CHAPTER 7
HYDROLOGY

R645-301-700 Hydrology
This chapter will provide hydrologic information as required for the permit application.

R645-301-710 Introduction
Chapter 7 of this document presents a discussion of hydrologic conditions in the Banning Loadout permit and adjacent areas. Conclusions drawn herein are based upon a field reconnaissance of the area, published literature, and design calculations as described subsequently. This work was authorized by Soldier Creek Coal Company and completed by Richard B. White, P.E. of EarthFax Engineering, Inc., Salt Lake City, Utah.

R645-301-711 General Requirements. Each permit application will include descriptions of:
The following sections will provide descriptions of the hydrologic resources, proposed operations and potential impacts to the hydrologic balance and methods and calculations utilized to achieve compliance with hydrologic design criteria and plans.

R645-301-711.100 Existing hydrologic resources as given under R645-301-720.
Existing hydrologic resources are discussed under Section R645-301-720.

R645-301-711.200 Proposed operations and potential impacts to the hydrologic balance as given under R645-301-730.
Proposed operations and potential impacts to the hydrologic balance are detailed under Section R645-301-730.
R645-301-711.300  The methods and calculations utilized to achieve compliance with hydrologic design criteria and plans given under R645-301-740. Methods and calculations utilized to achieve compliance with hydrologic design criteria and plan are discussed under Section R645-301-740.

R645-301-711.400  Applicable hydrologic performance standards as given under R654-301-750. Compliance with performance standards is discussed in relevant sections of this Chapter and reiterated in Section R645-301-750.

R645-301-711.500  Reclamation activities as given under R645-301-760. Reclamation hydrology is discussed under Section R645-301-760 of this Chapter.

R645-301-712  Certification. All cross sections, maps and plans required by R645-301-722 as appropriate, and R645-301-731.700 will be prepared and certified according to R645-301-512. All cross sections, maps and plans required by R645-301-722 as appropriate, and R645-301-731.700 will be prepared under the direction of, and certified by, a qualified, registered professional engineer.

R645-301-713  Inspection
Impoundment inspections are made as described in Section R645-301-514.300 of Chapter 5.

R645-301-720  Environmental Description
R645-301-721  General Requirements

Surface Water

The Banning Loadout is located within the watershed of Grassy Trail Creek, a tributary of the Price River. Waddell et al. (1981) estimated that the average flow of Grassy Trail Creek at Highway 6 (i.e. within...
one mile of the site) is approximately 560 acre-feet per year. With an upstream drainage area of 113.0 square miles (Waddell, 1981), this results in a yield of less than 0.10 inch per year. Of the limited quantity of surface water that is yielded by the creek, most originates at high elevations within the watershed (Mundorff, 1972). The general lack of runoff being contributed in the lower elevations of the watershed (such as the area occupied by the Banning Loadout) is the result of:

1. **Limited precipitation.** Average annual precipitation at the Banning Loadout adjacent areas is less than eight inches (Waddell et al., 1981). Most of this amount is required to satisfy soil moisture deficits, thus allowing only limited runoff.

2. **Geologic conditions.** The loadout is situated on the Mancos Shale, a relatively impermeable formation that occurs at the surface in most of the region surrounding the loadout. Due to the impermeable nature of this formation, it is a poor recharge source and does not transmit water readily. Thus, baseflow contributions to Grassy Trail Creek origination in the area of the loadout are very limited.

Due to the typically low flow of Grassy Trail Creek, no continuous gauging records have been maintained for the stream. Personal observation indicates that the stream can be classified as ephemeral, flowing in the early spring as a result of snowmelt from higher elevations. Stream flow other than the end of spring is normally limited to occasional thunderstorms.

Mundorff (1972) reported the results of analyses of five water samples collected from Grassy Trail Creek immediately upstream from U.S. Highway 6. The total dissolved solids concentrations of these samples
ranged from 872 to 2510 milligrams per liter, with the concentrations generally being inversely related to the flow rate (i.e., the higher the flow rate, the lower the concentration). This water was of mixed cationic type but was strongly sulfitic (as is typical of water crossing the Mancos Shale).

Waddell et al. (1981) indicates that the total dissolved solids concentrations of water in Grassy Trail Creek can be expected to reach maximums in excess of 6000 milligrams per liter downstream from the loadout and upstream from the confluence with the Price River. Due to the poor quality of the water in Grassy Trail Creek and elsewhere in the lower Price River Basin, no extensive development or use of surface water has occurred in the region surrounding the loadout facility.

Little information is available concerning suspended sediment concentrations in surface water adjacent to the loadout facility. Waddell et al. (1981) estimated the average annual sediment yield of undisturbed land in the vicinity of the loadout to be between 0.5 and 1.0 acre-foot per square mile per year. This yield was estimated to increase to between 1.0 and 3.0 acre-feet per square mile per year in most of the area downstream from the loadout and upstream from the confluence with the Price River.

**Groundwater**

According to Hood and Patterson (1984), the shaley units of the Mancos Shale have a very low permeability and serve as confining beds for underlying formations rather than as aquifers. The relatively non-transmissive character of the Mancos Shale was also borne out by the research of Jobin (1962).
As a result of the low permeability of the Mancos Shale, this formation has not been developed in the region of the loadout facility for beneficial use except by the Applicant for use in dust suppression and fire protection at the facility. Drillhole data from petroleum exploration holes in the region suggest that the Mancos Shale, where saturated, contains water that is moderately to very saline (Waddell et al., 1981). This further limits the desirability of the Mancos as a source of groundwater. Given the mineralogy of the formation (which, according to Waddell et al. [1981], includes large quantities of the soluble salts, gypsum \([\text{CaSO}_4 \cdot 2\text{H}_2\text{O}]\), mirabilite \([\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}]\), and thenardite \([\text{Na}_2\text{SO}_4]\)), it is probable that groundwater in the Mancos Shale contains a predominance of sodium, calcium, and sulfate.

R645-301-722 Cross Sections and Maps
The application contains maps showing the following relevant data:

R645-301-722.100 Subsurface Water
N/A The only subsurface water encountered is in the sump located by the truck dump as shown on Exhibit 7-1.

R645-301-722.200 Surface Water
Surface water bodies are shown on Exhibits 5-1 and 7-1 of this application.

R645-301-722.300 Water Monitoring Stations
The only established surface water monitoring station is at the outlet of the sediment pond as shown on Exhibits 7-1 and 7-2.

R645-301-722.400 Water Wells
N/A There are no water wells in the permit or adjacent areas. A sump does exist near the truck dump as shown on Exhibit 7-1.

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R645-301-722.500 Contour Maps
Existing land configuration is shown on Exhibits 5-1 and 7-1.

R645-301-723 Sampling and Analysis
All water quality sampling and analysis will be conducted according to the methodology in the current edition of "Standard Methods for the Examination of Water and Wastewater" or the methodology in 40 CFR Parts 136 and 434.

R645-301-724 Baseline Information
R645-301-724.100 Ground Water Information
Ground water information and water users claims are provided in Appendix 7-1.

R645-301-724.200 Surface Water Information
Surface water information, including analyses and U.P.D.E.S. Reports on the Sediment Pond Discharge are provided in Appendix 7-2 and in the UDOGM water database.

R645-301-724.300 Geologic Information
Relevant geologic information is provided in Chapter 6 and in Section R645-301-721 of this Chapter.

R645-301-724.310
See Chapter 6 and Section R645-301-728.

R645-301-724.320
See Chapters 5 and 6 and Section R645-301-760.

R645-301-724.400 Climatological Information
Complete climatological information is provided in Appendix 7-3 of this Chapter.

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7-6
R645-301-724.410
See Appendix 7-3

R645-301-724.411
See Appendix 7-3

R645-301-724.412
See Appendix 7-3

R645-301-724.413
See Appendix 7-3

R645-301-724.420 Additional Data
To be provided at the request of the Division.

R645-301-724.500 Supplemental Information
The PHC determination does not indicate that adverse impacts will occur to the hydrologic balance on or off the permit area, or that acid-forming or toxic-forming material is present that may result in the contamination of ground-water or surface-water supplies (See Section R645-301-728.

R645-301-724.600 Survey of Renewable Resource Lands
N/A There will be no mining here; therefore, no subsidence or impacts to renewable resources from subsidence will occur.

R645-301-725 Baseline Cumulative Impact Area Information

R645-301-725.100 Hydrologic & Geologic Information
The hydrologic information provided in this Chapter and the geologic information provided in Chapter 6 are assumed adequate to assess the probable cumulative hydrologic impacts of the operation on surface and
ground water systems. This is an on-going and permitted operation, and this information has been previously provided as required.

R645-301-725.200 Information not Available
N/A Relevant information is available, and has been provided.

R645-301-725.300
N/A

R645-301-726 Modeling
N/A No modeling is planned for this site.

R645-301-727 Alternative Water Source Information
N/A This is not a surface coal mine.

R645-301-728 Probable Hydrologic Consequences (PHC) Determination

R645-301-728.100 PHC Determination
Surface Water

Runoff- and sediment-control facilities have been designed for the Banning Loadout in accordance with applicable Division regulations. These facilities were designed to safely convey and control runoff from the appropriate design storm events.

The ephemeral nature of streamflow in the vicinity of the Banning Loadout and the naturally high salinity of the Mancos Shale on which the site is situated suggests that local streamflow has the potential of containing high suspended sediment and total dissolved solids concentrations. As a result, background surface-water quality is considered poor and beneficial use of the water is non-existent. With

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the existence of poor background water quality, lack of beneficial use, and the proposed runoff- and sediment-control facilities, surface-water impacts to adjacent areas will be minimized.

Groundwater

The primary potential for impacts to groundwater from the Banning Loadout will be from leaching of the coal. Metals which leach from the coal are normally most mobile in acidic environments. The alkaline nature of the soil at the site will preclude significant migration of metals to groundwater.

The potential also exists for leaching of some hydrocarbons from the coal. Although the magnitude of this potential cannot be quantified, natural biologic degradation of the hydrocarbons should minimize potential impacts.

Data presented in Section R645-301-721 indicate that groundwater in the vicinity of the loadout is naturally saline. In addition, the formation that underlies the site is negligibly transmissive. Thus, development of the uppermost saturated zone beneath the site has not occurred. This will further limit potential impacts to groundwater from the loadout area.

R645-301-728.200 Basis for Determination
The PHC determination is based on soils, geologic and hydrologic data provided in Chapters 2, 6, and 7 respectively.

R645-301-728.300 PHC Findings
The PHC Determination provided in Section R645-301-728.100 provides the following findings:
No adverse impacts will occur to the hydrologic balance;

No acid-forming or toxic-forming materials are present which could result in the contamination of surface or ground water supplies;

Possible impacts of the operation on:

Sediment yield;

Water quality;

Flooding or stream flow alteration;

Ground water and surface water availability;

N/A

N/A

Division Review
The requirement for a new or updated PHC determination is to be determined by the Division.

Cumulative Hydrologic Impact Assessment (CHIA)

Provided by the Division.

To be reviewed by the Division.
Runoff from the permit area at Banning Loadout will be controlled through the use of berms, embankments, channels, straw bale dikes, silt fence dams and a sedimentation pond. The area that contains the loadout facilities will be enclosed by berms, embankments and channels that direct the runoff around the site into the sedimentation pond (Exhibit 7-1). Runoff from the haulage road will be directed toward the closest natural drainage point.

The primary potential for effects to groundwater from the Banning Loadout facility will come from potential leaching of constituents from the coal to the groundwater. To determine the potential for this to occur, a grab sample of coal was collected from the mine and submitted for analysis. To determine the potential for this to occur, this sample was collected from the mine and submitted for analysis for the following parameters: acid-base potential; total non-sulfate sulfur; total organic sulfur; percent calcium carbonate; pH, sodium absorption ratio; nitrate-nitrogen; electrical conductivity; and water extractable boron, selenium, copper, molybdenum, arsenic, barium, cadmium, lead, mercury, and zinc. The analysis will follow the "Standard Methods of Analysis", American Society of Agronomy, Mono. No. 9, 1982, except for the acid-base potential. The acid-base potential will be calculated according to the U.S. EPA document 600/2-78-054, Method 3.2. The Applicant reserves the right to exclude any of the water extractable items if testing shows that they are not presenting potentially harmful amounts.

Coal samples will be collected and tested quarterly for one year, 1989.
and annually from the mine after 1989 or when the general location of mining operations drastically change the coal quality.

On an annual basis, all coal-quality monitoring data collected from the site during the previous year will be summarized and submitted to the Division. Raw data received from the laboratories will also be included, along with an interpretation of the analytical results and any proposals for changes in the monitoring plan. These data and interpretations will be included with the annual report that presents the surface-water data.

R645-301-731.111
See previous Section R645-301-731.110.

R645-301-731.112
N/A

R645-301-731.120  Surface Water Protection
During discharge of water from the dewatering device and (where possible) from the spillway of the sedimentation pond, at least one sample will be collected from the discharge point. Samples thus collected will be submitted to an independent laboratory for analyses for parameters required by the UPDES permit. Analytical results will be submitted to the Regulatory Authority in accordance with the UPDES permit (See Appendix 7-4).

Due to the ephemeral nature of the area in which the Banning Loadout is situated (with its resulting low flow and high natural variability), monitoring of surface-water in natural stream channels in the area is infeasible. Hence, routine surface-water monitoring at the site will be in accordance with the UPDES permit for the sedimentation pond. Data thus collected will be submitted to the Regulatory Authority in

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accordance with the UPDES permit (Appendix 7-4).

Surface-water monitoring data collected from the site will be summarized and submitted to the Regulatory Authority. Raw data received from the laboratories will also be included, along with an interpretation of the analytical results per Attachment A, Special Conditions permit C/007/034.

R645-301-731.121
See previous Section R645-301-731.120

R645-301-731.122
See Section R645-301-731.120.

R645-301-731.200 Water Monitoring

R645-301-731.210 Ground Water Monitoring

A sample of the groundwater in the underlying aquifer was collected and analyzed for the complete groundwater parameter list. A copy of the results is located in Appendix 7-1. The sample was collected in the sump adjacent to the truck dump that was mistakenly called a water well. The applicant will continue to sample the sump on an annual basis and submit these results to the Regulatory Authority. The sampling will be done during the late fall. The operational analyses will be as follows:

FIELD MEASUREMENTS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>pH units</td>
</tr>
<tr>
<td>Specific Conductivity</td>
<td>us/cm@25°</td>
</tr>
<tr>
<td>Temperature</td>
<td>°C</td>
</tr>
</tbody>
</table>

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Surface Water Monitoring

As indicated in Section R645-301-731.120, the only surface water monitoring proposed is the collection of UPDES Discharge samples from the sedimentation pond. No other surface water monitoring is proposed. See Appendix 7-2, 7-4 and 7-5.

See previous Section R645-301-731.220.

Monitoring Plan

During discharge of water from the dewatering device and (where possible) from the spillway of the sedimentation pond, at least one sample will be collected from the discharge point. Samples thus collected will be submitted to an independent laboratory for analyses for parameters required by the UPDES permit. Analytical results will be submitted to the Regulatory Authority in accordance with the UPDES permit.

Due to the ephemeral nature of the area in which the Banning Loadout is situated (with its resulting low flow and high natural variability), monitoring of surface-water in natural stream channels in the area is infeasible. Hence, routine surface-water monitoring at the site will be in accordance with the UPDES permit for the sedimentation pond. Data thus collected will be submitted to the Regulatory Authority in accordance with the UPDES permit (See Appendix 7-4).

See previous Section R645-301-731.222.
See Section R645-301-731-222.

**R645-301-731.223 Submittal of Data**

Surface water monitoring data will be submitted on a quarterly basis. When analyses indicate non-compliance with permit conditions, the operator will promptly notify the Division and immediately take remedial actions.

**R645-301-731.224 Duration of Monitoring**

Surface water monitoring will continue through the operations period and through the reclamation period until requirements for Phase II Bond Release are met.

**R645-301-731.224.1 N/A**

**R645-301-731.224.2 N/A**

**R645-301-731.225 Monitoring Devices**

All equipment, structures and other devices used in conjunction with water monitoring will be properly installed, maintained and operated, and will be removed when no longer required.

**R645-301-731.300 Acid-Forming and Toxic-Forming Materials**

**R645-301-731.310 Drainage**

There are no known acid or toxic forming materials on this site; however, should such materials be identified, drainage from the material will be protected by:
R645-301-731.311
Burial of the materials beneath a minimum of 4' of non-acid, non-toxic materials (See Section R645-301-528.350);

R645-301-731.312
Storing materials in a bermed area until such time as they can be buried.

R645-301-731.320 Storage, Burial or Treatment
Storage, burial or treatment of acid or toxic forming materials will be in accordance with the Material Handling Plan in Section R645-301-521 and Section R645-301-528.350 on Chapter 5.

R645-301-731.400 Transfer of Wells
N/A There are no wells or exploratory holes on this site.

R645-301-731.500 Discharges
The only planned discharges from this property will be in the form of water and potentially, coal processing waste.

R645-301-731.510 Discharges into an Underground Mine
N/A There are no mines at this location.

R645-301-731.511 through R645-301-731.511.4
N/A There are no mines at this location.

R645-301-731.512 Discharges
The only proposed discharges from this site are:

R645-301-731.512.1 Water;

R645-301-731.512.2 Coal Processing Waste.
R645-301-731.512.3 through R645-301-731.512.7
N/A

R645-301-731.513 Water From Underground Workings
N/A There are no underground workings at this site.

R645-301-731.520 Gravity Discharges
N/A There are no gravity discharges from underground coal mining at this site.

R645-301-731.521
N/A

R645-301-731.522
N/A

R645-301-731.600 Stream Buffer Zones
N/A There are no perennial or intermittent streams associated with this site. All drainage is considered ephemeral.

R645-301-731.611 through R645-301-731.620
N/A

R645-301-731.700 Cross Sections and Maps
The following maps are provided in this application (All maps are prepared and certified according to R645-301-512):

R645-301-731.710 Water Intakes and Discharges
Exhibit 7-1;

R645-301-731.720 Hydrologic Facilities
Exhibit 7-1;
Sediment Control Measures

The following sections will describe sediment control measures used at this site:

Siltation Structures

There is one sediment pond on the site. Sediment pond design and other run off control criteria are provided in Appendices 7-6, 7-7, and 7-9.

Sedimentation Ponds

As noted in Exhibit 7-1, a sedimentation pond has been constructed at the loadout site. Calculations performed to design the pond and its appurtenant structures are contained in Appendix 7-6. Plans, sections, and details of the pond facilities are provided in Exhibits 7-2 and 7-3.

Runoff to the sedimentation pond from the 10-year, 24-hour storm was determined to be 1.18 acre-feet. Required sediment storage for the pond was calculated to be 0.27 acre-foot. Hence, the pond was designed.
with a total storage volume of 1.45 acre-feet.

The pond is designed with interior slopes of 3h:1v and exterior slopes (where constructed) of 2h:1v. Due to the low relief of the area, the pond will be primarily excavated, with an embankment constructed only in those areas required to bring the elevation of the top of the embankment to 5496.5 feet.

The stage-capacity curve for the sedimentation pond is presented in Figure 7-4. According to this figure, the new pond will provide sediment storage to an elevation of 5488.8 feet and total storage to an elevation of 5495.2 feet. Sediment will be cleaned out of the pond when it reaches an elevation of 5487.6 feet (the elevation sediment storage volume). Two steel stakes will be placed at the locations shown on Exhibit 7-2 to mark the sediment cleanout elevation.

The dewatering device for the sedimentation pond consists of 2-inch pipe extending into the pond and valved near its outlet at the adjacent ephemeral stream channel (see Exhibit 7-3). The valve box will be locked to prevent unauthorized dewatering of the pond. A riprapped splash apron has been constructed at the outlet of the principal spillway and dewatering pipe to prevent excessive erosion. Details concerning the design of this apron are contained in Appendix 7-7.

No anti-vortex device will be provided on the dewatering pipe since flow rates (and, hence vortex conditions) can be manually regulated by the gate valve. However, a down-turned 90° elbow has been installed at the inlet end of the pipe to minimize skimming from the surface of the pond during dewatering.

During passage of the peak flow resulting from the 25-year, 24-hour precipitation event, the peak stage in the pond will be 0.9 foot above
the crest of the principal spillway and the emergency spillway this
depth of flow will not cause outflow from the emergency spillway during
the design event. Nonetheless, an emergency spillway has been
installed to provide a bypass for water during events larger than those
for which the pond was designed.

The pond has been designed with a minimum top width equivalent to
\((H+35)/5\), where \(H\) is the height of the embankment above natural ground
surface. The embankment portion was constructed in 6-inch lifts and
compacted by repeated passes of grader/loader equipment. Compaction
continued until the density of the material was at least 90 percent of
maximum Proctor density. With a 6-foot maximum embankment height, the
embankment was constructed to an initial top elevation of 5498.0 feet,
allowing for settlement to a final elevation of 5497.2 feet.

Anti-seep collars were installed on the spillway conduit to increase
the flow path and reduce the potential for piping of the soil. The
collars were designed in accordance with the U.S. Environmental
Protection Agency (1976) as indicated in Appendix 7-6. Two anti-seep
collars were installed.

All construction on the pond was supervised by a registered
Professional Engineer who is licensed in the State of Utah. An as-
built report will be prepared and certified by the supervisory
Professional Engineer for submittal to the Regulatory Authority
following completion of construction activities. This as-built report
will include a discussion of problems encountered during construction
and will present plans and sections of the constructed pond and
appurtenant structures.

Following construction of the sedimentation pond, all disturbed areas
associated with pond construction (with the exception of the interior
of the pond) were revegetated with the approved seed mixture. Mulching, fertilizing, and other reclamation procedures outlined in Chapter 5 of this PAP (except initial soil ripping to a depth of 18 inches) were followed where appropriate during reclamation of the areas disturbed by pond construction.

Sediment Pond calculations are provided in Appendix 7-6

**R645-301-732.210**
The sediment pond will not be removed according to the reclamation schedule shown in Table 5.2 of this permit.

**R645-301-732.220**
N/A There are no coal processing waste dams or embankments at this site. The pond does not meet the size or other criteria of 30 CFR 77.216(a).

**R645-301-732.300 Diversions**
Runoff control at the loadout site will be provided primarily by maintenance and construction of existing and new berms and the sedimentation pond. A plan view of the site and the proposed runoff-control measures is provided in Exhibit 7-1.

Berms currently exist around most of the periphery of the loadout site except those portions of the south and west fences where diversion channels exist. Where berms exist, they will be repaired where necessary to meet the minimum design criteria of the "compact berm" shown in Figure 7-3. Where berms do not exist around the periphery, they will be so constructed.

The drive-through shown in Figure 7-3 will be constructed in areas subject to vehicular traffic. These areas include the two exit gates
adjacent to the coaling tower and the exit gate along the south fence. An embankment shown in Figure 7-3 will be constructed in the southeast corner of the site. This embankment will direct runoff toward the drainage channel and sedimentation pond.

The runoff originating between the embankment and the fence line, including the test plot area, will not be directed toward the sedimentation pond. This runoff will be directed toward a silt fence on the southern portion of the property. Locations for the embankment and silt fence are shown on Exhibit 7-1. SCCC is requesting a small area exception for this area.

The substation pad area shown in Exhibit 7-1 is graveled to enhance stability. The outslope of the substation area is also graveled. However, runoff flow from the outslope area will not be directed toward the sedimentation pond. Sufficient thickness of gravel will be applied to the outslope area. This will meet the minimum effluent specifications for all drainage flow from the outslope area. SCCC has classified this as a small area exemption for the outslope area. The substation and pad area were removed from the disturbed and permitted area in 2004, when the substation was sold to East Carbonics Inc. The land on which the substation sits was also sold to East Carbonics.

All berms and embankments will be inspected at routinely for damage and deterioration. Any repairs that are necessary to maintain the integrity of the structure will be made as soon as possible.

Calculations contained in Appendix 7-6 indicate that the ditches leading to the sedimentation pond have sufficient capacity to safely pass the peak flow resulting from the 25 year, 24-hour precipitation event (i.e., the spillway design event). These ditches will be regraded where necessary to ensure that they maintain the cross section...
noted in Figure 7-5. Excess material from grading of the ditches will
be sidecast to the outer slope away from the loadout site, thus
permitting free drainage from the site into the ditches and providing
additional control against spillage out of the ditches to uncontrolled
areas.

R645-301-732.400 Road Drainage
Road drainage is discussed under Section R645-301-732.100

R645-301-732.410 Alteration or Relocation of Natural Drainageway
N/A There are no plans to alter or relocate a natural drainageway.

R645-301-732.420 Ditch Relief Culverts
Three ditch relief culverts are installed to convey runoff from
undisturbed areas beneath the haulage road to the natural drainage
system. Inlet ends of the culverts are protected with rock headwalls.

R645-301-733 Impoundments
The sediment pond is the only impoundment on the site.

R645-301-733.100 General Plan
Plans for the sediment pond are provided in Section R645-301-732.200,
Appendix 7-6 and Exhibits 7-2 and 7-3.

R645-301-733.110
All plans and maps are prepared and certified according to R645-301-
512;

R645-301-733.120
Maps and cross sections are provided as described above;

R645-301-733.130
Narratives describing the structure are provided in Section R645-301-

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Surveys are provided in Exhibits 7-1, 7-2 and 7-3;

Assessment of hydrologic impacts are provided in Appendix 7-6 and Section R645-301-732.200;

N/A Structures have been constructed under approved plans.

The sediment pond was designed to comply with applicable regulations and does not meet the size or other criteria of 30 CFR 77-216.

The sedimentation pond will not be removed during final reclamation.

N/A

N/A

N/A
R645-301-733.224
N/A

R645-301-733.225
N/A

R645-301-733.226
N/A

R645-301-733.230  Temporary Impoundments
The sediment pond is not considered temporary.

R645-301-733.240  Notification of Hazard
If any examination or inspection discloses that a potential hazard exists, the person who examined the impoundment will promptly inform the Division as indicated in Section R64-301-515.200.

R645-301-734  Discharge Structures
Discharge structures will be constructed and maintained to comply with R645-301744. Discharge structures are detailed in Appendix 7-6 and an Exhibits 7-2 and 7-3.

R645-301-735  Disposal of Excess Spoil
N/A  There are no plans to dispose of excess spoil at this site.

R645-301-736  Coal Mine Waste
N/A  There are no plans to dispose of coal mine waste at this site.

R645-301-737  Noncoal Mine Waste
Noncoal mine waste will be stored and disposed of as described in Section R645-301-521 and in compliance with R-645-301-747.
N/A There are no wells at this operation.

**R645-301-740 Design Criteria and Plans**

**R645-301-741 General Requirements**

The following sections will outline site-specific plans for the control of drainage from disturbed and undisturbed areas.

**R645-301-742 Sediment Control Measures**

**R645-301-742.100 General Requirements**

Alternate Sediment Control Areas (ASCA)

The following areas have been identified as alternate sediment control areas and are identified on Exhibit 7-1.

Area 1.

This area is located west of the substation. The area contains 0.43 acres. Vegetative filters are used to reduce overland flow velocities, reduce runoff volumes and trap sediment.

Area 2.

This area is located in the southern corner of the permit area. The area contains 0.82 acres. The runoff is treated by silt fences. See Appendix 7-9 for runoff calculations.

Area 3.

This area is located in the northeastern corner of the permit and runs west paralleling the haul road. The area contains 0.40 acres. The runoff is treated by silt fences. See Appendix 7-9 for runoff calculations.
Area 4.
This area is located west of Area 3. This area contains 0.05 acres and is treated by a silt fence. See Appendix 7-9 for runoff calculations.

Area 5.
This area is located in the northwestern corner of the permit area and is parallel to the haul road. The area contains 0.16 acres. The runoff is treated with a silt fence. See Appendix 7-9 for runoff calculations.

R645-301-742.110 Design, Construction and Maintenance
As described in Section R645-301-732 and other applicable sections, appropriate sediment control measures will be designed, constructed and maintained using the best technology currently available to:

R645-301-742.111 Prevent, to the extent possible, additional contributions of sediment to streamflow or to runoff outside the permit area:

R645-301-742.112 Meet the effluent limitations under R645-301-751 (See Section R645-301-751);

R645-301-742.113 Minimize erosion to the extent possible.

R645-301-742.120 Sediment Control Practices
The following sediment control methods are used on this site:

R645-301-121 Retaining sediment within disturbed areas; This is accomplished by
directing all disturbed area drainage to silt fences or straw bales or to the sediment pond.

_R645-301-742.122_
Diverting runoff away from disturbed areas; This is accomplished by routing undisturbed drainage through culverts beneath the haul road and then to natural channels, and by the use of berms to prevent intermingling of disturbed and undisturbed drainage;

_R645-301-742.123_
Diverting runoff using protected channels or pipes so as not to cause additional erosion; The majority of the drainage is directed carried in ditches and culverts at non-erosive velocities to the sediment pond (See Exhibit 7-1);

_R645-301-742.124_
Using straw dikes, silt fences and vegetative filters to reduce overland flow velocities, reduce runoff volumes or trap sediment; (See Exhibit 7-1 and Section R645-301-732);

_R645-301-742.125_
Treating with chemicals; The haul road surface is paved;

_R645-301-742.126_
N/A

_R645-301-742.200 Siltation Structures_
The only siltation structure on site is the sediment pond.

_R645-301-742.210 General Requirements_
Siltation structures are designed, constructed and maintained to meet the following requirements:
Prevent, to the extent possible using the best technology currently available, additional contributions of suspended solids and sediment to streamflow or runoff outside the permit area;

The design drawings are certified.

N/A The siltation structures are not designed to impound water;

N/A There is no water from underground workings.

Sedimentation Ponds
The sedimentation pond details are described in Sections R645-301-732.200, and R645-301-733. Design details are provided in Appendix 7-6 and on Exhibits 7-2 and 7-3.

Additional Criteria
In addition to the above, the sediment pond will meet the following criteria:

Be used individually;

Is located within the disturbed area and not near any perennial stream;

Is designed, constructed and maintained to:
Provide adequate sediment storage volume (See Appendix 7-6);

Provide adequate detention time to allow the effluent from the pond to meet Utah and federal effluent limitations (See Appendix 7-6);

Contain the 10 year, 24-hour precipitation event (See Appendix 7-6);

Provide a non-clogging dewatering device (See Appendix 7-6 and Exhibit 7-3);

Minimize, to the extent possible, short circuiting (See Exhibits 7-1, 7-2, and 7-3);

Provide periodic sediment removal sufficient to maintain adequate volume for the design event (See Section R645-301-732.200);

Ensure against excessive settlement (See Section R645-301-732.200);

Be free of sod, large roots, frozen soil, and acid or toxic forming coal processing waste (See Section R645-301-732.100);

Be compacted properly (See Section R645-301-732.200).
R645-301-742.222  Ponds Meeting MSHA 30 CFR 77.216(a)
N/A  This pond does not meet the size or other qualifying criteria of
MSHA 30 CFR 77.216 (a).

R645-301-742.223  Ponds not Meeting MSHA 30 CFR 77.216 (a).
The pond is equipped with a combination principal and emergency
spillway that will safely discharge a 25-year, 6-hour precipitation
event (See Appendix 7-6 and Exhibits 7-1, 7-2 and 7-3);

R645-301-742.223.1
N/A

R645-301-742.223.2
N/A

R645-301-742.223.4  Variance from Requirements
N/A  The pond has a combination spillway.

R645-301-742.225  Exception to R645-301-742.224
N/A

R645-301-742.225.1
N/A

R645-301-742.225.2
N/A

R645-301-742.230  Other Treatment Facilities
None

R645-301-742.231
Other treatment facilities will be designed to treat the 10 year 24
hour precipitation event.

Revised 3/07
R645-301-742.232
N/A See following section.

R645-301-742.240 Exemptions
SAE Area 1. This area is classified as exempt from the requirements of R645-301-742.200, R645-301-763, and other alternate sediment control measures since it drains such a small area. It is located on the south side of the permit area. The area is relatively flat and the hydraulic length is so short that it does not produce any runoff. It covers 0.36 acres, see Appendix 7-9 for runoff calculations. SAE Area 1 was removed from Exhibit 7-1 because of a post-mining land use change approved by the Division in 2006, which excluded the substation area where the SAE was located from the permit area.

R645-301-742.300 Diversions
Diversion details are described in Section R645-301-732.300 and shown on Exhibit 7-1 and Figure 7-3.

R645-301-742.310 General Requirements

R645-301-742.311 N/A There are no abandoned or reclaimed areas or underground mines at this site.

R645-301-742.312 Design, Location, Construction, Maintenance, Use
A 24-inch culvert was installed at the point where the substation access road crosses the existing drainage ditch. Referring to the nomograph (Exhibit 1.1, Appendix 7-9) it is shown that a 24-inch culvert with a 1.2 feet headwater is capable of handling 16 cubic feet per second (CFS) of flow. However, it should be noted that the culvert only carries a portion of the surface flow reporting to the sediment...
pond. The sizing of the culvert is well in excess of the required
design constraints of a 10-year, 24-hour storm. As discussed in
Appendix 7-6 the sediment pond design for a 25-year 24- hour storm is
16 CFS. See Appendix 5-3 for additional culvert design information.

As shown on Exhibit 7-1, Figure 7-3 and described in Section R645-301-
732.300, all diversions and appurtenant structures are designed,
located, constructed, maintained and used to meet the following
requirements:

R645-301-742.312.1
Be stable;

R645-301-742.312.2
Provide protection against flooding and resultant damage to life and
property;

R645-301-742.312.3
Prevent, to the extent possible using the best technology currently
available, additional contributions of suspended solids to streamflow
outside the permit area;

R645-301-742.312.4
Comply with all applicable local, Utah and federal laws and
regulations.

R645-301-742.313 Removal
As indicated in the reclamation plan, all diversions are temporary and
will be removed when no longer needed or upon final reclamation. The
only structures planned to be left on a permanent basis will be a
portion of the haul road with 3 existing culverts. This road and
drainage control has been designed in accordance with provisions of the
B.L.M. Right-of-Way, and will be left as part of the right-of-way agreement. All other diversions will be removed and the area restored.

**R645-301-742.314**

Other requirements may be specified by the Division.

**R645-301-742.320 Diversion of Perennial and Intermittent Streams**

N/A There are no perennial or intermittent streams on, or adjacent to, this site.

**R645-301-742.321 through R645-301-742.324**

N/A

**R645-301-742.330 Diversion of Miscellaneous Flows**

N/A There are no flows such as ground water or ephemeral streams diverted at this site. Culverts are installed to direct runoff collecting along the road to natural drainages below.

**R645-301-742.331 through R645-301-742.333**

N/A

**R645-301-742.400 Road Drainage**

The haulage road accessing the Banning Loadout from U.S. Highway 6 is a center-crowned road that sheds water to both sides.

Three ditch-relief culverts currently exist to convey runoff from undisturbed areas beneath the haulage road to the natural drainage system. These culverts will be inspected routinely through the life of the loadout facility and repaired as needed. Roads and road drainage details are shown on Exhibit 7-1 and 7-1a. Road design is detailed in Chapter 5.

Revised 3/07
All Roads

All roads on site are considered primary roads, and are designed, constructed and maintained to meet the following criteria:

The design and construction of all roads is appropriate for the type and size of equipment used, and incorporate appropriate limits for surface drainage control, culvert placement, culvert size, and other design established by the Division (and B.L.M.). See Chapter 5 for road design details and appropriate maps.

Refer to Section R645-301-742.411. The design and construction of all roads is appropriate for the type and size of equipment used, and incorporate appropriate limits for surface drainage control, culvert placement, culvert size, and other design established by the Division (and B.L.M.). See Chapter 5 for road design details and appropriate maps.

Roads are located to minimize downstream sedimentation and flooding (See Exhibit 7-1).

As indicated, all roads on site are considered primary roads.

All roads are located on the most stable available surfaces.

N/A There are no stream fords here.
**R645-301-742.423  Drainage Control**

The primary roads are designed, constructed and maintained to have adequate drainage control using road ditches and culverts. The drainage control systems are capable of handling at least a 10 year - 6 hour precipitation event. The road is constructed to B.L.M. specifications.

**R645-301-742.423.2**

Culverts are constructed to avoid plugging or collapse and erosion at inlets and outlets per B.L.M. specifications.

**R645-301-742.423.3**

Drainage ditches are designed to prevent uncontrolled drainage over the road surface and embankments. The road and ditches are designed according to B.L.M. requirements on the Right-of-Way.

**R645-301-742.423.4**

N/A There is no alteration of natural stream channels.

**R645-301-742.423.5**

N/A There are no stream channel crossings.

**R645-301-743  Impoundments**

Impoundments are described under Section R645-301-733 and shown on Exhibit 7-1. Sediment pond design and details are provided in Appendix 7-6 and on Exhibits 7-2 and 7-3.

**R645-301-743.100  General Requirements**

The following information is provided relevant to the sediment pond:

**R645-301-743.110**

N/A The pond does not meet the size or other criteria of MSHA 30 CFR 77.216(a).
R645-301-743.120
The pond is designed under the direction of, and certified by, a qualified, registered professional engineer (See Appendix 7-8). Adequate freeboard is provided as shown on Exhibits 7-2 and 7-3 and described in Appendix 7-6.

R645-301-743.130
The pond is equipped with a combination of principal and emergency spillways adequate to safely pass the design precipitation event.

R645-301-743.131 through R645-301-743.132
N/A

R645-301-743.140 Inspections
Impoundments are inspected as described in Section R645-301-514.300.

R645-301-743.200
N/A

R645-301-743.300 Design Event for Spillways
Spillways are designed to safely pass the runoff from a 25-year, 6-hour event (See Appendix 7-6).

R645-301-744 Discharge Structures

R645-301-744.100 Controls
The pond discharge is equipped with a riprap splash apron as shown on Exhibit 7-2 and detailed in Appendix 7-7.

R645-301-744.200 Design
The outlet structure and protection are designed according to standard engineering design procedures as shown in Appendices 7-6 and 7-7.
R645-301-745 Disposal of Excess Spoil
N/A There are no plans to dispose of excess spoil at this site.

R645-301-745.100 through R645-301-745.400
N/A

R645-301-746 Coal Mine Waste
The only coal mine waste that will potentially be produced here is coal processing waste. There are no plans to dispose of this material on site.

R645-301-746.100 General Requirements

R645-301-746.110 Disposal
Disposal of coal processing waste is discussed in Section R645-301-513.300 in Chapter 5. There will be no disposal on this site.

R645-301-746.120
N.A There will be no disposal at this site.

R645-301-746.200 Refuse Piles
N/A There are no refuse piles here.

R645-301-746.210 through R645-301-746.222
N/A

R645-301-746.300 Impounding Structures
N/A There are no impounding structures constructed of or impounding coal mine waste.

R645-301-746.310 through R645-301-746.340
N/A
R645-301-746.400 Return of Coal Processing Waste to Abandoned Underground Workings
Methods of disposal for coal processing waste are discussed in Section R645-301-513.300 in Chapter 5. There will be no disposal at this site.

R645-301-746.410
See Section R645-301-513.300.

R645-301-746.420
See Section R645-301-513.300.

R645-301-746.430
See Section R645-301-513.300.

R645-301-747 Disposal of Noncoal Mine Waste
Disposal of noncoal mine waste is detailed under Section R645-301-521 of Chapter 5.

R645-301-747.100
Noncoal mine waste will be placed and stored in a controlled manner (i.e. dumpsters, bermed areas) on a temporary basis only until removal and final disposal in the Carbon County Landfill or other state-approved solid waste disposal area.

R645-301-747.200
Placement and storage of noncoal mine waste will be only temporary, and will be in a controlled manner to prevent contamination of surface or ground water from runoff. Dumpsters and/or bermed areas will be used to prevent runoff.

R645-301-747.300
N/A There are no plans to dispose of noncoal mine waste on site.
R645-301-748 Casing and Sealing of Wells

N/A There are no wells on this site.

R645-301-750 Performance Standards

All mining and reclamation operations will be conducted to minimize disturbance to the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area and support postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of R645-301- and R645-302.

R645-301-751 Water Quality Standards and Effluent Limitations

Discharges of water will be made in compliance with all Utah and federal water quality laws and regulations and with effluent limitations for coal mining promulgated by the U.S.E.P.A. set forth in 40 CFR Part 434.

R645-301-752 Sediment Control Measures

Sediment control measures will be located, constructed, maintained and reclaimed as described in Sections R645-301-732, R645-301-742 and R645-301-760,

R645-301-752.100 Siltation Structures and Diversions will be located, maintained, constructed and reclaimed according to plans and designs given under R645-301-732, R645-301-742 and R645-301-763.

R645-301-752.200 Road Drainage

Roads will be located, designed, constructed, reconstructed, used, maintained and reclaimed according to R645-301-732.400 and R645-301-742.400 and R645-301-762 and to achieve the following:

R645-301-752.210 Control or prevent erosion, siltation and the air pollution attendant
to erosion by vegetating or otherwise stabilizing all exposed surfaces in accordance with current, prudent engineering practices;

**R645-301-752.220**
Control or prevent additional contributions of suspended solids to stream flow or runoff outside the permit area;

**R645-301-752.230**
Neither cause nor contribute to, directly or indirectly, the violation of effluent standards given under R645-301-751;

**R645-301-752.240**
Minimize the diminution to or degradation of the quality or quantity of surface- and ground-water systems; and

**R645-301-752.250**
Refrain from significantly altering the normal flow of water in streambeds or drainage channels.

**R645-301-753 Impoundments and Discharge Structure**
Impoundments and discharge structures will be located, maintained, constructed and reclaimed to comply with R645-301-733, R645-301-734, R-645-301-743, R645-301-745 and R645-301-760.

**R645-301-754 Disposal of Excess Spoil, Coal Mine Waste and Noncoal Mine Waste.**
Disposal areas for excess spoil, coal mine waste and noncoal mine waste will be located, maintained, constructed and reclaimed to comply with R645-301-735, R645-301-736, R645-301-745, R645-301-746, R645-301-747, and R645-301-760.

**R645-301-755 Casing and Sealing of Wells**
N/A There are no wells at this site.

Revised 3/07
Reclamation of the minesite is detailed in Section R645-301-540 of Chapter 5. Only those reclamation procedures pertinent to hydrology are repeated in this section.

**R645-301-761 General Requirements**

All drainage controls at Banning will remain intact until the final grading of the site of the postmining surface configuration. After this time, all controls will be removed except for the sedimentation pond and associated outflow structures (Exhibit 5-6). With the exception of the sedimentation pond, all associated outflow structures will be recontoured and revegetated after the quality of the drainage entering the pond meets applicable requirements. Also, once revegetation requirements are met, these drainage controls will be removed from the site.

The timetable for the removal of all drainage control structure is shown in Section R645-301-540. The sedimentation pond and silt-fence dam and/or straw bale dikes will be controls left on the site until standards are met by drainage at the site. No stream channel diversions will be incorporated in the reclamation plan. Monitoring of water at the site will continue until Phase II Bond Release is obtained.

The water sump will be plugged during the structure removal and site cleanup. There is no acid or toxic forming materials at the site, but if any are found or used during the operation they will be removed and properly disposed of by the Applicant, prior to reclamation of the property.

There are no perennial or intermittent streams within 100 feet of the permit area which contain a biological community.
**R645-301-762 Roads**

As indicated in Section R645-301-540, a portion of the haul road will be left in place per agreement with the B.L.M. for the Right-of-Way. This road is shown on Exhibit 5-6. All other roads will be removed and reclaimed.

**R645-301-762.100**

Natural drainage patterns will be restored on the reclaimed site.

**R645-301-762.200**

The area will be reclaimed to Approximate Original Contour.

**R645-301-763 Siltation Structures**

Siltation structures are temporary and will be removed when no longer required.

**R645-301-763.100**

Siltation structures will be maintained until removal is authorized by the Division and the disturbed area has been stabilized and revegetated.

**R645-301-763.200**

Upon removal, the land on which the structure was located will be regraded and revegetated according to the reclamation plan.

**R645-301-764 Structure Removal**

A Reclamation Timetable (Table 5-2) is provided in Chapter 5, which includes a schedule for structure removal.

**R645-301-765 Permanent Casing and Sealing of Wells**

N/A There are no wells at this site.
REFERENCES


CHAPTER 7

LIST OF APPENDICES

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APPENDIX 7-2 SURFACE WATER INFORMATION
APPENDIX 7-3 CLIMATOLOGICAL INFORMATION AND AIR QUALITY APPROVAL
APPENDIX 7-4 UPDES PERMIT
APPENDIX 7-5 DISCHARGE DATA
APPENDIX 7-6 SEDIMENTATION POND CALCULATIONS
APPENDIX 7-7 RIP RAP SPLASH APRON CALCULATIONS
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APPENDIX 7-9 SEDCAD ANALYSIS (SAE & ASCA'S)

LIST OF EXHIBITS

EXHIBIT 7-1 BANNING LOADOUT RUNOFF CONTROL MEASURES
EXHIBIT 7-1a RUNOFF CONTROL MAP
EXHIBIT 7-2 SEDIMENTATION POND PLAN AND SECTIONS
EXHIBIT 7-3 SEDIMENTATION POND DETAILS

Revised 3/07
APPENDIX 7-1

GROUND WATER INFORMATION
# GROUNDWATER RESULTS FOR BANNING LOADOUT

## PAGE 1 of 2

<table>
<thead>
<tr>
<th>Description</th>
<th>Result</th>
<th>Units</th>
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<tbody>
<tr>
<td>Solids, settleable (smpl)</td>
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<td>OH</td>
<td>Hydroxide as CaCO3</td>
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<td>Alk</td>
<td>Alkalinity as CaCO3</td>
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<td>H 2 S</td>
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### TABLE 3
GROUND WATER BASELINE, OPERATIONAL AND POSTMINING WATER QUALITY PARAMETER LIST

**Field Measurements:**
- Water Levels or Flow
- pH
- Specific Conductivity (umhos/cm)
- Temperature (°C)

**Laboratory Measurements:** (mg/l) (Major, minor ions and trace elements are to be analyzed in dissolved form only.)
- Total Dissolved Solids
- Total Hardness (as CaCO₃)
- Aluminum (Al)
- Arsenic (As)
- Barium (Ba)
- Sulfur (S)
- Carbonate (CO₃⁻²)
- Bicarbonate (HCO₃⁻)
- Cadmium (Cd)
- Calcium (Ca)
- Chloride (Cl⁻)
- Chromium (Cr)
- Copper (Cu)
- Fluoride (F⁻)
- Iron (Fe)
- Lead (Pb)
- Magnesium (Mg)
- Manganese (Mn)
- Mercury (Hg)
- Molybdenum (Mo)
- Nickel (Ni)
- Nitrogen: Ammonia (NH₃)
- Nitrate (NO₃⁻)
- Nitrite (NO₂⁻)
- Potassium (K)
- Phosphate (PO₄³⁻)
- Selenium (Se)
- Sodium (Na)
- Sulfate (SO₄²⁻)
- Sulfide (S⁻)
- Zinc (Zn)

**Sampling Period:**
- Baseline
  *Operational, Postmining
Soldier Creek Coal Company  
P.O. Box 1  
PRICE UT 84501

Dear Applicant:  
RE: APPROVED APPLICATION  
NUMBER 54809 (91-4226)

Enclosed find approved Application No. 54809 (91-4226).  
This is your authority to proceed with actual construction  
work which, under Sections 73-3-10 and 73-3-12, Utah Code  
Annotated, 1953, as amended, must be diligently prosecuted  
to completion. The water shall be put to beneficial use  
and proof of appropriation shall be made to the State Engi-  
neer on or before February 28, 1984, otherwise, the  
application shall lapse.

Failure on your part to comply with the requirements of the  
statutes may result in forfeiture of this application.

Yours truly,

[Signature]

Dec C. Hansen, P. E.  
State Engineer

Encl.: Copy of Approved Application  
Memorandum Decision

APPLICATION APPROVED
IN THE MATTER OF APPLICATION

NUMBER 54809 (91-4226)

Application No. 54909 (91-4226) was filed June 18, 1980 by Soldier Creek Coal Company seeking the right to appropriate 0.03 cfs. of water from a 20-foot deep well located at a point South 837 feet and East 86 feet from the NW\(^{1/4}\) Corner of Section 15, T15S, R12E, SLB&M. The water is to be used from January 1 to December 31 for dust suppression at a coal loadout facility located within the NW\(^{3/4}\)SW\(^{1/4}\) of Section 15, T15S, R12E, SLB&M. The application was advertised in the Sun Advocate beginning August 7, 1980 and ending August 21, 1980. Subsequent to the public notice, the application was protested by Mike Himonas representing Himonas Brothers.

A hearing regarding the protest was held November 20, 1980 at Price, Utah. The applicant was represented at the hearing by their chief engineer, Tom Paluso. Mr. Paluso stated that the well was a result of water seeping into a truck dump hopper and flooding the facility. However, because of the requirements of various government agencies to control dust at the loadout facility, the well is needed and is a convenient and adequate source of water to meet the needs of the company. It was stated that the use will be sporadic because the coal from the mine if often wet enough that dust is not a problem. However, upon occasion, the well will be pumped to keep the water from flooding the truck hopper. When this is done, the water is discharged into a small wash which is tributary to Grassy Trail Creek. Mr. Paluso did not feel that the small quantity of water sought under the subject application would deprive the protestants of their vested rights in the area.

Mr. Mike Himonas represented the protestants at the hearing. He stated that the rangeland and water around the loadout facility was part of their private and grazing permit land which was vital to their livestock operation. He was concerned that his protest be made a matter of record in the State Engineer's Office. He agreed with the need for dust control at times and supported the applicant's desire to control it.

It is the opinion of the State Engineer that there is unappropriated water in the area of the subject application and the approval of this application would not interfere with any prior rights in the area.

It is, therefore, ordered and Application No. 54809 (91-4226) is hereby APPROVED subject to prior rights, specifically those of the protestants.
This decision is subject to the provisions of Section 73-3-14, Utah Code Annotated, 1953, which provides for plenary review by the filing of a civil action in the appropriate district court within sixty days from the date hereof.

Dated this 23th day of March, 1981.

Dee C. Hansen, P. E., State Engineer

Mailed a copy of the foregoing Memorandum Decision this 25th day of March, 1981, to:

Soldier Creek Coal Company
P.O. Box I
PRICE UT 84501

Himona Brothers
C/O Mike Himona
Box 634
PRICE UT 84501

By: Debra P. Horrocks, Secretary
APPLICATION TO APPROPRIATE WATER
STATE OF UTAH

Application No. 54 809

NOTE: The information given in the following blanks should be free from explanatory matter, but when necessary, a complete supplementary statement should be made on the following page under the heading "Explanatory.

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, for uses indicated by (X) in the proper box or boxes, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

1. Irrigation (X) Domestic (X) Stockwatering (X) Municipal (X) Power (X) Mining (X) Other Uses
2. The name of the applicant is: SOLDIER CREEK COAL COMPANY
3. The Post Office address of the applicant is: P.O. Box 1, Price, Utah 84501
4. The quantity of water to be appropriated: 0.03 (20,000 gpd)
5. The water is to be used for: Dust Suppression (X)

Other use period: from (Month) (Day) (Month) (Day)

and stored each year (if stored) from (Month) (Day) (Month) (Day)

6. The drainage area to which the direct source of supply belongs is: (Leave Blank)

7. The direct source of supply is: Underground water source approximately 16 feet deep

(Name of stream or other source)

which is tributary to: (Leave Blank)

*Note: Where water is to be diverted from a well, a tunnel, or drain, the source should be designated as "underground water" in the first space and the remaining spaces should be left blank. If the source is a stream, a spring, or a drain, so indicate in the first space, giving its name, if named, and in the remaining spaces, designate the stream channels to which it is tributary, even though the water may, in fact, be diverted without leaving said channels. If water from a spring flows in a natural channel before being diverted, the direct source should be designated as a stream and not a spring.

8. The point of diversion from the source is in: Carbon County, situated at a point 86 feet East and 837 feet South of the NW corner of the NW

of SW 1/4 Section 15 of Township 15 South, Range 12 East, SLB&M. (1/4 mile South of Sunnyside, ID)

*Note: The point of diversion must be located definitely by course and distance or by giving the distances north or south, and east or west with reference to a United States land survey corner or United States mineral monument, if within a distance of six miles of either, or if at a greater distance, to some prominent and permanent natural object. No application will be received for filing in which the point of diversion is not definitely defined.

9. The diverting and carrying works will consist of: (On Pg. 2)

10. If water is to be stored, give capacity of reservoir in acre-feet, height of dam, area inundated in acres, legal subdivision of area inundated.

11. If application is for irrigation purposes, the legal subdivisions of the area irrigated are as follows:


12. Is the land owned by the applicant? Yes__ No__ X If "No," explain on page 2.

13. Is this water to be used supplementally with other water rights? Yes__ No__ X

If "yes," identify other water rights on page 2.

14. If application is for power purposes, describe type of plant, size and rated capacity.

15. If application is for mining, the water will be used in _________________ Mining District at the _________________ mine, where the following ores are mined.

16. If application is for stockwatering purposes, number and kind of stock watered.

17. If application is for domestic purposes, number of persons, or families.

18. If application is for municipal purposes, name of municipality.

19. If application is for other uses, include general description of proposed uses: Water will be used in suppressing fugitive dust throughout all operations at a coal loadout facility.

20. Give place of use by legal subdivision of the United States Land Survey for all uses described in paragraphs 14 to 19, incl. _______________ SW 1/4 Section 15, T 15 S., R 12 E., SLB&M.

21. The use of water as set forth in this application will consume
The following additional facts are set forth in order to define more clearly the full purpose of the proposed application:

The area where the water will be used is a coal handling and loadout facility operated by Coal Service Company for Soldier Creek Coal Company. The land is federally owned with Soldier Creek holding a BLM special land use permit.

As shown in the enclosed map of the loadout facility, the water will be used on spray bars on the conveyor belts. An auxiliary use would be to load a water truck from the point source for wetting roadways. These two applications are limited to short durations of usage. When they are not in use, all water is diverted away from the source and discharges into a wash which eventually dumps into Grassy Trail Creek.

The system consists of a 5 hp pump located at the point source connected to a 2" discharge pipe. This 2" line runs to the discharge into the wash and also runs to the back of the tunnel. At this point it enters into a 7.5 hp high pressure pump with a 3/4" steel pipe discharge. This line runs to spray bars at the mouth of the tunnel and at the finish product belt of the screening plant.

(Use page 4 if additional explanatory is needed.)

The quantity of water sought to be appropriated is limited to that which can be beneficially used for the purpose herein described.

Signature of Applicant

*If applicant is a corporation or other organization, signature must be the name of such corporation or organization by its proper officer, or in the name of the partnership by one of the partners, and the names of the other partners shall be listed. If a corporation or partnership, the affidavit below need not be filled in. If there is more than one applicant, a power of attorney, authorizing one to act for all, should accompany the application.

DECLARATION OF CITIZENSHIP

STATE OF UTAH
County of

On the 7th day of June, 1950, personally appeared before me, a notary public for the State of Utah, the above applicant who, on oath, declared that he is a citizen of the United States, or has declared his intention to become such a citizen.

My commission expires: 7-31-53

[Signature]
FEES FOR APPLICATIONS TO APPROPRIATE WATER IN UTAH

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<tr>
<td>over 0.1 to 0.5</td>
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<tr>
<td>over 0.5 to 1.0</td>
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<tr>
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Storage — acre-feet

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<td>over 20 to 500</td>
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<td>over 500 to 7500</td>
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<tr>
<td>over 7500</td>
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</table>

(This section is not to be filled in by applicant)

STATE ENGINEER'S ENDORSEMENTS

1. June 18, 1980. Application received (by mail) in State Engineer's office by ______
   over counter by ______

2. Priority of Application brought down to, on account of ______

3. 6/18/80. Application fee, $15.00, received by ______
   Rec. No. ______
   Roll No. ______

4. 6/18/80. Application microfilmed by ______

5. 6/18/80. Indexed by ______
   Platted by ______
   (012:15:15:15:bc, 0604/10)

6. 6/19/80. Application examined by ______

7. Application returned, or corrected by office ______

8. Corrected Application resubmitted ______
   by mail over counter to State Engineer's office ______

9. 6/19/80. Application approved for advertisement by ______

10. JUL. 29. 1980. Notice to water users prepared by ______

11. AUG. 7. 1980. Publication began; was completed AUG. 21. 1980
    Notice published in ______

12. 8/1/80. Proof slips checked by ______

13. 8/1/80. Application protested by Munen brothers ______

14. 8/1/80. Publisher paid by M.E.V. No. ______

15. 11/20/80. Hearing held by ______

16. Field examination by ______

17. 12/11/80. Application designated for ______

18. 3/25/81. Application copied or photostated by ______
   proofread by ______

19. 3/25/81. Application ______

20. Conditions:
    This Application is approved, subject to prior rights, as follows:
    a. Actual construction work shall be diligently prosecuted to completion.
    b. Proof of Appropriation shall be submitted to the State Engineer's office by ______
    c. See Memorandum Decision dated March 25, 1981

21. Time for making Proof of Appropriation extended to ______

NOTICE TO APPLICANT.

All waters in this state, whether above or under the ground, are the property of the public, subject to all existing rights to the use thereof. No appropriation of the unappropriated public water may be made and no rights to the use thereof shall be recognized except Application for such appropriation first be made to the State Engineer.

The approval of this Application is not a Certificate of Appropriation. It is merely your authority to begin construction work, which must be prosecuted diligently to completion. To secure a Certificate of Appropriation under this Application, Proof of Appropriation must be submitted within the time limit allowed by the State Engineer. The amount of water for which Certificate will be granted shall
October 14, 1985

Mr. Mark Page  
Area Engineer  
Utah State Water Rights  
453 South Carbon Avenue  
P.O. Box 718  
Price, UT 84501

Re: 91-4226 Water User Claim

Dear Mr. Page:

Enclosed are the executed Water User Claims as requested in your letter dated September 27, 1985.

Please contact me if any additional work is required.

Sincerely,

SOLDIER CREEK COAL COMPANY

J.T. Paluso  
Chief Engineer

JTP:pp  
Enclosures
September 27, 1985

Soldier Creek Coal Company
Attn: Tom Paluso
P.O. Box 1
Price, Utah 84501

Re: 91-4226

Dear Mr. Paluso:

Enclosed is a set of prepared Water Users Claims for your water right on the underground sump at the Banning Coal Load Out Facility. The forms require your notarized signature as an agent of the company. Please keep the third copy for your records and returned the stapled copies to our office. This will finalize the above referenced water right.

If you have any questions regarding this procedure, please feel free to contact me.

Sincerely,

Mark P. Page
Area Engineer

Enclosure

MPP/mjk
IN THE SEVENTH JUDICIAL DISTRICT COURT, IN AND FOR THE COUNTY OF CARBON, STATE OF UTAH


NOTE: This blank is sent to you in accordance with Utah Law. The information called for herein will be used in connection with the adjudication of water rights on the above mentioned drainage area. All questions applicable to your claim must be answered fully, and one copy of this form must be filed with the Clerk of the District Court at

PRICE, Utah, within sixty (60) days from date of service of the attached Notice. A copy shall be filed with the State Engineer, State Capitol, Salt Lake City. Failure to file the attached Statement of the Water User's Claim with the Clerk of the District Court within the time stated will forever bar and preclude you from asserting any right to the use of water from said drainage area.

1. Name of Claimant: Soldier Creek Coal Company
   P.O. Box 1
   Price, Utah 84501

2. Address: Interest Claimed: Full

3. Name of particular spring, spring area, stream, well, tunnel or drain from which water is diverted is Underground Sump in Carbon.

4. Priority date claimed June 16, 1980
   Date when water was first used
   Date when work on diverting system was first begun
   Date when diverting system was completed

5. Class of Right (Indicate by X):
   (a) Right to surface water initiated by beneficial use before 1903 Claim No.
   (b) Right to underground water initiated before 1935 Claim No.
   (c) Right decreed by court, cite title of case
   (d) X Application filed, State Engineer's Office No. 54809 Cert. of App. No. Election
   (e) Right acquired by adverse use prior to 1939

6. Nature (Indicate by X), Amount, and Annual Period of Use (by month & day):
   (a) X Irrigation Sec. Ft. from January 1 to December 31 (both dates incl.)
   (b) X Stock watering Sec. Ft. from January 1 to December 31 (both dates incl.)
   (c) Domestic Sec. Ft. from January 1 to December 31 (both dates incl.)
   (d) X Municipal Sec. Ft. from January 1 to December 31 (both dates incl.)
   (e) X Industrial Sec. Ft. 0.028 from January 1 to December 31 (both dates incl.)

7. Direct Flow Appropriation (must be described with reference to U.S. Government Survey Corner)
   (a) Point of diversion from spring, spring area, stream, well, tunnel, drain
   S. 942 ft. & E. 80 ft. from Wc Cor. Sec. 15, T15S, R12E, SL&B
   (b) Description of spring area
   (c) Point of rediversion or point of return to natural channel
   (d) If flow is intermittently diverted, list by number or description, all rights involved

8. Where water is used for irrigation purposes:
   (a) Area irrigated in legal subdivisions of land by 40-acre tract. (All sources of water for same land or lands must be described in each instance by name or claim number)

9. Where water is used for Stockwatering:
   (a) Number of each kind of stock watered
   (b) All sources of water for same stock. (Describe by name or claim number)

10. Where water is used for Domestic:
    (a) Number of families or their equivalent
    (b) All sources of water for same use.
    (Describe by name or claim number)

STATEMENT OF WATER USERS' CLAIM

CLAIM NO. SERIAL NO.
91 4225

MAP NO.
11. Where water is used for Municipal Purposes:
   (a) Name of city or town supplied                  Population
       Number of families                      Quantity of water

12. Where water is used for a purpose not above enumerated:
   (c) Nature of the Industrial
   (d) Extent of Use
   Dust suppression at the Banning Coal Load Out facility located in
   WASH., Sec. 15, T15S, R12E, SL80M.

13. Appropriation for Storage Purposes:
   (a) Name of reservoir
   (b) Location of reservoir by legal subdivisions described by 40-acre tracts
   (c) Maximum capacity of reservoir in acre feet
       Year construction commenced
       Completed
       Is reservoir located on or off stream
       (both dates incl.) Period of use from
       to                    (both dates incl.) Maximum area in acres inundated
       Max. depth in feet
       Average depth in feet
       Is reservoir drained each year
       Maximum number of fillings per year
       If feeder canal is used, give maximum carrying capacity in cc ft.

14. Diverting Works:
   (a) Surface water diverting dam: Material composed of
       Max. length,                        Max. height
       at top
   (b) Underground water diverting works: Is well flowing or pump
       Depth of well
       Diameter of well,                      Length of drain,                      Width of drain
       Diameter of drain,                      Length of tunnel,                      Width of tunnel
       Height of tunnel
       Type of pump
       Capacity of pump
   (c) Surface and underground water conveying works: Length of ditch to first place of use
       Width of pipe line to first place of use
       Length of pipe line
       Grade of pipe line per 1000 feet
       Width of ditch at top
       Width of ditch at bottom
       Depth of water
       Grade of ditch per 1000 ft.
       Material through which ditch passes
       Maximum length of pipe line

15. The undersigned hereby enters his appearance and waives service of summons or other process.

STATE OF UTAH

COUNTY OF

being first duly sworn, upon oath deposes and says that he is the claimant
whose name appears herein, that he has read the foregoing statement of his claim and knows the contents thereof, that
he has signed the same, and that the answers set forth therein are true to his best knowledge and belief.

Signature of Claimant

Subscribed and sworn to before me this day of                19

NOTARY PUBLIC

STATE OF UTAH

COUNTY OF Carbon

M.D. Ross

President

being first duly sworn, upon oath deposes and says that he is the
of the above claimant, that he makes this certification on behalf of said
claimant, that he has read the foregoing statement of claim and knows the contents thereof, and that he has signed the name
of said claimant to said statement, that the answers set forth therein are true to his best knowledge and belief.

Subscribed and sworn to before me this 3rd day of October, 1985

NOTARY PUBLIC

Robert Dew
APPENDIX 7-2
SURFACE WATER INFORMATION
Client: Soldier Creek Coal Company
Address: P.O. Box 1
Price, Utah 84501
Attn. : Mr. Dave Spillman
P.O. No.: 

Sample ID: BANNING
Sample Date Time: 05/20/88 09:50

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Remarks:
Note: Negative sign "-" denotes that the value is less than "<"

Ralph V. Poulsen, Laboratory Director
Client: Soldier Creek Coal Company  
Address: P.O. Box 1  
Price, Utah 84501  
Attn. : Mr. Dave Spillman  
P.O. No.:  

Sample ID: BANKING  
Sample Date Time: 06/15/88 09:30  

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<th>Value</th>
<th>Unit</th>
<th>Analysis Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and Grease</td>
<td>-1.0</td>
<td>mg/l</td>
<td>06/29/88</td>
</tr>
<tr>
<td>Solids, total dissolved</td>
<td>4074.0</td>
<td>mg/l</td>
<td>06/22/88</td>
</tr>
<tr>
<td>Solids, total suspended</td>
<td>.4</td>
<td>mg/l</td>
<td>06/22/88</td>
</tr>
<tr>
<td>Solids, settleable</td>
<td>.10</td>
<td>mlllhr</td>
<td>06/22/88</td>
</tr>
<tr>
<td>Iron, dissolved</td>
<td>.03</td>
<td>mg/l</td>
<td>06/22/88</td>
</tr>
<tr>
<td>Iron, total</td>
<td>.10</td>
<td>mg/l</td>
<td>06/22/88</td>
</tr>
<tr>
<td>Manganese, total</td>
<td>.01</td>
<td>mg/l</td>
<td>06/22/88</td>
</tr>
</tbody>
</table>

Remarks: Lab Filtering Required on "GREEN" Bottle #3526  
Note: Negative sign "-" denotes that the value is less than ".

Ralph V. Poulson, Laboratory Director  

[Signature]

[Date: 6/15/88]
Client: Soldier Creek Coal Company
Address: P.O. Box 1
Price, Utah 84501
Attn.: Mr. Dave Spillman
P.O. No.: 

Sample ID: BANNING 001
Sample Date Time: 07/01/88 13:00
Sample Received: 07/05/88

<table>
<thead>
<tr>
<th>Parameter</th>
<th>10/03/90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkalinity as CaCO3</td>
<td>344. mg/l</td>
</tr>
<tr>
<td>Bicarbonate as CaCO3</td>
<td>08 mg/l</td>
</tr>
<tr>
<td>Boron, dissolved</td>
<td>04 mg/l</td>
</tr>
<tr>
<td>Calcium, dissolved</td>
<td>290 mg/l</td>
</tr>
<tr>
<td>Carbonate as CaCO3</td>
<td>0 mg/l</td>
</tr>
<tr>
<td>Chloride</td>
<td>11.5 mg/l</td>
</tr>
<tr>
<td>Fluoride</td>
<td>0.2 mg/l</td>
</tr>
<tr>
<td>Hardness as CaCO3</td>
<td>2250 mg/l</td>
</tr>
<tr>
<td>Hydroxide as CaCO3</td>
<td>0 mg/l</td>
</tr>
<tr>
<td>Magnesium, dissolved</td>
<td>372 mg/l</td>
</tr>
<tr>
<td>Nitrogen, ammonia</td>
<td>06 mg/l</td>
</tr>
<tr>
<td>Nitrate as N, dissolved</td>
<td>.42 mg/l</td>
</tr>
<tr>
<td>Nitrite as N, dissolved</td>
<td>.01 mg/l</td>
</tr>
<tr>
<td>Oil and Grease</td>
<td>.1 mg/l</td>
</tr>
<tr>
<td>Phosphate</td>
<td>.1 mg/l</td>
</tr>
<tr>
<td>Phosphorus, ortho diss</td>
<td>.02 mg/l</td>
</tr>
<tr>
<td>Potassium, dissolved</td>
<td>4 mg/l</td>
</tr>
<tr>
<td>Sodium, dissolved</td>
<td>294 mg/l</td>
</tr>
<tr>
<td>Sulfate</td>
<td>2330 mg/l</td>
</tr>
<tr>
<td>Sulfide as S</td>
<td>4 mg/l</td>
</tr>
<tr>
<td>Cations (sum)</td>
<td>58.04 meq/l</td>
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<tr>
<td>Anions (sum)</td>
<td>59.03 meq/l</td>
</tr>
<tr>
<td>Cation-Anion Balance</td>
<td>.85 %</td>
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<tr>
<td>Solids, total dissolved</td>
<td>3972 mg/l</td>
</tr>
<tr>
<td>Solids, total suspended</td>
<td>.2 mg/l</td>
</tr>
<tr>
<td>Solids, settleable</td>
<td>.1 ml/hr</td>
</tr>
<tr>
<td>Aluminum, dissolved</td>
<td>.05 mg/l</td>
</tr>
<tr>
<td>Arsenic, dissolved</td>
<td>.001 mg/l</td>
</tr>
<tr>
<td>Barium, dissolved</td>
<td>.07 mg/l</td>
</tr>
<tr>
<td>Cadmium, dissolved</td>
<td>.005 mg/l</td>
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<tr>
<td>Chromium, dissolved</td>
<td>.01 mg/l</td>
</tr>
<tr>
<td>Copper, dissolved</td>
<td>.01 mg/l</td>
</tr>
<tr>
<td>Iron, dissolved</td>
<td>.04 mg/l</td>
</tr>
<tr>
<td>Iron, total</td>
<td>.07 mg/l</td>
</tr>
<tr>
<td>Lead, dissolved</td>
<td>.02 mg/l</td>
</tr>
<tr>
<td>Manganese, total</td>
<td>.01 mg/l</td>
</tr>
<tr>
<td>Manganese, dissolved</td>
<td>.01 mg/l</td>
</tr>
<tr>
<td>Mercury, dissolved</td>
<td>.0001 mg/l</td>
</tr>
<tr>
<td>Molybdenum, dissolved</td>
<td>.05 mg/l</td>
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<tr>
<td>Nickel, dissolved</td>
<td>.02 mg/l</td>
</tr>
<tr>
<td>Selenium, dissolved</td>
<td>.029 mg/l</td>
</tr>
<tr>
<td>Zinc, dissolved</td>
<td>.05 mg/l</td>
</tr>
</tbody>
</table>

Remarks: Lab Filtering Required on "GREEN" Bottle

Note: Negative sign " " denotes that the value is less than "<"

Ralph V. Poulsen, Laboratory Director
Client: Soldier Creek Coal Company
Address: P.O. Box 1
Price, Utah 84501
Attn.: Mr. Dave Spillman
P.O. No.:

Sample ID: BANNING
Sample Date Time: 08/18/88 09:00

Lab No.: 88-WI/04713
Date Received: 08/23/88

Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and Grease</td>
<td>1 mg/l</td>
</tr>
<tr>
<td>Solids, total dissolved</td>
<td>3906 mg/l</td>
</tr>
<tr>
<td>Solids, total suspended</td>
<td>2 mg/l</td>
</tr>
<tr>
<td>Solids, settleable</td>
<td>-.1 ml/l/hr</td>
</tr>
<tr>
<td>Iron, dissolved</td>
<td>.10 mg/l</td>
</tr>
<tr>
<td>Iron, total</td>
<td>.23 mg/l</td>
</tr>
<tr>
<td>Manganese, total</td>
<td>-.01 mg/l</td>
</tr>
</tbody>
</table>

Remarks:

Note: Negative sign "-" denotes that the value is less than "<"

Ralph V. Poulsen, Laboratory Director

Ralph V. Poulsen/13-H.
Client: Soldier Creek Coal Company  
Address: P.O. Box 1  
Price, Utah 84501  
Attn.: Mr. Dave Spillman  
P.O. No.:   

Sample ID: BANNING DISCHARGE  
Sample Date Time: 09/15/88 12:00  

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Analysis Date</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and Grease</td>
<td>2. mg/l</td>
<td></td>
</tr>
<tr>
<td>Solids, total dissolved</td>
<td>3942. mg/l</td>
<td></td>
</tr>
<tr>
<td>Solids, total suspended</td>
<td>6. mg/l</td>
<td></td>
</tr>
<tr>
<td>Solids, settleable</td>
<td>-.1 ml/l/hr</td>
<td></td>
</tr>
<tr>
<td>Iron, dissolved</td>
<td>.08 mg/l</td>
<td></td>
</tr>
<tr>
<td>Iron, total</td>
<td>.13 mg/l</td>
<td></td>
</tr>
<tr>
<td>Manganese, total</td>
<td>.01 mg/l</td>
<td></td>
</tr>
<tr>
<td>Date Received: 09/19/88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis Date: 09/22/88</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Negative sign "-" denotes that the value is less than ".<"
Client: Soldier Creek Coal Company
Address: P.O. Box 1
        Price, Utah 84501
Attn.: Mr. Dave Spillman
P.O. No.: 

Sample ID: BANNING UPDES001
Sample Date Time: 10/14/88 11:00

Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Date</th>
<th>Analysis Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and Grease</td>
<td>1.</td>
<td>10/27/88</td>
</tr>
<tr>
<td>Solids, total dissolved</td>
<td>4040.</td>
<td>10/25/88</td>
</tr>
<tr>
<td>Solids, total suspended</td>
<td>8.</td>
<td>10/25/88</td>
</tr>
<tr>
<td>Solids, settleable</td>
<td>-.1</td>
<td>10/25/88</td>
</tr>
<tr>
<td>Iron, dissolved</td>
<td>.12</td>
<td>10/24/88</td>
</tr>
<tr>
<td>Iron, total</td>
<td>.13</td>
<td>10/24/88</td>
</tr>
<tr>
<td>Manganese, total</td>
<td>-.01</td>
<td>10/24/88</td>
</tr>
</tbody>
</table>

Remarks:
Note: Negative sign "-" denotes that the value is less than "<"

Ralph V. Poulsen, Laboratory Director

Ralph V. Poulsen 15:49
APPENDIX 7-3

CLIMATOLOGICAL INFORMATION AND AIR QUALITY APPROVAL ORDER
CLIMATE - AIR QUALITY

Environmental Description

The Applicant has provided data from various meteorological stations to present a complete baseline of the environmental information for the permit application. An Air Quality Approval Order has been obtained by the Applicant for Banning Loadout from the Utah Department of Health (see Sec 1.16, DEH letter dated 07/16/80). Operation at the loadout have not changed since the acquisition of the approval order and will continue to comply with the order.

Meteorological data obtained provides a yearly summary of average seasonal precipitation, wind direction, velocity of prevailing winds and seasonal temperature ranges. Historical data is also presented, along with regional maps depicting seasonal temperature and precipitation ranges. Part of the data shown has been incorporated into the soldier Canyon Mine Permit Document (ACT/007/018) and the Sage Point - Dugout Canyon Permit Document (ACT/007/009).

Several source stations were used to collect data. The first was a station located 9 miles north of the loadout facilities and provided the following data: suspended particulates, wind speed, wind direction, ambient temperature, precipitation and relative humidity. The Utah State Climatologist stations in Price and a BLM station located at Cedar Towne 9 miles southeast of the facilities.

Climatology

The permit area is located in the central portion of the Price River Basin in eastern Utah. The basin is surrounded almost entirely by mountains, ranging up to and over 10,000 ft. The
permit area lies in the flat valley bottom at an average elevation of 5,500 ft.

The nearby mountains greatly influence the local weather. They act as a barrier to approaching storms from every direction except south. Clear days predominate and annual precipitation is 6 to 8 inches. Mean annual temperature ranges from 48 degrees F to 52 degrees F, the mean annual soil temperature varies from 50 degrees F to 54 degrees F, and the average freeze – free season is 120 to 165 days.

Winters at the loadout are cold, but usually not severe. Minimum temperature can drop to as low as -20 degrees F but are usually around 15 degrees F. Snowfall is usually light and generally does not exceed 40 inches. Most of the storms that pass through the area are generated in the Gulf of Alaska.

The loadout is located in the steppe lands, between the desert margins and the higher mountain regions. Summers in this area are marked by hot days and relatively cool nights. Maximum temperatures, generally exceed 90 degrees F in July, while the minimum temperatures usually drop below 60 degrees F. The principal rainfall period occurs in late summer, when high intensity thunderstorms move through the area from moisture-laden air masses generated in the Pacific Ocean - Gulf of Mexico.

Relative humidity at the site is usually low throughout the year, with an annual potential evapotranspiration of approximately 25 inches. The growing season averages about five months, extending from middle May through early October. All of the above factors make up a difficult environment for advantageous crop production or rangeland use.

Figures 9.1-1 through 9.1-3 show isopleths for central Utah of mean minimum temperatures in January, mean maximal temperatures in July and mean annual precipitation. Figure 9.1-4 presents a graphical
summary of temperature and precipitation data for Sunnyside, Utah. 
Table 9.1-1 presents the thirty year average for the climatic conditions of Price, Utah. Meteorological data collected at the station 9 miles north of the loadout are presented in Table 9.1-2.
TEMPERATURE AND PRECIPITATION

1858 - 1875

SUNNYSIDE
LONGITUDE 110 22'
LATITUDE 39 34'
ELEVATION 6750'

Soldier Creek Coal Company

SOLDIER CANYON MINE

12/23/87 9-6
**TABLE 9.1-1**

PRICE WAREHOUSE REPORTING STATION #7026 (1951 - 1980)

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
<th>TOTAL OR AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Maximum (°F) Temperatures</td>
<td>36.90</td>
<td>43.10</td>
<td>51.50</td>
<td>62.50</td>
<td>75.50</td>
<td>83.40</td>
<td>91.00</td>
<td>88.10</td>
<td>79.90</td>
<td>67.60</td>
<td>50.70</td>
<td>40.00</td>
<td>64.20</td>
</tr>
<tr>
<td>Normal Minimum (°F) Temperatures</td>
<td>11.90</td>
<td>18.30</td>
<td>24.70</td>
<td>31.70</td>
<td>41.70</td>
<td>50.10</td>
<td>57.60</td>
<td>55.10</td>
<td>46.80</td>
<td>36.50</td>
<td>24.70</td>
<td>14.70</td>
<td>34.50</td>
</tr>
<tr>
<td>Normal Precipitation (inches)</td>
<td>.73</td>
<td>.76</td>
<td>.72</td>
<td>.50</td>
<td>.72</td>
<td>.70</td>
<td>.85</td>
<td>1.17</td>
<td>.97</td>
<td>1.09</td>
<td>.60</td>
<td>.87</td>
<td>9.68</td>
</tr>
<tr>
<td>Average Snowfall (inches)</td>
<td>14.60</td>
<td>10.50</td>
<td>4.30</td>
<td>.40</td>
<td>.70</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.30</td>
<td>3.00</td>
<td>12.60</td>
<td>46.40</td>
</tr>
<tr>
<td>Wind Speed (miles per day)</td>
<td>102.40</td>
<td>90.50</td>
<td>119.10</td>
<td>119.10</td>
<td>81.80</td>
<td>67.50</td>
<td>51.60</td>
<td>46.80</td>
<td>52.40</td>
<td>65.10</td>
<td>67.50</td>
<td>87.30</td>
<td>79.30</td>
</tr>
<tr>
<td>Solar Radiation (Langley's per day)</td>
<td>210</td>
<td>324</td>
<td>440</td>
<td>579</td>
<td>709</td>
<td>737</td>
<td>722</td>
<td>638</td>
<td>528</td>
<td>388</td>
<td>234</td>
<td>239</td>
<td>479</td>
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<tr>
<td>Minimum Relative (Percent)</td>
<td>.45</td>
<td>.46</td>
<td>.41</td>
<td>.30</td>
<td>.22</td>
<td>.24</td>
<td>.23</td>
<td>.24</td>
<td>.24</td>
<td>.29</td>
<td>.43</td>
<td>.45</td>
<td>.33</td>
</tr>
<tr>
<td>Saturated Vapor (inches of mercury)</td>
<td>.12</td>
<td>.17</td>
<td>.23</td>
<td>.32</td>
<td>.50</td>
<td>.66</td>
<td>.84</td>
<td>.78</td>
<td>.57</td>
<td>.39</td>
<td>.23</td>
<td>.14</td>
<td>.41</td>
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<tr>
<td>Pressure</td>
<td>.25</td>
<td>1.41</td>
<td>3.28</td>
<td>7.02</td>
<td>12.04</td>
<td>11.70</td>
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<td>10.33</td>
<td>7.32</td>
<td>4.92</td>
<td>2.40</td>
<td>1.15</td>
<td>74.35</td>
</tr>
</tbody>
</table>
## AMBIENT CLIMATOLOGICAL CONDITIONS AT A STATION
### 9 MILES NORTH OF BANNING LOADOUT
### BETWEEN MAY, 1978 and APRIL, 1979

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>AVG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature (°F)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>average</td>
<td>52.1</td>
<td>66.6</td>
<td>73.8</td>
<td>69.8</td>
<td>60.6</td>
<td>52.9</td>
<td>35.0</td>
<td>15.6</td>
<td>13.1</td>
<td>21.0</td>
<td>33.8</td>
<td>44.6</td>
<td>45.0</td>
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<td>89.6</td>
<td>95.0</td>
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<td>87.8</td>
<td>78.8</td>
<td>64.4</td>
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<td>44.6</td>
<td>51.8</td>
<td>68.0</td>
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<tr>
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<td>28.4</td>
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<td>46.4</td>
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<td>30.2</td>
<td>30.2</td>
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<td>12.2</td>
<td>17.6</td>
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<tr>
<td><strong>Precipitation (in.)</strong></td>
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</tr>
<tr>
<td>total</td>
<td>0.19</td>
<td>0.17</td>
<td>0.45</td>
<td>0.17</td>
<td>0.09</td>
<td>0.27</td>
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<td>1.17</td>
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<td>12.30*</td>
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<td><strong>Relative Humidity (%)</strong></td>
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</tr>
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<td>11.7</td>
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<td>13.4</td>
<td>11.8</td>
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<td>15.1</td>
<td>17.4</td>
<td>16.0</td>
<td>24.5</td>
<td>25.7</td>
<td>21.5</td>
<td>19.6</td>
<td>16.6</td>
<td>100</td>
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<tr>
<td>minimum</td>
<td>11.2</td>
<td>10.8</td>
<td>8.9</td>
<td>8.2</td>
<td>9.9</td>
<td>5.9</td>
<td>7.9</td>
<td>10.0</td>
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<td>7.9</td>
<td>7.9</td>
<td>9.6</td>
<td>5.9</td>
</tr>
<tr>
<td><strong>Wind Speed (m/sec)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>average</td>
<td>2.6</td>
<td>2.6</td>
<td>2.2</td>
<td>2.1</td>
<td>2.2</td>
<td>1.9</td>
<td>1.8</td>
<td>1.5</td>
<td>1.4</td>
<td>1.3</td>
<td>1.5</td>
<td>2.4</td>
<td>2.0</td>
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<tr>
<td>maximum</td>
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<td>7.8</td>
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</tr>
</tbody>
</table>

* Total
Carl Pollastro  
Soldier Creek Coal Company  
P.O. Box I  
Price, UT 84501

Re: Air Quality Approval Order for Dust Control Facilities at the Banning Siding, Carbon County

Dear Mr. Pollastro:

On June 4, 1980, the Executive Secretary published a notice of intent to approve your proposed Banning Siding coal crushing and loadout dust control measures. The 30-day public comment period expired July 3, 1980 and no comments were received.

This air quality approval order authorizes the installation and operation of the control facilities at the Banning Siding as proposed in your notice of intent dated May 7, 1980, with the following conditions:

1. Long-term coal storage shall be compacted and the surface sealed with an emulsion or chemical stabilizer.

2. The free-fall distances of the railcar loadout and radial stackers shall be reduced to a minimum by use of tremies or drop-chutes.

3. The crushing and screening operation shall be enclosed or equipped with fog-type sprays and operated as dry weather conditions warrant or as determined necessary by the Executive Secretary to minimize fugitive emissions.

4. Visible Emissions shall not exceed 20% opacity.

5. Emissions from the surge bin feed conveyor shall be controlled by water or fog-type sprays as proposed.
6. Emissions from the load-out surge bin shall be controlled by venting to a baghouse or by fog sprays and shall not exceed 20% opacity.

An initial compliance inspection will be required. Please notify us when your installation is completed (ph. 533-6108) so an inspection can be performed.

Sincerely,

[Signature]

Brent C. Bradford
Executive Secretary
Utah Air Conservation Committee

cc: Southeastern District Health Dept.
    EPA/Region VIII (Norman Huey)
APPENDIX 7-4
U.P.D.E.S. PERMIT
June 25, 1993

CERTIFIED MAIL
(Return Receipt Requested)

David G. Spillman
Soldier Creek Coal-Burning
P.O. Box 1
Price, Utah 84501

Re: General Permit No. UTG040011--Coal Mining

Dear Mr. Spillman:

Enclosed is your copy of the signed general permit. Coverage shall begin on July 1, 1993 and all the requirements and conditions of the permit will be in effect at that time. Preprinted Discharge Monitoring Report Forms (EPA Form 3320-1), for self-monitoring and reporting requirements as specified in the permit, will be sent to you as soon as possible.

A fee schedule was included in the Utah Department of Environmental Quality budget appropriation request at the direction of the Legislature and in accordance with Utah Code Annotated 19-1-201. The fee schedule, as approved by the Legislature, includes a charge for the issuance of a UPDES permit. Please remit $1,800.00 within 30 days of receipt of this letter to:

Department of Environmental Quality
Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870

If you have any questions, please contact Steve McNeal at (801) 538-6146.

Sincerely,

Donald A. Hilden
Manager
Permits and Compliance Section

KC/kc
Enclosure

cc: Division of Oil, Gas & Mining w/encl.
Claron D. Bjork, Southeastern Utah District Health Dept. w/encl.
Dave Ariotti, District Engineer w/encl.

Printed on recycled paper
In compliance with provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended (the "Act"),

Soldier Creek Coal Company-Banning Loadout located 12 miles east of Wellington, Utah as identified in the Notice of Intent, application UTG040011 is authorized to discharge at outfalls located at latitude 39°31'00" and longitude 110°34'00",

to an unnamed wash tributary to Grassy Trail Creek

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on July 1, 1993.

This general permit and the authorization to discharge shall expire at midnight, April 30, 1998.

Signed this 25th day of June, 1993.

Authorized Permitting Official
Executive Secretary
Utah Water Quality Board

Expired Permit?
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I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Definitions.

1. The "30-day (and monthly) average" is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

2. The "7-day (and weekly) average" is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains the Saturday.

3. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.

4. "Composite samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the composite sample period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
   a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;
   b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;
   c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,
   d. Continuous collection of sample, with sample collection rate proportional to flow rate.

5. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

6. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

7. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
8. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

9. "Executive Secretary" means Executive Secretary of the Utah Water Quality Board.

10. "EPA" means the United States Environmental Protection Agency.

11. "Act" means the "Utah Water Quality Act".

12. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.


14. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges.

15. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and 40 CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

16. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

17. "Waste pile" means any noncontainerized accumulation of solid, nonflowing waste that is used for treatment or storage.

18. "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in Weather Bureau Technical Paper No. 40, May 1961 and NOAA Atlas 2, 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

19. The term "coal preparation plant" means a facility where coal is crushed, screened, sized, cleaned, dried, or otherwise prepared and loaded for transit to a consuming facility.

20. The term "coal preparation plant associated areas" means the coal preparation plant yards, immediate access roads, coal refuse piles, and coal storage piles and facilities.

21. "Alkaline mine drainage" means mine drainage which before any treatment has a pH equal to or greater than 6.0 and total iron concentration less than 10 mg/l.
22. The term "settleable solids" is that matter measured by the volumetric method specified below:

Fill an Imhoff cone to the one-liter mark with a thoroughly mixed sample. Allow to settle undisturbed for 45 minutes. Gently stir along the inside surface of the cone with a stirring rod. Allow to settle undisturbed for 15 minutes longer. Record the volume of settled material in the cone as milliliters per liter. Where a separation of settleable and floating material occurs, do not include the floating material in the reading.

B. Criteria for Inclusion in the General Permit for Coal Mining

This General permit shall apply only to the discharge of treated wastewater from:

Coal mining operations either new or existing in Utah which include or will include in part or in a whole alkaline mine water drainage, storm water runoff from coal preparation plant associated areas, active mining areas, and post mining areas until the performance bond is released. The total amount of total dissolved solids discharged from all mine water and decant operations is limited to one ton per day.

C. Notice of Intent for a General Permit for Coal Mining

Any facility which desires a general permit for coal mining and meets the requirements of Part I.B. can be issued a general permit by submitting a notice of intent (NOI) to the Division of Water Quality and EPA at the addresses listed on page 10 of this permit.

The NOI shall include:

a. A completed Environmental Protection Agency Application (EPA Form 3510-1) or equivalent information.

b. Location and identification number (such as 001, 002, etc.) of each existing discharge and/or proposed discharge point(s). This includes the latitude and longitude to the nearest 15 seconds and the name of the receiving water(s).

c. A description of the source of the wastewater for each discharge point.

d. A description of the treatment given or proposed for the wastewater at each discharge point and if necessary a justification of why no treatment is required.

e. Flow characteristics for each discharge point such as whether flow is or will be continuous or intermittent and indicate projected and/or actual average and maximum flows in gpd.

f. Data for each discharge point for the following parameters:

1) Biochemical oxygen demand (BOD₃)
2) Chemical oxygen demand (COD)
3) Total organic carbon (TOC)
4) Total suspended solids (TSS)
5) Flow
6) Ammonia (as N)
7) Oil and grease
PART I
Permit No. UTG040000

8) Temperature
9) pH
10) Total dissolved solids (TDS)
11) Total iron and metals, cyanide, phenols located in Table III UAC R317-8-3.12
12) Date and time of sampling for each parameter
13) Date and time of analysis for each parameter
14) Utah certified laboratory which has completed the analysis for each parameter

If no data is available, indicate why the data is not available.
The Executive Secretary may waive the reporting requirements for any of these pollutants and parameters if the applicant submits a request for such a waiver before or with the NOI which demonstrates that information adequate to support issuance of the permit can be obtained through less stringent reporting requirements.

g. For each discharge point the presence or absence of any toxic and/or priority pollutants as listed by EPA in 40 CFR Part 403.

h. Best management practice plan or sediment runoff control plan approved by the Division of Oil, Gas and Mining.

D Description of Discharge Point(s).
The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit is a violation of the Act and may be subject to penalties under the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the Act.

<table>
<thead>
<tr>
<th>Outfall Number</th>
<th>Location of Discharge Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Ground water pump discharge to unnamed wash</td>
</tr>
<tr>
<td>002</td>
<td>Sediment pond outfall to unnamed wash</td>
</tr>
</tbody>
</table>

E. Narrative Standard.
It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste, or conditions which produce undesirable aquatic life or which produces objectionable tastes in edible aquatic organisms; or concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.
F. Specific Limitations and Self-monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfalls 001 and 002. Such discharges shall be limited and monitored by the permittee as specified below:

<table>
<thead>
<tr>
<th>Effluent Characteristics</th>
<th>Discharge Limitations a/</th>
<th>Monitoring Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average 30-Day</td>
<td>7-Day</td>
</tr>
<tr>
<td>Flow, gpd</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Oil &amp; Grease, mg/L</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Total Suspended Solids, mg/L</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>Total Iron, mg/l</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Total Dissolved Solids lbs/day</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units in any sample and shall be monitored monthly by a grab sample.

There shall be no visible sheen or floating solids or visible foam in other than trace amounts.

There shall be no discharge of sanitary wastes or any process water from coal preparation plants.

N.A. - Not Applicable.

a/ See Definitions, Part 1A for definition of terms.

b/ For intermittent discharge, the duration of the discharge shall be reported along with the flow.

c/ Values up to 2 mg/l may be approved where the permittee provides sufficient information that water quality standards will not be violated.

d/ The total amount of total dissolved solids (TDS) discharged from all mine water and decant operations is limited to one ton (2000 pounds) per day.

e/ These samples may also be a composite sample.

2. Samples taken in compliance with the monitoring requirements specified above shall be taken from the effluent before mixing with any receiving water.
PART I
Permit No. UTG040000

3. Any overflow, increase in volume of a discharge or discharge from a bypass system caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) at all surface runoff pond (outfalls) may comply with the following limitation instead of the total suspended solids limitations contained in Part I.F.1:

<table>
<thead>
<tr>
<th>Effluent Characteristics</th>
<th>Daily Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settleable Solids</td>
<td>0.5 mL/L</td>
</tr>
</tbody>
</table>

In addition to the monitoring requirements specified under Part I.F.1, all effluent samples collected during storm water discharge events shall also be analyzed for settleable solids. Such analyses shall be conducted on either grab or composite samples.

4. Any overflow, increase in volume of a discharge or discharge from a bypass system caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) at all surface runoff pond outfalls may comply with the following limitations instead of the otherwise applicable limitations:

The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units. However, as stated under Part I.F.3, all effluent samples collected at all surface runoff pond outfalls during storm water discharge events shall be analyzed for settleable solids and the parameters identified under Part I.F.1.

5. The operator shall have the burden of proof that the discharge or increase in discharge was caused by the applicable precipitation event described in Parts I.F.3. and F.4. The alternate limitation in Parts I.F.4. and F.5. shall not apply to treatment systems that treat underground mine water only.


a. The company shall implement and maintain best management practices for the control of road salt storage for areas discharging to waters of the State. This shall include enclosure or coverage to prevent exposure to precipitation, except exposure resulting from adding or removing materials from the pile. Dischargers shall demonstrate compliance with the enclosure provision as expeditiously as practicable, but in no event later than October 1, 1995.

b. The facility must minimize the discharge of salt by using the largest practicable amount of saline water for process and dust control. After April 30, 1994 there shall be no use of gypsum for rock dusting unless the permittee provides sufficient information to the Executive Secretary such that approval is granted based upon the Colorado River Basin Salinity Control Forum Policies and the fact that it will not significantly increase total dissolved solids concentrations.

c. Sediment and Erosion Control. Within six months of permit issuance, the permittee shall develop a stormwater pollution prevention plan which identifies areas which, due to topography, road construction with waste materials, other activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to limit erosion. (The general permit for storm water discharges associated with industrial activity contains information for developing a satisfactory plan).
d. Management of Runoff. The stormwater pollution prevention plan shall be implemented as soon as practical but no later than one year after permit issuance. Appropriate measures for small areas may include: silt fences, sediment traps, vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration deicers, and wet detention/retention devices.

e. Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the stormwater pollution prevention plan, but in no case less than once a year. Such evaluations shall provide:

(1) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed.

(2) Based on the results of the inspection, the description of potential pollutant sources identified in the plan and pollution prevention measures and controls identified in the plan shall be revised as appropriate within two weeks of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than twelve weeks after the inspection.

(3) A report summarizing the scope of the inspection, personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken shall be made and retained as part of the storm water pollution prevention plan for at least one year after coverage under this permit terminates. The report shall identify any incidents of non-compliance. Where a report does not identify any incidents of non-compliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with Part IV.G Signatory Requirements of this permit.

(4) Where annual site inspections are shown in the plan to be impractical for inactive mining sites due to the remote location and inaccessibility of the site, site inspections required under this part shall be conducted at appropriate intervals specified in the plan, but, in no case less than once in three years.

f. Consistency with other plans. Plans may reflect requirements for Spill Prevention Control and Countermeasure ("SPCC") plans developed for the facility under Section 311 of the CWA or Best Management Practices ("BMP") otherwise required by this permit for the facility as long as such requirement is incorporated into the plan.
II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under Part I shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Sludge samples shall be collected at a location representative of the quality of sludge immediately prior to the use-disposal practice.

B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under Utah Administrative Code ("UAC") R317-2-10, unless other test procedures have been specified in this permit.

C. Penalties for Tampering. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Reporting of Monitoring Results. Monitoring results obtained during the previous month shall be summarized and reported monthly on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on August 28, 1993. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the requirements of Signatory Requirements (see Part IV.G), and submitted to the Director, Division of Water Quality and to EPA at the following addresses:

original to:  Department of Environmental Quality
Division of Water Quality
288 North 1460 West
PO Box 144870
Salt Lake City, Utah 84114-4870

copy to: United States Environmental Protection Agency Region VIII
Denver Place
999 18th Street, Suite 500
Denver, Colorado 80202-2466
Attention: Water Management Division
Compliance Branch (8WM-C)

E. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under UAC R317-2-10 or as otherwise specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.
G. **Records Contents.** Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

H. **Retention of Records.** The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Executive Secretary at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location.

I. **Twenty-four Hour Notice of Noncompliance Reporting.**

1. The permittee shall (orally) report any noncompliance which may seriously endanger health or environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 538-6146, or 24 hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
   
   a. Any noncompliance which may endanger health or the environment;
   
   b. Any unanticipated bypass which exceeds any effluent limitation in the permit (See Part III.G, Bypass of Treatment Facilities.);
   
   c. Any upset which exceeds any effluent limitation in the permit (See Part III.H, Upset Conditions.); or,
   
   d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.

3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

   a. A description of the noncompliance and its cause;
   
   b. The period of noncompliance, including exact dates and times;
   
   c. The estimated time noncompliance is expected to continue if it has not been corrected; and,
PART II
Permit No. UTG040000

1. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Part II.D are submitted. The reports shall contain the information listed in Part II.13.

K. Inspection and Entry. The permittee shall allow the Executive Secretary, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

5. The Executive Secretary may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 538-6146.

6. Reports shall be submitted to the addresses in Part II.D, Reporting of Monitoring Results.
PART III
Permit No. UTG040000

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Executive Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions. The Act provides that any person who violates a permit condition implementing provisions of the Act is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions of the Act is subject to a fine not exceeding $25,000 per day of violation. Any person convicted under UCA 19-5-115(2) a second time shall be punished by a fine not exceeding $50,000 per day. Except as provided at Part III.G, Bypass of Treatment Facilities and Part III.H, Upset Conditions, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances. Collected screening, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this section. Return of removed substances, as described in Part III.F, to the discharge stream shall not be considered a bypass under the provisions of this paragraph.

2. Notice:

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass.
3. Prohibition of bypass.

a. Bypass is prohibited and the Executive Secretary may take enforcement action against a permittee for a bypass, unless:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,

(3) The permittee submitted notices as required under paragraph 2 of this section.

b. The Executive Secretary may approve an anticipated bypass, after considering its adverse effects, if the Executive Secretary determines that it will meet the three conditions listed above in paragraph 3.a of this section.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2. of this section are met. Executive Secretary's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the permittee can identify the cause(s) of the upset;

b. The permitted facility was at the time being properly operated;

c. The permittee submitted notice of the upset as required under Part II.I, Twenty-four Hour Notice of Noncompliance Reporting; and,

d. The permittee complied with any remedial measures required under Part III.D, Duty to Mitigate.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.
PART III
Permit No. UTG040000

I. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of *The Water Quality Act of 1987* for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. **Changes in Discharge of Toxic Substances.** Notification shall be provided to the Executive Secretary as soon as the permittee knows of, or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
   a. One hundred micrograms per liter (100 ug/L);
   b. Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
   c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with UAC R317-8-3.4(7) or (10); or,
   d. The level established by the Executive Secretary in accordance with UAC R317-8-4.2(6).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
   a. Five hundred micrograms per liter (500 ug/L);
   b. One milligram per liter (1 mg/L) for antimony;
   c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with UAC R317-8-3.4(9); or,
   d. The level established by the Executive Secretary in accordance with UAC R317-8-4.2(6).

K. **Industrial Pretreatment.** Any wastewaters discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, are subject to Federal, State and local pretreatment regulations. Pursuant to Section 307 of *The Water Quality Act of 1987*, the permittee shall comply with all applicable federal General Pretreatment Regulations promulgated at 40 CFR 403, the State Pretreatment Requirements at UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters.

In addition, in accordance with 40 CFR 403.12(p)(1), the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if they discharge any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under 40 CFR 261. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).
IV. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Executive Secretary as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee’s existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Executive Secretary of any planned changes at least 30 days prior to their implementation.

B. Anticipated Noncompliance. The permittee shall give advance notice to the Executive Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 60 days before the expiration date of this permit. The application shall be submitted at least 180 days before the expiration date if an individual permit is necessary.

E. Duty to Provide Information. The permittee shall furnish to the Executive Secretary, within a reasonable time, any information which the Executive Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Executive Secretary, upon request, copies of records required to be kept by this permit.

F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Executive Secretary, it shall promptly submit such facts or information.

G. Signatory Requirements. All applications, reports or information submitted to the Executive Secretary shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Executive Secretary shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Executive Secretary, and,

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager,
superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

3. Changes to authorization. If an authorization under paragraph IV.G.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.G.2 must be submitted to the Executive Secretary prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports. The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under UAC R317-8-3.2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Executive Secretary. As required by the Act, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the Act.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
M. **Transfers.** This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Executive Secretary at least 20 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
3. The Executive Secretary does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

N. **State Laws.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by UCA 19-5-117.

O. **Water Quality-Reopener Provision.** This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
3. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.

P. **Toxicity Limitation-Reopener Provision.** This permit may be reopened and modified (following proper administrative procedures) to include whole effluent toxicity (WET) testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this permit.

Q. **Storm Water-Reopener Provision.** At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per UAC R317.8, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".
April 24, 2003

CERTIFIED MAIL
(Return Receipt Requested)

Mr. Gary Taylor, Senior Environmental Engineer
Canyon Fuel Company, LLC
Banning Loadout Facility
P.O. Box 1029
Wellington, UT 84542

Dear Mr. Taylor:

Subject: UPDES General Coal Mining Permit No. UTG040011, Canyon Fuel Company, LLC - Banning Loadout Facility

Enclosed is your copy of the signed general permit. Coverage becomes effective on May 1, 2003 and all the requirements and conditions of the permit are in effect at that time. Preprinted discharge Monitoring Report forms (EPA Form 3320-1), for self-monitoring and reporting requirements as specified in the permit, will be sent to you as soon as possible.

As the agency charged with the administration of issuing UPDES Permits, we are continuously looking for ways to improve our quality of service to you. In an effort to improve the State UPDES permitting process we are asking for your input. Since our customer permittee base is limited, your input is important. Please take a few moments to complete the enclosed questionnaire. The results will be used to improve our quality and responsiveness to our permittees and give us feedback on customer satisfaction. We will address the issues you have identified on an ongoing basis.

A fee schedule was included in the Utah Department of Environmental Quality budget appropriation request at the direction of the Legislature and in accordance with Utah code annotated 19-1-201. The fee schedule, as approved by the Legislature, includes a charge for the issuance of a UPDES permit. Please remit $1,800.00 within 30 days of receipt of this letter to:

Department of Environmental Quality
Division of Water Quality
ATTN: Stacy Carroll
P.O. Box 144870
Salt Lake City, Utah 84114-4870
If you have any questions, please contact Chris Imbrogno at (801) 538-6628.

Sincerely,

Gayle Smith, P.E., Manager
Permits and Compliance Section

Enclosure

cc: Division of Oil, Gas & Mining (w/encl)
   Claron D. Bjork, Southeastern Utah District Health Dept. (w/encl)
   Dave Ariotti, District Engineer (w/encl)
   Stacy Carroll, DWQ Accounts (wo/encl)
STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

AUTHORIZATION TO DISCHARGE UNDER THE
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM
(UPDES)

GENERAL PERMIT FOR COAL MINING

In compliance with provisions of the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended (the "Act"),

Canyon Fuel Company, LLC – Banning Loadout Facility

as identified in the application No. UTG040011 is authorized to discharge from all outfall(s) to receiving waters named:

Grassy Trail Creek

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions as set forth herein.

This permit shall become effective on May 1, 2003.

This permit and the authorization to discharge shall expire at midnight, April 30, 2008.

Signed this 28th day of April, 2003.

Don A. Ostler
Executive Secretary
Utah Water Quality Board

INTEGRATED SERVICES
MAY 17 2007
Div. of Oil, Gas & Min.
C. Description of Discharge Point(s).

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit is a violation of the Act and may be subject to penalties under the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the Act.

<table>
<thead>
<tr>
<th>Outfall Number</th>
<th>Location of Discharge Point(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Groundwater discharge to unnamed ditch to Grassy Trail Creek. Latitude 39°31'00&quot;, Longitude 110°34'00&quot;.</td>
</tr>
<tr>
<td>002</td>
<td>Sediment Pond discharge to unnamed ditch to Grassy Trail Creek. Latitude 39°31'00&quot;, Longitude 110°34'00&quot;.</td>
</tr>
</tbody>
</table>

D. Narrative Standard.

It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

E. Specific Limitations and Self-monitoring Requirements.

1. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall(s) 001, 002. Such discharges shall be limited and monitored by the permittee as specified below:

<table>
<thead>
<tr>
<th>Effluent Characteristics</th>
<th>Discharge Limitations a/</th>
<th>Monitoring Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Daily</td>
</tr>
<tr>
<td></td>
<td>30-Day</td>
<td>7-Day</td>
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<tr>
<td>Flow, MGD</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Oil &amp; Grease, mg/L</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Iron, mg/L</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Suspended Solids, mg/L</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>Total Dissolved Solids, mg/L</td>
<td>500 d/</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units in any sample and shall be monitored monthly by a grab sample.

There shall be no visible sheen or floating solids or visible foam in other than trace amounts.

There shall be no discharge of sanitary wastes or process water from coal preparation plants.
APPENDIX 7-5

DISCHARGE DATA
Sample Site ID: Banning 001

<table>
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<tr>
<th>Scheduled Sample Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
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<table>
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<tr>
<th>Sample Date</th>
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<td>Temperature, Water °F</td>
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<td>Temperature, Air °F</td>
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<td>-</td>
<td>-</td>
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Laboratory Analyses, mg/l

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</tr>
<tr>
<td>Total Suspended Solids</td>
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Note: Negative "-" denotes that the value is less than.
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) DISCHARGE MONITORING REPORT (SMR)**

**PERMIT NUMBER:** UT-0023817 001

**MONITORING PERIOD**

- **From:** 08-01-01 to 08-03-01
- **Location:** Carbon County, UT

**NOTE:** Read instructions before completing this form.

| PARAMETER | MONITORING | | | |
|-----------|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| (33-11)   | NO DISCHARGE | | | | | | | | | |

| | | | | | | | | | | |
| | | | | | | | | | | |

**AME/TITLE PRINCIPAL EXECUTIVE OFFICER**

David G. Spillman
Mine Engineer

**TELEPHONE** 801 637-6360

**DATE** 04-26

**SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT**

David G. Spillman

**APPLICATION AND EXPLANATION OF ANY VIOLATIONS**

Reference all attachments here.

**TYPED OR PRINTED**

**AREA CODE** 801

**NUMBER** 637-6360

**YEAR** 88

**MO** 04

**DAY** 26
June 17, 1988

(May Sample)

U.S. Environmental Protection Agency
999 18th Street, 8WH-C
One Denver Place
Denver, CO 80202-2405

RE: NPDES Permit UT-0023817
Noncompliance Notification

Gentlemen:

Enclosed is a copy of our Banning discharge analysis under permit UT-0023817. This analysis shows that the total dissolved solids (TDS) of the sample is 3872 mg/l, which exceeds the 3000 mg/l daily maximum discharge limitation specified in our permit.

Due to the high TDS of the water in this area, it is felt that this value will be exceeded quite frequently. If this trend continues, the TDS daily maximum discharge limit will have to be increased.

Please contact us if you have any questions concerning this matter.

Sincerely,

SOLDIER CREEK COAL COMPANY

J.T. Paluso
Chief Engineer

JTP/1ss
Enclosure

xc: State of Utah, Bureau of Water Pollution Control
           State of Utah, Division of Oil, Gas and Mining
### DISCHARGE MONITORING REPORT (DMR)

**Permit Number:** UT-0023617  001

**Facility:** Soldier Creek Coal Company

**Location:** Carbon County, Utah

**Form Approved:** OMB No. 2040-0004

**Approval Expires:** 8-30-8

---

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---

**NOTE:** Read instructions before completing this form.

---

**The June 17 and July 14, 1988 noncompliance notification letters are attached. Also during maximum flow, the TDS**
July 14, 1988

U.S. Environmental Protection Agency
999 18th Street, 8KM-C
One Denver Place
Denver, CO 80202-2405

RE: NPDES Permit UT-0023817
Noncompliance Notification

To Whom It May Concern:

Enclosed are the copies of our Banning discharge analyses for the months of June and July under permit UT-0023817. The analyses show that the total dissolved solids (TDS) for June was 4074 mg/l and for July was 3972 mg/l and these results exceed the 3000 mg/l TDS daily maximum limitation specified in our permit.

As stated in a previous letter, the TDS of the groundwater within the area normally exceed 3000 mg/l, so we are now proceeding to change our TDS daily maximum limitation.

If you have any questions concerning this matter, please contact me.

Sincerely,

C.P. Allen
Mine Engineer

CPA/Iss
Enclosures

xc: State of Utah, Bureau of Water Pollution Control
State of Utah, Division of Oil, Gas & Mining
September 12, 1988

U.S. Environmental Protection Agency
999 18th Street, SWM-C
One Denver Place
Denver, CO 80202-2405

RE: NPDES Permit UT-0023817
    Noncompliance Notification

Gentlemen:

Enclosed is a copy of our Banning discharge analysis under permit UT-0023817. This analysis shows that the total dissolved solids (TDS) of the sample is 3906 mg/l, which exceeds the 3000 mg/l daily maximum discharge limitation specified in our permit. Due to the high TDS of the water in this area, it is felt that this value will be exceeded quite frequently.

Please contact us if you have any questions concerning this matter.

Sincerely,

SOLDIER CREEK COAL COMPANY

C.P. Allen
Mine Engineer

CPA/1ss
Enclosure

xc: State of Utah, Bureau of Water Pollution Control
    State of Utah, Division of Oil, Gas and Mining
MONITORING REPORT

CO PRICE, UT

LOC. TION: Carbof LCounli', UT ============

TOTALlhng engineer ........

RT: 

Monatly samples routinely exceeded the total dissolved solids limitation. The appropriate noncompliance letters are attached.
October 5, 1988

U.S. Environmental Protection Agency
999 18th Street, 8W-M-C
One Denver Place
Denver, CO 80202-2405

RE: NPDES Permit UT-0023817
Noncompliance Notification

Gentlemen:

Enclosed is a copy of our Banning discharge analysis under permit UT-0023817. This analysis shows that the total dissolved solids (TDS) of the sample is 3942 mg/l, which exceeds the 3000 mg/l daily maximum discharge limitation specified in our permit. Due to the high TDS of the water in this area, it is felt that this value will be exceeded quite frequently.

Please contact us if you have any questions concerning this matter.

Sincerely,

SOLDIER CREEK COAL COMPANY

C.P. Allen
Mine Engineer

CPA/lss
Enclosure

xc: State of Utah, Bureau of Water Pollution Control
    State of Utah, Division of Oil, Gas and Mining
November 17, 1988

U.S. Environmental Protection Agency
999 18th Street, BM-C
One Denver Place
Denver, CO 80202-2405

RE: NPDES Permit UT-0023817
Noncompliance Notification

Gentlemen:

Enclosed is a copy of our Banning discharge analysis under permit UT-0023817. This analysis shows that the total dissolved solids (TDS) of the sample is 4040 mg/l, which exceeds the 3000 mg/l daily maximum discharge limitation specified in our permit.

Soldier Creek Coal Company is in the processing of applying for coverage under the General Permit for Coal Mining - UTG040000 issued by the State of Utah. With this permit, we should eliminate compliance problems with the discharge of our groundwater.

Please contact us if you have any questions concerning this matter.

Sincerely,

SOLDIER CREEK COAL COMPANY

C.P. Allen
Mine Engineer

CPA/1ss
Enclosure

xc: State of Utah, Bureau of Water Pollution Control
State of Utah, Division of Oil, Gas and Mining
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**NOTE:** Read instructions before completing this form.

**NAME/TITLE PRINCIPAL EXECUTIVE OFFICER**

David G. Spillman
Mine Engineer

**SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT**

David G. Spillman
801 637-6360 89 01 21
January 24, 1989

Mr. Lowell P. Braxton, Administrator  
Division of Oil, Gas and Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203

RE: Water Monitoring Results  
Fourth Quarter - 1988  
Soldier Creek Coal Company  
ACT/007/018 and ACT/007/034

Dear Mr. Braxton:

I have enclosed the results of our water monitoring program for the fourth quarter of 1988.

Please contact me if you have any questions or comments concerning this information.

Sincerely,

SOLDIER CREEK COAL COMPANY

David G. Spillman  
Mine Engineer

DGS/1ss  
Enclosures
### Running Discharge

**4th Quarter 1988**

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<th>Fe</th>
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<td>No</td>
<td>Discharge</td>
<td>No</td>
<td>Discharge</td>
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<td>No</td>
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### Flow

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<td>123833</td>
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<tr>
<td>10-14-88</td>
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<td>7,145,000</td>
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</tbody>
</table>

\[ \text{Aug + Nov Flow} \Rightarrow 4,360 \text{ gal/day} \]

\[ (4040 \text{ mg/l}) \left( \frac{9}{1000 \text{ ml}} \right) \left( 8.342 \right) = 33,706 \text{ lb/1000 gal} \]

\[ (33,706 \text{ lb/1000 gal}) \left( 4.580 \text{ gal/day} \right) = 154,371 \text{ lb/day} \]
APPENDIX 7-6

SEDIMENTATION POND CALCULATIONS
SEDIMENTATION POND DESIGN
FOR BANNING LOADOUT

Design Volume

Barns, roads, and ephemeral channels around the edge of the loadout area keep undisturbed-area runoff from entering the site. Within the disturbed area, the area within the loading dock area is totally contained by the roadway and, thus, acts as a closed basin (i.e., does not contribute runoff to the sedimentation pond). Hence, the area contributing to the pond is:

Total area = 18.1 ac
Closed basin = 2.6 ac (no drainage to pond)
Net drainage to pond = 15.5 ac

The presence of coal piles within the loadout area will act to reduce the runoff curve number below that normally expected for a disturbed site (due to retention within the piles' ponding adjacent to the piles, etc.). However, since the size of the piles will vary significantly through time, the effect of the piles will be (conservatively) ignored. Thus, for the entire disturbed area,

CN = 90

(Compare with typical CN = 89 for dirt roads in hydrologic soil group D as recommended by the U.S. SC5, 1972).

Required runoff storage volume:

\[ Q = \left( \frac{P - 0.25S}{P + 0.85} \right)^2 \]

\[ P = 1.78 \text{ in.} \quad \text{(From Miller et al., 1973)} \]

\[ Q = \left[ \frac{1.78 - (0.2)(1.11)}{1.78 + (0.8)(1.11)} \right]^2 = 0.91 \text{ in.} \]

\[ Q = \frac{(0.91 \text{ in.})(15.5 \text{ ac})}{12 \text{ in./ft}} = 1.18 \text{ ft} \]
Required sediment storage volume:

Determine required volume from the modified Universal Soil Loss Equation (Clyde et al., 1978):

\[ A = R \cdot K \cdot LS \cdot VM \]

\[ R \text{ (rainfall factor)} = 16 \]

(see Clyde et al., 1978)

\[ K \text{ (soil erodibility factor)} = 0.37 \]

(see Berchfield et al., 1981 - typical value for sand loam soils, compared favorably with original map prediction by Clyde et al., 1978).

\[ LS = \left[ \frac{650 + 450 \frac{s}{s^2} + 65 \frac{s^2}{s^2}}{10,000 + s^2} \right] \left( \frac{l}{72.6} \right)^m \]

(Clyde et al., 1978)

where

- \( LS = \) length-slope factor
- \( s = \) slope steepness (percent)
- \( l = \) slope length (ft)
- \( m = 0.5 \) (for slopes between 0.51\% and 10\%)

\[ s = \left[ \frac{(5340 \text{ ft})(5 \text{ ft})}{(15.5 \times \sqrt[3]{43,560 \text{ ft}^3/\text{s}}) (\text{ft})} \right] \left(\text{ft}^{-1}\right) \]

\[ = 4.0 \% \]

\[ l = 250 \text{ ft} \text{ (site observation)} \]

\[ LS = \left[ \frac{650 + (150)(4.0) + (65)(16.0)}{10,000 + 16.0} \right] \left[ \frac{250}{72.6} \right]^{0.5} \]

\[ = 0.65 \]

\[ VM = 0.90 \]

(From Clyde et al., 1978 for "rough, irregular, tracked all directions")

\[ A = (16)(0.37)(0.65)(0.90) = 3.46 \text{ tons/yr} \]

\[ \text{Sediment Yield} = \frac{(3.46 \text{ tons/yr})(2000 \text{ lb/ton})(15.5 \text{ sc})}{(90 \text{ lb/ft}^3)(43,560 \text{ ft}^3/AF)} \]

\[ = 0.037 \text{ AF/yr} \]

\[ \text{Assumed density} \]
Design the pond to store 10-yr of sediment. Ignore the sediment delving ratio to be conservative.

Required sediment storage = \((0.037 \text{ AF/yr}) \times 10 \text{ yr}\)

\[ = 0.37 \text{ AF} \]

Total required storage = 1.18 AF + 0.37 AF

\[ \text{(water)} \quad \text{(sediment)} \]

\[ = 1.45 \text{ AF} \]

Stage - Area - Capacity Data

Use preliminary size provided on pg. 4 of this calc. Check volume for adequacy.

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<th>Incremental Volume (AF)</th>
<th>Cumulative Volume (AF)</th>
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<td>0.037</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
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<tr>
<td>8</td>
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<tr>
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<tr>
<td>12</td>
<td>0.347</td>
<td>0.60</td>
<td>1.99</td>
</tr>
</tbody>
</table>

The stage - capacity curve, using the above data, is presented on pg. 5 of this report. This curve suggests that the pond volume is sufficient to meet site requirements.
Interior of the proposed Banning Lagoon sedimentation pond:

Scale: 1" = 20'

Elevation from pond bottom (ft)
Elevation of pond bottom = 5484.0 ft
Spillway Sizing

Methodology → use SEDIMOT II (Wilson et al., 1980; Warner et al., 1982)
Design storm → 25-yr, 24-hr storm = 2.15 in. (Miller et al., 1977)
Storm distribution → SCS Type II (preferred by the Division)
Time increment of outflow hydrograph = 0.1 hr
No. of junctions = 1
No. of branches = 1

Computational mode → hydro. and sed. (to allow routing through
the pond. However, sed. yields will be suppressed since they
are not of interest during the spillway-sizing design event).

Specific gravity of the eroded sediment = 2.50 (default)
Coefficient for distributing sediment load = 1.5 (default)
Submerged bulk specific gravity = 1.25 (fine to medium-grained)

Particle size distribution → assume distribution typical of silt
loam (general textural classification determined from local
samples):

% sand (>0.05 mm) = 20
% silt (0.002 - 0.05 mm) = 70
% clay (<0.002 mm) = 10

Typical values from
Bordenue et al. (1971)

Assumed gradation curve provided on Fig. 7 of this calc. It should
be noted that these data are being input only to permit the
model to operate properly. Particle size and percent - finer values
to be input to the model:

<table>
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<th>Percent Finer</th>
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<td>4</td>
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<tr>
<td>0.0001</td>
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</tbody>
</table>

7 values
No. of structures = 1 (sedimentation pond)

Between structures routing parameters → All 0 (no upstream structures or junctions)

No. of subwatersheds → 1

Data for subwatershed 1:

Area = 15.5 ac
CN = 90

$T_c → use uploaded method$

Around the north and west side of the site:

1530 ft flow path at 0.6% slope

$V = 1.5 \text{ ft/s}$ (from "paved area" curve on pg 9 of this calc.)

$T_c = 1020 \text{ s}$

$= 17.0 \text{ min}$

$= 0.28 \text{ hr}$

Around the south and east side of the site:

1150 ft flow path at 1.1% slope

$V = 2.1 \text{ ft/s}$

740 ft flow path at 0.5% slope

$V = 1.4 \text{ ft/s}$

$T_c = \frac{1150}{2.1} - \frac{740}{1.4}$

$= 1080 \text{ s}$

$= 18.0 \text{ min}$

$= 0.30 \text{ min} \Rightarrow Use this value (largest of the two)

Sediment yield values: 

$K = \begin{cases} 
\text{All 0} & \text{(to suppress sed. output)} 
\end{cases}$
VELOCITY IN FEET PER SECOND

(SOURCE: U.S. SCIS (1962))
Pond parameters:

Dead space → Effective pond width ($W_e$) = \( \frac{\text{Area}}{\text{Length}} \)

For a depth of 10 ft (approx. storage class):

\[
W_e = \frac{0.28 \times 143.75 \times 10^2}{160 \, \text{ft}}
\]

\[= 76.2 \, \text{ft} \]

\[
\frac{\text{Length}}{W_e} = \frac{160 \, \text{ft}}{76.2 \, \text{ft}} = 2.1 \] Efficient system ($L/W_e > 2.0$)

Assume minimal dead space of 20%

Outflow withdrawal → surface

Inflow → completely mixed

Stage-area data (for pond full to top of max. sed. storage level):

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<th>Stage (ft)</th>
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</table>

12 values (see stage-area curve on pg. 11 of this calc.)

Crest of principal spillway: 6.4

Number of continuous stirred reactor = 2
Stage-discharge curve to be computed by SEDIMOT II:

Assume
- Barrel diameter = 18 in
- Riser diameter = 30 in
- Barrel length = 150 ft
- Entrance loss coefficient = 1.0
- Bend loss coefficient = 0.5
- Weir flow coefficient = 3.1
- Orifice flow coefficient = 0.6
- Manning's n of pipe = 0.024
- Barrel head drop = 5.0 ft

SEDIMOT II result:
- Peak inflow = 15.74 cfs
- Peak outflow = 10.01 cfs
- Peak stage = 7.19 ft (above top of max. sed. storage level)

See result on pp. 14 - 22 of this role.

- Height of peak stage above pond bottom = 3.8 ft + 7.3 ft = 11.1 ft
- Crest of principal spillway (from stage-capacity curve) = 10.2 ft
- Depth of flow over principal spillway = 0.9 ft
- An emergency spillway will be provided as a safety measure even though the emergency spillway will not flow during the 25-yr, 24-hr event. As required by UMC 817.46 (i), the crest of the emergency spillway will be placed 1.0 foot above the crest of the principal spillway.

Principal spillway crest elev. = 5494.2 ft
Emergency spillway crest elev. = 5495.2 ft
The emergency spillway will not be flowing under design conditions. Go determine spillway hydraulic performance, assume a peak outflow equal to the peak principal spillway outflow (10.01 cfs).

Assumed emergency spillway cross-section:

---

The emergency spillway will be located to allow the outflow channel to have a slope equal to the ground slope (0.035 ft/ft). With this bed slope and an assumed Manning's roughness coefficient of 0.030, the following results were obtained using the USM hydrology design package TRAP:

- Bed Slope = 0.025
- Manning's N = 0.03
- Bottom Width = 6 feet
- Channel Side Slope = 0.5
- Flow Depth = 0.3863796 feet
- Cross Sectional Area = 2.616856 square feet
- Wetted Perimeter = 7.727943 feet
- Hydraulic Radius = 0.3386227 feet
- Discharge = 10.01 cubic feet/sec
- Velocity = 5.825201 feet/sec
- Froude Number = 1.084474

Acceptable velocity (non-erosive)

Elevation of the top of the embankment = 5495.2 ft + 1.0 ft

5496.2 ft
UNIVERSITY OF KENTUCKY COMPUTER MODEL
OF SURFACE MINE HYDROLOGY AND SEDIMENTOLOGY
FOR MORE INFORMATION CONTACT THE AGRICULTURAL
ENGINEERING DEPARTMENT
THE UK MODEL IS A DESIGN MODEL DEVELOPED TO PREDICT
THE HYDRAULIC AND SEDIMENT RESPONSE FROM SURFACE
MINED LANDS FOR A SPECIFIED RAINFALL EVENT (SINGLE STORM)
VERSION DATE 9-23-83
DISCLAIMER: NEITHER THE UNIVERSITY NOR ANY OF ITS EMPLOYEES
ACCEPT ANY RESPONSIBILITY OR LEGAL LIABILITY FOR THE
CONCLUSIONS DRAWN FROM THE RESULTS OF THIS MODEL

**THE FOLLOWING VALUES ARE NOW PREDICTED BY SEDIMOT II.**
**THEY CAN BE FOUND IN SUMMARY TABLES.**
*1. PERIOD OF SIGNIFICANT CONCENTRATION*
*2. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION*
* DURING PERIOD OF SIGNIFICANT CONCENTRATION*
*3. VOLUME WEIGHTED AVERAGE SETTLEABLE CONCENTRATION*
* DURING PEAK 24 HOUR PERIOD*
*4. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION*
* DURING PERIOD OF SIGNIFICANT CONCENTRATION*
*5. ARITHMETIC AVERAGE SETTLEABLE CONCENTRATION*
* DURING PEAK 24 HOUR PERIOD*

*ALL CONCENTRATIONS ARE IN ML/L.*

**WATERSHED IDENTIFICATION CODE**
---------------------------------------------
BANNING LOADOUT SEDIMENTATION POND PRINCIPAL SPILLWAY DESIGN

**INPUT PARTICLE SIZE-PERCENT FINER DISTRIBUTIONS**
---------------------------------------------

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**INPUT VALUES**

| STORM DURATION | 24.00 HOURS |
| PRECIPITATION DEPTH | 2.15 INCHES |
| SPECIFIC GRAVITY | 2.50 |
| LOAD RATE EXPONENT FACTOR | 1.50 |
| SUBMERGED BULK SPECIFIC GRAVITY | 1.23 |
**JUNCTION 1, BRANCH 1, STRUCTURE 1**

***RESULTS FROM SUBWATERSHED 1***

***PARTICLE SIZE DISTRIBUTION OF SEDIMENT***

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***HYDROGRAPH AND SEDIMENT GRAPH***

(Two consecutive values per line)

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*** RUN COMPLETED ****
Miscellaneous Notes

1. Leave existing pond in place during initial construction of the new pond to provide additional sediment control.

2. Following construction of the new pond, use the excess material removed for the new pond to backfill the existing pond. Backfill in lift not exceeding 12 inches in thickness and compact the material by repeated passes with a rubber-tired loader and/or sheepfoot roller.

3. Regrade the channels leading to the new pond to ensure positive drainage toward the pond. The south channel should be graded with a slope of 0.2% (1 ft of fall in 500 ft) and the inlet channel should be graded with a slope of 1% (1 ft of fall in 100 ft).

4. Typical cross section of existing inlet channel (non-conforming sections to be modified during grading):

Channel capacity with flow depth = 1.5 ft:

\[ A = 13.5 \text{ ft}^2 \]
\[ P = 12.7 \text{ ft} \]
\[ R = 1.06 \text{ ft} \]
\[ S = 0.002 \ (\text{min.}) \]
\[ n = 0.023 \ (\text{assumed}) \]

\[ V = \frac{1.456}{n} R^{0.6} S^{0.75} \]
\[ = 3.00 \text{ ft/s} \]
\[ \Rightarrow \text{Non-erosive velocity} \]

\[ Q = (3.00 \text{ ft/s})(13.5 \text{ ft}^2) \]
\[ = 40.5 \text{ ft}^3/\text{s} \Rightarrow \text{OK (in excess of inflow design rate from 25-yr, 24-hr storm - see SEDIMOT II results.)} \]
5) Inflow to the pond will flow down the southeast and northeast corners of the pond. Check the capacity of this corner channel, assuming riprap is installed for stability:

\[ Q = (12.8)(4.5) = 57.6 \text{ ft}^3/\text{s} \Rightarrow \text{OK (exceeds inflow design rate)} \]

Check the riprap stability (\(d_{so} = 6"\) assumed above):

Hydraulic conditions during design inflow event (TRAP1 output), assuming total flow in one channel:

| 1st Slope | 0.229 |
| Manning N | 0.055 |
| Bottom Width | 0 |
| Channel Side Slope | 0.282 |
| Flow Depth | 0.6151376 feet |
| Cross Sectional Area | 1.704475 square feet |
| Wetted Perimeter | 5.676599 feet |
| Hydraulic Radius | 0.3002588 feet |
| Discharge | 15.74 cubic feet/second |
| Velocity | 9.234494 feet/second |
| Froude Number | 2.074909 |

Using the method of Serre (1967) - see pages 25 and 26 of this code:

\[ \frac{V_s}{V} = 0.93 \]
ADAPTED FROM HYDRAULIC CHART 712-1/1
HYDRAULIC DESIGN CRITERIA, CORPS OF
ENGINEERS

\[ k = 50\% \text{ stone size} \]

\[
\frac{\text{Velocity Against Stone - F.P.S.}}{\text{Average Velocity In Channel - F.P.S.}} = \frac{V_s}{V}
\]

Source: Story (1967)
FOR STONE WEIGHING 165 LBS. PER CU. FT.

ADAPTED FROM REPORT OF SUBCOMMITTEE ON SLOPE PROTECTION, AM. SOC. CIVIL ENGINEERS PROC. JUNE 1948

SOURCE: SEELEY (1967)
\[ V_s = (0.93)(9.23) \]
\[ = 8.6 \text{ ft/s} \]

Channel Sideslope \( \rightarrow 9:2 \approx 4:1 \)

Equivalent stone diameter (from chart on pg. 26) = 0.56 ft
\[ = 6.8 \text{ in} \]

Actual \( n \)-value \( \rightarrow n = 0.0395 \left( \frac{d}{h} \right)^{1/2} \)
\[ = (0.0395)(0.56)^{1/2} \]
\[ = 0.036 \]

New channel calcs. with actual \( n \)-value:

| Bed Slope = | 0.235 |
| Manning's \( N \) = | 0.036 |
| Bottom Width = | 6.6216357 feet |
| Channel Side Slope = | 0.222 |
| Flow Depth = | 0.6216357 feet |
| Cross Sectional Area = | 1.74068 square feet |
| Wetted Perimeter = | 5.734665 feet |
| Hydraulic Radius = | 0.3034307 feet |
| Discharge = | 15.74 cubic feet/sec |
| Velocity = | 9.042444 feet/sec |
| Froude Number = | 2.0211 |

Design OK.

6 Filter blanket on in-pond channels (Searcy, 1967):

Riprap gradation - see pg. 26 of this calc.

Soil gradation - see pg. 7 of this calc. Also provided on pg. 28

\[
\frac{D_{50} \text{ (rip})}{D_{50} \text{ (soil)}} = \frac{2.8 \text{ in}}{2.4 \times 10^{-3} \text{ in}} = 1167 > 5 \text{ Need filter blanket} \]

Assume gradation for filter blanket provided on pg. 28 of this calc.
\[
\frac{D_{50}(R)}{D_{85}(F_i)} = \frac{2.8}{0.6} = 4.67 < 5 \quad \text{OK}
\]
\[
\frac{D_{50}(R)}{D_{85}(F_i)} = \frac{2.8}{0.08} = 35.0 < 40 \quad \text{OK}
\]
\[
\frac{D_{50}(F_i)}{D_{85}(F_i)} = \frac{0.08}{0.02} = 4.0 < 5 \quad \text{OK}
\]
\[
\frac{D_{50}(F_i)}{D_{85}(S)} = \frac{0.0020}{0.0024} = 0.8 < 5 \quad \text{OK}
\]
\[
\frac{D_{50}(S)}{D_{85}(S)} = \frac{0.0020}{0.0012} = 16.7 < 40 \quad \text{OK}
\]

Thickness of each filter blanket = 6 inches
Thickness of riprap = \(2d_{50} = 13.6 \text{ inches}\)

1. Make the top width of the embankment portion of the pond at least \((H+35)/5\) in accordance with DGM specs.

2. Install marker stakes to indicate elevation of sediment cleanout level.

3. Compact embankment portion of pond in 6-inch lifts. This portion should have an out slope of 2:1 and be constructed to an elevation of 5496.5 ft to account for settlement of the lifts (6-ft max. height, increased by 5%).

\[ L_s = \frac{y (z + 4) [1 + \frac{S_p}{0.25 - S_p}]} \]

Where \( L_s \) = length of spillway conduit pipe in saturated zone (ft)
\( y \) = distance from upstream invert of conduit pipe to top of riser (ft)
\( z \) = tangent of upstream embankment slope
\( S_p \) = slope of conduit pipe (ft/ft)

For the Banning Loadout pond:

\[ \frac{y}{z} = \frac{5.0}{3.0} \] \( \Rightarrow \) \( L_s = 36.5 \) ft

From the monograph on pg. 31 of this code:

2 anti-seep collers
Collar projection = 0.95 ft \( \Rightarrow \) use 1.0 ft
Collar size = 3.4 ft

Maximum collar spacing = \((1.0 \text{ ft})(14) = 14.0 \text{ ft}\).
Use spacing of 13 ft.

References


Note: This procedure is for a 10% increase in the length of the flow path.

Source: U.S. EPA (1976)


APPENDIX 7-7

RIPRAP SPLASH APRON CALCULATIONS
EROSION PROTECTION FOR
PRINCIPAL SPILLWAY OUTLET

Methodology

According to the nomograph on pg. 2 of this code, any 18"
culvert carrying a discharge of 19 A, on a slope of 1/35, the
3% will be fluming full. Under full-flow conditions, the
methodology of the U.S. EPA (1982) can be used to design a
ripper apron. This methodology will be used.

Design

Tailwater depth downstream from the principal spillway outlet
was calculated using the OSM hydrology design package TRAP1.
Accordingly:

<table>
<thead>
<tr>
<th>Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed Slope</td>
<td>0.07</td>
</tr>
<tr>
<td>Manning's n</td>
<td>0.05</td>
</tr>
<tr>
<td>Bottom Width</td>
<td>3 ft</td>
</tr>
<tr>
<td>Channel Side Slope</td>
<td>1</td>
</tr>
<tr>
<td>Flow Depth</td>
<td>1.0742908 ft</td>
</tr>
<tr>
<td>Cross Sectional Area</td>
<td>3.538871 ft$^2$</td>
</tr>
<tr>
<td>Netted Perimeter</td>
<td>5.444584 ft</td>
</tr>
<tr>
<td>Hydraulic Radius</td>
<td>0.61343 ft</td>
</tr>
<tr>
<td>Discharge</td>
<td>10.91 ft$^3$/sec</td>
</tr>
<tr>
<td>Velocity</td>
<td>2.9971 ft/sec</td>
</tr>
<tr>
<td>Friction Number</td>
<td>5.4881235</td>
</tr>
</tbody>
</table>

With a tailwater depth of 0.86 ft, $T_W > 0.5D$. Thus, use the
nomograph on pg. 3 of this code, to determine required riprap
ezing and apron dimensions.

\[
D_30 = 0.09 \text{ ft} = 1.1 \text{ in}
\]

Maximum apron length ($L_o$) = 9.5 ft

Apron width = $1.5' \times (0.4)(9.5')$

= 5.3 ft
Design of outlet protection—maximum tailwater condition ($T_w \geq 0.5$ diam.)

**Source:** U.S. EPA (1978)
Use the filter blankets designed for the in-pond channels of the sedimentation pond (see pg. 5 of this report). Check stability:

\[ \frac{D_{50} \text{(R)}}{D_{50} \text{(F.)}} = \frac{0.45}{0.60} = 0.75 < 5 \quad \text{OK} \]

\[ \frac{D_{50} \text{(R)}}{D_{50} \text{(F.)}} = \frac{0.45}{0.08} = 5.6 < 40 \quad \text{OK} \]

Stability between coarse and fine filter and fine filter and soil determined to be acceptable in sed. pond reos. Thus, the apron will be stable as designed.

Apron plan and cross section — see pg. 6 of this report.

References


RIPRAP APRON
PLAN VIEW
SCALE: 1" = 2'

RIPRAP APRON PROFILE
SCALE: 1" = 2'
APPENDIX 7-8

AS-BUILT REPORT
HAUL ROAD AND SEDIMENT POND CERTIFICATIONS
The construction at Banning Loadout to upgrade the drainage control facilities and comply with DOGM regulations was planned for late fall 1988. Siaperas Construction, Inc. was the contractor awarded the job and they began construction on November 9, 1988. The work at Banning Loadout was completed on December 9, 1988 and a final construction meeting was held on December 13, 1988.

There were several changes made to the original plans submitted to DOGM and they are listed below:

1) An embankment was added to the drainage controls to replace the original berm and dike because DOGM expressed some concerns over the ability of the berm and dike to handle the designed runoff.
2) The broad berms originally planned were replaced with concrete drive-throughs to eliminate a high maintenance and possible problem area at the site.
3) Rock rip rap material was spread over the compact berms, the embankment, and in some areas of the drainage ditch to help eliminate potential erosion.
4) The concrete ramps that were originally planned for the bottom of the pond were eliminated due to the rocky nature of the pond bottom.
5) An extra control box was added to control the NPDES/UPDES discharge water.
6) The pond was completely excavated, so all excess material was used to create a larger top embankment and a gentler outslope.
7) The position of the decant and principal spillway was move to the east and the anti-seep collars used were 51 inches by 36 inches.
8) The reconstructed drainage ditch on the southern boundary varies in depth to maintain the proper grade into the pond.

All of the construction was completed as planned and followed sound construction practice.
SC³  SOLDIER CREEK COAL CO.

Telephone (801) 637-6360

P.O. Box 1
Price, Utah 84501

HAULAGE ROAD CERTIFICATION

SOLDIER CREEK COAL COMPANY
BANNING LOADOUT
P. O. BOX I
PRICE, UTAH 84501
ACT/007/034

HAULAGE ROAD LOCATION: U. S. HIGHWAY 6/50 TO BANNING LOADOUT

I DO HEREBY CERTIFY THAT THE ABOVE HAULAGE ROAD WAS CONSTRUCTED TO BLM DESIGN STANDARDS AND EXHIBIT 2.1-1 (D219) IS AN "AS-BUILT" DRAWING FOR THIS ROAD.

J. THOMAS PALMER
CHIEF ENGINEER
SOLDIER CREEK COAL COMPANY
This report is submitted to satisfy the requirements of UMC 817.46, UMC 817.49, and 30 CFR 817.49 for the pond constructed at Banning Loadout.

1. The sedimentation pond at Banning Loadout was constructed by Siaperas Construction, Inc. and meets all design criterion within the approved plans.

2. The pond will be monitored for the sediment level by two steel pins placed at the clean out level. The pins will be placed during the Spring of 1989 when the ground is not frozen.

3. **DESIGN DEPTH / ELEVATION - 10.2 FEET / 5495.2 FEET**

   **AVERAGE DEPTH / ELEVATION - NEW CONSTRUCTION**

4. **ACCUMULATED SEDIMENT - NONE**

5. No fires have occurred on the embankments.

6. The pond was constructed slightly larger than the original plans, the inside slopes are slightly less than 3 to 1, and the base elevation of the pond is approximately 1 foot higher than the original base elevation.

I DO HEREBY CERTIFY THAT THE INFORMATION FOUND IN THIS REPORT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

[Signature]

J. T. PALUSO
CHIEF ENGINEER
SOLDIER CREEK COAL COMPANY
APPENDIX 7-9

HYDROLOGIC CALCULATIONS
CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3

ASCA 1 BANNING

by

Name: Gary E. Taylor

Company Name: UTAH FUEL COMPANY
File Name: D:\SEDCAD3\ASCA1

Date: 09-09-1994
### SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

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<th>UHS</th>
<th>Tc (hrs)</th>
<th>K (hrs)</th>
<th>X (ac-ft)</th>
<th>Flow (cfs)</th>
<th>Volume (ac-ft)</th>
<th>Discharge (cfs)</th>
</tr>
</thead>
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CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3

SAE NO. 1 BANNING LOADOUT

by

Name: Gary E. Taylor

Company Name: UTAH FUEL COMPANY

File Name: D:\SEDCAD3\SAE1

Date: 03-27-1995

Requested TO BE REMOVED FROM TEXT & DRAWING
Exhibit 7-1 BY STEVE FLUKE
TASK ID # 2619 , JANUARY 31, 2007
SAE No. 1 Banning Loadout
Storm: 1.78 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.1 hr

GENERAL INPUT TABLE

Specific Gravity: 2.50
Submerged Bulk Specific Gravity: 1.25

Particle Size Distribution(s):

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<thead>
<tr>
<th>Size (mm)</th>
<th>% Finer</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1500</td>
<td>100.00</td>
</tr>
<tr>
<td>0.1000</td>
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<tr>
<td>0.0500</td>
<td>80.00</td>
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<td>0.0010</td>
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</table>
**Hydrology**

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<th>CN UHS</th>
<th>Tc (hrs)</th>
<th>K</th>
<th>X</th>
<th>Flow (cfs)</th>
<th>Volume (ac-ft)</th>
<th>Discharge (cfs)</th>
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</thead>
<tbody>
<tr>
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<td>0.016</td>
<td>0.234</td>
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Type: Null  
Label: SAE NO. 1

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|        | 0.00      | 0.00 |

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**Sedimentology**

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<th>K (ft)</th>
<th>L (hrs)</th>
<th>S (tons)</th>
<th>CP (mg/l)</th>
<th>Tt (ml/l)</th>
<th># SED</th>
<th>SED</th>
<th>Scp</th>
<th>SSp</th>
<th>24VW</th>
<th>24AA</th>
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|        | 0.0     |

|        | 0.0     | 0.00 | 0.00 | 0.00 | 0.00 |
CIVIL SOFTWARE DESIGN

SED CAD+ Version 3

ASCA NO. 2 BANNING LOADOUT

by

Name: Gary E. Taylor

Company Name: UTAH FUEL COMPANY

File Name: D:\SED CAD3\ASCA2

Date: 03-27-1995

INTEGRATED
MAY 17 2007
Div. of Oil, Gas & Mining

INTEGRATED
EFFECTIVE:
AUG 9 7 1995
UTAH DIVISION OIL, GAS AND MINING
Company Name: UTAH FUEL COMPANY
Filename: D:\SEDCA3\ASCA2
User: Gary E. Taylor
Date: 03-27-1995 Time: 11:36:10

ASCA No.2 Banning Loadout
Storm: 1.78 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.1 hr

========================
GENERAL INPUT TABLE
========================

Specific Gravity: 2.50
Submerged Bulk Specific Gravity: 1.25

Particle Size Distribution(s):

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<thead>
<tr>
<th>Size (mm) composite</th>
<th>% Finer</th>
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</thead>
<tbody>
<tr>
<td>0.1500</td>
<td>100.00</td>
</tr>
<tr>
<td>0.1000</td>
<td>94.00</td>
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<tr>
<td>0.0500</td>
<td>80.00</td>
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<td>31.00</td>
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<td>20.00</td>
</tr>
<tr>
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<td>4.00</td>
</tr>
<tr>
<td>0.0001</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Storm: 1.78 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.1 hr

### Subwatershed/Structure Input/Output Table

#### Hydrology

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<thead>
<tr>
<th>JBS SWS</th>
<th>Area (ac)</th>
<th>CN UHS</th>
<th>Tc (hrs)</th>
<th>K (hrs)</th>
<th>X (ac-ft)</th>
<th>Flow (cfs)</th>
<th>Volume (ac-ft)</th>
<th>Discharge (cfs)</th>
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</thead>
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Label: ASCA NO. 2

#### Sedimentology

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<th>K (ft)</th>
<th>L (%)</th>
<th>CP (hrs)</th>
<th>Tt (tons)</th>
<th># SED</th>
<th>SCp (mg/l)</th>
<th>SSP (ml/l)</th>
<th>24VW (ml/l)</th>
<th>24AA (ml/l)</th>
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<tbody>
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Label: ASCA NO. 2

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INTEGRATED
MAY 17 2007

Div of Oil, Gas & Mining

INTEGRATED EFFECTIVE:
AUG 3 7 1995

Utah Division Oil, Gas and Mining
CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3

ASCA NO. 3 BANNING LOADOUT

by

Name: Gary E. Taylor

Company Name: UTAH FUEL COMPANY

File Name: D:\SEDCAD3\ASCAS

Date: 03-27-1995

INCORPORATED

MAY 17 2007

Div. of Oil, Gas & Mining

INCORPORATED

EFFECTIVE:

AUG 07 1995

UTAH DIVISION OIL, GAS AND MINING
Company Name: UTAH FUEL COMPANY
Filename: D:\SEDCAD3\ASCAl
User: Gary E. Taylor
Date: 03-27-1995 Time: 11:48:30
ASCAl No. 3 Banning Loadout
Storm: 1.78 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.1 hr

GENERAL INPUT TABLE

Specific Gravity: 2.50
Submerged Bulk Specific Gravity: 1.25

Particle Size Distribution(s):

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<thead>
<tr>
<th>Size (mm)</th>
<th>% Finer</th>
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Company Name: UTAH FUEL COMPANY

ASCA No. 3 Barring Loadout
Storm: 1.78 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.1 hr

--- Hydrology ---

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<th>Area (ac)</th>
<th>CN UHS</th>
<th>Tc (hrs)</th>
<th>K (hrs)</th>
<th>X Flow (cfs)</th>
<th>Peak Volume (ac-ft)</th>
<th>Discharge (cfs)</th>
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--- Sedimentology ---

SED: Sediment
SCP: Peak Sediment Concentration
SSp: Peak Settleable Concentration
24VV: Volume Weighted Average Settleable Concentration - Peak 24 hours
24AA: Arithmetic Average Settleable Concentration - Peak 24 hours

<table>
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<tr>
<th>JBS SWS</th>
<th>K (ft)</th>
<th>L (%)</th>
<th>S</th>
<th>CP</th>
<th>Tt (hrs)</th>
<th># SED</th>
<th>SCP (mg/l)</th>
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<th>24VV (ml/l)</th>
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CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3

ASCA NO. 4 BANNING LOADOUT

by

Name: Gary E. Taylor

Company Name: UTAH FUEL COMPANY

File Name: D:\SEDCAD3\ASCA4

Date: 03-27-1995

INCORPORATED
MAY 17 2007

Div. of Oil, Gas & Mining

INCORPORATED
EFFECTIVE:
AUG 3 7 1995

UTAH DIVISION OIL, GAS AND MINING
Company Name: UTAH FUEL COMPANY  
Filename: D:\SEDCAD\ASCA4  
User: Gary E. Taylor  
Date: 03-27-1995 Time: 11:54:06  
ASCA NO. 4 Barming Loadout  
Storm: 1.78 inches, 10 year-24 hour, SCS Type II  
Hydrograph Convolution Interval: 0.1 hr

GENERAL INPUT TABLE

Specific Gravity: 2.50  
Submerged Bulk Specific Gravity: 1.25

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<th>Size (mm)</th>
<th>% Finer</th>
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</thead>
<tbody>
<tr>
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**ASCA NO. 4 Banning Loadout**

**Storm:** 1.78 inches, 10 year-24 hour, SCS Type II

**Hydrograph Convolution Interval:** 0.1 hr

### -Hydrology-

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<table>
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<th>IN/OUT</th>
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### -Sedimentology-

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<th>K (ft)</th>
<th>L (%)</th>
<th>S (%)</th>
<th>CP</th>
<th>Tt (hrs)</th>
<th># SED</th>
<th>SCP (mg/l)</th>
<th>SSP (ml/l)</th>
<th>24VW (ml/l)</th>
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</table>

**INTEGRATED**

**MAY 1 7 2007**

**Utah Division Oil, Gas and Mining**
CIVIL SOFTWARE DESIGN

SEDCAD+ Version 3

ASCA NO. 5 BANNING LOADOUT

by

Name: Gary E. Taylor
Company Name: UTAH FUEL COMPANY
File Name: D:\SEDCAD\ASCAS

Date: 03-27-1995

INTEGRATED
MAY 17 2007

Div. of Oil, Gas & Mining
INCORPORATED EFFECTIVE:
AUG 17 1995
Utah Division Oil, Gas and Mining
Specific Gravity: 2.50  
Submerged Bulk Specific Gravity: 1.25  

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<th>% Finer</th>
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<tr>
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Storm: 1.78 inches, 10 year-24 hour, SCS Type II
Hydrograph Convolution Interval: 0.1 hr

SUBWATERSHED/STRUCTURE INPUT/OUTPUT TABLE

-Hydrology-

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<th>K (hrs)</th>
<th>X (hrs)</th>
<th>Flow (cfs)</th>
<th>Volume (ac-ft)</th>
<th>Discharge (cfs)</th>
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INCORPORATED
MAY 17 2007
Div. of Oil
March 15, 1990

Mr. Daron R. Haddock  
Permit Supervisor  
Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180-1203  

Re: Substation Construction, As-built Details  
Soldier Creek Coal Company  
Banning Loadout, ACT/007/034

Dear Mr. Haddock:

I have enclosed Drawing D224 which describes the as-built details of the new substation facility at Banning Loadout. This facility was constructed in accordance to the Soldier Creek Coal Company (SCCC) plans dated September 20, 1989 and October 13, 1989.

In order to direct drainage from the substation into the sediment pond, construction of an elevated pad was required. Material for the pad construction was salvaged from an area immediately south of sediment pond, where excess material from the pond construction had been stockpiled. Unfortunately, to facilitate drainage, the pad was constructed to such a height that the out-slope (2H:1V) extended beyond the previously approved permit boundary. Therefore, SCCC is requesting an incidental boundary change (IBC) as detailed on the enclosed drawing. Please note that SCCC is the surface owner of all property requested within the IBC.

In addition to the IBC, a small area drainage exemption for the area outside the immediate substation is requested. This area basically lies between the limits of disturbance and the existing drainage ditch as detailed on the enclosed drawing (approx. 0.9 acres). Several alternative sediment control methods have been provided to prevent the contribution of sediment to runoff outside the permit area. A description of these methods which have been implemented is as follows:

1. Drainage from the actual substation facility flows into the sedimentation pond. The constructed slope of the facility, as well as a berm installed on three sides insures proper...
The complete site is also covered with two inch diameter gravel to further enhance sediment control.

2. The immediate outslope of the substation pad was constructed to have a maximum slope of 2H:1V. The surface has also been stabilized with a two inch diameter gravel covering.

3. All areas disturbed in conjunction with the substation construction (which were not covered with gravel), have been reseeded in accordance with the approved MRP. Straw mulch was also applied followed by traversing the surface with a cleated track dozer.

4. A retention basin was constructed south of the sedimentation pond. This basin collects drainage from approximately 0.38 acres and has a capacity of approximately 12,400 gallons.

The expected runoff volume from a design storm can be determined using the SCS runoff curve number technique (consistent with the methodology described within the approved MRP). Using the 10-yr, 24-hr precipitation depth of 1.78 inches and a curve number of 81 (cultivated land with conservation treatment, hydrologic soil group D), the direct runoff was calculated to be 0.47 inches. This results in a total design runoff volume 4,850 gallons which is only 39% of the basin capacity.

5. Reseeded areas which do not drain to the retention basin are located on extremely flat topography. A defined drainage system cannot be observed and it appears that any excess precipitation will pond within or adjacent to the disturbed sites.

Following Division approval of the requested IBC and small area drainage exemption, thirteen copies of the appropriate information shall be submitted for direct incorporation into the approved MRP.

Please contact me if you have any questions concerning this matter.

Sincerely,

SOLDIER CREEK COAL COMPANY

David G. Spillman
Mine Engineer

Enclosure

DGS/sm

INCORPORATED

MAY 17 2007

Div. of Oil, Gas &
PROPOSED BANNING LOADOUT SUBSTATION

CONSTRUCTION, INCORPORATION, USE AND RECLAMATION

Construction of the proposed substation shall be done in the area shown on the revised Exhibit 5.2-1. The construction shall consist of building a graveled pad, installation of the 2000 K.V.A. Substation, installation of an adequate fence and gate system to enclose the substation area, and construction of a proper runoff and drainage system to prevent runoff from flowing into undisturbed areas. The runoff and drainage system will use the existing sediment pond for treatment of all runoff and drainage encountered from the substation area.

The proposed substation area shall be constructed in such a manner so that existing drainage systems can be used and will not be constrained or altered in any way. To ensure drainage from existing areas be confined to the sedimentation pond, a 24 inch culvert shall be installed at the point where the substation access road crosses the existing drainage ditch. Referring to the nomograph (Exhibit 1.1), it is shown that a 24 inch culvert with a 1.2 feet headwater is capable of handling 16 cubic feet per second (CFS) of flow (16 CFS is the sedimentation pond design for a 25 yr. 24 hr. storm. Refer to Appendix II for calculations.) From these figures, a 25 year, 24 hour storm design criteria is obtained. This is well in excess of the required design constraints of a 10 year, 24 hour storm.

The proposed substation installation shall be used to supply power for the existing Banning Loadout facilities. This new system will replace the diesel powered generators presently being used.

Reclamation of the substation area shall be in accordance to our approved Reclamation Plan. All work done to reclaim the substation area will be done to conform to all constraints of the existing permit.
Fig. 4.18. Inlet control nomograph for corrugated steel pipe culverts. The manufacturers recommend keeping HW/YD to a maximum of 1.5.
May 2, 1990

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

Dear Mr. Olsen:

Re: Conditional Approval Amendment, Substation As-Built Designs, Soldier Creek Coal Company, Banning Siding Loadout, ACT/007/034-90A, Folder #3, Carbon County, Utah

The submittal received on March 16, 1990 regarding the above-noted permitting action was reviewed by Mike DeWeese of the Division's technical staff.

The submittal will be considered complete upon receipt of the information outlined in the attached memo. Please submit this information by June 1, 1990.

Thank you for your cooperation in resolving this matter.

Sincerely,

Daron R. Haddock
Permit Supervisor

djh
Attachment
cc: J. Helfrich, DOGM
BT45/13
March 29, 1990

TO: Daron Haddock, Permit Supervisor

FROM: Mike DeWeese, Reclamation Hydrologist

RE: Amendment, Substation As-Built Designs, Soldier Creek Coal Company, Banning Siding Loadout, ACT/067/034-90A, Folder#2M Carbon County, Utah

SUMMARY:

Soldier Creek Coal Company (SCCC) has completed construction of the substation at the Banning Loadout Facility. Construction of the substation pad required disturbance beyond the approved permit area. SCCC is requesting an Incidental Boundary Change and a small area exemption for the additional disturbance.

ANALYSIS:

The proposed boundary change encompasses 0.54 acres of additional area within the permit boundary, as illustrated by Exhibit 5.2-1. This area essentially forms a corridor around the southwest corner of the facility which incorporates all disturbance within the permit area.

The substation pad and outslope have been covered with gravel to provide effective sediment control. The remainder of the disturbed area has been reseeded and mulched with straw crimped into the surface. This portion of the disturbed area is located on flat terrain and possesses a low sediment yield potential.

All surface runoff from the substation pad will report to the sedimentation pond for treatment. Treatment for other disturbance is provide by a small catch basin located just south of the sedimentation pond. SCCC has demonstrated that this structure contains over twice the capacity necessary to contain the 10 year 24 hour design storm runoff.
RECOMMENDATIONS:

SCCC must include the entire area within the boundary labeled "limits of disturbance" as a small area exemption and clearly delineate it as such on Exhibit 5.2-1. The disturbed area boundary must be revised along the IEC to accurately identify the actual limits of surface disturbance associated with the substation construction. Upon receiving these necessary revisions, the Division recommends that this amendment be approved.

cc: B Team
BT6033/31-32