

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

JK

September 24, 2007

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor *pgl*

FROM: Jerriann Ernstsens, Ph. D., Environmental Specialist, Biologist *JE*

RE: Revision to Degas Wells – G18, G-31 & AMV Road, Dugout Canyon Mine, Canyon Fuel Company, C/007/0039, Task ID #2846

SUMMARY:

The Division received an amendment that addresses the drilling of G18 and G-31 degasification wells, and the development of the AMV road at the Dugout Canyon Mine. This project would add to the G1-19 well series previously approved. The Division reviewed the submittal for the G1-G3 wells in 2003, G4-G6 wells in 2004, G7 and G8-G10 in 2005, G11-G12, G13-G17 in 2006, and G19 in 2007. This memo provides the review of the biology and archeology information for this amendment, which is the second/third submittal for this project. Due to the emergency of the situation, the Permittee was allowed to submit responses to the deficiencies that were drafted under this amendment (2846) without going through the normal process of receiving a new task number. The staff was directed to review the "3rd" submittal, work with the Permittee to address concerns, and remove the deficiencies from 2846 memo. Direct references to figures, tables, or appendices apply to the MRP volume: *Degas Methane Amendment*. References to records from the primary MRP are noted as such.

The Dugout Mine G18 and G31 degas wells, and the AMV road (1.36 miles) are in Carbon County, Utah, (Mount Bartles 7.5 Minute Quadrangle map). The legal description is Township 13 South and Range 13 East Section 20.

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TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

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

Analysis:

The MRP meets the requirements of R645-301-121.100 and R645-301-121.200 for the biology chapter and archeology section because the information is generally current, clear, or concise.

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

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

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

The current degas well amendment is an amendment for the stand-alone volume MDA 2003/2004.

Findings:

Information provided in the plan meets the 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 the requirements of R645-301-130 because qualified professionals conducted or directed the surveys and analysis for the supporting biological and archeological resource-related documents submitted at this time.

Findings:

Information provided in the plan meets the 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_[Sheila Mot]

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

Analysis:

The MRP meets the requirements of R645-301-411 that pertains to historic resources. The MRP (Confidential Binder, Ch. 4, Vols. MRP & Methane Degasification Amendment, App. 4-1) 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 coordination efforts with the SHPO.

The MRP includes a Class III ground survey for the G1-G6 holes sites (Senulis 2003, Confidential Binder, Vol. MDA, App. 4-1). Mr. Senulis reported one eligible site (42CB292) and issued a "no effect" finding. The MRP includes a Class I survey (literature search) for the G7 and G8 drill sites (Senulis 2005, Confidential Binder, Vol. MDA, App. 4-1). The summary showed that none of the Class III surveys was positive for historic resources near the G7 or G8 sites.

The Permittee provided a Class III survey for the proposed degas wells G9 and G10 as well as for future wells G11-G14 (Senulis 2005, Confidential Binder, Vol. MDA, App. 4-1). The results showed that there was one historic resource (42CB2435) within or adjacent to the project area for G9 and G10. Senulis considered this site in poor condition and not eligible for the NRHP. The Division contacted the SHPO with the results of this survey, however, SHPO offered no reply for the G9 and G10 project. Previously, SHPO stated that agencies should assume SHPO's concurrence with an agency's determination if SHPO does not issue a reply (SHPO process presentation at DOGM 2/2006).

The Permittee provided Class III surveys for the proposed degas wells G13 and G17 (Senulis 2005 [G13,G14], Senulis 2001 [G15-G17] Confidential Binder, Vol. MDA, App. 4-1). The Permittee has selected previously disturbed areas for most of this proposed project, with the exception of the G13 drill site (2.75 acres) and the access road that would lead to G16. The

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survey results support that these two areas would not be near any of the observed archeological resources. Although the proposed G17 drill site would be near 42CB1596, Senulis does not consider this site eligible for the NRHP. Senulis also concluded that it is unlikely that there are additional, unknown archeological resources in the project area. The Division, therefore, makes the determination that the G13-G17 project would have “no effect” to archeological resources.

The proposed G19 degas well would include 2.75 acres of surface disturbance for facilities. Logging activities and two roads previously disturbed the entire area. The Division reviewed the report of the Class III intensive cultural inventory and the results show that there are no cultural or historic sites. The Division considers that the proposed Dugout Canyon Mine degas well would have “no effect” on cultural resources because there have been no sites observed and there is a low potential of unknown sites that could be observed.

The amendment includes three cultural surveys for the proposed G18 degas well and access road branching from the AMV road, G31 degas well, and the access road between G19 and G31 (AMV road). One of the three reports was previously submitted and reviewed for another project (2001; SPUT 387). DT3 was a proposed exploration hole that was never drilled. The currently proposed G31 is at the same location as DT3. Although the DT3 proposed action was different from the currently proposed degas hole (G31), the survey results should still be applicable because 1) the acreage surveyed (5 acres; Vicky Miller 8/27/07 email) for DT3 covers the G31 proposed disturbance area and 2) the actions are similar in nature.

The proposed surface disturbance for G18 and branching road would be 4.7 acres, G31 would be 1.75 acres, and the AMV road between G19 and G31 would be 14 acres. G18 and branching road have not been previously disturbed for mining or other land uses, but logging and grazing have previously disturbed G31 and the AMV road.

The Division reviewed the three Class III intensive cultural inventories (2007, SPUT 553; 2007, SPUT 557; 2001, SPUT 387) and the results show that there are no cultural or historic sites near the proposed project areas. All sites recorded (2007: 42CB2621; 2001: 42CB292, 42CB1595, 42CB1596, and two incidental finds) were recommended as not eligible for listing on the National Register of Historic Places and are all located 1,000 to 2,000 feet away from the proposed disturbances.

The Division considers that the proposed Dugout Canyon Mine degas well would have “no effect” on cultural resources because there have been no sites observed near the proposed disturbance areas and there is a low potential of unknown sites that could be observed.

Findings:

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

VEGETATION RESOURCE INFORMATION_[Sheila Mo2]

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

Analysis:

The MRP meets the requirements of R645-301-321 because there is adequate discussion of plant communities observed within the project area. The MRP contains many supporting documents on vegetation for the project and permit area. The baseline vegetation information is adequate for assessing reclamation potential and success.

The MRP includes vegetation surveys for the G1-G6, G8-10, G11-G12, G13-G17, G19, G18/G31 degas well (~200 x 300 feet) projects and associated reference sites (Collins 2003, 2005, 2006, 2007 [June]; Vol. Methane Degasification Amendment, Att. 3-1). In earlier reports, Dr. Collins repeatedly mentions that the reference areas that would be used for previously disturbed degas well sites are of higher standards than if "based on the existing conditions of the drill sites". The Division reminds the Permittee that the regulation (refer to R645-301-356.250) pertaining to previously disturbed sites relates to coal mining disturbances not other development impacts. Therefore, it does not matter whether the degas well sites are less "pristine" than the reference areas when it comes to success standards, as implied in the 2007 report.

Dr. Collins conducted a vegetation survey for the currently proposed degas well project (G18, G-31 & AMV Road). The associated report provides cover and composition data for the G18 with linking road and the G31 well sites, but does not include data for the AMV road. The Permittee faced a time restraint between the time of the final road design and the time necessary to begin construction of the road and, more importantly, the degas well. The Division informally approved (4/15/07) less than a complete vegetation survey for the G18/32 and AMV road if the Permittee needed the degas hole before the onset of the winter season of 2007/08.

The Permittee states that logging and grazing have previously disturbed a portion of the area planned for the road. The September 4th submittal breaks the road into portions (A, B, and C) and explains that portion B has been previously disturbed. Portions A and C have been previously disturbed, but the disturbance consists of a cattle trail. This characterization of the road is particularly important for this project because it provides qualitative insight as to the reclamation potential for the road that would be approximately 1.36 miles and disturb approximately 14 acres of land. This road is planned to be constructed in a very steep area that would require extreme protective measure during construction and operations as well as during reclamation.

NRCS provides productivity values and condition evaluations for the degas well sites (Vol. Methane Degasification Amendment, Att. 3-1: G1-G6, 9/2003; G7, 8/2004; G7-13, 6/2005; G13-G17, 3/2006; G19/20/32, 11/2006; G18/32, 7/2007). The MRP lists the production values in Table 3-1. The results reflect the estimates either for the actual sites (if previously undisturbed)

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or for surrounding undisturbed areas (if previously disturbed). NRCS assigned a high seral state in good condition for previously disturbed sites.

NRCS also provided productivity estimations and condition evaluations for the currently proposed degas well site G18, G31, and AMV road (Letter July 3, 2007; Vol. Methane Degasification Amendment, Att. 3-1). Dean Stacy (NRCS) ground-truthed the area on July 13, 2007 (email from Stacy to DOGM 8/28/07) and confirmed his estimations.

The reference areas for the degas program include: (see Methane Degasification Amendment, Fig. 3-1)

- | | |
|-------------------------------------|------------------------|
| 1. Aspen/Maple/Douglas fir | G1, G6, G8 |
| 2. Sagebrush/Snowberry/Grass | G2-G5, G7 |
| 3. Mt. Brush/Snowberry | G16-G18, G31, AMV road |
| 4. Conifer/Aspen | G14, G19 |
| 5. Conifer/Mt. Brush/Pinyon-juniper | G12-G13, G15 |
| 6. Mt. Brush/Conifer | G9-G11 |

The areas of the proposed G1, G4, G6, G8-G12, G14-G17, G19, G31 well sites have been previously disturbed from historic logging and other development projects (refer to Table 3-1). The Permittee never constructed G1 or G8 and plan to construct G17 in 2009.

Findings:

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

FISH AND WILDLIFE RESOURCE INFORMATION [Sheila Mo3]

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

Analysis:

GENERAL WILDLIFE

The MRP meets the requirements of R645-301-322 because there is adequate narrative, supporting documentation, or maps on wildlife within or adjacent to the project area.

Ungulates

Plate 3-2 (Confidential Binder) illustrates that the G1-G19/31 degas wells are in elk high value yearlong range and deer critical summer range. The exclusionary periods for deer are December 1 through April 15 and May 15 through July 5.

Bats

When the Permittee is required to conduct bat surveys, the Permittee will focus on all Utah sensitive bat species (four for that area) and conduct all bat surveys between May and September. The Division may request surveys for proposed projects that may include subsidence or other possible impacts to foraging habitat or known colony roosting/nursing habitats. The Permittee will consult with the Division if baseline surveys are positive for bats and operations significantly impact bat habitat. The Permittee may need to conduct a follow up survey and implement a mitigation project (Vol. 1, Sec. 322, p. 3-17).

JBR Environmental Consultants conducted a bat survey in June 2002 for the Degas Wells MW-6 and -8 (pg. 3; sec. 322.200; amendment withdrew). The amendment paraphrased the results, which showed no observations for TES species. The amendment never included a copy of the report. The Permittee mentioned (personal communications 8/11/03) that the bat survey in 2002 was originally required because Dugout planned to mine under escarpments. The Permittee changed plans and never mined in those areas of concern.

The Permittee conducted a bat survey near the Pace Canyon fan breakout (May 2005; Vol. 3, App. 3-3). The results showed that there were 3,000 calls recorded and that there were at least 7 species of bats. There were no TE species observed, but there was one sensitive species (fringed myotis) observed primarily at a pond near survey site "Stop 7". The results show that the area has a high diversity of bats, which suggests that the area provides sufficient foraging and roosting habitats.

Many of the species of bats in that area probably forage and drink from the perennial areas of Pace Creek, drinking troughs, and springs. They could, however, visit resources (including water) as far as 30 miles away, nightly! It is not uncommon for bats to forage up to 10-15 miles away from roosting areas, but there are a few that limit their travel to around 1 mile. The Division and Permittee should consider that the 1) area is diverse in bat species regardless of survey results, area provides forage and water resources, and bats could potentially be impacted by mining-related disturbances.

JBR conducted the 2007 bat survey along Pace Creek and drainages above the creek, which included the proposed area for G19. The results were negative for bat responses. JBR supports that there have been bat responses in the area during previous surveys, but cooler temperatures may have limited bat activity during this survey.

Raptors

The Annual Reports (Confidential Incoming) or Confidential Binder (Ch. 3, Vol. MRP, Raptor Survey) provide the results and maps for the most currently published helicopter raptor surveys. The Permittee also provides results for tree-dwelling raptor species.

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Previous fly-over survey maps (e.g., 2005) show that the types of raptor nests (primarily only cliff-dwelling nests are observable from aircraft) observed within or adjacent to the permit area are: golden eagle, red-tail hawk (or other buteo), falcon, and raven. The area also includes habitat for tree-nesting raptors, specifically northern saw-whet owl (NSO) and northern goshawk.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL/PLANT SPECIES

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

The TES table (pg. 3-11/12) headings do not correctly describe the associated list. The Permittee must correct the headings of the tables to clearly reflect the intent of the accompanying lists (see R645-301-121.200 for deficiency).

TES Plants

The Permittee provides the results of a literature search and survey results on TES plant species for the G1-G12, G13-G17, G19 degas well project (Collins 2003, 2005, 2007 Vol. Methane Degasification Amendment, Att. 3-1). The results show that the area includes suitable habitat for canyon sweetvetch (*Hedysarum occidentale* var. *canone*). The Division knows that the permit area also provides suitable habitat for three other Carbon County listed species (Tufted cryptantha *Cryptantha caespitosa*, Helenium hymenoxys *Hymenoxys spp*, or Graham beardtongue *Penstemon grahamii*; Environmental and Engineering Consultants 2002).

Dr. Collins ground-truthed for TES plant species and did not observe TES species growing within any of the degas well sites or reference areas for G18/31 (and AMV road; May 2007, Vol. Methane Degasification Amendment, Att. 3-1).

TES Animals

The supporting documents in the MRP show there have been no observations of TE animal species, but there may be suitable habitat for black-footed ferret (unconfirmed) and MSO (possibly). Although the bald eagle has been removed from the protection of ESA, it is still protected by the Bald and Golden Eagle Treaty Act. The DWR fly-over surveys have not shown bald eagle nests within or adjacent to the permit area. This species may use the area during the winter months, but the area is not considered critical habitat even as wintering range (DWR, 2005). For the black-footed ferret, there have been no confirmed sightings within or adjacent to the project area (DWR, 2005).

The supporting documents also show that there may be suitable habitat for the following sensitive animal species: peregrine falcon and loggerhead shrike. The supporting documentation shows no observations for these species.

Mexican Spotted Owl (MSO)

The Permittee conducted a two-year calling survey (Vol. 3, App. 3-3; EIS, 2003/2004) for drill holes G1-G6 as well as a short reach along Pace Creek. The results for both surveys were negative for MSO individuals, but show there were northern saw-whet and great horned owls.

For the 2007 drill hole project, the Division accepts the MSO calling surveys for the proposed G19, G18/31 degas wells and determines that the project would have no effect to this species or its habitat because:

- There were no observations of MSO during the G1-G6 or Pace Canyon surveys that the Permittee conducted near the currently proposed project
- The community descriptions of the proposed degas sites do not include suitable nesting habitat for MSO.

Findings:

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

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION_[Sheila Mo4]

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_[Sheila Mo5]

The MRP meets the requirements of R645-301-411.141 because there are archeological maps showing known resource locations within the project area. These maps are in the Confidential Binder.

Vegetation Reference Area Maps_[Sheila Mo6]

The MRP meets the requirements of R645-301-323.100 because the project vegetation maps illustrate community types within the disturbed area and the reference areas for the degas

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well project (Vol. Methane Degasification Amendment, Fig. 3-1 and 3-2; Vol. 2, Ch. 3, Fig. 3-1 and 3-1E).

Findings:

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

OPERATION PLAN

PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES_[Sheila Mo7]

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

Analysis:

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

Findings:

Information provided in the plan meets the 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 the requirements of R645-301-333, R645-301-342, or R645-301-358 because the MRP provides adequate information on TES or discussion concerning protection and enhancement during construction and reclamation phases.

Protection and Enhancement Plan _[Sheila Mo8]

The Division, in consultation with DWR, considers that this drill project would not likely impact ungulates, raptors, or their habitat because:

- The Permittee would conduct raptor surveys every year the wells are in operation (Vol. 1, Sec. 322, p. 3-13)

- The Permittee would initiate projects outside of exclusionary periods for ungulates and raptors.

Ungulates

The G1-G19/31 degas wells are in elk high value yearlong range and deer critical summer range. The Permittee must comply with exclusionary periods during construction and reclamation phases. The general exclusionary periods are December 1 through April 15 and May 15 through July 5. The construction of this proposed project is outside of the exclusionary periods for ungulates.

Bats

The currently proposed degas project (G18, G31, and AMV road) includes disturbances from several hundreds to thousands of feet from the Pace Creek or upper drainage (east of G19). About a 1000' of the AMV road would be adjacent to and follow an upper drainage. The Division is concerned that a precipitation event could wash out the road, end up in the upper channel and eventually make its way down to Pace Creek. This creek is probably a primary foraging resource for bats and other wildlife. The Permittee provides information on how they will protect the upper channel during construction, operations, and reclamation of the AMV road in the 700 sections. The Permittee also addresses that spring SC-96 is not currently active.

The Division did not require a bat survey for the proposed 2007 degas projects. The Division will rely on the 2005 report instead of the 2007 report for making decisions for the 2007 and possible future amendments. One questionable part of the 2007 report was that the sampling locations for the survey were too far to the north of the proposed disturbances. The sampling locations would have been better positioned 1) along Pace Creek, 2) at the disturbed sites, or 3) two along Pace Creek and two along the upper jeep trail. Other questionable parts of the report include 1) the choice to only survey for two nights and 2) stating that there is limited habitat given the results of the 2005 report and the field observations.

Raptors

The Permittee must comply with exclusionary periods during construction and reclamation phases. The general exclusionary period for raptors is February 1 through July 15, but may be different, waived or extended depending on species or evaluation/survey results. For the raptors that are typically monitored or observed in the area, the exclusionary periods are as follows: golden eagle (Feb 1 – July 15), red-tail hawk (Mar 15 – Aug 15), peregrine falcon (Feb 1 – Aug 31), northern saw-whet owl (NSO; Mar 1 – Aug 31), and northern goshawk (Mar 1 – Aug 31).

The Permittee would conduct raptor fly-over surveys every year degas wells are in operation (Vol. 1, Sec. 322, p. 3-13). Raptor reports are provided in Annual Reports or in the Confidential Binder, Ch. 3, Vol. MRP, Raptor Surveys.

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The Permittee would conduct ground surveys for northern goshawk and NSO in areas with suitable habitat and areas planned for mining operations. Habitat descriptions include dense overstory with minimal understory for the goshawk and Douglas fir, mixed conifer habitat for the NSO.

The Permittee conducted two NSO surveys in 2003 for an exploration and degas drilling project (EIS, July 2003). The surveys covered only the project areas (proposed 4 and 6 holes) located in T13S R12E S13; S24, S18, S19. The calling survey results were negative for this species.

The Permittee conducted a NSO mitigation nest project in 2004. DWR considers this mitigation project adequate for enhancing the area, at this time. This mitigation project, however, does not negate the requirement to survey and protect this species.

The degas well project, especially G13, G14, and G17, is in an area that may include habitat for the NSO and northern goshawk. The USFWS requires a 0.25-mile buffer from March 1 through August 31 (NSO) or 0.5-mile buffer from March 1 through August 15 (goshawk). Chris Colt (DWR) previously stated (for a different year's drill project) that the Permittee should conduct a one or two night survey within a 300-meter perimeter of drill pads prior to drilling. Limiting drilling to after August 31 or surveying to be sure no nests occur within 300 meters of the drill pad will ensure compliance with the Migratory Bird Treaty Act.

For the G14-G17 proposed project, the Permittee conducted a ground-truthing evaluation with DWR. DWR concluded that the proposed G14 and G17 sites includes NSO and goshawk habitat. DWR recommended the Permittee conduct an inventory/call survey near these two sites if they plan to drill prior to the end of the exclusionary period. The Permittee would start drilling of G14 after the exclusionary period in 2006. The Permittee would either start drilling of G17 after the exclusionary period in 2007 or conduct a call survey. (Vol. Methane Degassification Amendment, Ch. 3, p. 3-6).

For the proposed G19, G18/31 and AMV road, the Division has no concerns for golden eagles or their nests because there are no known golden eagle nests near this project. The Division also has no concerns for NSO or goshawks because the Permittee would begin construction after the exclusionary periods.

The Division reminds the Permittee to submit raptor results as confidential if the submittal includes a map or descriptions of raptor nest locations.

Endangered and Threatened Species [Sheila Mo9]

The Carbon County TE list includes Graham Beardtongue, Uinta Basin hookless cactus, bonytail chub, Colorado pikeminnow, humpback chub, razorback sucker, Mexican spotted owl (MSO), black-footed ferret, and yellow-billed cuckoo (candidate).

The Division determined that mining operations would have no effect on TE species or their habitat listed for Carbon County because:

- There have been no observations of TE plant species during vegetation surveys
- There were no MSO observed in the area during the calling surveys
- The bald eagle is an occasional user of the area, but typically only in the winter when there is no drilling construction
- There have been no recent sitings of prairie dog or black-footed ferret
- The water balance for mining operations is a net gain to the Colorado River drainage
- There is no habitat to support western yellow-billed cuckoo

Colorado River Fish

The Permittee provided water consumption values for the entire mining operation. The Division did not request OSM to initiate formal consultation with the USFWS because the water balance is a net contribution to not consumption of the Colorado River drainage.

The Division is currently developing a worksheet that Permittees may use to update water budget values. This worksheet will provide a process that will allow consistency of reported values between years and among mines. The Division will request that the Permittee to re-calculate the water balance once this worksheet is available by winter 2007.

Bald and Golden Eagles [Sheila Mo10]

As of 2005, there are no golden eagle nests within or adjacent to the 2007 drill hole project. If a project were within a raptor buffer zone, the Permittee would initiate drilling after the raptor exclusionary periods.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife[Sheila Mo11]

There are no wetlands near the G1-G19, G18/32 (and AMV road) degas wells.

Findings:

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

VEGETATION[Sheila Mo12]

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

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Analysis:

The MRP meets the requirements of R645-301-330, R645-301-331, and R645-301-332 because the Permittee would disturb the smallest area as possible and apply contemporaneous reclamation practices when applicable.

Findings:

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

RECLAMATION PLAN

GENERAL REQUIREMENTS_[Sheila Mo13]

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, and incorporating hay during gouging, or mulching. Areas recommended for fertilizer application would receive fertilizer by cyclone spreader, hydroseeded, 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 Reclamation - General Requirements of the regulations.

POSTMINING LAND USES_[Sheila Mo14]

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 postmining land uses are livestock and wildlife grazing and reestablishment of preexisting roads.

Findings:

Information provided in the plan meets the Reclamation - Postmining Land Uses requirements of the regulations.

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES_[Sheila Mo15]

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

Analysis:

The MRP meets the requirements of R645-301-342 and R645-301-358 because there are adequate enhancement and protection measures for fish, wildlife, and habitat during the reclamation or postmine phases.

The Permittee considers that reclamation of the well sites would enhance wildlife habitat for the area because these sites have been previously disturbed. The seed mix would provide some of the same species as those in adjacent, undisturbed areas.

Findings:

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

CONTEMPORANEOUS RECLAMATION_[Sheila Mo16]

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:

Within the constraints of seasonal weather, the Permittee would reclaim the well sites in two phases: Phase I - Contemporaneous reclamation (described in the reclamation section) and Phase II - Final reclamation.

Findings:

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

TECHNICAL MEMO

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^[Sheila Mo17]

The MRP meets the requirements of R645-301-330, R645-301-331, and R645-301-332 because there is adequate reclamation plan or discussion of how reclamation measures would meet the performance standards.

The Permittee would reclaim the well sites in two phases.

- Phase I - Contemporaneous reclamation:
Apply final reclamation procedures to site-specific areas no longer needed for operations.
 - ◆ Grade.
 - ◆ Rip to 18-24”.
 - ◆ Apply topsoil and leave in roughened state by gouging.
 - ◆ Hydroseed the final seed mix.
 - ◆ Apply wood fiber mulch.
- Phase II - Final reclamation:
Apply final reclamation procedures to the remaining disturbed areas no longer needed for operations.
 - ◆ Plug the wells.
 - ◆ Prepare the site.
 - ◆ Hydroseed.
- AMV Road – Reclamation would occur at a later date because they would use this road to reach degas holes (pg. 3-14).:

Reclamation plan for the well sites includes hydroseeding with a slurry that contains a small amount of fiber. The seed mix (Vol. Methane Degasification Amendment, Table 3-2) is the same for both Phase I and II for the well site reclamation.

The seed mix provides a vegetative cover composed of native species (Welsh considers Kentucky Bluegrass a native). The goals are to quickly stabilize the disturbed site and provide compatible browsable and foragable habitat for the postmine land use. The Permittee would fence the well sites to prevent grazing until bond release.

Revegetation: Timing[Sheila Mo18]

The Permittee would seed the prepared areas most likely in the fall.

Revegetation: Mulching and Other Soil Stabilizing Practices[Sheila Mo19]

Reclamation plan includes ripping the area to a roughened state and applying wood fiber mulch at a rate of 2,000 pounds per acre and tackifier at a rate recommended by the manufacturer.

Revegetation: Standards For Success[Sheila Mo20]

The Permittee would follow the sampling requirements and analysis identified in the Division's "Vegetation Information And Monitoring Guidelines". The Permittee would use reference areas for the standards of success for the degas well sites.

The Permittee would use husbandry practices approved by the Division as needed.

Findings:

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

RECOMMENDATIONS:

Approve the amendment.

Note: The Division did not require a bat survey for the proposed 2007 degas projects. The Division will rely on the 2005 report instead of the 2007 report for making decisions for the 2007 and possible future amendments. One questionable part of the 2007 report was that the sampling locations for the survey were too far to the north of the proposed disturbances. The sampling locations would have been better positioned 1) along Pace Creek, 2) at the disturbed sites, or 3) two along Pace Creek and two along the upper jeep trail. Other questionable parts of the report include 1) the choice to only survey for two nights and 2) stating that there is limited habitat given the results of the 2005 report and the field observations.