

OK

# TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

August 8, 2006

TO: Internal File

THRU: Wayne Hedberg, Permit Supervisor, Task Manager  
Peter H. Hess, Reclamation Specialist/Engineering, Team Lead

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

RE: Degasification Wells G-13 thru G-17, Canyon Fuel Company, LLC., Dugout Canyon Mine, C/007/039, Task ID #2580

## SUMMARY:

The Division received an amendment that addresses the drilling of G13-G17 degasification wells at the Dugout Canyon Mine. This project would add to the G1-12 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 in 2006. This memo reviews the biology and archeology information for this amendment, which is the second submittal for this project. Direct references to figures, tables, or appendices apply to the MRP volume: *Degas Methane Amendment G1-G17*. References to records from the primary MRP are noted as such.

The Dugout Mine G13-G17 drill project is in Carbon County, Utah, (Pine Canyon 7.5 Minute Quadrangle map). The legal description is Township 13 South and Range 13 East Sections 17, 18, and 19.

## TECHNICAL ANALYSIS:

## GENERAL CONTENTS

## PERMIT APPLICATION FORMAT AND CONTENTS

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

## TECHNICAL MEMO

---

### **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, and 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<sup>[Sheila Mo1]</sup>

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 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.



## TECHNICAL MEMO

---

- |                                     |              |
|-------------------------------------|--------------|
| 2. Sagebrush/Snowberry/Grass        | G2-G5, G7    |
| 3. Mt. Brush/Snowberry              |              |
| 4. Conifer/Aspen                    |              |
| 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 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.

### Findings:

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

## FISH AND WILDLIFE RESOURCE INFORMATION<sub>[Sheila Mo3]</sub>

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-G17 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.

#### *Raptors*

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

#### 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

## TECHNICAL MEMO

---

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.

### *TES Plants*

The Permittee provides the results of a literature search and survey results on TES plant species for the G1-G12 degas well project (Collins 2003, 2005, 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, Helenium hymenoxys, or Graham beardtongue; 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 G13-G17 (July/September 2005, 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 the bald eagle, black-footed ferret, and MSO. The DWR over flight 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 2006 drill hole project, the Division accepts the MSO calling surveys for the proposed G13-G17 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**<sub>[Sheila Mo4]</sub>

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**<sub>[Sheila Mo5]</sub>

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**<sub>[Sheila Mo6]</sub>

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 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**<sub>[Sheila Mo7]</sub>

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

## TECHNICAL MEMO

---

### **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-G17 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.

### *Raptors*

The Permittee conducts raptor fly-over surveys every year the 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.

## TECHNICAL MEMO

---

The volume Methane Degasification Amendment refers the reader to Volume MRP, Section 333.330 for wildlife protection measures. 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 waived or extended depending on species or evaluation/survey results.

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 Permittee would conduct ground surveys for northern goshawk and northern saw-whet owl 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 northern saw-whet owl (NSO).

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 2006 proposed degas well project, especially G13 and possibly G14, 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 Degasification Amendment, Ch. 3, p. 3-6).

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

## TECHNICAL MEMO

---

### **Endangered and Threatened Species** [Sheila Mo9]

The Carbon County TES list includes Graham Beardtongue, Uinta Basin hookless cactus, bonytail chub, Colorado pikeminnow, humpback chub, razorback sucker, Mexican spotted owl (MSO), black-footed ferret, bald eagle, and western 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.

The Division will no longer submit informal communications to the USFWS (as requested) because they will no longer provide concurrence letters for “no effect” determinations (January 2006). However, we will continue to maintain dialog with the USFWS concerning TE species.

### *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 and 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 2006 drill hole project (R13E). 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-G17 degas wells.

**Findings:**

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

**VEGETATION**<sub>[Sheila Mo12]</sub>

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

**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 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**<sub>[Sheila Mo13]</sub>

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.

---

**TECHNICAL MEMO**

---

**Findings:**

Information provided in the plan meets the Reclamation - General Requirements of the regulations.

**POSTMINING LAND USES**<sub>[Sheila Mo14]</sub>

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.

**Findings:**

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

**PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES**<sub>[Sheila Mo15]</sub>

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<sup>[Sheila Mo16]</sup>

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.

## 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<sup>[Sheila Mo17]</sup>

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.

## TECHNICAL MEMO

---

- ◆ Prepare the site.
- ◆ Hydroseed.

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.