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TO: Internal File

FROM: Susan M. White, Senior Reclamation, Biologist/Team Lead *SMW*

RE: Upper Pad Reclamation - Appendix 14, PacifiCorp, Des Bee Dove Mine, C/015/017-AM01A-2

SUMMARY:

The mines in the Des-Bee-Dove area pre-date SMCRA, mine operations having been documented by the USGS in 1922. As the Beehive Mine and Little Dove Mines were developed, overburden was excavated and graded to make the mine pads and disturbed soils were neither classified nor salvaged; however, soil surveys were done in 1980, 1983, 1990, 2000, and 2001. Overburden was used to expand the pad area for the two mines and to divert a small drainage at the south end of the pad, and in the 1970's, bin walls and large boulders were placed below the pad to stabilize it and protect the Deseret Mine below. A narrow road was developed off the East Mountain Cattle Access Trail to provide access to a substation and water tank.

Utah Power and Light purchased the mines in 1972. The mines were temporarily sealed in 1987. In 1999 the portals were backfilled and - except for guardrails, a large drop-inlet structure, and several culverts - the surface facilities were removed.

What the Permittee refers to as Phase 1 disturbed area is the Beehive and Little Dove pad and portal area and the tank - substation access road, plus the road from this upper area down to the Deseret Mine pad. Reclamation of this Phase I area will involve removal of remaining structures, restoration to approximate original contour (AOC), revegetation of the recontoured surface, and reestablishment of four minor drainages - three at the mine pad and one near the water tank pad.

This memo reviews the February 4, 2002 submittal.

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TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

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

Analysis:

Appendix XIV, Phase 1 Reclamation Plan, describes the reclamation of the Beehive and Little Dove Mines portal pad and access roads. Some of the information in Appendix XIV contradicts information in the Mining and Reclamation Plan (MRP). The Permittee states in a letter dated September 15, 2001 that the contradictions would be immediately amended after approval of Phase I. As a temporary measure, a statement is placed at the beginning of Appendix XIV and Part 4 and Volume 2 Part 4 of the approved MRP that in the event of contradiction between Appendix XIV and Part 4 of the MRP Appendix XIV will take precedence.

Findings:

The information provided in the application meets the requirements of the Permit Application Format and Contents section of the regulations.

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

Drawing #: CS1813E, Surface Yard Area Pre/Post SMCRA Development Map shows aerial photographs from 1977, 1978, and 1999. The photographs are marked to show current disturbance and pre-SMCRA disturbance. Post-SMCRA disturbances are not marked. The only post-SMCRA disturbance is the parking lot extension at the bathhouse pad. It is difficult to compare one photograph to the next and determine disturbance since the photographs were not taken from the same location but they are sufficient to determine pre and post-SMCRA disturbances.

The photo dated 1999 does not show the permit disturbed area to include the entire area of disturbed area drainage until it passes through the UPDES discharge point. In a letter dated

August 29, 2001 to the Permittee the Division allowed the Permittee to not permit this drainage. However, all drainage must be treated prior to leaving the permit area.

Findings:

The information provided in the application meets the minimum Maps and Plans requirements of the regulations.

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:

The Des Bee Dove Mines operated from the early 1900's until the 1980's. The Beehive Mine was developed in the 1950's and the Little Dove Mine was developed in the mid-1970's. These two separate mines were developed in the Blind Canyon (upper seam) and each mine had three portals.

Section R645-301-411.140 states that historical structures will be retained to document the early development of coal mining in the area. R645-301-400 Figure 1 shows several rock walls used to support the old road and the old LDS tipple location. Mr. Semborski stated in a phone conversation on April 5, 2001 that all of these structures are located outside the disturbed area. These structures are not listed or eligible for listing on the National Register of Historic Places according to a study by Hauck and Weder in 1980. There is a possibility these structures are eligible for listing in 2001 but they are outside the disturbed area boundary and should not be effected by this action.

Findings:

The information provided in the application meets the minimum Historic and Archeological Resource Information requirements of the regulations.

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VEGETATION RESOURCE INFORMATION

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

Analysis:

A Pinyon-juniper vegetative community surrounds the Little Dove and Beehive portals. Dominant species in this community are pinyon, juniper mountain mahogany, serviceberry, low rabbitbrush, shadescale and salina wildrye. Vegetative cover is 30 percent with pinyon and juniper providing most of the cover. Palmer penstemon and shadescale were the visual dominants on the outslope of the Little Dove and Beehive portal areas prior to disturbance for reclamation.

Findings:

The information provided meets the minimum Vegetation Resource Information requirements of this section.

FISH AND WILDLIFE RESOURCE INFORMATION

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

Analysis:

Appendix A of Section R645-301-300 is a map titled Des-Bee-Dove Mines Phase 1 Reclamation Raptor Location Map. The map shows Golden Eagle nest #952 and #937 are both within the half-mile buffer zone radius of the proposed work area.

Findings:

The information provided in the application meets the minimum Fish and Wildlife Resource Information requirements of the regulations.

LAND-USE RESOURCE INFORMATION[smorriso4]

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

Analysis:

The statement in section R645-301-410 that all parties concurred with the proposed reclamation activities at an on-site meeting May 19, 2001 with the Forest Service, BLM, Water Rights, and DOGM is only correct to the extent the information was presented. At that time, the detail provided in Appendix XIV was not available. The Division expressed concern with the drainage reclamation, extent of highwall coverage, and lack of identified substitute topsoil.

The postmining land use for the mine site will be the same as the premining land use and that is wildlife and livestock grazing. The East Mountain allotment of the Ferron Ranger District is approximately 21,000 acres and supplies about 2500 animal unit months of grazing. Twice a year local ranchers use the mine access road to drive cattle to and from the East Mountain grazing area.

Findings

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

OPERATION PLAN

AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR 784.26, 817.95; R645-301-244.

Analysis:

State air quality regulations at R307-205-5 Mining Activities requires mining activities to control fugitive dust by watering, paving, restricting speed, restricting travel, or by other methods. The applicant states that they will meet the requirements of the Clean Air Act. The permit states that dust will be controlled by reducing the rate of vehicle travel to 10 mph and watering except during freezing conditions.

Findings:

The information provided in the application meets the minimum Air Pollution Control Plan requirements of the regulations.

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VEGETATION

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

Analysis:

Fill slopes were vegetated with an interim seed mixture in 1981 through 1988. Given the arid climate, the vegetative cover on most of these fill sites was very good after 13 to 20 years of plant establishment. Slopes on these fills are considered very steep and are comparable to the slopes to be reestablished in reclamation. The active rooting zone of the fill material should be suitable as a growth medium in reclamation.

Findings:

Information provided in the application meets the minimum requirements of this section.

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:

The landowner for Phase I of the reclamation is PacifiCorp, the Permittee. Because the landowner and applicant are the same no requirements for landowner concurrence is required.

A cattle trail will be established from the county road to access the grazing allotments on East Mountain. The trail will follow the county road to the pre-law waterline and then to the reclaimed mine access road. Photo 1 and Drawing # CS1818B show the "Forest Development Trail" and the "Proposed East Mountain Access Trail" in two close but separate locations. It is assumed that these two trails are the same thing. This discrepancy will need to be addressed in an as-built map.

Findings:

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

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

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

Analysis:

Golden eagle nest #952 is within the half-mile buffer zone suggested by the U. S. Fish and Wildlife Service (USFWS). Restricted dates are January 1 to August 31, although these dates vary according to region. The Permittee may complete this Phase I reclamation by January 1. If the project is started inside the restricted dates, after on site activities have been idled then additional consultation with the USFWS and UDWR **may be required** to insure compliance with the Bald Eagle Protection Act. Chris Colt, UDWR biologist, was consulted concerning the location of golden eagle nest #952 and the proposed spring 2001 reclamation construction activities. He stated that if the eagle did nest at #952 during the valley fill removal project then likely the birds had acclimated to the noise.

Findings:

Information provided in the application meets the minimum requirements of this section.

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

A total of 3.85 acres will be seeded in this Phase I reclamation as shown outlined in green on Drawing #CS1818B. This acreage amount may need to be adjusted in an as-built when actual seeding disturbance is known. At that time actual seeding dates can also be added to the map.

The greatest revegetation concern at this site is stabilizing the very steep slopes, which are commonly 2h:1v. The seed mixture (section R645-301-353.120) was designed to establish and provide some erosion control on these slopes. Annual reports detailing prevalent species established were reviewed for species seed mix selection. All species in the mixture are native and most are native to this specific area. Unfortunately, Salina wildrye, the dominant grass, is not commercially available for reclamation. The application rate is 61 seeds /ft². This rate is consistent with recommendations for the Utah area. Aggressive species were used because of the concern with soil stabilization. Diversity of the native area is low and the reclaimed

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vegetative cover should meet the baseline diversity. Transplants will be used to aid in the visual attributes of the area during vegetation establishment.

Seed will be broadcast using a hurricane spreader or applied using a hydroseeder. The seed will be rake to cover the seed if using a hand spreader. Generally raking is not necessary unless the soil has crusted. Crusted soil should be raked even if hydroseeding. Covering the seed with hydromulch does not substitute for soil seed coverage.

All noxious weeds will be eradicated either chemically or physically if they become established on site (Maintenance and Monitoring (R645-301-357.320 thru R645-301-357.332)).

Timing

The site will be seeded immediately after the soil is roughened. This likely will be a late spring seeding. Late spring seedings are not generally recommended. The Permittee will likely need to reseed in subsequent years. This will likely prolong the period of extended liability for more than 10 years.

Mulching and Other Soil Stabilizing Practices

One ton per acre noxious weed free alfalfa hay will be incorporated into the soil during roughening. This will provide a slight organic component to the soil and may reduce crusting for seed germination. A hydromulch with tackifier will be applied at the rate of 1500 lbs./acre. Tackifier will be added to the hydromulch slurry at a rate recommended by the manufacturer. Care must be taken to not leave the seed in the hydromulcher for longer than 30 minutes.

Rocks, shrub and tree debris, and other organic on site materials should also be used as a top covering for the seeded surface.

Standards for Success

Vegetation success of the reclaimed Des Bee Dove mine area will be compared to the pinyon-juniper reference area established in 1980. Success will be judged on production, shrub density and cover of the reclaimed site as compared to the reference area. The Operator commits to tree and shrub numbers similar to the reference areas life forms. Slopes steeper than 2v:1h will be constructed of rock with no soil growth material. These areas are not exempted from being included in vegetation sampling for all success standards.

This site is very steep, exposed and dry. Soil resources were not salvaged during initial construction and during the valley fill excavation. The period of extended responsibility will likely exceed the minimum 10 year requirement.

Findings:

Information provided meets the minimum Revegetation requirements of the regulations.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

Slopes will be 1 1/2 H: 1V or 2H:1V. According to the Slope Stability Report (Reclamation Plan, Appendix C) the fill should be sorted so that all minus 4" to minus 8" material can be compacted in lifts no greater than 1 foot thickness. And all rock 4" to 8" can be compacted in lifts not exceeding three feet. Large boulders will be segregated and used as erosion protection, by nesting the boulder into the slopes at various locations (items 5 and 6 in Procedural Steps of Reclamation Table).

The soil will moved by means of a trackhoe and spread and compacted with a dozer. The R, B, &G Engineering Inc, Slope Stability Report dated September 2001 (Section 540, Appendix C) recommends that at least 4 passes of a D-9 dozer are made over the rock fill.

An erosion control plan incorporating best management practices is critical. Concave and complex slopes erode less than convex or uniform slopes. A commitment should be provided to use these types of slopes. The primary means of sediment control on the site will be gouging (page 12, Section 540), which will be limited to the slopes of 2h:1v where soils are available to gouge. Steeper slopes will consist of rock with isolated pockets of soil placed in the rock slope, as required by the R, B, &G Engineering Inc, Slope Stability Report (Section 540, Appendix C).

Extreme surface roughening or gouging can occur during topsoil placement or while incorporating organic materials (i.e. hay). Proper roughening is very important to the site stabilization and revegetation. Roughening is described in the technique sheets in the Division's reclamation manual, The Practical Guide to Reclamation in Utah, found at: ftp://dogm.nr.state.ut.us/PUB/MINES/Coal_Related/RecMan/Reclamation_Manual.PDF. The technique sheets are also useful to give to equipment operators to illustrate the degree of roughness required. One ton per acre of certified weed free alfalfa hay will be incorporated into the soil when roughening.

A hydromulch with tackifier will be applied at the rate of 1500 lbs./acre. Tackifier will be added to the hydromulch slurry at a rate recommended by the manufacturer (Section R645-301-340).

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The area will be monitored annually for rills and gullies (page 7, Section 350 Performance Standards). Should rills and gullies be noted, the plan indicates that they will be repaired according to R645-301-357.360 through 357.365. R645-301-357.360 through R645-301-364 outlines the requirements for restarting the bond clock. R645-301-357.365 requires that any treatment practices used for rill and gully repair will be approved by the Division. The Permittee should expect some rills and gullies during the initial site establishment period that may be as long as 5 years in this arid area.

Findings:

The information provided in the application meets the minimum Stabilization of Surface Areas requirement of the regulations.

RECCOMENDATIONS:

Approve.