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September 28, 1993

Mr. R. W. Olsen, President
Soldier Creek Coal Company
P. O. Box I
Price, Utah 84501

Re: Technical Review, Permit Renewal Application, Soldier Creek Coal Company, Banning Siding Loadout, ACT/007/034, Folder #3, Carbon County, Utah

Dear Mr. Olsen:

The Division has conducted an Technical Review on your application for permit renewal received on June 21, 1993. The results of that review are enclosed for your attention. Identified deficiencies will need to be corrected prior to permit renewal. You should also submit 12 copies of your reformatted plan for distribution to other agencies as soon as possible.

Please contact me if you have questions.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

cc: L. Braxton
B. Team

TECHREVI.BAN

TECHNICAL REVIEW OF RENEWAL APPLICATION

SOLDIER CREEK COAL COMPANY
BANNING SIDING LOADOUT
ACT/007/034
SEPTEMBER 27, 1993

TECHNICAL REVIEW

R645-301-222.300 Soil Description.

Proposal:

The last sentence of the paragraph states: "SCS Soil Series descriptions of the Ravola series, the Billing series, and the Moffat series."

Analysis:

It is recommended that the sentence read "SCS Soil Series descriptions of the Ravola series, the Billing series, and the Moffat series are included in Appendix 2-4." This will provide the reader with the location within the document of the SCS soil series descriptions.

Deficiency:

None.

R645-301-231.100 Description of methods for removing and storing topsoil, subsoil, and other materials;

Proposal:

Within the first paragraph under the regulation heading above, it is stated that: "Analyses of the soils at the loadout indicate that the soil resources have not been lost or otherwise destroyed."

Analysis:

The analyses preformed that indicate that the soil resources have not been lost or otherwise destroyed has not been referenced. This data should be referenced so that the reader will know how to access it if needed.

Deficiency:

1. The plan should either contain a copy of the data analyses as an appendices, or reference where they can be found.

Proposal:

The last sentence of the second paragraph under the regulation heading above, reads:

"This will protect the soils from wind and water erosion and lessen the chance of deterioration."

Analysis:

It is not known for a certainty that the described methods will protect the soils from wind ad water erosion. Also the extent of protection is not known. It is suggested by the reviewer that the sentence be reworded to read something like: "This will reduce the potential hazard of wind and water erosion, and lessen the chance of impairing the long-term productivity of the soil resource."

Deficiency:

None.

R645-301-231.300 **Testing plan for evaluating the results of topsoil handling and reclamation procedures related to revegetation; and**

Proposal:

Within the first and second paragraphs, the Reclamation Plan is referred to.

Analysis:

A reference for the Reclamation Plan should be provide for the reader, so that this Plan can be more readily accessed.

Deficiencies:

1. A reference for the Reclamation Plan referred to should be included where it is made mention of.

R645-301-232.300 Thru R645-310-232.720 **Topsoil and subsoil removal**

Proposal:

There is no mention of these regulations.

Analysis:

The plan does not address these regulations or even make mention of them. Even if

they are not pertinent, the plan should state why they are not. The reader and the Division of Oil, Gas, and Mining should be informed of the importance, or non-importance of these regulations.

Deficiencies:

1. The plan needs to address these regulations in a way that the Division, or reader, knows why these regulations are or are not important for this plan.

R645-301-242.100 Thru R645-310-242.120 **Soil Redistribution**

Proposal:

These regulations are outlined, but no write up or comment has been made concerning them.

Analysis:

The plan does not address these regulations. Even if they are not pertinent, the plan should state why they are not. The reader and the Division of Oil, Gas, and Mining should be informed of the importance, or non-importance of these regulations.

Deficiencies:

1. The plan needs to address these regulations in a way that the Division, or reader, knows why these regulations are or are not important for this plan.

R645-301-321 **Vegetation Information**

Proposal:

The plan contains a report on the vegetation in the reference area. It also contains a copy of a letter from the Soil Conservation Service showing the productivity of the site in 1987.

Analysis:

The vegetation information contained in Appendix 3-1 is considered to be complete.

The productivity and condition of the reference area were checked again by the SCS in 1992. Although this information has not changed since the 1987 report, it is desirable to

have the more recent information in the plan. The plan could either contain a copy of the 1992 letter or it could have a statement that the productivity and condition of the reference area have not changed since 1987 and reference the SCS letter in the 1992 annual report.

The plan no longer contains a commitment to monitor the reference area periodically. This commitment is not required by the rules. However, when the reclaimed area is being compared to the reference area for final bond release, the reference area must be in fair or better condition according to Soil Conservation Service range condition classification methodologies.

Deficiencies:

1. The plan should contain either a copy of or reference to the letter from the Soil Conservation Service contained in the 1992 annual report showing the current productivity and condition of the Banning reference area.

R645-301-322 Wildlife and Threatened and Endangered Species

Proposal:

Table 3-1 contains a list of listed threatened or endangered species which may occur in Utah. Three of these have potential to inhabit the general area of the Banning Loadout, but they have not been observed within or adjacent to the permit area.

The existing plan contains reports from the Division of Wildlife Resources (DWR) which discuss wildlife of the general area and potential protection and enhancement measures. Reference to these reports in included in the new (draft) plan, but the reports themselves are not included.

Analysis:

Table 3-1 only contains a list of threatened or endangered animals. It does not show all threatened or endangered species in Utah as it seems to purport. Also, this table is outdated and either needs to be made current or eliminated from the plan. However, if the list is eliminated, the plan still needs to discuss any plants or animals listed or proposed for listing as threatened or endangered species which could be affected by the operation.

Correspondence from the Fish and Wildlife Service is contained within the permit. It states that areas of wildlife concern have been adequately addressed in the permit. It does not mention species of threatened or endangered plants or animals that could be affected by the operation. The Fish and Wildlife Service needs to be contacted to determine if there are any species of concern which the operation might affect.

When the plan is finalized, it will need to include the DWR reports which are

currently in Appendix 5. Rather than including a copy of the DWR publication 78-16 "Vertebrate Species of Southeastern Utah", it is recommended that the plan simply reference a newer publication entitled "Fauna of Southeastern Utah and Life Requisites Regarding their Ecosystems". This information is more current and complete, and since it is available to the Division, it does not need to be included in the plan.

Deficiencies:

1. Table 3-1 needs to be either updated or eliminated from the plan. The plan needs to include a discussion of any listed or candidate threatened or endangered species that could be affected by the operation.

R645-301-323 Maps and Aerial Photographs

Proposal:

The draft plan does not contain maps. The existing plan contains a map showing the locations of the test plots and the reference area. The draft plan references Plate 3-1 and Exhibits 3.2 through 3.5 to show the reference area, wildlife monitoring stations, special wildlife habitat features, facilities to be used to protect and enhance fish and wildlife habitat, and vegetative types and plant communities including sample locations. The reference area is shown on Exhibit 6.2-1 in the existing plan.

Analysis:

The plan does not discuss fish and wildlife monitoring stations, and no need to develop them has yet been cited by any agency. Therefore, Exhibit 3-3 should not be needed.

The only fish and wildlife habitat enhancement measure discussed in the plan which might need to be located on a map is retention of the sediment pond. However, this feature is already shown on other maps, so Exhibit 3-4 is not anticipated to be needed.

The Anderson vegetation study in Appendix 3-1 states that the facility and its associated reference area are in a greasewood-shadscale desert shrub association. There is only one soil type for the loadout area shown on Exhibit 6.2-1. Because there is only one vegetation type and one soil type, there is no need to show vegetation types on a map. Also, there is no need to show vegetation sample locations beyond the methodology description given in the reference area vegetation survey. Therefore, it should not be necessary to prepare Exhibit 3-5.

Deficiencies:

None.

R645-301-330 **Operation Plan**

Proposal:

All available support facilities have been seeded an mulched with an interim seed mix.

A wildlife education program is presented during annual retraining programs. Prevention of fires and their spreading outside the permit area will be accomplished. Any waters discharged from the facility will be monitored in accordance with the UPDES permit. Fencing will be removed after DOGM determines that all reclamation standards have been met.

Analysis:

Soldier Creek has complied with this regulation.

Some areas that have been seeded in the past for interim erosion protection may need to be seeded again.

Deficiencies:

None.

R645-301-341 **Reclamation Plan**

Proposal:

The plan includes a schedule of reclamation activities. All seeding will be completed during the fall planting season prior to the first snowfall.

Table 3.2 contains a seed mixture which is based on DOGM recommendations.

The area will be reclaimed by removing coal from the surface then ripping the soil to 18". The soil will be disced until the average soil clods on the surface are less than one inch in size. The surface of the area will be covered with 2000 pounds per acre of alfalfa or native grass hay which is crimp-disced into the soil. The area will be seeded and fertilized. Seed and fertilizer will be distributed by drill or broadcast methods. Winterfat and rabbitbrush seed will be broadcast. A light cover of soil will be spread over all broadcast seeds.

Mulch will be spread using a hydromulcher. The mulch will be anchored by crimping. Optionally, wood fiber mulch may be used with a tackifying agent.

The site will not be irrigated. Pest and disease control measures are not planned, but

they may be included if results from the test plot and/or reference area indicate a need.

A reference area is shown on Plate 3-2. The requirements for cover, woody plant density, and productivity are, at least 90% of the cover, woody plant density, and productivity of the reference area with 90% confidence. The site will be sampled in a manner similar to the method used to sample the reference site in 1987.

A test plot was established in November 1988 on the south side of the loadout near the railroad tracks. The seed mix shown in Table 3-2 was used to evaluate the efficacy of the reclamation methods.

Analysis:

The seed mix is acceptable, but some changes will probably need to be made depending on the results of the test plots. Thus far, native species have not become well established in the plots. There are still some methods that may need to be tried in the test plots in an attempt to establish these species, but it may be "desirable and necessary" (R645-301-353) to use some introduced species.

Table 3.2 indicates that the seeding rates are for broadcast seeding. However, the plan includes drill seeding as a possible method. The seeding rates would be acceptable for either broadcast seeding or drill seeding, but the plan should clarify what seeding rate will be used for drill seeding.

The plan says on page 14 that mulch will be spread with a hydromulcher and later discusses using a wood fiber mulch as an alternative option. The reviewer does not know of mulches other than wood or paper fiber mulch which can be applied using a hydromulcher.

Also in the mulching section, there is a note that the type and rate are needed. When the test plots were replanted in 1991, hay mulch at 2 tons per acre was used (although hay is not specified in the plan). This rate and type of mulch are suggested. Depending on future test plot results, this section may also need to be changed.

The reviewer believes that two possible reasons for the difficulties encountered in establishing perennial vegetation on the test plots have been weed competition and the lack of water at critical times for plant establishment. Once the species which were recommended for the test plot are established, they can withstand considerable drought. However, they need moisture during the establishment period. Also, kochia, one of the weeds in the test plots, is very competitive and probably reduced the amount of water available to the seedlings. A requirement to change the plan and include irrigation and weed control is not being made now, but these options will be evaluated in the future.

The reference area that is to be used to compare for revegetation success is in fair condition according to information provided in correspondence from the Soil Conservation Service contained in the 1992 annual report. As discussed above, it will need to be in fair or

better condition when it is used for comparison to the revegetated area at the time of final bond release.

The plan discusses success standards for cover, woody plant density, and productivity, but it does not mention standards for other requirements contained in R645-301-353, such as diversity, seasonality, effectiveness in controlling erosion, and permanence. The regulations and "Vegetation Information Guidelines" give specific standards for some of the parameters contained in the performance standards of the regulations, but they are not specific in other areas. Therefore, the permit needs to contain standards for success that have been approved by the Division for these other parameters. It is recommended that Soldier Creek contact the Division for suggestions on how to proceed with developing these standards.

The plan states that comparisons of the revegetated area and the reference area will be made using the data obtained from the ninth and tenth year sampling. R645-301-356.232 states that 80% of trees and shrubs used to show the adequacy of stocking and planting arrangements will have been in place for 60% of the liability period and that no trees or shrubs in place for less than two years can be counted toward meeting the standard for success. This requirement necessitates sampling for woody plant density in the fourth and eighth years of the bond liability period.

The plan includes a copy of the plan for replanting the test plots which was implemented in 1991, but the text needs to mention this plan. Also, Appendix 3-3 needs to be listed in the list of appendices on page 20.

First year data from the test plots is not encouraging, and observations of them this summer indicate that it might be necessary to try them again in 1994. Some of the crested wheatgrass is still alive, and there are a few shrubs. This situation will be evaluated again when this year's data has been received and in the spring when it is easier to judge whether or not some of the plants have survived.

Deficiencies:

1. The plan needs to clarify what seeding rate will be used for drill seeding.

2. As this draft of the plan says on page 14, the type and rate of mulch need to be specified.

3. The plan needs to contain standards for success for diversity, seasonality, and effectiveness in controlling erosion.

4. The plan needs to include provisions to sample revegetated areas for woody species density in the fourth and eighth years of the bond liability period.

5. The plan for replanting the test plots contained in Appendix 3-3 needs to be

referenced in the text of the plan and in the list of appendices on page 20.

R645-301-342 Fish and Wildlife Plan

Proposal:

The sediment pond will be maintained through the life of the operation and bond liability period at which time the pond will be allowed to pass through normal pond succession. This would be considered a major enhancement feature on this historically dry site.

Analysis:

Chapter 7 states that all impoundments on the site are considered temporary. This conflicts with the statements in Chapter 3 that the pond will be retained. This conflict needs to be resolved.

Assuming that the land owner does not object and that the requirements of R645-301-733.220 can be met, retention of the pond is encouraged. However, the Division cannot allow the pond to remain if it will rarely contain water. It is unknown how often the pond contains water, and since there are no design details in Chapter 7, it is not known how large of an area would feed water to the pond after reclamation. These questions and other requirements contained in this regulation need to be addressed. Free water would definitely constitute an enhancement of the land use for this area, however.

Deficiencies:

1. Retention of the pond is encouraged as a wildlife habitat enhancement feature, but the plan needs to address the requirements of R645-301-733.220. Also, the conflict in the plan concerning whether or not the pond will be retained needs to be resolved.

R645-301-411 Land Use Environmental Description

Proposal:

The land uses in the area of the loadout are mining, railroad, roads, grazing, and wildlife habitat. The land uses have not changed within the five years preceding the application. The condition and capability of the land is addressed in a letter from the SCS contained in Exhibit 3-1. The Carbon County zoning designation is for mining and grazing use.

The plan includes a map showing the locations of two archaeological sites in the area

of the loadout. These are not listed or eligible for listing in the National Register of Historic Places. The results of the archaeological survey were provided to the various offices of the Bureau of Land Management and to the State Archaeologist.

There are no public parks, cemeteries, or land in the National System of Trails or the Wild and Scenic Rivers system within or adjacent to the permit area.

The permit area was not used for coal mining activities prior to the use by Soldier Creek.

Analysis:

R645-301-411.110 requires that the plan contain a map and supporting narrative of the uses of the land existing at the time of the filing of the application. The draft of the plan contains a notation that a map is needed. The map should show grazing allotments, zoning designations, and the railroad and highway rights-of-way.

The Division has not yet received comments from the Division of State History; any comments from this agency will need to be addressed.

Deficiencies:

1. The plan needs to include a map showing the uses of the land existing at the time of the filing of the application.

R645-301-412 Land Use Reclamation Plan

Proposal:

The postmining land use within what was the permit area will return to rangeland, wildlife and road uses which are identical to the existing land-use policies and plans. These uses are the same as the premining land uses and will be achieved by following the reclamation plans.

Analysis:

The road land use is, according to the existing plan, in accordance with a right-of-way permit from the BLM.

The plan needs to contain comments concerning the postmining land uses from legal or equitable owners of the permit area and Utah or local government agencies which would have to initiate, implement, approve or authorize the proposed use of the land following reclamation.

Deficiencies:

1. The plan needs to contain comments concerning the postmining land uses from legal or equitable owners of the permit area and Utah or local government agencies which would have to initiate, implement, approve or authorize the proposed use of the land following reclamation.

R645-301-420 Air Quality

Proposal:

The plan includes a copy of the Air Quality Approval Order dated July 16, 1993. The air quality monitoring plan and the fugitive dust control plan are supposed to be in Appendices 4-2 and 4-3.

Analysis:

The plan does not include the air quality monitoring plan and the fugitive dust control plan in Appendices 4-2 and 4-3 as it states. These plans need to be included in the plan.

Deficiencies:

1. The plan needs to contain the air quality monitoring plan and the fugitive dust control plan.

R645-301-600. Geology
R645-301-610. Introduction

Proposal:

This is a surface loadout operation. There are no mines, coal seams or outcrops to this operation. The geologic information provided is therefore very limited in scope. There are no exploration holes or bore holes and no subsidence monitoring at this site. No geologic maps, plans, or cross sections are provided.

Analysis:

Brief descriptions are given of the Mancos Shale, the regional geographic/geologic setting, soils, and the sump used to collect ground water.

Deficiency:

None.

R645-301-620 **Environmental Description**
R645-301-621 **General Requirements**

Proposal:

The geologic description is provided in Section R645-301-611.100. Due to the singular nature of the soil type, the only geologic impacts expected from this operation would be to the soil and potentially to the surface and ground water. These potential impacts and probable consequences are discussed in the Soils Chapter (2) and the Hydrology Chapter (7).

Deficiency:

None.

R645-301-622. **Cross Sections, Maps, and Plans**

Proposal:

Not applicable - This is a surface loadout. No mining or exploration is done here, and there are no coal outcrops or oil or gas wells within or adjacent to the permit area.

Deficiency:

None.

R645-301-623 **Geologic Information**

Proposal:

Not applicable - No mining is done at this site. See Chapter 2 for soils characteristics. See Chapters 2 & 3 for Reclamation Details.

Analysis:

There is no coal seam to be mined and no acid- and toxic-forming strata will be exposed by this operation. There will be no subsidence.

Topsoil was not stockpiled but was graded to construct the site. No materials other than coal are brought to the site. Coal will be cleaned from the site during reclamation, with no remaining material containing more than 50% coal. At the time of reclamation soils will be ripped and disced and soil amendments added (Chapters 2 & 3).

Deficiency:

None.

R645-301-624 **Minimum Geologic Information**

Proposal:

Not applicable - This section of the regulations is based on mining and mine related strata. This is a surface loadout and no mining is done at this site.

Analysis:

There is limited, general information on aquifers and location and extent of ground water, geology, and lithologic characteristics of strata that may be impacted by operation of this loadout.

It does not seem that additional geologic and hydrogeologic information, beyond that which is already committed to be collected, would be a factor in the success or failure of reclamation of this site. In spite of generally low permeability, the Mancos Shale yields water at the sump for dust control and fire suppression. This shallow, apparently unconfined aquifer would be the first to be impacted by loadout operations. Several thousand feet of Mancos Shale underlie the loadout site (page 1), and the soils at the site are derived from the Mancos. Coal is not mined in the permit area, but is brought from other mines to be stored temporarily and shipped.

Deficiency:

None.

R645-301-625 **Additional Information Required by the Division**

Proposal:

Coal samples have been analyzed to evaluate the potential for contamination of the local ground water. In addition, coal samples are analyzed and submitted to the Division on an annual basis.

Analysis:

Coal is not mined in the permit area, but is brought from other mines to be stored temporarily and shipped. Acid- or toxic-forming material might be included with coal brought to the plant for storage and shipment, but because coal normally resides at the plant

for only a short time, there is limited potential to impact the environment. Coal samples have been and continue to be analyzed for acid- and toxic-forming materials (Section 625 below, and Chapter 7).

The currently approved MRP (pages 5-15 through 5-16) contains a commitment to install ground water monitoring wells if coal analyses show conclusive evidence that acid- or toxic-forming materials are contaminating the ground water.

Deficiency:

1. The commitment to install ground water monitoring wells if coal analyses indicate they are needed has been omitted.

R645-301-626 Request for Waiver

Proposal:

Not applicable - Sections R645-301-624-2 and R645-301-624.300 pertain to sampling of strata connected with mining.

Deficiency:

None.

R645-301-627 Overburden Thickness and Lithology

Proposal:

Not applicable - No mining is proposed for this site. The geologic description of the areas is provided in Section R645-301-611.100.

Deficiency:

None.

R645-301-630 Operation Plan

Proposal:

Not applicable - There are no wells, exploration holes or bore holes at this site. No mining is done here; therefore there is no subsidence monitoring plan.

Analysis:

There appears to have been a question as to whether or not the sump is a well, but it will be backfilled during final regrading with the planned reclamation.

Deficiency:

None.

R645-301-640 Performance Standards

Proposal:

Not applicable - There are no exploration holes or bore holes. There is no mining at this site.

Deficiency:

None.

R645-301-700 Hydrology

Analysis:

1) Sections R645-301-732.200 through 742.312.2 were found out of sequence, which makes it difficult to reference information.

2) Section R645-301-721 in the part on Geologic Conditions, Grassy Trail Creek is classified as an intermittent stream, while sections R645-301-728.100, 731.120, 731.222, 731.600, and 742.320 refer to the ephemeral nature of streamflow.

3) Section R645-301-724.400, 724.410, and 724.413 refer to Appendix 7-3 for climatological data; however, there is no data in this appendix.

4) Section R645-301-731.210 refers to Appendix 7-5 for ground-water monitoring data. There is no data of this type in Appendix 7-5.

5) Section R645-301-733.210 states that all impoundments are temporary, while section R645-301-342.100 states that the sedimentation pond will stay after reclamation.

6) Exhibits 7-1, 7-2, and 7-3 are all referred to in the text; however, there were

no exhibits included with this MRP.

7) Appendix II and Appendix III are referred to in section R645-301-732.200, paragraphs 1 and 10, respectively. Figure 5.2.2 is referred to in section R645-301-732.200. These references appear to be carry-overs from the old MRP.

8) Figure 7-3 is not included in its entirety, and, therefore, is unreadable.

9) An old pond is mentioned in section R645-301-732.200. It states that this pond will be retained through constructions of a new pond. The first paragraph of this section states that the new pond has been constructed. There is other statement in this sections that would imply the future completion of the new sedimentation pond. It is unclear whether the pond is in use at this time or not.

10) An old regulation number is referenced in paragraph 8, section R645-301-732.200.

11) UPDES Permit for sedimentation pond expired on April 30, 1993.

Deficiencies:

1) All sections should be in sequential order or indexed so that referencing items can be done quickly and with ease.

2) The location of the intermittent stream to the permitted area should be clarified. If the area is not on an intermittent stream then that should be noted. If it is, then the sections in which it is referred to it as an ephemeral stream should be changed and all additional information required for an intermittent stream should be added to the plan. By the definition given in the regulations Grassy Trail Creek is an intermittent stream because it drains an area of at least one square mile.

3) Climatological data should be added to this Appendix 7-5.

4) There is ground-water data in Appendix 7-1. The reference in this section should be changed to reflect this.

5) Whether the pond will be retained or not must be clarified and consistent throughout the plan. If the pond is to be retained, evidence must be provide to prove that the pond will hold water after reclamation.

6) Exhibits 7-1, 7-2, and 7-3 should be included in the plan.

7) Update all reference to fit the new submittal.

8) Include a complete and readable copy of Figure 7-3 for all further reviews.

9) It should be clarified whether or not the new pond is completed and if the old pond is still in use. If the new pond is the only pond in use and the old pond has not been retained then information about retaining the old pond should be removed from the MRP.

10) All references to regulations should be to the current R645 Coal Mining Rules.

11) The current UPDES Permit should be put in the MRP for all further reviews. The expired UPDES Permit can be removed.