth S. Fleck, Manager of Geology and Environmental Affairs
Interwest Mining Company
P.O. Box 310
Huntington, Utah 84528

Subject: Completion of Midterm Review, Task #5307, PacifiCorp, Cottonwood/Wilberg Mine, C/015/0019

Dear Mr. Fleck:

On November 8, 2016, PacifiCorp was informed that the Division of Oil, Gas and Mining (the Division) had commenced a midterm permit review for the Cottonwood/Wilberg Mine.

The midterm review has now been completed and will now be closed; however, the Division has identified deficiencies that must be addressed. The deficiencies have been included with this letter (See Attached). The name of the author for each of the respective deficiencies has been provided.

Your response to these deficiencies will need to be submitted as an amendment to your MRP and will be processed as a separate task. Please submit the required amendment with the accompanying C1 and C2 forms by no later than April 28, 2017.

If you have any questions regarding these requirements or the Midterm Review process, please don't hesitate to call me at 801-538-5325.

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/sqs
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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0150019
TaskID: 5307
Mine Name: COTTONWOOD/ WILBERG
Title: MIDTERM PERMIT REVIEW

Summary

The Division is required to review each active permit during its term, in accordance with R645-303-211. This review is to take place not later than the midpoint of the permit term, which is January 6, 2017 for the Cottonwood/Wilberg Mine.

The Midterm Review was conducted as Task 5307 and the following items were reviewed:

A. Review of the Plan to ensure that the requirements of all permit conditions, division orders, notice of violations (NOV), abatement plans, and permittee-initiated Plan changes approved subsequent to permit approval or renewal (whichever is the most recent) are appropriately incorporated into the Plan document.

B. Ensure that the Plan has been updated to reflect changes in the Utah Coal Regulatory Program which have occurred subsequent to permit approval or renewal.

C. Review 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.

D. Evaluate the compliance status of the permit to ensure that all unabated enforcement actions comport with current regulations for abatement; verify the status of all finalized penalties levied subsequent to permit issuance or permit renewal, and verify that there are no demonstrated patterns of violation (POV). This will include an AVS check to ensure that Ownership and Control information is current and correct.

E. Evaluate the reclamation bond to ensure that coverage adequately addresses permit changes approved subsequent to permit approval or renewal, and to ensure that the bond amount is appropriately escalated in current-year dollars.

F. Evaluate the permit for compliance with variances or special permit conditions.

G. The optional technical site visit was not conducted as this mine is currently active and all assigned technical staff have been on-site numerous times within the past year.

The following amendments have been reviewed by the Division since the last mid-term permit review.

Task 5082, Permit Area Adjustment: Rejected. An agreement between the Cottonwood/Wilberg Mine and the Fossil Rock Mine must be made in regards to the perpetual discharge and associated reclamation on the property in question.

Task 4960, Revised Final Reclamation Plan, Rejected. InterWest has been working to address the concerns of the Division and the final reclamation plan is still undergoing changes and review.

Task 4791, Update Legal & Financial Volume, Approved 5/18/15. This amendment updated the legal and financial volume of the Cottonwood Waste Rock Site as it was removed from the MRP.

Task 4789, Remove Volume 10 (Waste Rock Site), Approved 3/13/15. This amendment removed the Cottonwood Waste Rock Site from the MRP.

Task 4768, Update Legal & Financial Volume, Approved 12/24/14. This amendment corrected the legal description in the MRP.

Task 4760, 4718, 4632, 4508, 4505, 4329, Update Volume 10, Approved 12/12/14. This amendment updated Volume 10 (Waste Rock Site) to reorganize it to comply with format requirements.

Deficiencies Details:

lreinhart

General Contents

Identification of Interest

Analysis:

The midterm permit review meets the State of Utah R645 requirements for R645-301-112 Ownership and Control.

The Division performed a crosscheck with the Applicant/Violator System and the Ownership and Control information provided in the Cottonwood MRP, Legal & Financial Volume, Appendix A Current Listing of Officers and Directors. The Ownership and Control information located in the MRP was updated and incorporated on April 5, 2016. No discrepancies were found.

ssteab

Violation Information

Analysis:

Violation information is located in the Legal and Financial Volume. There are no pending violations.

lreinhart

Violation Information

Analysis:

The midterm permit review meets the State of Utah R645 requirements for R645-300-132 Violation Information.

A report was generated in the Applicant/Violator System (AVS) on December 6, 2016. The report did not generate any cessation orders, delinquent civil penalties, bond forfeitures, delinquent abandoned mine reclamation fees, or unabated violations of the Act.

ssteab

Right of Entry

Analysis:

The MRP contains a description of the documents upon which the applicant bases their legal right to enter and begin coal mining and reclamation operations in the permit area. Right of Entry information is located in Appendix C of the Legal & Financial Volume. Task 4768, Update Legal & Financial Volume, Approved 12/24/14 corrected the legal description.

lreinhart

Legal Description

Analysis:

Task 5082, Permit Area Adjustment was denied. An agreement between the Cottonwood/Wilberg Mine (Interwest) and the Fossil Rock Mine (Fossil Rock Resources) must be made in regards to the perpetual discharge and associated reclamation within the property in question (sliver between Cottonwood Creek and Cottonwood Canyon Road).

Until such time that the Cottonwood/Wilburg Mine (Interwest) and the Fossil Rock Mine (Fossil Rock Resources) present an agreement for ownership and reclamation of the perpetual discharge from the Cottonwood /Trail Mountain Portal, the legal description can't be modified to change the western boundary from Cottonwood Creek to Cottonwood Canyon Road.

lreinhart

Permit Term

Analysis:

The permit for the Cottonwood/Wilberg mine was last renewed and issued on July 6, 2014. The permit expires on July 6, 2019. The Cottonwood/Wilberg mine was idled in 2001. In January 2014, the mine provided Notice of Intent to reclaim and therefore was reactivated. Since that time, reclamation activities and have been occurring. At the present time, InterWest is redesigning the final reclamation plan for BTCA for sediment control with the intent to pursue final backfill and grading in 2017, if a plan is approved.

lreinhart

Reporting of Technical Data

Analysis:

The certificate of liability insurance is located in Appendix E of the Legal & Financial Volume. The liability insurance, issued by Associated Electric and Gas Insurance Services expired on October 1, 2015. A renewed certificate was provided to the Division on September 29, 2016 and expires October 1, 2017. (CTS FileName 09292016.pdf).

lreinhart

Environmental Resource Information

Vegetation Resource Information

Analysis:

Drawing 2-15 shows the location of the two reference sites that shall be used to determine reclamation success. This includes a pinyon juniper site located near the Trail Mountain Access Portal and a pinyon juniper site near the main mine facilities. These sites are evaluated every 5 years with data submitted in the following annual years report.

Revegetation Success Standards are located in Volume 2, Part 4, pages 25 & 26 of the MRP. Pursuant to R645-301-356, 110, statistically valid sampling techniques for measuring success are identified as line intercept or ocular estimation (cover and species composition), point-center quarter method (shrub and tree density) and Double Sampling (production). Details of revegetation success standards are located Volume 2, Part 4, page 25, #7.

The two pinyon-juniper reference areas were inspected during the growing season of 2016 by Division staff and Mt. Nebo Scientific. Both sites were verified to be in similar condition as originally approved and are adequate to represent the success standards. Mt. Nebo Scientific conducted sampling of the two sites however that report will not be prepared for several more months. However, photos of the sites are on file.

lreinhart

Fish and Wildlife Resource Information

Analysis:

Species of Special Significance (protected) is evaluated in Vol. 2, Appendix E, page 2-163 and last revised 11/21/1983. The Division compared the current TES list with the aforementioned list. Species that are currently listed as threatened or endangered which were not previously evaluated with the permit include: Mexican Spotted Owl (Threatened), Southwestern Willow Flycatcher (Endangered), Yellow-billed Cuckoo, Bonytail Chub (Endangered), Colorado Pikeminnow (Endangered), Humpback Chub (Endangered), Razorback Sucker (Endangered), and Northern Goshawk (State Sensitive). The permit area is not in a Greater sage-grouse management area.

An official species list was generated from USFWS on 11/30/2016, Consultation Code: 06E23000-2017-SLI-0059

Although the mine has been idle for many years, it is currently undergoing reclamation. It is anticipated final backfill and grading will occur in 2017 if a final reclamation plan is approved. Therefore, this analysis focused on any impacts reclamation may have on any of the above listed species. This Division consulted with the Utah Division of Wildlife and determined habitat for the Mexican Spotted Owl, Southwestern Willow Flycatcher, Yellow-billed Cuckoo did not exist at the mine site and therefore, reclamation would not jeopardize any of the listed species.

The mine site is within an active Golden Eagle Territory. InterWest Mining Co, and the Division have been in close contact with the US Forest Service to determine the annual nesting locations for the Eagles. Prior to reclamation, consultation must occur to demonstrate adequate protection for Golden Eagles. InterWest has committed to this requirement in Vol. 2, Part 4, Page 41.

lreinhart

Maps Existing Structures and Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements for Existing Structures and Facilities Maps.

The current MRP meets the requirements of R645-301-521.120 which require a map clearly showing the location of all building in and within a1000 ft of the proposed permit area, along with identifying the current use of said building. Volume 2 Part 3 page 45 begins the narrative detailing the various existing structures prior the Cottonwood mine. The majority of the structures were mining facility structures associated with the original and later combined Wilberg mine.

cparker

Maps Existing Surface Configuration

Analysis:

The current MRP meets the State of Utah R645 requirements for Existing Surface Configuration Maps.

The current MRP meets the requirements of R645-301-521.150 as it includes a drawing or plate that clearly calls out the existing surface. Map 5-13 shows the existing surface prior to the Cottonwood mine. The Wilberg mine was constructed prior to 1978.

cparker

Maps Mine Working

Analysis:

The current MRP meets the State of Utah R645 requirements for Mine Workings Maps.

The current MRP meets the requirements of R645-301-521.140 which require maps that clearly show all mine plans. The Cottonwood portals are located on the south coal outcrop of the Grimes Wash. Map 3-1 thru 3-2 detail the mine working of longwall panels and development sections interconnected by systems of main and sub-main entries.

cparker

Maps Surface and Subsurface Manmade Features

Analysis:

The current MRP meets the State of Utah R645 requirements for preexisting Surface and Subsurface Manmade features maps.

The current MRP meets the requirements of R645-301-521.122 as it includes a drawing or plate that clearly calls out the existing surface and subsurface man made features within, passing through, or passing over the permit area. R645-301-521.120 through-521.125 requires maps to clearly show existing surface and subsurface facilities. Map 5-13 shows the historic location of the surface facilities associated with the Wilberg mine prior to the Cottonwood mine.

cparker

Maps Surface and Subsurface Ownershiip

Analysis:

The current MRP meets the State of Utah R645 requirements for Surface and Subsurface Ownership Maps.

The current MRP meets the requirements of R645-301-521.130 which requires landowners, right of entry, and public interest maps. Figure 1 and 2 within Volume 1 Part 1 shows the surface and subsurface ownership for the permit area of the historic Cottonwood/Wilberg mines.

cparker

Operation Plan

Mining Operations and Facilities

Analysis:

The current MRP meets all the State of Utah R645 requirements for Mining Operations and Facilities.

The current MRP meets the requirements of R645-301-523, -526, and 528 by including a description of the mining operation, method of coal mining, engineering techniques, anticipated annual and total production of coal by tonnage, and major equipment to be used for all aspects of those operations proposed to be conducted during the life. The Cottonwood portals are located on the south coal outcrop of the Grimes Wash. The Wilberg portals are located on the north coal outcrop in Grimes Wash on the southern end of East Mountain. As of July 1, 1985 the Wilberg and Cottonwood Mine operated independently of the other utilizing separate equipment and ventilation systems. Both mines were put into temporary cessation in 2001. PacificCorp determined that the mine had no future potential for use in their long term mining plans in 2014 and began surface structure demolition activities in November 2014. Surface facilities occupied approximately twenty acres of disturbed land.

cparker

Existing Structures

Analysis:

The current MRP meets the State of Utah R645 requirements for Existing Structures.

The current MRP meets the requirements of R645-301-526 by providing historic information to include the discussion of the existing buildings in Volume 2 Part 3 page 45. The narrative detailing the various existing structures prior the Cottonwood mine. The majority of the structures were mining facility structures associated with the original and later combined Wilberg mine.

cparker

Relocation or Use of Public Roads

Analysis:

The current MRP meets the State of Utah R645 requirements for the Relocation or Use of Public Roads.

The current MRP meets the requirements of R645-301-521.133 due to information detailing measure to be used such as a general mining method that will be employed under or within 100 ft of public roads to protect interest of the public.

cparker

Coal Recovery

Analysis:

The current MRP meets the State of Utah R645 requirements for Coal Recovery.

The current MRP meets the requirements of R645-301-522 due to a discussion of the measures to be used to maximize the

use and conservation of the coal resources. The majority of 2011 acres of mineable coal produced from the Cottonwood Mine was from the Hiawatha Seam. Three coal seams existed in the Cottonwood/Wilberg mine area; Blind Canyon seam (upper), Cottonwood seam (middle), and Hiawatha seam (lower). Several of the federal coal leases coincidental to both the Cottonwood and Deer Creek mines are superimposed. The Deer Creek mine produced coal from the Blind Canyon Seam. The Cottonwood seam was determined to have excessive in-seam temperature gradients that made the seam un-mineable. The Blind Canyon seam within the Cottonwood/Wilberg mine lies approximately 100 feet above the Hiawatha seam. In January 2011, the Permittee submitted an amended R2P2 plan demonstrating that no more recoverable coal reserves remained. The BLM agreed with the findings and approved the R2P2 in December 2012. Approximately 40.3 million tons of coal were produced from the Cottonwood/Wilberg mines with 70% of the coal mined being extracted by longwall mining systems and 30% extracted by continuous miner development/limited pillar extraction.

cparker

Subsidence Control Plan Renewable Resource

Analysis:

The current MRP meets the State of Utah R645-301-525.130 requirements for Subsidence Control Plan with a renewable resources survey.

The requirements of R645-301-525.130 are met in the current MRP as the Permittee presented a clear subsidence plan for protected areas in the MRP Volume 2 part 4.

cparker

Subsidence Control Plan Subsidence

Analysis:

The current MRP meets the State of Utah R645-301-525.400 requirements for Subsidence Control Plan.

The requirements of R645-301-525.400 are met in the current MRP as the Permittee presented a clear subsidence plan for protected areas in the MRP Volume 2 part 4.

cparker

Subsidence Control Plan Performance STD

Analysis:

The current MRP meets the State of Utah R645-301-525.requirements for Performance Standards for Subsidence Control.

The current MRP meets the requirements of R645-301-525.300 that addresses the measures the Permittee will conduct to address the Federal stipulations for mining under protected areas as detailed in R645-301-525.200 in the MRP Volume 2 part 4.

cparker

Subsidence Control Plan Notification

Analysis:

The current MRP meets the State of Utah R645-301-525.700 requirements for Public Notice of Proposed Mining.

The requirements of R645-301-525.700 are met in the current MRP as the Permittee presented a clear subsidence plan for protected areas that includes the appropriate notification at least six months prior to mining in the MRP Volume 2 part 4.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

The current MRP meets the State of Utah R645 requirements for Slides and Other Damage.

The current MRP meets the requirements of R645-301-515.100 with procedures already described within the existing MRP

detailing the emergency contact procedures in the event of a slide in the MRP Volume 2 part 4.

cparker

Road Systems Classification

Analysis:

The current MRP meets the State of Utah R645 requirements for Road Systems and Other Transportation Facilities.

The current MRP meets the requirements of R645-301-527.100 by classify each road as primary or ancillary. Volume 2 Part 3 page 38 beings the narrative description of the historic roads associated with the mine. Drawing 3-16 shows the roads associated with the portal facilities.

cparker

Road System Plans and Drawings

Analysis:

The current MRP meets the State of Utah R645 requirements for Transportation Plans and Drawings.

The current MRP meets the requirements of R645-301-534.100 by submitting plans and drawing for each road to be maintained within the permit area. Volume 2 Part 3 pages 38 through 40 describe each of the five primary hauls roads associated with the mine. All factor of safety calculations associated with the roads can be found in Appendix XI.

cparker

Road System Performance Standards

Analysis:

The current MRP meets the State of Utah R645 requirements for Performance Standards of roads within the permit area.

The current MRP meets the requirements of R645-301-534.150 by submitting plans and drawing for each road to be maintained within the permit area to prevent and control erosion. Volume 2 Part 3 pages 38 through 40 describe each of the five primary hauls roads associated with the mine. All roads have a pregraded subgrade and topped with 6 inches of asphalt. The narrative also details the various deigns super elevations on curves and controlled drainage ditches along all primary roads. All factor of safety calculations associated with the roads can be found in Appendix XI.

cparker

Road System Certification

Analysis:

The current MRP meets the State of Utah R645 requirements for Primary Road Certification

The current MRP meets the requirements of R645-301-521.170 by submitting plans and drawing for each road to be prepared by or under the direction of and certified by a qualified registered professional engineer. Volume 2 Part 3 pages 38 through 40 describe each of the five primary hauls roads associated with the mine. All factor of safety calculations associated with the roads can be found in Appendix XI.

cparker

Road System Other Transportation Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements for Other Transportation Facilities.

The current MRP meets the requirements of R645-301-521.170 by submitting plans and drawing for each road, conveyor, and rail system to be used within the proposed permit area. Volume 2 Part 3 page 41 describes the various conveyor structures associated with the mine portal area and loadout. Map 3-15 and 3-16 show the location of all said facilities.

cparker

Spoil Waste Disposals of Noncoal Mine Wastes

Analysis:

The current MRP meets the State of Utah R645 requirements for Spoil and Waste Materials.

The current MRP meets the minimum standards or R645-301-528.330 due to not changes in the MRP text noncoal mine waste disposal located in the current MRP in Volume 2 Part 3 page 27. All used oil at the site was collected and hauled to an EPA approved reclaimed facility.

cparker

Spoil Waste Coal Mine Waste

Analysis:

The current MRP meets the State of Utah R645 requirements for Coal Mine Waste.

The current MRP meets the minimum standards or R645-301-528.320 due to not changes in the MRP text. The original Cottonwood/Wilberg, Des Bee Dove, and Trail Mountain Waste rock site is located 1.5 miles south of the Cottonwood Mine. A total of 14.06 acres of the original 48.62 acres of the waste rock site was relinquished to Texaco to accommodate a coal bed methane degasification well. Phase III bond release was granted to the remaining 34.56 acres in July 22, 2009.

cparker

Spoil Waste Impounding Structures

Analysis:

The current MRP meets the State of Utah R645 requirements for impounding structures.

The current MRP meets the minimum standards or R645-301-533 due to not changes in the MRP text Volume 2 Part 3 page 33. The historic water pollution control facilities include various ponds and collection systems to adequately treat all disturbed runoff.

cparker

Spoil Waste Coal Processing Waste to Abandoned

Analysis:

The current MRP meets the State of Utah R645 requirements for the approved return of coal development into abandoned underground workings.

The current MRP meets the minimum standards or R645-301-528.340 due to not changes in the MRP text in Volume 2 Part 3 page 27. Historically, underground development waste is temporarily stored adjacent to the non-coal waste pile for no longer than 30 days before being transported to the approved waste rock disposal site.

cparker

Hydrologic General

Analysis:

The MRP meets the State of Utah R645 requirements for Hydrology.

kstorrar

Hydrologic Ground Water Monitoring

Analysis:

Special Condition #1 requires the Permittee to "submit water quality data for the Cottonwood/Wilberg Mine in an electronic format through the Electronic Data Input website". The Permittee is complying with this special condition.

kstorrar

Hydro Surface Water Monitoring

Analysis:

Special Condition #1 requires the Permittee to "submit water quality data for the Cottonwood/Wilberg Mine in an electronic format through the Electronic Data Input website". The Permittee is complying with this special condition.

kstorrar

Hydrologic Water Quality Standards

Analysis:

The northern portal of the Cottonwood breakouts in Cottonwood Canyon has a perpetual gravity discharge. The Division of Water Quality has an outfall issued for the discharge and it is monitored and sampled according to UPDES stipulations. The water meets compliance standards of the UPDES permit without requiring treatment.

kstorrar

Hydrologic Diversion General

Analysis:

Diversions are in proper functioning order and route all runoff from the disturbed area mine site through the sediment ponds or BTCA's prior to exiting the permit area. The bypass diversions are clear of debris and route undisturbed runoff past the site without impairing its water quality.

kstorrar

Hydrologic Sediment Control Measures

Analysis:

The mine is in reclamation status requiring a minimum frequency of monthly inspections. The sediment control structures including BTCA's and sediment ponds are inspected each time and are in good functioning order.

kstorrar

Support Facilites and Utility Installations

Analysis:

The current MRP meets the State of Utah R645 requirements for Support Facilities and Utility Installations.

The current MRP meets the requirements of R645-301-521.180 and -526 the require the description, plans, and drawing for each support facility that was constructed, used, and maintained within the permit area in Volume 2 Part 3. The narrative begins in detail on page 19 of Volume 2 Part 3 detailing the specific surface facilities including: sediment basins, embankments fills, coal storage silo, breaker station, crusher station, truck loadout, facility conveyors, roads, upper and lower parking lots, elevator, trash chute, materials storage area, mine ventilation fans, mine control buildings, diesel shop, drainage systems, and power substation. The specific locations of the facilities are shown on drawings 3-15 and 3-16. Volume 2 Part 3 page 22 details all of the above listed structures in detail.

cparker

Signs and Markers

Analysis:

The current MRP meets the State of Utah R645 requirements for Signs and Markers.

The current MRP meets the requirements of R645-301-521.200 by the general discussion of signs including waring, stream buffer and perimeter signs. Volume 2 Part 3 page 18 details the various signs to be employed at the site to meet R645-301 regulations.

cparker

Explosives General

Analysis:

The current MRP meets the State of Utah R645 requirements for general Use of Explosives.

The current MRP meets the requirements of R645-301-524 by no changes made to the blasting plan of the MRP within the current MRP Volume 2 Part 3 Page 40.

cparker

Maps Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements Mining Facilities Maps.

The current MRP meets the requirements of R645-301-521.120 through-521.125 which require maps to clearly show existing surface and subsurface facilities. The historic location of all support mining facilities is shown on drawing 3-15 and 3-16.

cparker

Maps Mine Workings

Analysis:

The current MRP meets the State of Utah R645-301-521.140 requirements for Mine Workings Maps.

The current MRP meets the requirements of R645-301-521.140 which requires maps that clearly show all mine plans. Maps 3-1 through 3-2 detail the longwall panels and room and pillar mining workings. Figure 2 through 4 in Volume 2 Part 3 show schematic details of the typical main entry and panel development, longwall panel retreat, and sequence of pillar recovery.

cparker

Reclamation Plan

General Requirements

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation Activities.

The requirements of R645-301-540 are met within the current MRP as there is no change to the existing MRP reclamation details in volume 2 part 4. All structures were removed as documented in Items 1-A through 3-A in Appendix C. All asphalt will be removed and disposed of site, as detailed in quantities in Appendix C.

cparker

Approximate Original Contour Restoration

Analysis:

The current MRP meets the State of Utah R645 requirements for Approximate Original Contour Restoration.

The current MRP meets the requirements R645-301-512.200 ,-553.110 through -553.150, and -302-270 due to general grading plant that restores approximate original contour (AOC).

AOC as defined by R645-301-553.100 through -553.150 is achieved when the final grade closely resembles the general surface configuration of the land prior to mining activities and provides a subsurface foundation for vegetative cover capable of stabilizing the surface from erosion. The final reclamation grading plan for surface disturbances associated with the

Cottonwood/Wilberg mine beings on page 7 of Volume 2 Part 4 of the currently approved MRP.

cparker

Backfill and Grading General

Analysis:

The current MRP meets the State of Utah R645 requirements for Backfill and Grading.

The current MRP meets the general requirements of R645-301-553 by detailing a general backfill and grading plan that details how disturbed areas will be backfilled and graded to achieve the approximate original contour, eliminate all highwalls, spoil piles, and depressions, and achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long term static safety factor of 1.3 and to prevent slides, minimize erosion and water pollution both on and off the site, and support the approved postmining land use. The final reclamation grading plan for surface disturbances associated with the Cottonwood/Wilberg mine beings on page 7 of Volume 2 Part 4 of the currently approved MRP.

cparker

Backfill and Grading Previously Mined

Analysis:

The current MRP meets the State of Utah R645 requirements for Previously Mined Areas.

The requirements of R645-301-553.500 are met within the current MRP as there is no change to the existing MRP grading reclamation details. The final reclamation grading plan for surface disturbances associated with the Cottonwood/Wilberg mine beings on page 7 of Volume 2 Part 4 of the currently approved MRP. Appendix A and B of Volume 2 Part 4 detail the reclamation of previously mined areas within the surface disturbance of the Cottonwood/Wilberg mine.

cparker

Mine Openings

Analysis:

The current MRP does not meet the State of Utah R645 requirements for Mine Openings.

The requirements of R645-301-513.500, R645-301-529, and R645-301-551 are not met within the current MRP as there is no change to the existing MRP sealing of mine openings at the time of final reclamation as the Cottonwood ventilation breakouts currently have discharge into the Cottonwood Canyon drainage and the current sealing plan would result in a water retaining bulkhead. MSHA will not approve any water retaining bulkheads therefore the . Figure 1 within Volume 2 Part 4 shows the typical sealing plan for the portals associated with the Cottonwood/Wilberg Mine.

Deficiencies Details:

The amendment does not meet the State of Utah R645 for Ming Openings. The following deficiency must be addressed prior to final approval.

R645-301-551: The Permittee must update their mine sealing plan to account for the water discharge out of the Cottonwood ventilation seals.

cparker

Topsoil and Subsoil

Analysis:

Analysis:
The Division was notified on May 29, 2001 that the site was in temporary cessation. Surface facilities were removed from the site in 2015. The information found in the Mining and Reclamation plan meets the requirements of R645-301-240 soil reclamation plan.

There is no topsoil stored at the Cottonwood/Wilberg portal area. A 1.81 acre site exists below the mine site along the

county road that is used for storage of rock rip rap and soils. (MRP Vol 2, Part 3, p. 21 or e-p. 130).

Four pads, each approximately an acre in size will supply both the backfill and the substitute topsoil. Plate 4-3 shows the location of the fill and substitute topsoil to be used for reclamation (MRP, Vol 2, Part 4 p.12 or e-pg. 183). [Plate 4-3 will be replaced by Plate 4C when Task 5348 revised reclamation plan is approved.] Fill depth in each pad is described as 40 feet deep in the lower parking lot; 35-85 feet deep in the upper parking lot; and 70 ft in the upper storage yard (MRP, Part 3, Vol 2 p. 51-52 or e-p 158-159).

The surface 18 inches of soil from the pad outslopes will be salvaged to generate 10,000 CY of substitute topsoil (MRP, Vol 2 Part 4 p.20 or e-pg.191). The soil will be placed on backfilled graded surfaces to a depth of 6-12 inches at random locations, to create variable rooting depth. (MRP, Vol 2 Part 4 p. 14 or e-pg.185) After redistribution, the soil will be sampled for the parameters described in the Division's January 2008 Guidelines for Management of Topsoil and Overburden (MRP, Vol 2 Part 4 p.20 or e-pg.191).

In 1988, the interim slopes were fertilized with 50 lbs/ac ammonium nitrate and 75 lbs/ac triple superphosphate (MRP, Vol 2 Part 4 p. 15 or e-pg.186). Interim slopes were protected with 2000 lbs/ac hydromulch and 120 lbs/ac tackifier. The interim slopes and test plot seed mix included three nitrogen fixing species: Utah sweet vetch , alfalfa and yellow sweet clover (MRP, Vol 2 Part 4 p.15, 17, 21 or e-pg.186,188, 192). The interim mix actually seeded was amended to replace Utah sweet vetch with cicer milk vetch (Interim reclamation treatment, Section IV, p. 3-6 incorporated 2/22/1993), both are nitrogen fixing species. The test plot mix was also changed at the time of seeding, refer to discussion of test plots below.

Northern sweetvetch (Hedysarum boreale), Western sweetvetch (Hedysarum occidentale var. canone), curlleaf mountain mahogany (Cercocarpus ledifolius) and mountain mahoghany (Cercocarpus montanus), all nitrogen fixing species were found within the permit/lease area in 1982 (Vegetation Information for the Wilberg Mine, Bio-Resources Inc. MRP Vol.2) Dr. A.R.Southard's soils report recommends that nitrogen fixing species be included in the seed mix to improve the overburden suitability as substitute topsoil (MRP Vol 2 part 4, App. D). The Division is in agreement that inclusion of a nitrogen fixing species in the mix will provide long term nitrogen to stimulate microbial activity and improve the overburden over time into a suitable soil resource.

Future treatment on interim slopes might be treated with 2 Tons/ac hay and netting OR erosion control mulch blanket followed by hydromulch at 2000 lbs/ac with tackifier (MRP, Vol 2 Part 4 p.17-18 or e-pg.188-189), pending the results of test plots. In 1988, vegetation test plots were established to test the final mix under varying mulch applications with and without irrigation. The final seed mix currently described in the MRP was changed in 2010 from that seeded in 1988. Refer to the 1995 vegetation analysis by Mt. Nebo Scientific in the Annual Reports for the test plot layout and seed mix. The seed mix included similar grass species to the interim slope mix and shrubs, but only yellow sweet clover (Melilotus officinalis) as the nitrogen fixing species. Neither cicer milkvetch nor alfalfa was seeded. The variables were hydromulch vs mulch blanket vs. hay & netting vs no mulch with and without irrigation. The test plots were fertilized with 30 - 50 lbs/ac Ammonium nitrate and 30 - 40 lbs/ac Triple Phosphate (0-46-0), (MRP, Vol 2 Part 4 p.19 or e-pg.190).

Final reclamation calls for hay mulch to provide 50% ground cover (MRP, Vol 2 Part 4 p.20 or e-pg.191). The MRP also states that the actual rate of application may be revised to incorporate the results of the interim revegetation test plots. A discussion of the mulch application rate is ongoing in the review of the reclamation plan Task 5348.

The final seed mix revised in 2010 is provided in MRP, Vol 2, Part 4 p. 23 (or e-pg. 194) and includes Utah sweet vetch and yellow sweet clover. This final mix will provide some on-going nitrogen enhancement of the nutrient depleted overburden, after the flush of fertilizer is utilized or leached from the profile.

pburton

Road System Reclamation

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation of Roads.

The requirements of R645-301-534 are met within the current MRP as there is no change to the existing MRP reclamation of all roads throughout the permitted area.

cparker

Road System Retention

Analysis:

The current MRP meets the State of Utah R645 requirements for Retention of Roadway Facilities.

The requirements of R645-301-534 and -552 are met within the current MRP as there is no change to the existing MRP that no roads will be retailed at the end of mining that exist throughout the permitted area.

cparker

Cessation of Operations

Analysis:

The current MRP meets the State of Utah R645 requirements for Cessation of Operations

The requirements of R645-301-515 and -541 are met within the current MRP as there is no change to the existing MRP plan of communication with the appropriate parties in the event of the cessation of operations and final reclamation. The Permittee contains narrative in Volume 2 Part 3 detailing the procedures followed when the mine entered temporary cessation effective May 29, 2001. Figure 5 with previously stated section of the MRP shows the location of the equipment abandoned within the mine. The majority of the material abandoned within the mine was belts and pipes with approximately 3,430 feet of belt, 24,460 feet of belt structure, 36,721 feet of steel pipe, and 36,344 feet of PVC pipe. Within the 5th Right 109 Longwall shields and face conveyor were abandoned due to the Wilberg Mine fire.

cparker

Maps Bonded Area

Analysis:

The current MRP meets the State of Utah R645 requirements for Bonded Area.

The requirements of R645-301-800are meet within the current MRP as the bonded area map is up to date. Volume 6 contains the various drawings 4-1 through 4-3 of the bonded reclamation of the surface facilities associated with the Cottonwood/Wilberg mine.

cparker

Maps Reclamation BackFilling and Grading

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation Backfilling and Grading Maps.

The requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan of backfilling and grading areas or volumes. Volume 6 drawings 4-1 through 4-3 show the proposed plan and profile view of the reclamation grading for the Cottonwood/Wilberg mine.

cparker

Maps Reclamation Facilities

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation Facilities Maps

The requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan of facilities that will remain post mining operations. Volume 6 drawings 4-1 through 4-3 show the proposed plan and profile view of the reclamation grading for the Cottonwood/Wilberg mine.

cparker

Maps Reclamation Final Surface Configuration

Analysis:

The current MRP meets the State of Utah R645 requirements for Final Surface Configuration Maps.

The requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan of the estimated final surface configuration back to AOC. Volume 6 drawings 4-1 through 4-3 show the proposed plan and profile view of the reclamation grading for the Cottonwood/Wilberg mine.

cparker

Maps Reclamation Surface and Subsurface Man Made

Analysis:

The current MRP meets the State of Utah R645 requirements for Reclamation of Surface and Subsurface Manmade Features Maps. Volume 6 drawings 4-1 through 4-3 show the proposed plan and profile view of the reclamation grading for the Cottonwood/Wilberg mine.

The requirements of R645-301-542 are met within the current MRP as there is no change to the existing MRP plan in the surface and or subsurface manmade features within the permit area.

cparker

Bonding Determination of Amount

Analysis:

The midterm review of the MRP does not meet the State of Utah R645 requirements for Determination of Bond Amount because no updated midterm bonding estimates have been provided by the Permittee.

The Division requires an evaluation of the reclamation cost estimate during each midterm permit review. This cost estimate is then escalated for five years or until the next midterm review. In accordance with the requirements of R645-303-211, R645-301-830, and -301-830.140, it is the Permittee's responsibility to provide detailed estimated cost sheets to support the reclamation cost estimate.

Deficiencies Details:

The midterm review of the amendment to update the MRP does not meet the minimum requirements of R645-301-830.140 due to missing information as that the Permittee has not submitted updated bond information in regards to the midterm review of the MRP.

The Permittee must update the unit cost data used in the 2011 Midterm Permit Review reclamation cost estimate to 2016 unit costs using the 2016 R.S. Means Heavy Construction Cost Data manual. All computation sheets for demolition, earthwork and re-vegetation must be updated and submitted to the Division so the Division can determine the required bond amount needed through 2021.

In accordance with R645-301-830.410, Division Technical Directive 007, and Office of Surface Mining Handbook for Calculation of Reclamation Bond Amounts the Permittee may utilize third party contractors for cost references when a general cost references does not adequately describe the required reclamation task. In the event the Permittee utilizes local third party contractors cost estimates within the reclamation bond amount additional information must be submitted with the application including a minimum of three individual quotes for the work. References may include items such as a letter or email transcript but must include all relevant contact information from the contractor so that the Division may contact said contractor to verify unit cost is valid in the event the Division was the hiring personal. References must be submitted at the time the reclamation bond amount is submitted to the Division. The Permittee will submit detailed cost references for all contracted costs of reclamation.

In accordance with R645-301-830.410, Division Technical Directive 007, and Office of Surface Mining Handbook for Calculation of Reclamation Bond Amounts the Permittee must utilize bare unit costs when using standardized cost reference manuals such as R.S. Means Heavy Construction. The Division applies an indirect cost of 26.8% that covers overhead and profit calculations in the indirect line items of the total sheet. The Permittee will utilize the bare unit cost when utilizing R.S. Means Heavy Construction cost reference.

The Cottonwood/Wilberg Midterm review, in accordance with R645-303-211, was commenced on November 8, 2016 by the Division. In accordance with R645-301-830.410, Division Technical Directive 007, and Office of Surface Mining Handbook for Calculation of Reclamation Bond Amounts the Permittee must utilize the dollar year for which the midterm was commenced. The escalation to the next midterm must also be amended to calculate the new escalation to the next midterm review, five years.

The total reclamation cost for the Cottonwood/Wilberg Mine (sum of the direct and indirect costs) must be escalated from 2016 to 2021 (5 years) using an escalation factor of .7%.

This escalated cost is rounded to the nearest $ 1,000 to determine the amount of required bond which must be posted with the Division by the Permittee.

bwiser