

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

April 25, 2005

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor/Task Manager

THRU: Peter H. Hess, Environmental Scientist III/Engineering/Team Lead

FROM: Jerriann Ernstsens, Ph.D., Environmental Scientist/Biology

RE: Pace Canyon Fan Portal, Canyon Fuel Company, Dugout Canyon Mine, C/007/0039, Task ID #2193

SUMMARY:

The Division received an amendment in January 2005 that addresses the Pace Canyon fan portal area. This memo describes the review of the biology and cultural sections for the second version of the amendment dated March 30, 2005.

This proposed project would increase the disturbance area by 2.7 acres. The acreage and section numbers do not include transportation or power-line corridors.

The Dugout Mine is in Carbon County, Utah. The 7.5 Minute Quadrangle maps that cover the permit area are Mount Bartles (Geological Survey of the U.S. Department of the Interior). The proposed Pace Canyon area includes Township 13 South and Range 13 East with Section 30 (Pine Canyon 7.5 Minute Quadrangle map).

TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

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

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Analysis:

The Mine and Reclamation Plan (MRP) meets R645-301-121.100 and R645-301-121.200 for the biology chapter and archeology section because there is no information that is noticeably unclear.

The MRP includes many different volumes, including the following “stand-alone” documents (as of January 2005):

- “Dugout Canon Mine – Leach Field Addendum A-1” (LFA, March 2001)
- “Refuse Pile Amendment – Dugout Canyon Mine” (RPA, January 2003)
- “Methane Degassification Amendment” (MDA, 2003/2004).

The “stand-alone” volumes provide exclusive information, supporting documents, and maps for each proposed project.

The current “Pace Canyon Fan Portal” amendment is not a stand-alone document. The Permittee provided a current TES list and copied requested information (MSO survey reports) from certain stand-alones to the MRP. The Permittee will incorporate the final approved amendment to the MRP.

Findings:

Information provided in the plan meets the minimum Permit Application Format and Contents in General Contents requirements of the regulations.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

The MRP meets R645-301-130 because qualified professionals conducted or directed the surveys and analysis for the supporting biologic- and historic resource- related documents.

Findings:

Information provided in the plan meets the minimum Reporting of Technical Data in General Contents 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 MRP meets R645-301-411 regulations pertaining to historic resources. The MRP (Vol. 3, App. 4-1; see Confidential Files in Division PIC room after June 2005) includes numerous evaluations of historic resources that focus on the permit area. It also includes narratives and maps of historic resources that may be included in or eligible for inclusion in the National Register. There is proof of previous coordination efforts and clearances from the SHPO.

BLM's Coal lease UTU-07064 Stipulation 4 discusses paleontological resources. The Permittee, in accordance to stipulation 4, must have a geologist available to confirm, or not, the discovery of any vertebrate fossil material during the course of the earth moving.

Findings:

Information provided in the plan meets the minimum Environmental -Historic and Archeological Resource Information requirements of the regulations.

VEGETATION RESOURCE INFORMATION

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

Analysis:

The MRP meets R645-301-321 because there is adequate discussion of plant communities observed within the permit area. The MRP contains many supporting documents on vegetation for the permit area. The baseline vegetation information is adequate for assessing reclamation potential and success as well as productivity values for the surface area affected by mining operations.

Dr. Patrick Collins conducted the vegetation survey for the Pace Canyon fan facilities project (Vol. 3, App. 3-4). The area of the proposed fan site was previously disturbed from

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historic mining in the area and never reclaimed. The Permittee plans to use a reference area instead of R645-356.250 or a range site for the standard of success for this project. The reference area has not been previously disturbed. The surveyor did not assign similarity indices between the two sites most likely because indices are not required under R645-356.250, which is the minimum vegetation standard for this site. The Permittee plans to bring this predisturbed site up to the required success standards associated with reference area criteria (refer to R645-301-356.110). The Permittee stated that it is Canyon Fuel policy to return the land to better conditions prior to disturbance where possible. The Permittee should be commended for going beyond the required standard.

Findings:

Information provided in the plan meets the minimum Environmental - Vegetation Resource Information requirements of the regulations.

FISH AND WILDLIFE RESOURCE INFORMATION

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

Analysis:

GENERAL WILDLIFE

The MRP meets R645-301-322 because it provides narrative, supporting documentation, or maps on ungulates, bats, aquatics, raptors, migratory birds, and reptiles.

Ungulates

The MRP (Vol. 3, App. 3-2) provides general information on many wildlife species including ungulates. Plate 3-2 illustrates that the Pace fan and SITLA lease project sites are within the area classified as critical summer deer habitat as well as high value year-long elk habitat.

The Permittee states that the local area supports yearlong pronghorn range in the salt desert shrub community of the lower elevation ranges along the Clark Valley Road.

Bats

A previous bat survey includes information on bat species and numbers as well as roosting and foraging habits near a portion of Dugout Creek (Vol. 3, App. 3-3). The Permittee

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commits to conduct a 2005 (SILTA Lease area) and future bat surveys near cliff habitat before subsidence (Vol. 1, Sec. 322, p. 3-19).

Aquatics

The MRP does not include fish or macroinvertebrate surveys. There are water resources within the Pace Creek and SITLA lease areas that include small stretches of channels considered as ephemeral or perennial within the permit area. The Division, in consultation with DWR, does not recommend surveying for macroinvertebrates or fish within these stretches at this time.

Amphibians and Reptiles

The MRP does not include amphibian and reptile surveys that are project specific, but has general information on a variety of species, including reptiles (Vol. 3, App. 3-2). The Permittee is aware that all amphibians and reptiles are legally protected.

The MRP states that the Pace fan project area may have six amphibian and ten reptile species and that operations may affect habitat, but not the survival of amphibian or reptile populations. The Division agrees that the Pace fan project would have no or little affect to populations of these species.

Raptors

The Permittee commits to conduct annual raptor surveys to obtain baseline data prior to mining disturbances including subsidence of cliff habitat (Vol. 1, Sec. 322, p. 3-13). The Permittee also commits to conduct follow up surveys within one year if nests were observed during the baseline surveys and if operations resulted in subsidence.

The Permittee commits to conduct ground surveys for goshawks in areas with suitable habitat and areas planned for mining facilities. DWR evaluated sites, during the annual flyover near DUGO104 and DUGO204 exploration holes for goshawk habitat. The results showed, however, that logging has compromised the dense canopy habitat making that area unsuitable for goshawks. DWR also evaluated the area proposed for the Pace fan project and determined the area was not suitable for goshawks (March 31, 2005).

The results of the fly-over survey showed five and six nests (2004 and 2003, respectively) that were either tended or active. None were in T13S R13E Section 30, which includes the site for the Pace fan project. The Environmental Assessment (Vol. 3, App. 3-4) supports that there are no raptor nests within the Pace project area. The active nests for 2004 included one prairie falcon (#6), one raven nest (#1303), and one red-tail hawk (#1454). The active nests for 2003 included one prairie falcon (#6) and two raven nests (#14 and 1303). There

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were no active or tended golden eagle nests in 2004 or 2003. DWR states that one possible reason for the low nesting activity of all raptors over the past few years is drought.

The 2004-raptor survey covered the Pace and SITLA project areas. The MRP states that the results were positive for two golden eagle nests (#40, 1453; tended). These two nests are not within the 0.5-mile buffer zone.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL/PLANT SPECIES

The MRP meets R645-301-322 because there is adequate discussion, supporting documentation, and maps on TES species that could occur within or adjacent to the permit area. All supporting documents on TES plant and animal species show that there were no observations of threatened or endangered species.

The MRP contains current USFWS and Utah Natural Heritage Program lists of TES species that could occur in Carbon County, Utah. The Degassification Amendment contains a copy of the corporate TES permit (exp. 12/31/05) for EIS with Mel Coonrod as principal officer. The corporate permits shows that Tom Paluso is authorized to conduct Mexican Spotted Owl (MSO) surveys.

All supporting documents on TES plant species show that there were no observations of threatened or endangered species. The documents show, however, that the permit area supports habitat for the following TES plants: canyon sweetvetch (*Hedysarum occidentale* var. *canone*), tufted cryptantha (*Cryptantha caespitosa*), Helenium hymenoxys (*Hymenoxys helenioides*), and Graham beardtongue (*Penstemon deaveri*). The Division is aware of a large population of canyon sweetvetch in Fish Creek Canyon, a population along Dugout Creek approximately one-half mile below the gate, a population along Pace Creek near the fan facility site, and that the plant could occur in other parts of the permit area.

The TES supporting documents also show that the permit area supports habitat for the following TES animals: MSO, black-footed ferret, bald eagle, loggerhead shrike, as well as peregrine falcon. No confirmed sightings of black-footed ferrets have occurred within Carbon County during 1995, 1996, and the first quarter of 1997 (DWR, Sec. 322.200).

For the Pace fan project, DWR provided an updated TES list and reported that there are no records of occurrence for any TES species in T13 S, R13 E, S17, 19-21, 28-30. They mentioned, however, that there are recent records of occurrence in the vicinity for ferruginous hawk (over 2 miles from area) and historical records of occurrence for Northern goshawk (approximately 4 miles from area).

Mexican Spotted Owl (MSO)

The Permittee conducted a two-year calling survey in 2003 and 2004 that adequately covers the required evaluation for the Pace fan and SITLA lease projects. The results for both surveys show that there were no MSO observed, but show there were northern saw-whet and great horned owls. The Division does not consider that additional MSO ground-truthing or calling surveys are necessary for the Pace fan or SILTA lease projects.

For future reference, the Division would like the Permittee to know that calling surveys are only required after ground-truthing results are positive for MSO. The cost and time involved in the ground-truthing surveys are considerably less than for the calling survey.

Findings:

Information provided in the plan meets the minimum Environmental - Fish and Wildlife Resource Information requirements of the regulations.

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

The MRP meets R645-301-411.141 because there are archeological maps showing known resource locations within the permit area. These maps are in the Confidential Files (Division PIC room after June 2005).

Vegetation Reference Area Maps

The MRP meets R645-301-323.100 because vegetation maps illustrate community types within the disturbed and reference areas as well as illustrate the location of reference areas. The Division typically requests two vegetation maps: one that shows the entire area (Plate 3-1 is adequate) and one that details the reference and disturbed areas. Not all the reference areas are illustrated on a single map because the Dugout Mine is spread over an expansive area. Plate 3-1 shows most of the reference areas or range sites, while Volumes - Refuse Pile Amendment and Methane Degassification Amendment show project specific reference areas.

The Permittee plans to use reference areas for certain projects, but use range sites for other projects including the main facilities area.

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Reclamation maps show the location of a habitat enhancement mitigation project of the riparian area along Dugout Creek.

Findings:

Information provided in the plan meets the minimum Environmental - Maps, Plans, and Cross Section Resource Information requirements of the regulations.

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

Analysis:

There are no known public parks or historic places within the permit area.

Findings:

Information provided in the plan meets the minimum Operations - Protection of Public Parks and Historic Places requirements of the regulations.

FISH AND WILDLIFE INFORMATION

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

Analysis:

The MRP meets R645-301-333, R645-301-342, or R645-301-358 because they provide information on TES and discussion concerning protection and enhancement during construction and reclamation phases.

Protection and Enhancement Plan

Ungulates

The Pace fan and adjacent areas support both summer and winter big game habitat. The Permittee must comply with exclusionary periods during construction and reclamation phases.

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The general exclusionary periods are May 1 - July 1 for calving and November 1 – May 15 for wintering. The Division removed this requirement because the Permittee provided documentation from DWR that proves the Pace fan project area is not used by big game during these exclusionary periods.

Bats

For the Pace fan project, the Permittee commits to conduct a 2005 within the Pace fan project and adjacent areas (Vol. 1, Sec. 322, p. 3-19). The Division, in consultation with DWR, determined that the Permittee must also conduct baseline bat surveys in riparian habitat within zones of expected subsidence. The Permittee must survey for all Utah sensitive bat species and conduct all bat surveys between May and September. The Permittee must also conduct follow up surveys within one to two years of disturbance and between May and September if bats were observed during the baseline surveys and if operations resulted in subsidence.

Raptors

The MRP states that the 2003/2004 MSO results were negative for goshawks. The survey reports do not clearly state that this species was surveyed. Although the SITLA lease project does not include surface disturbance, the Pace fan project does include 2.7 acres of disturbance. DWR, however, evaluated the area proposed for the Pace fan project and determined the area was not suitable for goshawks as well as for the northern saw-whet owl (March 31, 2005). The Permittee will not need to comply with exclusionary periods for these two species during the years of construction or reclamation.

Endangered and Threatened Species

Colorado River Fish

The MRP provides estimates of water consumption from the following sources: culinary, ventilation, coal producing consumption, coal moisture loss, sediment pond evaporation, and dust suppression with an estimated total of 102.53 acre-ft. The estimate for water discharge is 405.63 acre-ft. The estimated overall annual water budget, therefore, is a net gain of 303.1 acre-ft. as of February 2005 that includes the Pace fan and SITLA projects.

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Bald and Golden Eagles

There are many raptor nests within the Dugout properties including golden eagles. There are no known bald eagle nests. There are two golden eagle nest approximately 1-mile from the Pace fan project. The Permittee commits to conduct annual raptor surveys to obtain baseline data prior to mining disturbances (Vol. 1, Sec. 322, p. 3-13).

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

The Permittee describes short-term and possible long-term impacts to two species (mollusk [*Physella virgata*] and tiger salamander) that may be dependent on local water resources. The Permittee discusses mobility and mortality of these species as well as noting that subsidence in the SITLA lease area may impact individuals. Nevertheless, the Permittee also states that the subsidence plan provides measures that should repair subsidence-related material damage, including mollusk and salamander habitat.

Findings:

Information provided in the plan meets the minimum Operations - Fish and Wildlife Information requirements of the regulations.

VEGETATION

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

Analysis:

The MRP meets R645-301-330, R645-301-331, and R645-301-332 because the Permittee plans to disturb smallest areas possible, apply interim reclamation practices when applicable, and mitigate for subsidence-related impacts.

Findings:

Information provided in the plan meets the minimum Operations - Vegetation requirements of the regulations.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

There are discussions throughout the MRP on ripping, gouging, incorporating hay during gouging, or mulching. Areas recommended for fertilizer application will receive fertilizer by cyclone spreader, hydroseeder, or other equipment. The reclamation plan does not include irrigation. The Division does not anticipate the necessity to irrigate as long as the Permittee uses water-harvesting methods, such as gouging.

Findings:

Information provided in the plan meets the minimum Reclamation - General Requirements 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 MRP meets R645-301-342 and R645-301-358 because the Permittee provides adequate enhancement and protection measures for fish, wildlife, and habitat during the reclamation or postmine phases. The Permittee will adhere to the regulations aimed to protect TES, eagles, and raptors from mining impacts (in reference to R645-301-358).

The Permittee considers that reclamation of the Pace fan area will enhance the wildlife habitat because the site had been previously disturbed and never reclaimed. Furthermore, that the many of the seed mix and transplant species are the same species as those in undisturbed, adjacent areas. Revegetating the area, therefore, will provide more grazing habitat for the wildlife.

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Findings:

Information provided in the plan meets the minimum Reclamation - Protection of Fish, Wildlife, and Related Environmental Values requirements 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:

General

The Permittee plans to reclaim all disturbed areas as contemporaneously as possible within the constraints of seasonal weather.

Findings:

Information provided in the plan meets the minimum Reclamation - Contemporaneous Reclamation requirements of the regulations.

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:

Revegetation: General Requirements

The MRP meets R645-301-330, R645-301-331, and R645-301-332 because the Permittee provides an adequate reclamation plan or discussion of how reclamation measures will meet the performance standards.

Reclamation for the Pace fan project will use Seed Mix #3, which includes grasses, forbs, and shrub species. Many of the species were observed within the reference area (Collins 2004). The Permittee plans to use the reference area as a standard for success.

Revegetation: Timing

Figure 5-3 shows the general reclamation timetable. The earthwork and revegetation practices will occur nearly simultaneously until completion. The schedules for planting are during normal planting seasons.

Revegetation: Mulching and Other Soil Stabilizing Practices

The reclamation of Pace fan project includes ripping to 18", applying 12" of topsoil, gouging, incorporating noxious weed-free hay during gouging, hydroseeding, hydromulching with wood fiber at 2000 pounds per acre, and applying a tackifier at 60 pounds per acre.

Revegetation: Standards For Success

The Permittee will follow the sampling requirements and analysis identified in the Division's "Vegetation Information And Monitoring Guidelines" (Vol. 1, Sec. 356). Table 3-3 shows the reclamation-monitoring schedule. The Permittee will conduct yearly qualitative vegetation evaluations as well as conduct quantitative vegetation surveys throughout the 10-year responsibility period. The Permittee plans to use reference areas for the standards of success for the Pace fan project.

Findings:

Information provided in the plan meets the minimum Reclamation - Revegetation requirements of the regulations.

RECOMMENDATIONS:

Approve the amendment.

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Commitments for Biology as of 4/11/05:

Confidential information in two separate folders and mark the folders containing the confidential document as “Confidential. This procedure applies to all amendments, annual reports, and explorations.

Conduct bat surveys near cliff habitat before subsidence (Vol. 1, Sec. 322, p. 3-19).

Conduct annual raptor surveys to obtain baseline data prior to mining disturbances including subsidence of cliff habitat (Vol. 1, Sec. 322, p. 3-13); conduct follow up raptor surveys within one year if nests were observed during the baseline surveys and if operations resulted in subsidence.

Conduct ground surveys for goshawks and northern saw-whet owl surveys in areas with suitable habitat and areas planned for mining facilities.

The Permittee implemented a vegetation mitigation project in exchange for impacting local bat populations around 1997. The Permittee planted willows in the stream channel above the mine site with a success rate of about 75% as of 2001. The project is on going with the need to transplant additional willows at time of final reclamation. The MRP details this mitigation project (pp. 3-19 through 3-20).