

June 17, 2004

Rick Olsen, General Manager
Canyon Fuel Company, LLC
P.O. Box 1029
Wellington, Utah 84542

Re: Coal Exploration for Seam Thickness and Quality, Canyon Fuel Company, LLC, Dugout Canyon Mine, C/007/0039, Task ID #1916, Outgoing File

Dear Mr. Olsen:

The above-referenced amendment is conditionally approved upon receipt of three clean copies. An approved copy will be returned to you for your files, as exploration plans are generally not incorporated into a Mining and Reclamation Plan.

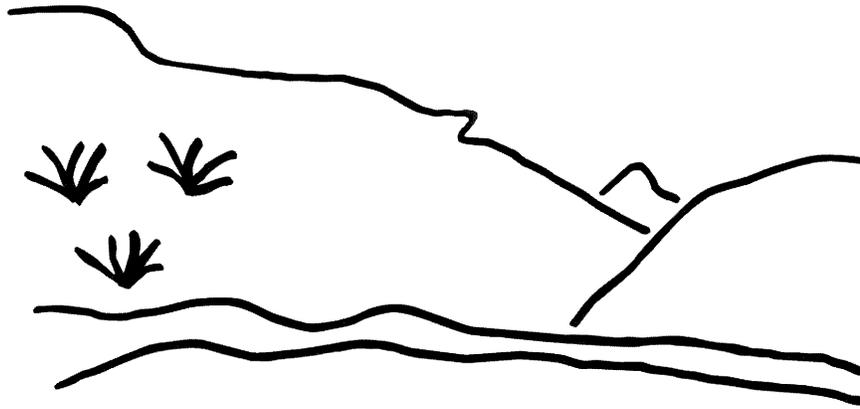
If you have any questions, please feel free to call me at (801) 538-5268 or Peter Hess at (435) 613-5622.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

PHH/sd
Enclosure
cc: Price Field Office
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State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Dugout Canyon Mine
Coal Exploration for Seam Thickness and Quality
C/007/039
Task ID #1916
Minor Exploration Analysis and Findings
June 15, 2004

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INTRODUCTION

EXPLORATION TECHNICAL ANALYSIS

INTRODUCTION

Ark Land Company, which is a subsidiary of Arch Coal, Inc., submitted an application to permit three coal exploration holes to evaluate coals relative to School and Institutional Trust Lands Administration lease ML 48435-OBA, which is relative to Canyon Fuel Company's Dugout Canyon Mine. All surface lands are under private ownership, being held by the heirs of the Milton and Ardith Thayne Trust. Approximately 2,560 acres of reserves are associated with the SITLA lease.

On February 9, 2004, Ark Land Company (a subsidiary of Arch Coal Inc.) submitted a notice of Intent to Conduct Minor Coal Exploration within the 2,560-acre SITLA Dugout Coal Tract (T 13 S, R 13 E). The exploration area is located 15 miles northeast of Wellington in the Book Cliffs at elevations between 7,200 and 8,700 ft (Maps 1 & 2). The Division completed a Technical Analysis of the initial submittal on April 7, 2004, returning it to the permittee as deficient. The permittee responded to that Technical Analysis on April 30, 2004. Task ID #1916 is the second review / technical analysis of the initial minor coal exploration application.

The Permittee originally planned to rotary spot and wireline core-drill DUGO104 in 2004, and DUGO105 and DUGO205 in 2005. The current Notice no longer mentions the 2005 drilling project for DUGO105 and DUGO205 drill holes. The Permittee plans to drill the previously scheduled DUGO104 and a newly planned hole DUGO204 in 2004. [DUGO204 will be drilled on an angle from an actively used road and will eliminate the need for DUGO105 and DUGO205 included in the previous application.]

Both holes will be located at wide spots in previously existing ranch and logging roads (pg 1, 2). There will be no soil salvaged from drill hole DUGO204, and there will be no additional cuts required to widen the pad, except clearing of the existing road cut slope (see photographs in Appendix B (personal communication between Vicky Miller and Priscilla Burton on June 10, 2004). Reclamation of the sites mostly entails the re-establishment of roadways, although some regrading to Approximate Original Contour (AOC) will be required at drill site DUGO104.

COAL EXPLORATION

COAL EXPLORATION

Regulatory Reference: R645-200.

SCOPE AND RESPONSIBILITIES

Regulatory Reference: 30 CFR 772.1; 30 CFR 772.10; 30 CFR 772.11; R645-100-400; R645-200-100; R645-200-200; R645-201-100.

Analysis:

As part of the permitting process for three degasification wells for the Dugout Canyon Mine, (Task ID# 1642, approved September 19, 2003), the permittee included a copy of the notification letter sent to the heirs of the Milton and Ardith Thayn Trust. That letter describes the drilling activities that were being proposed by the applicant on the Thayn Trust lands, including the three degasification wells and three proposed exploration holes. The first submittal of this minor coal exploration application did not contain a notification to the heirs of the Milton and Ardith Thayn Trust describing the 2004 activities or the proposed 2005 activities. This deficiency was corrected in the response received on April 30, 2004 on page 1, section R645-201-130. A copy of the landowner notification letter is contained in Appendix B of the same submittal.

Findings:

The minimum regulatory requirements of this section have been met.

REQUIREMENTS FOR NOTICE OF INTENTION TO CONDUCT MINOR COAL EXPLORATION

Regulatory Reference: 30 CFR 772.10; 30 CFR 772.11; R645-100-412; R645-201-200.

Analysis:

Regulation R645-201-224 requires that the application contain "a statement of the period of intended exploration". The permittee stated on page 4 of the **initial** submittal "it is anticipated that the exploration will be initiated during the third week of July in both 2004 and 2005" (DUG0103 and DUG0204 to be drilled in 2004). Exploration activities will continue for approximately eight weeks as depicted by the bar graph on page 4. The **second submittal** received on April 30, 2004 proposes to revise the intended period of exploration such that the time line will initiate during the second week of June. Relative to a Division concern regarding

infringement on the elk calving and fawning season in the proposed area for exploration, it was necessary for the Division, through the permittee, to work out a new time frame approval for the initiation date. The permittee did this by providing UTM coordinates to the Utah Division of Wildlife Resources. Two of the proposed exploration holes are located in an area that has been classified as critical value summer mule deer habitat. Due to the fact that the surface landowner had heavily logged the same area, DWR re-evaluated the situation based upon the fact that the mule deer are no longer using the area during the summer. DWR determined that they no longer object to Canyon Fuel Company beginning their work on the exploration sites prior to July 5, 2004. The DWR confirmed during a telephone conversation on May 11, 2004 that they do not have a concern relative to the permittee initiating exploration activities on June 15, 2004.

In summary, the drilling program is planned for eight weeks in June through July of 2004 for holes DUG0104 and DUG0204, located in Sections 20 and 19 respectively (p 3 and Map 2). Drawings of the drill sites are found in Appendix A, Figures 1 and 2. This information is adequate to meet the minimum regulatory requirements of Regulation R645-201-224.

Regulation R645-201-225 requires the following from a coal exploration application:

- 1) A description of the method of exploration to be used.
- 2) The amount of coal to be removed.
- 3) The practices that will be followed to protect the area from adverse impacts of the exploration activities.
- 4) (The methods to be used) to reclaim the area in accordance with the applicable requirements of R645-202.

The 1988 Carbon County Soil Survey provides general descriptions of the soils in the locations of the proposed drill holes. Information from the 1988 Order III Soil Survey is summarized below.

DUG0104 is in Map Unit 97, the Rottulee family-Trag complex. Sixty percent of this map unit is the Rottulee family loam having 30 – 60% slopes; described as having a two-inch deep surface layer that is reddish brown in color. The subsoil is divided into a thirteen-inch reddish brown loam and clay loam and a lower eight-inch layer of reddish brown gravelly silty clay loam. **Shale is encountered at 34 inches.**

Twenty percent of Map unit 97 is in the Trag stony loam having 30 – 60% slopes. The surface layer is a ten-inch thick dark grayish brown stony loam. The 26 inches of subsoil is dark grayish brown clay loam. The substratum is dark grayish brown and very pale brown clay loam **extending to 60 inches or more.**

DUG0204 is in Map Unit 62, Midfork Family-Commodore Complex. Fifty percent of this unit is described as Midfork family bouldery loam having 50 to 70 percent slopes.

COAL EXPLORATION

The surface of the Midfork family soil is covered with a partially decomposed organic layer about two inches thick. The topsoil is brown bouldery loam about seven inches thick. Below this is a layer of yellowish brown very channery loam, ten inches thick. And below this to a depth of **60 inches or more** is yellowish brown very gravelly loam.

Twenty percent of this Map unit is described as Commodore bouldery loam, 50 – 70% slopes. The Commodore soil has an organic layer about one inch thick and a surface layer of brown bouldery loam about six inches thick. The underlying material (to a depth of 19 inches) is brown very stony loam. **Bedrock is between 10 and 20 inches.**

All holes will be located at wide spots in previously existing ranch and logging roads (pg 1, 2). Previously existing, 14 ft wide access roads will be graded, but not upgraded (widened) or graveled (p2 and Map 3). Drill sites will be at the locations of wide passing spots in the roads (p 8). Approximately 0.25 acres (100 X 100 ft) will be disturbed for each location (p 7).

Page 5 of the application states that water will be pumped and/or hauled from the right fork of Dugout Creek and/or Pace Creek to the drill sites (Map 2). Page 7 of this minor coal exploration application states under section R645-202.230 that “no adverse impacts to the stream channel will occur during pumping activities. No water will be pumped from the North Fork of Dugout or Pace Canyon Creeks without an approved “Temporary Change of Water” from the Division of Water Rights. A copy of the approved Temporary Change will be forwarded to DOGM and will be in possession of the on-site geologist.” CFC has two water rights in the Dugout Creek / Pace Canyon Creek area. The two rights are 91-409 and 91-519. The applicant transfers 2.5 acre-feet from each of these water rights (1.63 million gallons, total) to use for drilling activities.

The initial submittal did not contain a description of the methods which would be incorporated to protect the area where water will be pumped from the Dugout Creek / Pace Canyon Creek area by preventing additional contributions of suspended solids to those waters. Page 9, SURFACE WATER PROTECTION paragraph one of the April 30, 2004 submittal (Task ID #1916) commits the permittee “to protect the hydrologic balance, construction, maintenance, and reclamation operations will be conducted to handle earth materials and runoff in a manner that prevents, to the extent possible, additional contributions of suspended solids to stream flow outside the permit area, and otherwise prevent water pollution”. This commitment is adequate to address the intent of the regulation. Should the permittee need to install straw bales or other types of treatment adjacent to the water pick-up point in Dugout or Pace Creeks, this commitment to minimize is adequate to enforce that action.

The April 30, 2004 submittal contains a copy of the approved temporary change of water received from the Utah State Engineer’s Office that remains in effect until August 6, 2004. This information adequately addresses the deficiencies aired within the Division’s April 7, 2004 Technical Analysis.

Findings:

The information provided meets the requirements of this section of the Regulations.

COMPLIANCE DUTIES

COMPLIANCE DUTIES

Regulatory Reference: 30 CFR 772.13; R645-202.

OPERATIONAL STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-100.

Analysis:

The Permittee originally planned to rotary spot and wireline core-drill DUGO104 in 2004, and DUGO105 and DUGO205 in 2005. The current Notice no longer mentions the 2005 drilling project for DUGO105 and DUGO205 drill holes.

The current plan is to rotary spot and wireline core-drill two holes during the second week of June 2004:

DUGO104	T13S R13E Sec. 20 (Western edge of the SDCT)	0.25-acre disturbance, mostly on existing access road
DUGO204	T13S R13E Sec. 19 (Eastern edge of the current permit boundary)	0.25-acre disturbance, mostly on existing access road

The operator will reach the two drill hole sites from existing unimproved roads. Access road to DUGO104 is 1,400 x 14 feet to the drilling pad. The drill pads for DUGO104 and DUGO204 are on wide areas of existing roads. The Permittee plans to improve the roads leading to these sites by grading or applying gravel if necessary.

The “water locations” (point of water diversions for drilling) for both drill sites are at the diversion locations. These diversions are from northern tributaries of the Pace Creek. The Permittee provides an Application for Temporary Change of Water that is active from August 1, 2003 through August 6, 2004. This permit authorizes the diversion of 2.5-acre feet of water for drilling and dust control.

The dimensions of the disturbances are 100’ x 100’.

Cultural

Appendix B (Confidential Files) contains information from the most recent overview and cultural resource survey.

COMPLIANCE DUTIES

- John A. Senulis, Senco Phenix May 24, 2004 An Intensive Cultural Resource Survey and Inventory of the 2004 Dugout Canyon Mine Exploration Drill Holes and Access Roads.
 - o **Permit number: U04SC440p**
 - o **Location: USGS Quads - Pine Canyon (T12S R12E) and Mount Bartles (T12S R13E)**
 - o **Methods:**
 - Class III field survey for DUGO104 (400 x 400' area) and access road along with 30' right of way.
 - File search for DUGO204 (as well as DUGO304 and G-6 [degas borehole]). No field survey because they are within previous cultural resource survey areas.
 - o Findings:
 - Field survey: No cultural sites within the DUGO104 drill site and access road.
 - File search:
 - 1980, AERC: 42CB292
 - 2001, Senco-Phenix
 - 42CB292:
 - Snow mine.
 - Near border of SITLA permit boundary.
 - No longer recommended as eligible.
 - Site destroyed over time.
 - 42CB1595:
 - Cabin.
 - Near border of SITLA permit boundary.
 - Not recommended as eligible.
 - 42CB1596:
 - Corral and Aspen art site.
 - Not within SITLA permit boundary.
 - Not recommended as eligible.
 - 2003a, Senco-Phenix
 - 42CB1906:
 - Sawmill.
 - Not within SITLA permit boundary.
 - Not recommended as eligible.
 - 2003b, Senco-Phenix
 - 42CB1998:
 - Sawmill.
 - Near border of SITLA permit boundary.
 - Not recommended as eligible
 - o Recommendation:
 - Potential for undetected remains is remote because site is very steep.
 - No effect is appropriate and archeological clearance without stipulations is recommended.

COMPLIANCE DUTIES

- o SHPO communications: Contractor provides UTAH SHPO cover sheet and sent information to SHPO.
- o DOGM: The Division will consult with SHPO prior to approval of the SITLA mine plan. Regulations do not require communications with SHPO for exploration projects.

Sites DUGO304 and G-6 were not mentioned in the narrative of the application, but DUGO304 was marked on Map 2 of the electronic version of the April 29, 2004 submittal and both sites were mentioned in a letter to Mr. Thayn (landowner) on March 10, 2004.

- John A. Senulis, Senco Phenix April 20, 2004 Letter to Mr. Kenny Wintch SITLA Archeologist. This letter provides the results from the file search summarized above. Mr. Senulis provides the same recommendation as the May 2004 submittal.

The Permittee agrees to notify the Division if cultural or historic sites are discovered during operations or reclamation.

Biology

The Division has concerns for elk and deer populations, as well as streambank habitat. The wildlife map (Plate 3-2, 2004) shows the drill hole sites are within elk high-value yearlong and deer critical summer ranges. DWR is primarily concerned with the deer critical summer range. The Permittee originally planned to drill in the third week of July 2004/2005, which follows the calving exclusionary period (May 15 through July 5). The Division believed that the exploration project as originally proposed would not impact these ungulate populations because of the project time schedule.

The current submittal changed the drill hole pattern as well as the project time schedule. The current schedule is to drill the second week of June in 2004. This time schedule is within the exclusionary period for calving. The Division contacted DWR (personal communications; June 8, 2004) to discuss the timing change for the drilling project.

Tony Wright (DWR; June 8, 2004) stated that the exclusionary period was contested by the Permittee. DWR reevaluated the site and determined that the area around the drill hole sites had been heavily logged since DWR had mapped the wildlife habitat for that area. DWR decided to waive the exclusionary period for the mule deer calving for the drill hole project (DUGO104 and DUGO204) for this year.

The drill hole sites DUGO104 and DUGO204 are approximately 1500' and 2000' from Pace Creek, respectively (Plate 7-1 in MRP). DUGO104 and DUGO204 are in unnamed drainages approximately 1000-3000' and 250-1500' below spring clusters near monitoring stations SC-116 and SC-259. The dimensions of the disturbances are 100' x 100' and are

basically centered on the existing access roads. The Division believes that the exploration project will not impact the habitats of the springs or drainages.

The Division was concerned about raptor exclusionary periods and survey coverage of the area during the previous review for this project. Tony Wright (DWR, personal communications on June 8, 2004) stated that DWR flew over the SITLA lease area in 2004 and thought they flew over sections 17 and 20 as requested by the Division. Mr. Wright also stated that Chris Colt (DWR, participant on the Dugout flyover) had not observed nesting raptors near the exploration sites. DWR waived the raptor exclusionary period (approximately January 1 through August 31) at this time. Statements of coverage and nesting were both made without completion of data analysis for the 2004 flyover. DWR, however, does not expect deviations from these answers once they complete data analysis.

Tony Wright evaluated the site for potential Goshawk habitat (personal communications June 8, 2004). Logging has compromised dense canopy habitat, which is required by Goshawks. If the area were suitable, then a ground survey would have been required.

There is no survey for threatened, endangered, or sensitive (TES) species for the drill sites or SITLA lease area. The Notice mentions that the bald eagle is the only TES species likely to exist within the exploration area. The eagles may use the area, but normally during winter months and not during this scheduled project. The Permittee does not include the MSO as one of the TES species likely to occur in the area. The MSO models, however, show that the SITLA lease area is potential MSO habitat. The table on page 6 references a MSO survey conducted for the Methane Degasification Amendment (August 2003; Appendix 3-2). The Permittee should realize that this survey did not include the drill hole sites planned for this project.

The Permittee plans to conduct a calling survey in 2004 and 2005. The Division does not require this survey for the proposed drilling project because the drill pads are basically located on existing roads. The Division advises, for the SITLA permitting process, the Permittee to conduct a site-specific analysis using the 1997 and 2000 models and, depending on the results, ground-truth for habitat in areas of surface disturbance and potential subsidence and subsidence-related impacts.

The Division does not expect this drill project to impact TES species because disturbance is on existing access roads. The Permittee is not required to include a description of the measures that will protect TES species and their habitats for this proposed project.

The Division requested the Permittee to address possible adverse impacts to the four Colorado River endangered fish species: the Colorado pikeminnow, the humpback chub, the bonytail chub, and the razorback sucker. The Permittee estimated water consumption, using the Windy Gap Process as a model, for the drilling project as zero. The Application for Temporary Change of Water, however, authorizes the diversion of 2.5-acre feet of water for drilling and dust

COMPLIANCE DUTIES

control. Furthermore, the application states that the drilling process will use 500,000 gallons of water. The Permittee should recognize that zero is not an accurate estimate of water consumption for this project. The volume of water diverted from the area is minimal, however, and the Division does not foresee impact to the endangered fish and does not recommend mitigation at this time.

Soils

Figures 1 and 2 in Appendix A provide more specifics on the size of the disturbance. There will be no soil salvaged from drill hole DUG0204, but it is likely that soil sloughed from the road cut at DUG0104 will be required to widen the pad slightly (Personal communication between Priscilla Burton and Vicky Miller on June 10, 2004).

Mr. Dan Larsen, Soil Scientist with Environmental Industrial Services, Inc. reported on the soils of the two sites in Appendix B. He indicates that there is topsoil along the road cut at site DUG0104 that is about 18 inches deep. The plan indicates that this topsoil will be stored with other cut material in the site berm (p 8). However, the Permittee will attempt to maneuver within the existing pad, without affecting the slope above the road cut, removing only the sloughed soil from the existing road cut. Then reclamation will entail replacing this sloughed material at an angle of repose and reseeding it (Personal communication between Priscilla Burton and Vicky Miller on June 10, 2004). The information provided in the proposal along with personal communication with Vicky Miller concerning the extent of the cut at DUG0104 adequately describes the methods of protecting the topsoil resource from adverse impacts associated with drilling activity.

Roads

R645-202-232 Roads / Associated Performance Standards, "All roads.....used for coal exploration will comply with the applicable provisions of:

- 1) R645-301-358, "the operator will, to the extent possible...minimize disturbances and adverse impacts on fish, wildlife, and related environmental values and will achieve enhancement of such resources where practicable". The three exploration holes being proposed by Ark Land Company are due east of the degasification well G-3, which was permitted by the Division and approved for implementation in September of 2003. The distances from the permitted degasification well G-3 to the proposed exploration holes range from 1.25 to 1.63 miles. The permittee's April 30, 2004 response gives a description of the access route to the borehole locations (See 4, paragraph 3 under **Cultural Resources**).
- 2) R645-301-526.200, Utility Installation and Support Facilities. The requirements of this regulation as they relate to roads associated with minor coal exploration activities are that the application must include a utility installation description

COMPLIANCE DUTIES

which states that all coal mining and reclamation operations will be conducted in a manner which minimizes damage, destruction or disruption of services provided by oil, gas, water wells, oil, gas or coal slurry pipelines, railroads, electric and telephone lines, water and sewage lines which pass over or under or through the permit area unless otherwise approved by the owner of those facilities and the Division. As far as this minor coal exploration submittal is concerned, it is believed that there are no facilities as described within the exploration area. The permittee's April 29, 2004 response indicates that there are no utilities in the vicinity of the proposed drill hole locations (See 7 of that response). This is adequate to address the Division's concerns.

- 3) R645-301-527.230, the maintenance plan describes how the roads will be maintained throughout their life to meet their design standards throughout their use. Page 3 of the application states the following, "As necessary, existing roads will be made travelable by hauling gravel to fill rough areas on bedrock ledges and grading rutted areas." The permittee's April 29, 2004 submittal proposes to delete the commitment to "haul gravel to fill rough areas on bedrock ledges". The commitment to grade the roads where necessary is to be retained. A commitment has also been added to "water roads as needed for dust suppression". This will address the previous deficiency that had been aired in order to meet the need to "minimize adverse effects to fish, wildlife and related environmental values."
- 4) R645-301-742.410 et al. through 742.420 et al, Drainage and Sediment Control. The application does not contain any description of methods which may need implementation to control drainage or prevent to the extent possible additional contributions of suspended solids to stream flow. Although the April 29, 2004 submittal contains a description of the access route to be followed to the holes, (See page 4, paragraph 6 of the April 29, 2004 submittal), there is no description of the improvements which have been identified as necessary to minimize additional contributions of sediment to stream flow or to flows outside of the permit area. Pace Canyon road parallels the Creek. The applicant does not intend to modify the road drainage pattern in any way; there are no measures to be implemented.

Information requested by the Division from the initial submittal has been provided in the current information. Access routes to the drill sites will use existing roads. Any minor improvements to existing roads will consist of only minor re-grading to improve rutted areas. Runoff from any disturbed areas in the newly disturbed roads will be treated with silt fencing or straw bales should sediment control be necessary. Access to the plateau area leading out of Pace Creek has been removed from the current submittal and no road improvements are outlined. No additional information is requested from the Division at this time.

COMPLIANCE DUTIES

Hydrologic Balance

Figures 1 and 2 outline the proposed drill pads and their proximity relative to the stream. The figures outline that a berm will control and direct any runoff to a silt fence where runoff will be treated prior to entering the creek.

Springs that are identified on the water-monitoring maps are located above the existing roads and proposed drill pads. No springs are located immediately adjacent to, or below the drill pads. No adverse impacts or necessary mitigation measures are anticipated.

Groundwater monitoring of the geology in the vicinity of the coal seam is non-existent in the SITLA lease area. The permittee does not commit to converting any of the exploration holes into water monitoring wells. However, “should significant amounts of water (10+ gallons per minute of continuous flow) be encountered during drilling”, the Division will be contacted prior to the sealing of the hole. “Determination will be made between Division personnel and the permittee as to the potential for development of the drill hole into a monitoring well.” In Appendix A, Dugout Mine personnel commits to retain all drill and geophysical logs, and commits to documenting encountered water (noting depth), geology, flow, and any other information considered pertinent. This information adequately addresses earlier deficiencies.

During drilling of the exploration holes, any water necessary for drilling will be pumped from the North Fork of Dugout or Pace Canyon Creeks. No water will be pumped from the creeks without an approved “Temporary Change of Water” permit issued from the Division of Water Rights. A copy of this permit has been included with the permittee’s April 30, 2004 response and will be on-site during drilling activities. In the Surface Water Protection section, the permittee commits, “Water encountered during drilling and runoff water will be treated using silt fence and/or straw bale dikes prior to leaving the site. Should it become necessary, the water encountered during drilling will be pumped into a tank and hauled from the site for disposal at a licensed facility.” This adequately addresses how water will be treated at the site.

Acid- or toxic forming materials

The application indicates no provisions have been made for the disposal of acid- or toxic-forming materials because none have been previously encountered in the geologic formations. The only material disposed of at the drill sites will be cuttings and drilling foam and /or mud that will be buried in the mud pits. However, the applicant has made the commitment that, “Should acid- or –toxic material be encountered it will be collected and hauled to an appropriate disposal facility” (Section R645-202-236 of submittal).

Findings:

The Division considers the information adequate to meet the minimum requirements of

the Biology section of the Operational Standards regulations. The Division reminds the Permittee to address TES evaluations (including MSO), water consumption *calculations (must include all Dugout operations)*, and subsidence impacts to wildlife and habitat for the SILTA lease proposal.

The application dated April 29, 2004, along with personal communication from Vicky Miller on June 10, 2004 has addressed the minimum regulatory requirements of this section of the Operational Standards regulations.

RECLAMATION STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-200.

Analysis:

Approximate original contour

R645-202-241; the first submittal did not contain any discussion or commitment to return the three exploration sites to their approximate original contour. This deficiency was corrected in the April 29, 2004 submittal on page 9, section R645-202-241.

Facilities and Equipment

R645-202-244, Prompt Removal of Facilities and Equipment. The initial minor coal exploration application did not contain a commitment to promptly remove facilities and equipment upon completion of the exploration activities. The April 29, 2004 submittal addresses this deficiency on Page 10, section R645-202-244.

Reclamation Bond Amount

R645-201-225; Determination of Reclamation Bond Amount. There is no information provided relative to the amount of reclamation bond that is necessary to reclaim the three proposed exploration boreholes. The Division feels that the amount of excess bond that currently exists is adequate to reclaim the proposed boreholes.

Revegetation

No road improvements are anticipated that will require revegetation. Drill pads are being located in pre-existing wide areas in roads. The sites will not be reseeded or roughened. Mud pits will be constructed to assist in drilling and for the collection of drill cuttings. Following the drying of the mud pit materials, the dirt excavated to create the mud pit will be mixed with the drill cuttings and returned to the pit to prevent a boundary of hard material from forming in the

COMPLIANCE DUTIES

mud pit area. It will then be compacted to minimize settling.

The Permittee plans to immediately seed the outside slopes of road berms adjacent to each of the drill sites. Reclamation will begin approximately eight weeks following the start of the drilling projects. The August seeding schedule will occur in late summer, which may decrease the potential of success. The goal of seeding the berms is to stabilize the sites by seeding with a diverse species mix that has a similar seasonal variety as the neighboring environment. It appears that the fill slope area near the stream at DUGO104 would also benefit from seeding. The amount of seed needed to stabilize this site is minimal. The Division would commend the Permittee for good stewardship if they seeded this area during reclamation.

The vegetation map (Plate 3-1, 2004) shows that the drill hole sites are in mixed conifer (DUGO104) and deciduous streambank (DUGO204) plant communities. There is no vegetation survey for the drill sites. The Richardson vegetation survey (1980; Appendix 3-1), however, details primary plant species found in communities similar to those within the drilling project.

The seed mix contains nine native species – two are mentioned in the Richardson survey. The species and planting rates are the following:

Species	PLS/sq.ft.
Kentucky bluegrass	16
Mountain brome	3
Sandberg bluegrass	25
Bluebunch wheatgrass	12
Bottlebrush squirreltail	4
Mountain lupine	1
Rocky Mountain penstemon	11
Wyoming big sage	29
Snowberry	5
TOTAL	106

Reclamation of the sites mostly entails the re-establishment of roadways, although some regrading to Approximate Original Contour (AOC) will be required at drill site DUG0104. Reclamation at DUG0104 will entail replacing cut material at an angle of repose and reseeding it (personal communication with Vicky Miller on June 10, 2004). Where topsoil is replaced, the soil will be gouged before seeding (p 8). The outslopes of pre-existing road berms and regraded, topsoiled areas will be seeded (p 6, p 8). If a mud pit is made, the material excavated will be returned to the pit, mixed with the drilling mud and compacted to re-create the road surface (p 8).

Boreholes

R645-202-243, Reclamation of Exploration Holes. Page 5, paragraph four of the minor

coal exploration application specifically addresses the plugging of each of the exploration boreholes, (See R645-301-529, 301-551, 301-631, 301-765). R645-301-738 requires temporary capping of boreholes relative to ground water monitoring in surface coal mining operations, which renders it not applicable to this minor coal exploration application.

The application makes a specific commitment of how the drill holes will be abandoned once exploration activities are complete in accordance with Federal and State Regulations. The exploration drill holes will be plugged with cement, cement/bentonite slurry, or bentonite chips to their complete depth. Surface casings will either be removed or cut flush with the surface.

The drilling procedure will be continuous core or rotary drilling and spot coring. The holes will be sealed with cement, cement/bentonite slurry or bentonite chips. All bentonite and cement spilled during the sealing process will be buried in the mud pit or hauled off-site (p 4).

Findings:

The application received on April 30, 2004 meets the minimum regulatory requirements of this section.

Most of the disturbance is located in a roadway. The application has addressed the information required under R645-202-242 and R645-201-225. Although not affected by this drilling activity, the outslope of the pad fill would benefit from some gratuitous seeding to provide erosion control and enhance the riparian zone.