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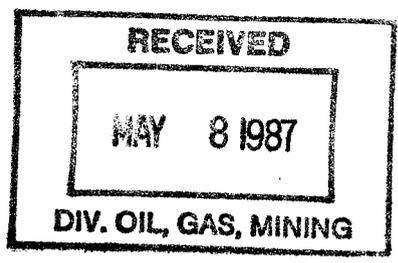


Consolidation Coal Company  
Mid-Continent Region  
12755 Olive Boulevard  
St. Louis, Missouri 63141  
(314) 275-2300

FILE COPY

May 4, 1987

Mr. Lowell P. Braxton  
Utah Department of Natural Resources  
Division of Oil, Gas & Mining  
355 W. North Temple  
Suite 350  
Salt Lake City, UT 84180-1203



Dear Mr. Braxton:

Consolidation Coal Company proposes to revise the Emery Deep Mine permit application (ACT/015/015) to add another mining panel as shown on the attached map (Plate 3-7). This revision is insignificant in that the conditions of UMC 788.12(a) are not applicable.

Ten copies of the above map are enclosed for distribution to the appropriate parties. If you have any questions, please contact Nic Neumann at this office.

Sincerely,

*Louis H. Meschede*

Louis H. Meschede  
Permit Coordinator/Hydrologist

*Map inserted  
in Vol 1 of  
MRP*

LHM/vls

Attachments

cc: N. Neumann  
R. Thompson

AMENDMENT TO  
APPROVED Mining & Reclamation Plan  
Approved, Division of Oil, Gas & Mining

by *Auson Levine* date *6/29/87*

3400  
U-5267  
(U-067)

Moab District  
San Rafael Resource Area  
P. O. Drawer AB  
Price, Utah 84501

Mr. Louis H. Meschede  
Permit Coordinator/Hydrologist  
Consolidation Coal Company  
12755 Olive Boulevard  
St. Louis, Missouri 63141

**RECEIVED**<sup>UFR</sup>  
JUN 02 1987

**DIVISION OF  
OIL, GAS & MINING**

Dear Mr. Meschede:

The proposal from Consolidation Coal for a minor modification of the approved mine plan of the Emery Deep Mine, received May 16, 1987, has been reviewed by this office.

The adding of a new mining panel to mine the small tract of Federal coal is deemed necessary; in fact, we want to congratulate the company for setting up and mining this small tract (out to their boundary line) which contains both Federal lease coal and also some fee coal.

This underground mining sequence change, with modifications, is approved as proposed.

If there are any questions, please contact Jim Ward of my staff at 801-637-4684.

Sincerely yours,

*AD LARRY K. EVICK*

Area Manager

Enclosure:  
Approved Mine Map

cc: (without Mine Map)

MOO (U-065), Brent Northrup  
USD, Allen Vance  
OSH, Denver, CO  
BOGN  
Consolidated Coal, Ron Thompson

ACT/015/015-86B Mine file  
Folder # 2 / cover & #15 entire plan w/ maps  
w. Helberg

**Consolidation Coal Company**  
Mid-Continent Region  
12755 Olive Boulevard  
St. Louis, Missouri 63141  
(314) 275-2300

May 11, 1986

Mr. Lowell P. Braxton, Administrator  
Mineral Resource Development and  
Reclamation Program  
Utah Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center - Suite 350  
Salt Lake City, UT 84180-1203

**RECEIVED**  
MAY 16 1986

DIVISION OF  
OIL, GAS & MINING

Dear Mr. Braxton:

Consolidation Coal Company (Consol) proposes to amend and modify the approved Emery Deep Mine (ACT/015/015) Permit Application Package (PAP) to allow the construction and use of a second borehole pump facility. This facility will improve the efficiency of water management within the mine, thereby increasing safety and general working conditions.

Access to the proposed borehole pump facility will be through the property of Mr. Jack Lewis by virtue of an easement agreement. This is the same route currently used to access the mine discharge sedimentation pond.

The borehole pump facility is to be completed in an area previously approved for the slurry impoundment associated with the preparation plant facility (revised Plate 13-1). Construction of the preparation plant has yet to be undertaken and the date of possible commencement is indeterminate. The proposed borehole pump facility is required as soon as possible for current operations. It is possible that the life of the proposed borehole pump may predate preparation plant construction. In the event that it does not, appropriate modifications will be made to the slurry impoundment design and submitted for approval.

In accordance with the required format, seven (7) complete copies of the application for proposed change are enclosed and are formatted to allow direct insertion into the approved PAP.

If you have any questions concerning the above proposals, please do not hesitate to contact me at 314-275-2424.

**FILE COPY**

Sincerely,

*Louis H. Meschede*

Louis H. Meschede  
Permit Coordinator/Hydrologist

LHM:vms  
Enclosures

Act 015/015-86B

RECEIVED  
MAY 16 1986

### 3.0 OPERATION AND RECLAMATION PLAN

DIVISION OF  
OIL, GAS & MINING

#### 3.1 Scope

This chapter explains the existing and proposed operations for the Emery Mine 5-year plan beginning in 1981. Included is a discussion of existing and proposed surface facilities, the operation plan, environmental protection, and the reclamation plan. The discussion focuses on the proposed 5-year mine plan; however, future facilities and the life-of-mine plan are also identified.

The facilities and operations described here are based on the continuation of mining under the proposed 5-year mine plan. As future mine plans are developed or as new facilities are needed, Consol will submit the appropriate information required to revise this permit.

Some sections of this chapter were developed to summarize information contained in subsequent chapters. Please refer to the chapter(s) identified.

#### 3.2 Surface Facilities and Construction Plans

##### 3.2.1 Site Selection and Preparation

Plate 3-1 shows the present and future affected surface areas for the life of the Emery I zone mine. The present affected area includes all the existing surface facilities for the mine, as well as outlying structures such as the mine discharge sedimentation pond and electrical substation.

Proposed facilities include the coal preparation plant/refuse disposal area (Chapter 15.0) and an additional borehole pump facility.

##### 3.2.2 Portals

There are four portals at the Emery Mine. These installations are discussed in Section 3.2.3 and are shown on Plate 3-2. An additional series of portals will be installed in the area south of Quitcupah Creek within the permit term. Although environmental data have been collected for this area (see Section 8.4), there are no firm plans for actual timing or design of this installation. These plans will be submitted to the regulatory authority as an addition to this permit application when final planning is complete.

##### 3.2.3 Surface Buildings and Structures

The following subsections provide a general description of the type of construction, usage, and approximate construction dates of all the pertinent surface structures at the Emery Mine. Also included are map reference codes for the surface facilities map at the end of this

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The main fan is used to ventilate the mine under normal operating conditions. The auxiliary would be used if the main fan became inoperable. If a power loss should occur, the auxiliary fan may be powered by the emergency diesel power unit. The mine fan building was constructed according to MSHA guidelines and is within the approved drainage control area.

#### 3.2.3.23 Mine Substation

Map Code: 3B

Quantity: 1

Approximate Construction Date: 3rd Quarter, 1976

The mine substation is located on the top of the north canyon overlooking the mine. It consists of various electrical appliances used to transform high voltage to usable mine power. The substation is enclosed by an 8-foot-high fence.

This structure is used to convey high line voltage (69 KV) to 4160 volts AC. One circuit is strictly for the underground mine, while the second circuit supplies power to both the surface facilities and the mine fan. The mine substation was installed according to existing electrical codes and MSHA guidelines.

#### 3.2.3.24 Existing Borehole Pump Facility

Map Code: 4B1

Quantity: 1

Approximate Construction Date: Prior to 1975

The borehole pump facility consists of a multi-stage deep-well turbine pump, a 200 horsepower electric motor, and a high-voltage transformer. The pump is rated at 1,200 gallons per operating minute, and is used to dewater the underground workings. Water is diverted from the various active areas of the mine to the borehole pump. From there the water is pumped to the surface and through an 8-inch buried PVC line to the mine discharge sedimentation pond. Due to mine expansion, it has become increasingly inefficient to dewater the entire mine workings with a single borehole pump. For this reason, an additional borehole pump facility is proposed.

#### 3.2.3.24A Proposed Borehole Pump Facility

Map Code: 4B2

Quantity: 1

Approximate Construction Date: Proposed

The proposed borehole pump facility will consist of a multi-stage, deep-well turbine pump, a 200-horsepower electric motor, and a high-voltage transformer. Because of the remote nature of the proposed facility, the pump will be equipped with an automatic starting control. The proposed facility will be used to dewater the southern mining areas while the existing facility will solely be used to dewater the northern mining areas.

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### 3.2.3.25 Mine Discharge Sedimentation Pond No. 1

Map Code: 5B

Quantity: 1

Approximate Construction Date: 4th Quarter, 1976

The mine discharge sedimentation pond (pond no. 1) is located near an unnamed tributary of Quitchupah Creek. It is an excavated structure measuring 80 feet long by 100 feet wide by 8 feet deep. It is equipped with concrete inlets and outlets and is riprapped to prevent wave erosion (see Photo 5-B).

This structure serves to settle out particulate matter in the mine discharge water drawn from the mine by the existing borehole pump. The treated water is discharged into an unnamed tributary of Quitchupah Creek. The pond is equipped with a flume to measure discharge. Flume readings and water samples are taken monthly. The discharge point of the pond is approved by the EPA and is identified by NPDES permit UT-0022616.

The design storage volume for the pond is 19.3 acre-feet. The design flows are 1,401,150 gallons per day at a retention time of 36 hours. This results in an actual sotrage of 6.4 acre-feet with 12.9 acre-feet remaining for sediment and expansion. Due to sediment buildup since construction in 1976 the approximate storage available now is 16.1 acre-feet. Excluding any future sediment buildup the pond is presently capable of treating flows up to 3,500,000 gallons per day using the same 36 hour retention time. Present flow average 600,000 gallons per day. It should be noted that the operation of two borehole pump facilities will not increase the average daily flows from the mine.

Upon approval and construction of the preparation plant, clarified water from this pond will be discharged into the proposed make-up water sump located between this structure and the proposed slurry impoundment. Clarified water will be pumped back to the plant for reuse, as required. Refer to section 15.3.3.2.

### 3.2.3.26 Oil Storage Area

Map Code: 211

Quantity: 1

Approximate Construction Date: Not Applicable

The oil storage area is a small region of the mine yard set aside to store various lubricants and hydraulic fluids for use in machinery on the surface and underground. All petroleum products are contained in either 5-gallon barrels or 55-gallon drums and are transported underground as required. The approximate volume of petroleum products in storage is 3,000 gallons.

Since the mine has no provision for bulk transportation and storage of petroleum products, oils are stored in individual containers of a size and weight that is easily handled.

The oil storage area is within the approved surface drainage control area.

### 3.2.3.27 Gasoline Fuel Storage

Map Code: 22A

Quantity: 1

Approximate Construction Date: 3rd Quarter, 1979

The gasoline fuel storage consists of a buried 2,000-gallon tank located near the warehouse. It has been treated for burial and is equipped with an electric pump. This fuel is used in vehicles that are not directly involved with the mine, such as the superintendent's car and the foreman's trucks. The fuel tank has been treated for burial and is located within the approved surface drainage control area.

### 3.2.3.28 Diesel Fuel Storage

Map Code: 23A

Quantity: 2

Approximate Construction Date: 3rd Quarter, 1979

### 3.2.5 Power System, Transmission Lines, Substations, and Mine Feeders

The power system at Emery Mine consists of two circuits, surface distribution, and underground distribution. Both circuits are 7200 VAC distribution and fed from the mine substation.

The mine substation consists of a 5 MVA, 69 KV to 7.2 KV Westinghouse transformer, with fused disconnects on the 69 KV side. The secondary of the transformer is resistance grounded. Each of the circuits leaving the substation, surface distribution and underground distribution, are fed through oil circuit breakers and metered for phase overcurrent and ground fault. In addition, the underground distribution circuit has ground check monitoring and ground current monitoring.

#### 3.2.5.1 Surface Distribution

The surface distribution comprises three major circuits, all of which initiate at the substation through common disconnects.

The first circuit runs northeast and then northwest from the substation to the existing borehole pump. The pump at the borehole is supplied by a 225 KVA bank of three single phase transformers. The transformers have fused disconnects to the 7200 VAC line.

The second circuit runs west along the top of the canyon and drops down to supply power to the shop/office/warehouse/bathroom facilities. The substation consists of a 150 KVA bank of three single phase transformers supplying 120/240 VAC power to the shop/office/warehouse building; a 75 KVA single phase transformer supplying 120/240 VAC power to area floodlights, two bathrooms, truckscale and R/O building; and 150 KVA three phase transformer supplying 480 VAC power to the shop, R/O building and sewer pump house. All transformers have fused disconnects to the 7200 VAC line.

The third circuit runs south to the base of the canyon where it splits into two branches. One branch follows the canyon to the east to feed the mine exhaust fan. There are two loads at the mine fan--the main fan with a 600 Hp, 7200 VAC motor and an auxiliary fan with a 150Hp, 480 VAC motor. The smaller fan is supplied by a 150 KVA bank of three single phase transformers. Both the transformer bank and the 600 Hp motor have high voltage protection from independent fused disconnects. The other branch runs to the 500 KVA tipple substation, a 100 KVA single phase transformer, and a buried feeder cable. Each of the three loads have high voltage protection through fused disconnects.

The tipple substation supplies 480 VAC and 240 VAC three phase power to the tipple and associated equipment. The 100 KVA transformer supplies 120/240 VAC single phase power to the tipple area flood lights and low voltage service power to the area offices and shops.

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The buried feeder cable is disconnected at both ends and is kept only as an alternate means of supplying power to the shop/office/warehouse/bathhouse substation.

An additional borehole pump facility is proposed which will require electrical power. Power will be obtained from the circuit that feeds the existing borehole pump. The 200 horsepower pump will be supplied by a 225 KVA bank of three single phase transformers. The transformers will have fused disconnects to the 7200 VAC line.

The overall cost of constructing the sedimentation structures was nearly \$250,000, over half of which can be attributed to establishing vegetation on the berms.

### 3.2.9.2 Sedimentation Control of Mine Discharge

Water produced in the mine is brought to the surface by a multistage downhole turbine pump. Water travels through a buried 8-inch PVC line to this existing sedimentation pond (pond no. 1). An additional borehole pump is proposed to facilitate water management within the mine. A 10-inch, buried PVC line will be laid from proposed facility to the existing sedimentation pond.

The effluent of the R/O system is currently discharged into an evaporation lagoon. A reclamation plan has been submitted for the structure. Upon abandonment of the lagoon the 2-inch pipeline will be extended to this mine discharge sedimentation pond.

The sedimentation pond has a design storage volume of 19.3 acre-feet and is about 1 mile northwest of the mine. The pond discharges into an unnamed tributary of Quitchupah Creek. (Refer to Plate 13.1).

Design information and monitoring data pertinent to the sedimentation pond is in Section 13.3.2.

Upon the approval of the preparation plant, clarified water from this pond will be discharged into the proposed make-up water sump located between this structure and the proposed slurry impoundment. Clarified water will be pumped back to the plant for reuse, as required. Refer to section 15.3.3.2.

### 3.2.10 Transportation, Roads, Parking Areas

Descriptions of the roads and parking areas associated with the mine are found in Sections 3.2.3.41 through 3.2.3.47. Three of the area roads are considered Class II and must be either reclaimed or upgraded.

Plans for the upgrading of the borehole pump road are in section 13.3.4. The sedimentation pond road and substation road will be used as access to facilities for the proposed preparation plant. The upgrade designs are discussed in Section 15.3.2.2.

### 3.2.11 Permit Term and Life of Mine Affected Surface Areas

This information is shown on Plate 3-1.

### 3.2.12 Detailed Construction Schedule

The reconstruction plans for the roads and the R/O waste treatment system were discussed earlier. The reconstruction will be finished within the year following the approval of the reconstruction plans.

The proposed preparation plant facility construction schedule is presented in section 15.3.2.7.

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### 3.3.1.6 Mine Subsystems

The following sections discuss the various mine subsystems, such as ventilation, roof control, electrical, etc. All of the systems included here refer only to the existing Emery Mine.

#### Ventilation

Ventilation for the Emery Mine is achieved using an exhaust system. The negative pressure differential between the intake and return portals is supplied by a Jeffery 8H096, 96 inch axial flow fan is connected in parallel with the main fan and is equipped with an emergency diesel power unit. At present, the mine ventilation characteristics are 308,000 CFM at 2.60 inches water-gauge.

Section ventilation is usually augmented by the use of a portable 50 horsepower axial flow fan rated at 22,500 CFM.

All ventilation systems at the mine are approved by MSHA, including the use of diesel equipment. Figures 3-7, 308, 3-9 and 3-10 show typical ventilation systems in use at the mine.

#### Roof Control

The Emery Mine is currently approved by MSHA to use "spot" roof support. The types of support in use include fully grouted resin rods, point anchor resin rods, truss bolts, and conventional. The type of support used depends upon the roof conditions, but generally only one support system is used in any given location. Figures 3-11 and 3-12 show typical roof support installations.

#### Mine Dewatering

Where possible, submains and panel sections are planned so that maximum use may be made of gravity drainage. In general, the panel sections are allowed to drain to a pump located down dip near the entrance to the section. The pump is connected to a main dewatering pipeline in the submain which transports the water to the main pump. From the main pump, a centrifugal pump transfers the water to a secondary pump located directly below the borehole pump. The borehole pump draws water from the secondary pump to the surface and transports it to the mine discharge sedimentation pond where the suspended solids are removed. The water is then discharged into an unnamed tributary of Quitchupah Creek. Plate 3-4 is a schematic diagram of the entire water system. An additional borehole pump facility is proposed to increase the efficiency of mine water management.

#### Fresh Water System

The mine fresh water system is discussed in detail in Section 3.2.6.

#### Mine Electrical

Underground electrical power is brought from the mine substation to a switch house located just outside the access portal. From here 7200 VAC power is taken underground via the mine feeder cable. At periodic locations enroute to the sections, the mine feeder is routed through transformers to provide power for belt drives.

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vehicle-wildlife collisions in order that increased awareness will decrease these collisions. Employees will also be warned that stopping vehicles for viewing wildlife may disrupt the natural activities of these species.

Water quantity and quality will be maintained in all streams. This includes 1) protection berms to collect mine-site runoff which may increase the suspended solid loads in streams, 2) preventing contamination of stream-waters by heavy metals, and 3) mitigating the loss of water from dewatering aquifers by pumping water collected in the mine back into the stream systems after the quality is deemed suitable. If streams are displaced by any mining activities, reclamation will achieve development of a stream channel similar in character to that channel which existed prior to disturbance.

Many of these recommendations have been suggested by Mr. Larry Dalton of the Utah Department of Wildlife Resources. Mitigation measures for Fish and Wildlife Resources are discussed in more detail in Section 10.5 of Chapter 10, Fish and Wildlife Resources.

For the proposed borehole pump facility, a power line will be required. This powerline will be constructed in accordance with UMC 817.97(c) regarding raptor protection. The power line will use three different types of common power-pole structures, and they are: single pole with crossarm, angle structure and H-structure. They are shown on plates 3-11, 3-12, and 3-13, respectively. In general consideration of a raptor perch point, the distance between any phase-to-phase or phase-to-ground contact would be a minimum of 60 inches.

As can be seen on Plate 3-11 for the single pole with crossarm structure, an insulating tube will be used on the center phase to allow compliance for the structure.

For the angle structure as shown on Plate 3-12, the structural arrangement is such that there is no place for the raptor to land. Also, all conductors lie in a vertical plane, spacing between any two conductors is four feet and there is no crossarm involved.

For the H-structure shown on Plate 3-13, the spacing between phase conductors is 66 inches.

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### 3.4.6.3 Recommended Monitoring Procedures

Upon approval of the permit application Consol will consult with the Utah Division of Oil, Gas, and Mining and the Utah Division of Wildlife Resources to determine to what extent fish and wildlife monitoring will be implemented.

### 3.4.7 Protection of Air Quality

#### 3.4.7.1 Projected Impacts of Mining Operation on Air Quality

Fugitive dust (particulates) is considered the only potentially significant air pollutant generated by the mining operation. The potential sources of fugitive dust include the coal handling, loading, and stockpile facilities and operations and road traffic. The uncontrolled fugitive dust emissions were calculated to be 190 tons per year (see Section 11.4.1). The controlled emissions were calculated to be 69.6 tons per year (see Section 11.4.3).

#### 3.4.7.2 Mitigating Measures to be Employed to Control Air Pollutants

Emissions from coal handling and loading are controlled by spraying the coal with water as it is mined at the face and at all the transfer points in the underground conveyor system. When the coal exits the mine and enters the tippie, it is thoroughly wetted.

Road traffic dust is controlled by regularly spraying the unpaved areas with water (in the summer at least three times each day, and in the winter about two times each week).

#### 3.4.7.3 Air Quality Monitoring Plans

No monitoring has been conducted at the mine nor is any planned to be conducted.

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### 3.5.2 Soil Removal and Storage

Approximately 85 acres of native rangeland will be disturbed as a result of constructing a Preparation Plant, sedimentation pond, slurry pond, diversion ditch, refuse pile area, and a refuse haul road. The topsoils from these sites will be removed and stockpiled for reclamation purposes. For details, refer to Section 15.3.5.1. A small area, less than 0.1 acre, will be disturbed within the proposed slurry pond area to construct the proposed borehole pump facility. These soils will be removed and stockpiled along with those removed during construction of the diversion ditch.

### 3.5.3 Final Abandonment

The existing Emery Mine is projected to continue operations through the year 2010. At that time Consol will commence final abandonment procedures as discussed in the following sections.

#### 3.5.3.1 Sealing of Mine Openings

According to Consol's hydrologic investigations, the piezometric surface of the Ferron aquifer is well below the present mine openings; therefore, these openings need only to be sealed against entrance of people, wildlife, and surface runoff.

The openings will be sealed with a double-row cement block wall installed according to Figure 3-13. After the seals have been placed, the openings will be backfilled, graded and revegetated, as outlined in the reclamation plan.

#### 3.5.3.2 Removal of Surface Structures

The surface structures at Consol's Emery Mine will be removed or razed upon either the completion of mining or after the useful life of these facilities has expired. The structures to be disposed of are the shop-office-warehouse, the bathhouse trailers, the water tank, the prep plant, the scales and housing, the R/O housing, the surface electrical system, and the PCB housing. The structures that are salvageable will either be sold or removed; all other structures will be razed and disposed of in an environmentally sound manner. Wherever possible, the inert and sound refuse will be utilized as backfill.

#### 3.5.3.3 Disposition of Dams, Ponds, and Diversions

The surface water management plan consists of a network of four ponds and a levee or berm that controls surface water runoff from the affected surface area. This system is discussed further in Section 7.2.3.2, Chapter 7. Sediment pond no. 1 is used to treat mine discharge water and ponds no. 2 and 3 collect surface water runoff from the mine yard. Pond no. 4 is the evaporation lagoon for discharge from the reverse osmosis system.

Pond no. 1 will be removed and the site reclaimed when it is no longer needed to treat mine discharge water. Prior to reclamation, the accumulated sediment will be removed and deposited in the abandoned underground workings. It will be placed in a dry portion of the mine where it will not come in contact with groundwater. Pond no. 1 is an incised impoundment with the excavated dirt forming an embankment around the dugout

#### 3.5.4.4 Removal of Surface Debris

Prior to regrading the affected surface areas, surface debris (coal dust, pavement material, etc.) will be removed. The material that is removed will be deposited in the abandoned underground mine workings and sealed from outside exposure or will be buried at another suitable location.

#### 3.5.4.5 Soil Redistribution and Stabilization

The present surface disturbances at the Emery Mine have existed since before any regulatory requirements were developed that required the protection of soil resources. As a result, there are currently no stockpiled soils available for respreading. Further discussion is contained in Chapter 8. However, there will be approximately 85 acres of additional disturbance associated with the construction of the proposed Preparation Plant and the additional borehole pump facility. Topsoils from these lands will be stockpiled and later redistributed after termination of the project. Refer to Section 15.3.5.4 for details.

#### 3.5.5 Revegetation Plan

After mining is completed, the disturbed surface lands will be revegetated according to the standards of the regulatory authority.

##### 3.5.5.1 Soil Preparation

After mining is completed and the facilities removed, the soil preparation process will begin. The disturbed area soils will be tested chemically to determine whether soil amendments will be needed. Following this, a firm seedbed will be prepared through disking, cultivating, harrowing, and conditioning with corrugated rollers. Some of these steps may be omitted depending upon the soil texture and condition of each site. During seedbed preparation, fertilizer will be broadcast onto the soil and worked in to a depth of 3 to 6 inches assuming that fertilizer is needed.

##### 3.5.5.2 Seeding and Transplanting

Once the seedbed has been prepared, the disturbed acreages will be seeded to grasses and shrubs. Refer to Appendix C of Chapter 10.0 for species and quantities to be used. Some shrub transplanting may also be performed using many of the species common to the surrounding area. The species to be used and the amounts will depend on stock availability.

All grass and shrub seeding will be performed using a drill that is specially designed to seed grass and shrub seed, with uniquely constructed seed boxes for handling seeds of a variety of sizes and weights. Generally seeding will take place just prior to the period when moisture is adequate for germination, emergence, and establishment (early spring); however, some seeding may also be done in the fall.

All shrub transplanting will be done in the spring, and will generally be on 6-foot centers throughout the areas to be revegetated.

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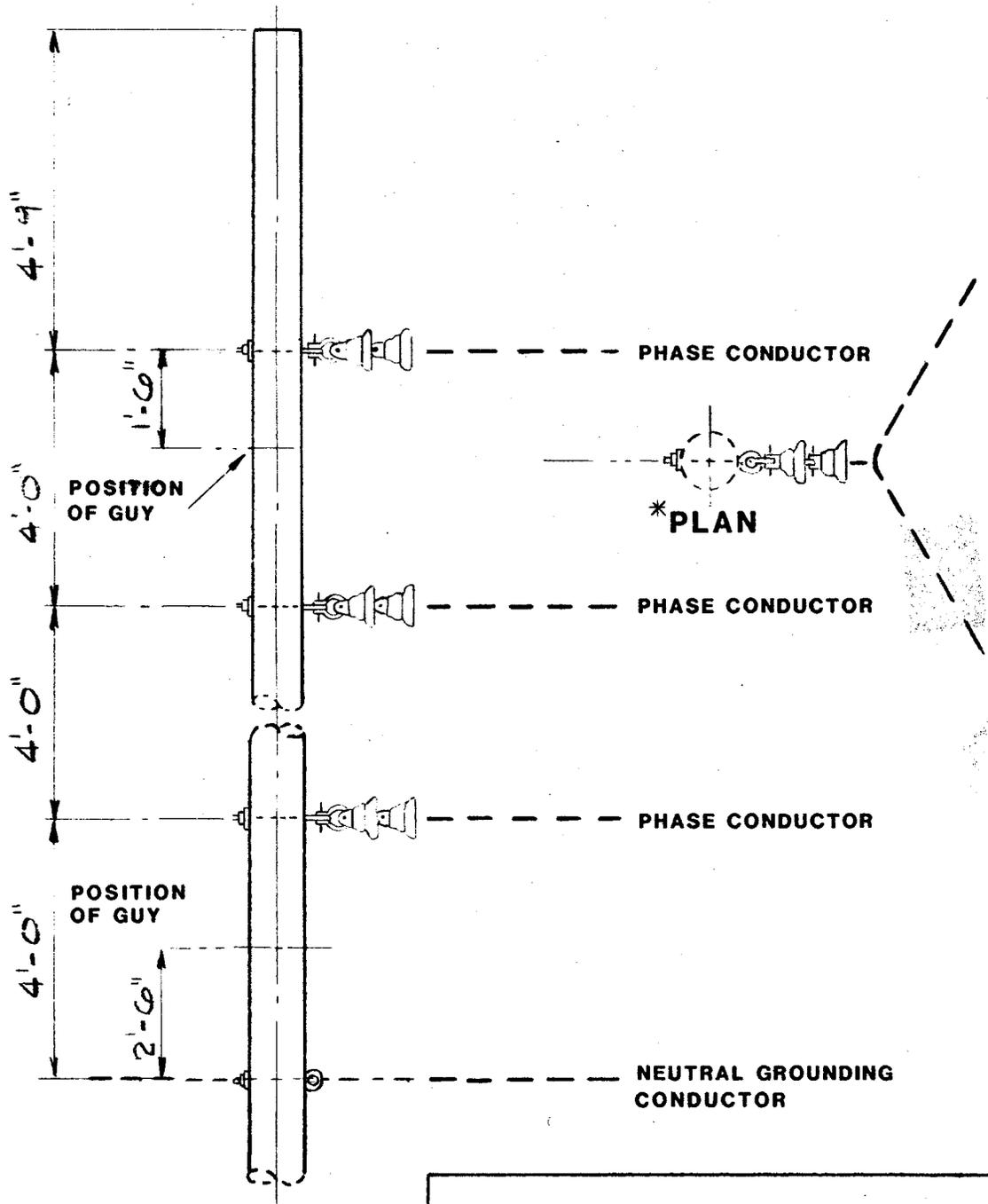
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AD/015/015-86B

# FILE COPY RECEIVED

MAY 16 1986

DIVISION OF OIL, GAS & MINING



\* NOTE: GREATER THAN 60% ANGLE.  
STRUCTURES SHAL HAVE 2 SETS  
OF INSULATORS.

<b>CONSOLIDATION COAL COMPANY</b>	
<b>EMERY MINE</b>	
<b>POWER LINE ANGLE</b>	
<b>POLE STRUCTURE 8KV,3 PHASE</b>	
DATE: 4/25/86	PLATE 3-12

ACT/015/015  
# 3 + 15 w/maps



# FILE COPY

Consolidation Coal Company  
Mid-Continent Region  
12755 Olive Boulevard  
St. Louis, Missouri 63141  
(314) 275-2300

May 7, 1986

RECEIVED  
MAY 08 1986

DIVISION OF  
OIL, GAS & MINING

Ms. Susan Linner  
Utah Division of Oil, Gas and Mining  
355 W. North Temple  
3 Triad Center - Suite 350  
Salt Lake City, UT 84180-1203

Dear Ms. Linner:

On April 14, 1986 you were informed by Mr. Ron Thompson of our Emery Mine of Consol's intent to breach berms that isolate our disturbance area from Christiansen Wash. The purpose of this action was to seal an old mine portal which was discovered and suspected of being the source of outside air that was thought to be fueling combustion within an area of old mine workings (circa 1940).

The portal opening was backfilled approximately 25 feet and compacted. The fill material extended out 15 to 20 feet beyond the opening and 10 to 12 feet above it, and was well compacted and riprapped to protect the area from erosion. The sealing plan approved for our active portals, which requires a double block wall and a drain pipe, was unable to be followed due to the unsafe conditions that were encountered in the portal, including loose roof and rib rocks. The locations of the old portal, the road used to access the old portal, and borrow area for backfill are shown on the attached map.

In the days following the portal sealing, various gas level readings indicated that the problem was not under control. On April 17, 1986 Consol was advised by MSHA that the ratio of CO to CO<sub>2</sub> within the old workings was indicative of an open flame. A decision was made by Consol to inject compressed CO<sub>2</sub> into the sealed area to lower O<sub>2</sub> levels in an attempt to extinguish the fire. Over the next two days, two CO<sub>2</sub> injection holes were completed successfully along with one pressure relief hole. However, five attempted holes did not encounter the old workings and the pressure relief hole subsequently caved and was no longer functional. These holes were backfilled with cuttings and cemented from approximately 10 feet to the land surface. In order for the drill rig and CO<sub>2</sub> trucks to access the area above the old workings, two existing roads were widened (See Map).

## AMENDMENT TO

**APPROVED Mining & Reclamation Plan**  
Approved, Division of Oil, Gas & Mining

by DW Hedberg date 7/29/86  
recommended by W. Kungler & D. Darby

Ms. Susan Linner  
May 7, 1986  
Page 2

On April 20, 1986 O<sub>2</sub> levels remained near normal despite the CO<sub>2</sub> injection, suggesting that fresh air may be being pulled into the sealed old workings area by the main mine fan. MSHA recommended that Consol complete isolation areas between the existing seals and the main return air leading to the mine fan. In addition, MSHA recommended that these areas be vented to the surface. On April 28, 1986, two ventilation holes were drilled into the isolation area in front of Seals 1, 2, and 3 (See Map). One attempted ventilation hole did not encounter the old workings and was filled with cuttings and cemented (See Map).

The foregoing actions were necessary to avert potentially dangerous consequences at the Emery Mine and as such, were required to be performed in a timely and swift manner. At this time the gaseous state within the old workings is being monitored closely and an additional four ventilation holes are planned in front of Seals 4 through 11. In the future, more injection and/or ventilation holes may be required in order to extinguish combustion and the ones completed to date will have to remain in service towards the solution of the problem.

Primary surface disturbances associated with the above actions include the borrowing of fill material to backfill the old portal, roads cut to widen preexisting jeep trails, and the drilling of injection/ventilation holes. The borrow area is located along Christiansen Wash in an area where soils consist of gullied and alluvial land (Plate 8-1 of PAP) and the vegetation is of the greasewood shrubland type (Plate 9-1). Consol proposes to reclaim this area by grading to approximate predisturbance conditions and broadcasting according to Seed Plan B (November 11, 1983 Technical Review Response). The roadcuts occur on Ildefonso Loam soils that support both annual forb and mixed desert shrub vegetation. These areas will also be contoured to approximate original contours and seeded under Seed Plan A, applicable to both of the above vegetation types. Areas surrounding abandoned drill holes will be graded and seeded, also under Seed Plan A. Seeding will be done during late Fall 1986 to take advantage of the more favorable physical environment for germination.

We trust that the foregoing meets with your kind acceptance. If you have any questions, please do not hesitate to contact me at 314-275-2424 or Mr. Ron Thompson at the Emery Mine.

Sincerely,

*Louis H. Meschede*

Louis H. Meschede  
Permit Coordinator/Hydrologist

LHM:vms

Attachment



Consolidation Coal Company  
Mid-Continent Region  
12755 Olive Boulevard  
St. Louis, Missouri 63141  
(314) 275-2300

January 13, 1986

RECEIVED

JAN 15 1986

DIVISION OF OIL  
GAS & MINING

D. Wayne Hedberg  
Permit Supervisor/Reclamation Hydrologist  
Division of Oil, Gas & Mining  
355 W. North Temple  
3 Triad Center - Suite 350  
Salt Lake City, Utah 84180-1203

Dear Mr. Hedberg:

RE: Request for Underground Mining Sequence Change  
Emery Deep Mine

Consolidation Coal Company on October 7, 1985 requested a change in the underground mining sequence of the Emery Deep Mine to the Division of Oil, Gas and Mining. As per your letter dated November 4, 1985, this request was approved with the condition of submittal of seven (7) copies by January 15, 1986 of the revised and updated mining sequence for the Emery Deep Mine.

So as to meet the Division's request, attached are seven (7) copies of the updated mining sequence. These maps show the areas mined to date through December 31, 1985 with a breakdown of the 1985 areas by quarter. The 1986 projected mine sequence areas are delineated along with projections of the 1987 thru 1990 mining areas.

Should you require any additional information regarding this specific request or any future information regarding the permitting of the Emery Deep Mine, please contact me at the address above.

Sincerely,

Nicolaus P. Neumann, P.E.  
Group Leader - Permits

Attachment

AMENDMENT TO  
APPROVED Mining & Reclamation Plan  
Approved, Division of Oil, Gas & Mining

by D.W. HEDBERG date 1-17-86  
reviewer Randy Harden

FILE: ACT/015/015  
#3 + 15w/prop



RECEIVED

SEP 26 1985

DIVISION OF OIL  
GAS & MINING

**Consolidation Coal Company**  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

Sept. 24, 1985

Mr. Rick Summers  
Division of Oil, Gas, and Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

Dear Mr. Summers:

Skyline Construction is in the process of reconstructing a section of highway for Emery County. On the behalf of the Emery County Road Department, they have requested permission to remove approximately 300 tons of rip-rap from Consolidation Coal Company lands.

Consol has approved this request subject to the review and approval of the Division. It shall be the county or their agents responsibility to conduct the operation. Consol anticipates no direct benefit from this operation other than incidental use of the improved roadway.

I have enclosed a written request from Skyline Construction and a map showing the approximate location of the borrow site.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ronald G. Thompson".

Ronald G. Thompson  
Mine Engineer

Enclosures

# Skyline Construction

P. O. BOX 589 - FERRON, UTAH 84523

RECEIVED

SEP 26 1985

DIVISION OF OIL  
GAS & MINING

September 23, 1985

Subject: Miller Creek Crossing  
Emery County Road

Our firm is contracted by Johansen & Tuttle Eng. who is acting as an agent for Emery County. Our job is to reconstruct a county road, in doing so we need rock for rip rap on Miller Creek

We would like the rock from Consol property for the county road, by us the private contractor under contract by the County. This is the only rock available in the area. The amount of material needed will amount to 250 - 300 cubic yards. The area disturbed will be dressed up when we finish.

The approval of this rock removal would be greatly appreciated.

*Ronald Barney* Emery County  
Road Supt.

ACT/015/015



RECEIVED

AUG 26 1985

DIVISION OF OIL  
GAS & MINING

Consolidation Coal Company  
Mid-Continent Region  
12755 Olive Boulevard  
St. Louis, Missouri 63141  
(314) 275-2300

August 23, 1985

Mr. D. Wayne Hedberg  
Reclamation Hydrologist  
State of Utah  
Division of Oil, Gas and Mining  
4241 State Office Building  
Salt Lake City, UT 84114

Dear Mr. Hedberg:

Pursuant to your request, enclosed please find thirteen (13) copies of a map showing the watershed boundary used to size a culvert section added to the prep plant sedimentation pond.

If you have any questions, please contact me at 314/275-2424.

Sincerely,

Louis H. Meschede  
Hydrologist

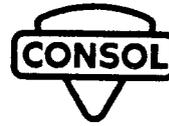
LHM:vms

Enclosures

cc: S. Drummond

Original

File: ACT/015/CIS  
# 3 & 15/w/maps



Consolidation Coal Company  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

RECEIVED

AUG 02 1985

DIVISION OF OIL  
GAS & MINING

July 25, 1985

Mr. D. Wayne Hedberg  
Permit Supervisor/Reclamation Hydrologist  
State of Utah  
Division of Oil, Gas and Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

Dear Mr. Hedberg,

This letter is being submitted to you in reference to our phone conversation on June 26, 1985 regarding the erosional problems with the inlet on the south side of sedimentation pond #5. Enclosed with this letter you will find:

- 1) A map showing the plan view of the watershed area.
- 2) The culvert design calculations.
- 3) A diagram of the culvert installation.

The contributing drainage area in question is 15.5 acres (as shown on the enclosed map). The peak flow in this area for a 10 yr-24 hr event would be 6.2 cfs and could be transmitted through an 18-inch diameter culvert without entrance head. The peak flow for a 100 yr - 24 hr event would be 15.6 cfs and could be transmitted through the 18-inch culvert with about 2.7 ft. of head. Comparatively, a 24-inch diameter culvert would flow about two-thirds full for the 10 yr - 24 hr event and would have about 0.4 ft. of entrance head under the 100 yr - 24 hr peak flow condition. In view of the erratic frequency of storms in this area of Utah, Consol has decided to use a 24-inch diameter culvert.

Installation of the culvert will require an end section at the inlet and shaping of the channel around the inlet to direct any runoff into the drop structure. A two foot high berm will be placed over the top of the culvert at the inlet to prevent runoff from the peak flow from going over the top of the structure. The runoff will be carried down the slope of the impoundment to the bottom of the pond by the culvert. The outlet will discharge onto bedrock thereby eliminating any need for an energy dissipator. To ensure prevention of piping and undercutting of the structure, 2000 pounds of bentonite clay will be mixed into the fill around the culvert and into the berm.

Page 2  
Mr. D. Wayne Hedberg  
July 25, 1985

Your written confirmation and acceptance of this plan in the near future will be greatly appreciated.

Sincerely,



Stephen C. Drummond  
Mine Engineer  
Consolidation Coal Company  
Emery Mine

encl.

Emerg Sediment Pond - S  
Inlet Culvert Design

10 year - 24 hour storm  
1.7" precipitation

CN = Curve Number = 80

$$S = \frac{1000}{CN} - 10$$

$$= \frac{1000}{80} - 10$$

$$= \underline{\underline{2.5}}$$

L = 1490 ft Length of drainage area

Y = % slope =  $\frac{6025 - 5950}{1490} (100)$

$$= \underline{\underline{5\%}}$$

$t_L = \text{Lag time} = \frac{L^{0.8} (S+1)^{0.7}}{1900 Y^{0.5}}$

$$= \frac{(1490)^{0.8} (3.5)^{0.7}}{(1900)(5)^{0.5}}$$

$$= \underline{\underline{0.196 \text{ hrs}}}$$

$t_c = \text{Concentration time} = \frac{t_L}{0.6}$

$$= \frac{0.196}{0.6}$$

$$= \underline{\underline{0.33 \text{ hrs}}}$$

Q = runoff volume = 0.4 in. - from figure 2.26  
in inches using P = 1.7" + CN = 80

A = Area = 15.5 Ac = 0.024 mi<sup>2</sup>

$q_p = \text{peak flow} = q_p' A Q$

$q_p' = \underline{\underline{650 \text{ cu.ft/second/sq.mi/in.}}}$   
from figure 2.40

$q_p = 650 (0.024) 0.4$

$$= \underline{\underline{6.2 \text{ cfs.}}}$$

100 year - 24 hour storm  
2.6" precipitation

CN = 80

$$S = \frac{1000}{CN} - 10$$

$$= \frac{1000}{80} - 10$$

$$= \underline{\underline{2.5}}$$

L = 1490 ft

Y = 5%

$t_L = \frac{L^{0.8} (S+1)^{0.7}}{1900 Y^{0.5}}$

$$= \frac{(1490)^{0.8} (3.5)^{0.7}}{(1900)(5)^{0.5}}$$

$$= \underline{\underline{0.196 \text{ hrs}}}$$

$t_c = \frac{t_L}{0.6}$

$$= \frac{0.196}{0.6}$$

$$= \underline{\underline{0.33 \text{ hrs}}}$$

Q = 1.0 in. from figure 2.26  
using P = 2.6" + CN = 80

A = 15.5 Ac = 0.024 mi<sup>2</sup>

$q_p = q_p' A Q$

$q_p' = \underline{\underline{650 \text{ ft}^3/\text{second/sq.mi/in.}}}$   
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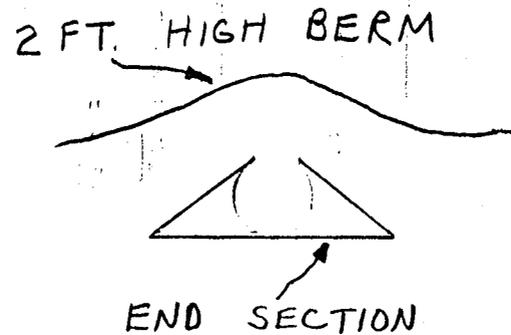
Reference: "Hydrology & Sedimentology of Surface-mined Lands"  
Haan & Barfield

# CULVERT INSTALLATION

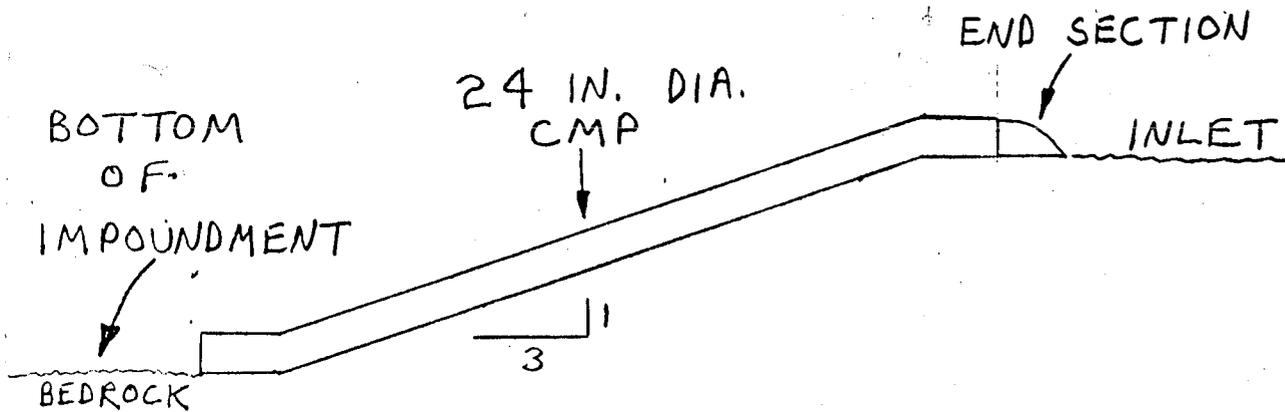
OF SED. POND # 5

CONSOLIDATION COAL EMERY, UTAH

## END VIEW OF INLET



## SIDE VIEW OF CULVERT



SCALE - 1" = 10' V & H

*Original*

*File: ACT/015/015  
# 3 & 15/w/maps*



**Consolidation Coal Company**  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

RECEIVED

AUG 02 1985

DIVISION OF OIL  
GAS & MINING

July 25, 1985

Mr. D. Wayne Hedberg  
Permit Supervisor/Reclamation Hydrologist  
State of Utah  
Division of Oil, Gas and Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

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Page 2  
Mr. D. Wayne Hedberg  
July 25, 1985

Your written confirmation and acceptance of this plan in the near future will be greatly appreciated.

Sincerely,

A handwritten signature in cursive script that reads "Stephen C. Drummond". The signature is written in dark ink and is positioned above the typed name.

Stephen C. Drummond  
Mine Engineer  
Consolidation Coal Company  
Emery Mine

encl.

10 year - 24 hour storm  
1.7" precipitation

$$CN = \text{Curve Number} = \underline{80}$$

$$S = \frac{1000}{CN} - 10$$

$$= \frac{1000}{80} - 10$$

$$= \underline{2.5}$$

$$L = \underline{1490 \text{ ft}}$$
 Length of drainage area

$$Y = \% \text{ slope} = \frac{6025 - 5950}{1490} (100)$$

$$= \underline{5\%}$$

$$t_L = \text{Lag time} = \frac{L^{0.8} (S+1)^{0.7}}{1900 Y^{0.5}}$$

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 - from figure 2.26  
in inches using  $P = 1.7" + CN = 80$

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2.6" precipitation

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$$= \frac{1000}{80} - 10$$

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from figure 2.40

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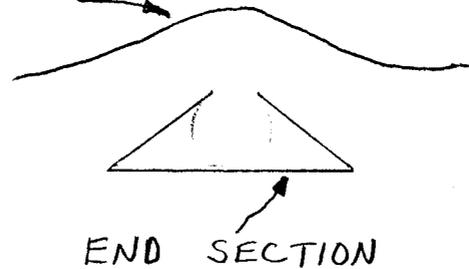
Reference: "Hydrology & Sedimentology of Surface-mined Lands"  
Haan & Barfield

CULVERT INSTALLATION  
OF SED. POND # 5

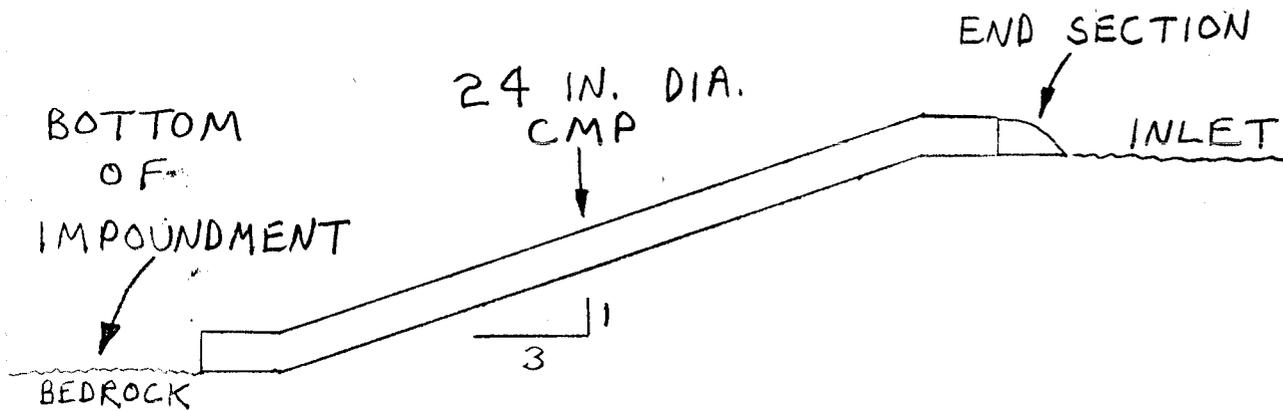
CONSOLIDATION COAL EMERY, UTAH

END VIEW OF INLET

2 FT. HIGH BERM



SIDE VIEW OF CULVERT



SCALE - 1" = 10' V & H

RECEIVED

DEC 21 1984

DIVISION OF  
OIL, GAS & MINING

Mr. D. Wayne Hedberg  
Division of Oil, Gas, and Mining  
4241 State Office Building  
Salt Lake City, UT 84114

December 19, 1984



Consolidation Coal Company  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

File: ACT/O15/O15  
# 3, 9 15

RE: Emery Mine  
ACT/O15/O15  
R/O Lagoon Reconstruction

Dear Mr. Hedberg:

On December 7, 1984 the Emery Mine was issued a permit for the reconstruction of the Reverse Osmosis Evaporation Lagoon from the Utah State Department of Health, which shall incorporate the same design criteria as outlined in our MRP, with the following exception:

Because the Department of Health requires a percolation rate not to exceed 1/16 inches per day, (as opposed to the previous criteria of 1/4 inches per day) the projected daily flow may not surpass 3100 gal/day. As calculated by the Department of Health. This capacity will allow for at least 62 employees showering per day.

Although the new capacity is roughly 1/2 of that originally projected, it is still greater than our forecasted requirements for the foreseeable future. Therefore, upon final approval from DOGM construction will begin during the spring of 1985. Please note that as the employment projections for the Emery Mine change we will request modifications to these designs such as the installation of aeration devices or the construction of an additional evaporation cell.

Please find enclosed the appropriate changes to our MRP. Your timely response to this request for final approval is very much appreciated.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ronald O. Hughes".

Ronald O. Hughes  
Mine Engineer

cc. James Smith, DOGM

## 13.4.2 Modification to the Reverse Osmosis Lagoon

The lagoon is sized to treat the flow of reverse osmosis reject water generated by the mine at its projected level of operation (see section 3.2.3.7). The combined effects of infiltration and evaporation will handle 0.16 inches per day of wastewater over the area of the pond, which is the amount produced daily. A factor of safety is provided in that the mine produces wastewater only five days per week. Additionally, even though no embankment would be necessary according to the calculations, a four foot high embankment will be provided.

### 13.4.2.1 Design Specifications

#### 1. Lagoon location and specifications -

The Lagoon shall be sized for 62 employees showering per day, (this number can be substantially increased when an actual five day work week is considered). The modified lagoon shall be placed in the same location as the existing lagoon, and because the area was previously disturbed with no topsoil removed, soil segregation will not be possible. The inlet to the lagoon will be placed in the center, (see plate 13-28) to allow for an even spreading of the reject water.

#### 2. Construction techniques-

The embankment around the present lagoon will be pushed inward and rebuilt according to plate 13-28 with the same material, in compacted lifts. This will yield a 4 foot sloped embankment enclosing a pond approximately 200 feet in diameter. The lagoon bottom will be scarified and leveled with well compacted material to seal the bottom and allow for 0.25 inches of infiltration over the pond area as provided for in design.

#### 3. Slope protection-

The embankment will be reseeded with seed mix "A" during the fall of 1984.

#### 4. Reclamation-

As of this writing (7-10-84) the proposed pond will be adequate for the foreseeable future. If it should become necessary to increase capacity a new lagoon will be constructed at a different location. Unless later revised, the proposed lagoon will be reclaimed at that time according to section 3.5.1.1.

Note that section 13.4.2 supersedes all other references to the Reverse Osmosis Evaporation Lagoon as of 7-11-84. Revised 12-19-84.



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

*Mod. Fobise*

August 6, 1984

Mr. Ronald O. Hughes  
Mine Engineer  
Consolidation Coal Company  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522

Dear Mr. Hughes:

RE: Approval of Modification to the Reverse Osmosis Lagoon, Emery Mine, Consolidation Coal Company, ACT/015/015, Folder #2, 3 and 4, Emery County, Utah

The Division's technical staff has reviewed the July 12, 1984 resubmission of modification plans for the reverse osmosis evaporation lagoon. The reconstruction of the lagoon will occur on the same location as the present lagoon. Sized to handle reject water from 130 employees, the lagoon will be approximately 200 feet in diameter with a four foot embankment enclosing it.

Based on this review, the Division finds the plans to be adequate and hereby grants approval to the lagoon reconstruction with the following stipulations:

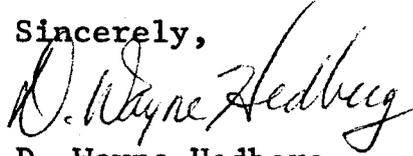
1. Obtain the approval of the Bureau of Water Pollution Control, Division of Environmental Health, Department of Health (copies of the plans were forwarded to Mr. Steve McNeil of that office).
2. Notify Mr. Joseph Helfrich or Mr. Dave Lof of the Division Inspection Staff of the starting and completion dates for construction activities.

Page 2

Mr. Ronald O. Hughes  
August 6, 1984

Please call if you have any questions.

Sincerely,



D. Wayne Hedberg  
Reclamation Hydrologist/  
Permit Supervisor

DWH/ts:grc

cc: Allen Klein, OSM  
Robert Hagen, OSM  
Jim Smith, DOGM  
Sue Linner, DOGM  
Joe Helfrich, DOGM  
Dave Lof, DOGM  
Tom Suchoski, DOGM

94590-25-26

MRP REVISION/NOV TRACKING FORM

Type of Proposal:  COAL  NONCOAL

Exploration \_\_\_\_\_  
NOV Abatement, NOV # \_\_\_\_\_, Abatement Deadline \_\_\_\_\_  
MRP Revision \_\_\_\_\_  
 MRP Amendment \_\_\_\_\_

*Done*

Issuing Inspector \_\_\_\_\_

Title of Proposal: Resubmittals of response to deficiency letters <sup>DGM</sup> *(Sediment Pond #1 + Reverse Osmosis evap lagoon)*

Company name: Consolidation Coal Company Project/Mine Name: Emery Deep Mine

File # (PRO/ACT): 015/015 Acreage (Fed/State/Fee): 1/1/1  
(CEP/EXP)

Assigned Reviewers:

Review Time (hrs):

(Hydrology) TJS  
(Wildlife/Veg.) L.K.  
(Engineering) \_\_\_\_\_  
(Soils) \_\_\_\_\_  
(Geology) \_\_\_\_\_

1.0 hrs  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATES:

- (a) Initial Plan Received \_\_\_\_\_ (d) NOV Termination \_\_\_\_\_  
Tech Review Due \_\_\_\_\_  
Tech Review Complete \_\_\_\_\_
- (b) Operator Resubmission July 12/84 (e) Bond Revision \_\_\_\_\_  
Tech Review Due July 26/84 Amount (\$) \_\_\_\_\_  
Tech Review Complete \_\_\_\_\_
- (c) Conditional Approval Aug 6/84  
Stipulations Due \_\_\_\_\_  
Stipulations Received \_\_\_\_\_  
Final Approval \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOTE (INSPECTORS): Please attach a copy of the NOV issued to the abatement plan when received from the operator.

NOTE (REVIEWERS): Please prepare review comments in a format referencing the appropriate regulation or statute. State the deficiency as well as minimum requirement necessary to demonstrate compliance (when possible). Also fill in the number of hours spent in review by discipline. Return the revision/NOV abatement to the Special Permits Supervisor when review is complete.



July 11, 1984

**Consolidation Coal Company**  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

D. Wayne Hedberg  
Division of Oil, Gas, and Mining  
4241 State Office Building  
Salt Lake City, UT 84114

**RECEIVED**

JUL 12 1984

DIVISION OF OIL  
GAS & MINING

Dear Mr. Hedberg:

Please find enclosed plans for the modifications to the mine sedimentation pond #1 and the reverse osmosis evaporation lagoon, as requested in your letters dated June 11, 1984.

If you have any further questions please contact me.

Sincerely,

  
Ronald O. Hughes  
Mine Engineer

cc. R. Holbrook (w/att) CONSOL

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- 13-27 Existing Reverse Osmosis Lagoon
- 13-28 Proposed Reverse Osmosis Lagoon

#### 13.4 Modifications to existing structures

This section contains design information necessary for modifications to existing structures, including any pertinent discussion of re-vegetation and soil stabilization.

##### 13.4.1 Modification to the Mine Sedimentation Pond #1 Discharge Structure

The old discharge structure for pond #1 includes a concrete flume, concrete pad, and a riprapped channel to the unnamed tributary of Quitchupah Creek, (see section 3.2.3.25). Because of erosion problems associated with the riprap channel, an 18 inch culvert is proposed to carry water from the concrete flume to the unnamed creek. (This culvert has been installed as of this writing, 6-21-84.) A concrete block head wall will be installed at the culvert inlet. The head-wall will only serve to contain any excess water should an unexpected emergency occur. Currently water from the pond is channeled directly into the culvert and calculations indicate that this is adequate under normal operating conditions.

###### 13.4.1.1 Design Specification

###### 1. 18 inch diameter culvert -

Calculations indicate that the combined flow of mine water discharge and rainfall over the pond during a 25 year 24 hour storm would total 3.3 CFS. The 18 inch culvert is capable of passing 6.2 CFS at zero head above the pipe. However, as an added precaution a box inlet will be constructed at the culvert intake to the approximate level of the pond water elevation. This is to provide additional emergency capacity for the outlet. Furthermore, because the culvert is a standard road type, a small amount of seepage is expected through the culvert joints and seams. Although this flow is not large enough to cause erosion a riprap bed will be installed under the pipe to channel the seepage to the discharge point. The culvert is presently laid in the erosion channel created during March 1984.

###### 2. Slope stabilization-

After work around the culvert has been completed the slope west of the discharge will be regraded to approximately 3:1. The nearly vertical slope east of the culvert will be left in its present condition for two reasons; a) the existing slope closely matches slopes common along Quitchupah Creek and b) to make the slope more gentle will require disturbing a very large amount of virgin ground.

After regrading is finished the slopes shall be reseeded with seed mix "A:", (see page 6 of technical response dated 11-11-83) during the fall of 1984.

#### 13.4.2 Modification to the Reverse Osmosis Lagoon

The lagoon is sized to treat the flow of reverse osmosis reject water generated by the mine at its projected level of operation (see section 3.2.3.7). The combined effects of infiltration and evaporation will handle 0.34 inches per day of wastewater over the area of the pond, which is the amount produced daily. A factor of safety is provided in that the mine produces wastewater only five days per week. Additionally, even though no embankment would be necessary according to the calculations, a four foot high embankment will be provided.

##### 13.4.2.1 Design Specifications

###### 1. Lagoon location and specifications -

The Lagoon shall be sized for 130 employees showering per day, (this number can be substantially increased when an actual five day work week is considered). The modified lagoon shall be placed in the same location as the existing lagoon, and because the area was previously disturbed with no topsoil removed, soil segregation will not be possible. The inlet to the lagoon will be placed in the center, (see plate 13-28) to allow for an even spreading of the reject water.

###### 2. Construction techniques-

The embankment around the present lagoon will be pushed inward and rebuilt according to plate 13-28 with the same material, in compacted lifts. This will yield a 4 foot sloped embankment enclosing a pond approximately 200 feet in diameter. The lagoon bottom will be scarified and leveled with well compacted material to seal the bottom and allow for 0.25 inches of infiltration over the pond area as provided for in design.

###### 3. Slope protection-

The embankment will be reseeded with seed mix "A" during the fall of 1984.

###### 4. Reclamation-

As of this writing (7-10-84) the proposed pond will be adequate for the foreseeable future. If it should become necessary to increase capacity a new lagoon will be constructed at a different location. Unless later revised, the proposed lagoon will be reclaimed at that time according to section 3.5.1.1.

Note that section 13.4.2 supersedes all other references to the Reverse Osmosis Evaporation Lagoon as of 7-11-84.



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

June 11, 1984

Mr. Ronald O. Hughes, Mine Engineer  
Consolidation Coal Company  
P. O. 527  
Emery, Utah 84522

RE: MRP Modification Plans  
Quitcupah Creek Channel  
Reconstruction  
Emery Deep Mine  
ACT/015/015, #3 and #4  
Emery County, Utah

Dear Mr. Hughes:

The Division's technical staff has reviewed the "as-built" plans for the Quitcupah Creek Channel Reconstruction submitted to Mr. Dave Lof on February 9, 1984. Several comments were raised which Consol must address before the Division can approve this revision of the Mining and Reclamation Plan (MRP). The comments are:

As per UMC 784.13(b)(5) and UMC 817.111-.116 the following information is needed:

1. Is this permanent reclamation or temporary stabilization (up to life of mine)?
2. At what rate will seed be applied (pure live seed per unit area? What methods will be used (i.e., broadcast)?
3. Disc mulching techniques (i.e., type and rate per acre, how applied and anchored, etc.).
4. Add a legume to the seed mix (i.e., yellow sweetclover).
5. This area should be closely monitored. In the event that sufficient vegetation is not established, the operator must commit to reseed the area with seed mix C at the rate described in the mine plan.

As per UMC 784.23(c):

Maps and cross-sections must be stamped (certified) by a current professional engineer.

Page 2

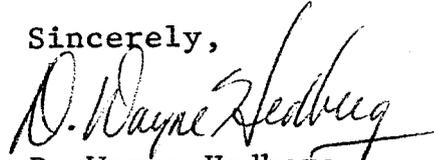
Mr. Ronald Hughes, Mine Engineer

June 11, 1984

Consol must prepare these reconstruction plans to be integrated into the MRP and site where referenced information pertinent to the revision can be found in the MRP. This aids in decreasing the amount of review time necessary during the approval process and also allows the revision to stand alone.

Consol must submit the requested information on or before July 13, 1984. If you have any questions please call.

Sincerely,



D. Wayne Hedberg  
Permit Supervisor/  
Reclamation Hydrologist

DWH/ts:jvb

cc: Allen Klein, OSM  
Jim Smith, DOGM  
Joe Helfrich, DOGM  
Sue Linner, DOGM  
David Lof, DOGM  
Tom Suchoski, DOGM

92010-1 & 2

MRP REVISION/NOV TRACKING FORM

Type of proposal:

COAL       NON-COAL

Exploration  
 NOV abatement, NOV # \_\_\_\_\_, Abatement deadline \_\_\_\_\_  
 MRP revision

Issuing inspector DAVID LOF

Title of proposal: "As built" plans for removal of slume + reclamation of disturbed site on Quitchipah Cr.

Company name: CONSOLIDATION COAL COMPANY Mine name: EMERY DEEP

File # (PRO/ACT): ACT/015/015 Acreage (Fed/State/Fee):   /  /  

Assigned reviewers:	<u>TJS</u> (Hydrology)	Review	<u>1.0 hrs</u>
	<u>Kunzler</u> (Wildlife/Veg.)	Time (hrs):	<u>1.5 hrs</u>
	_____ (Engineering)		
	_____ (Soils)		
	_____ (Geology)		

DATES:

- (received by DWH)*  
*2-24-84*
- (a) INITIAL PLAN RECEIVED 2-14-84 (d) NOV TERMINATION \_\_\_\_\_  
     Tech review due 3-9-84  
     " " complete \_\_\_\_\_
  - (b) OPERATOR RESUBMISSION \_\_\_\_\_ (e) BOND REVISION \_\_\_\_\_  
     Tech review due \_\_\_\_\_  
     " " complete \_\_\_\_\_  
     Amount (\$) \_\_\_\_\_
  - (c) FINAL APPROVAL \_\_\_\_\_  
     Stipulations due \_\_\_\_\_  
     " received \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOTE (INSPECTORS): Please attach a copy of the NOV issued to the abatement plan when received from the operator.

NOTE (REVIEWERS): Please prepare review comments in a format referencing the appropriate regulation or statute. State the deficiency as well as minimum requirement necessary to demonstrate compliance (when possible). Also fill in the number of hours spent in review by discipline. Return the revision/NOV abatement to the Special Permit Supervisor when review is complete.

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##### 13.4.1 Modification to the Mine Sedimentation Pond #1 Discharge Structure

The old discharge structure for pond #1 includes a concrete flume, concrete pad, and a riprapped channel to the unnamed tributary of Quitchupah Creek, (see section 3.2.3.25). Because of erosion problems associated with the riprap channel, an 18 inch culvert is proposed to carry water from the concrete flume to the unnamed creek. (This culvert has been installed as of this writing, 6-21-84.) A concrete block head wall will be installed at the culvert inlet. The head-wall will only serve to contain any excess water should an unexpected emergency occur. Currently water from the pond is channeled directly into the culvert and calculations indicate that this is adequate under normal operating conditions.

##### 13.4.1.1 Design Specification

###### 1. 18 inch diameter culvert -

Calculations indicate that the combined flow of mine water discharge and rainfall over the pond during a 25 year 24 hour storm would total 3.3 CFS. The 18 inch culvert is capable of passing 6.2 CFS at zero head above the pipe. However, as an added precaution a box inlet will be constructed at the culvert intake to the approximate level of the pond water elevation. This is to provide additional emergency capacity for the outlet. Furthermore, because the culvert is a standard road type, a small amount of seepage is expected through the culvert joints and seams. Although this flow is not large enough to cause erosion a riprap bed will be installed under the pipe to channel the seepage to the discharge point. The culvert is presently laid in the erosion channel created during March 1984.

###### 2. Slope stabilization-

After work around the culvert has been completed the slope west of the discharge will be regraded to approximately 3:1. The nearly vertical slope east of the culvert will be left in its present condition for two reasons; a) the existing slope closely matches slopes common along Quitchupah Creek and b) to make the slope more gentle will require disturbing a very large amount of virgin ground.

After regrading is finished the slopes shall be reseeded with seed mix "A", (see page 6 of technical response dated 11-11-83) during the fall of 1984.

RECEIVED

FEB 14 1984

Consolidation Coal Company  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

DIVISION OF  
OIL, GAS & MINING

February 9, 1984

Dave Lof  
Division of Oil, Gas, and Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

Re: Abatement of  
NOV 83-4-11-2

*Not an /  
NOV!*

Dear Mr. Lof:

Please find enclosed the "as built" plans for the Quitchupah Creek channel reconstruction just south of the confluence with Christiansen Wash. These plans are submitted as requested by you in your letter dated February 1, 1984.

The channel was reconstructed and stabilized using riprap of 2 feet minimum dimensions, and backfill. As demonstrated by the accompanying cross-sections, the new channel is at least as large as the natural channel upstream and downstream.

Work on removing the flume and stabilizing the channel began at 9:30 A.M. February 2, 1984 and was completed by 2:30 P.M. February 4, 1984.

The reclamation effort for the disturbed area will include leveling, regrading and seeding. We will attempt to do this immediately. However, some portions of the disturbed area are frozen and may require us to attempt revegetation in the next planting season.

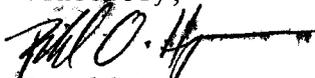
The seed mix we will be using is as follows.

- 73% Indian Rice Grass
- 9% Shadscale Saltbush
- 9% Mat Saltbush
- 9% Castle Valley Clover

I was unable to contact Lyn Kunzler about this mix, but it was used in the riprap barrow area before, and Rick Williamson assures me that these plants are native to the area.

If you have any questions or comments please contact me.

Sincerely,

  
Ronald O. Hughes  
Mine Engineer



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

June 11, 1984

Ronald O. Hughes, Mine Engineer  
Consolidation Coal Company  
P. O. Box 527  
Emery, Utah 84522

RE: MRP Modification Plans  
Reverse Osmosis Lagoon  
Reconstruction  
Emery Deep Mine  
ACT/015/015, #3 and #4  
Emery County, Utah

Dear Mr. Hughes:

The Division's technical staff has reviewed the reconstruction plans for the reverse osmosis lagoon submitted to Mr. James Smith on March 16, 1984. Several comments were raised which Consol must address before the Division can approve this revision of the Mining and Reclamation Plan (MRP). The comments are:

- As per UMC 784.23(c): maps and cross-sections must be stamped (certified) by a current professional engineer.
- As per UMC 784.13 and UMC 817.111-.116: describe the reclamation of the pond in detail (i.e., regrading plan, revegetation plan and monitoring of the site).
- The operator must submit three additional copies of the plans to allow distribution to other state agencies for their review and approval (unless this has already been done by Consol).
- Consol must prepare these reconstruction plans to be integrated into the MRP. Where information is referenced from the MRP, the location of this information must be sited. This aids in speeding up the approval process and allows revisions to stand alone.

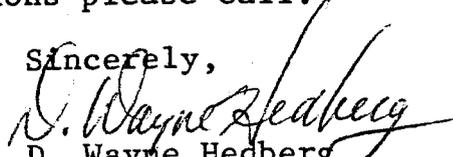
Page Two

Mr. Ronald O. Hughes, Mine Engineer

June 11, 1984

Consol must submit the requested information on or before July 13, 1984. If you have any questions please call.

Sincerely,



D. Wayne Hedberg  
Permit Supervisor/  
Reclamation Hydrologist

DWH/ts:jvb

cc: Steve McNeal, State Health  
92010-3 & 4

MRP REVISION/NOV TRACKING FORM

Type of proposal:

COAL       NON-COAL

Exploration  
 NOV abatement, NOV # \_\_\_\_\_, Abatement deadline \_\_\_\_\_  
 MRP revision

Issuing inspector \_\_\_\_\_

Title of proposal: Reverse Osmosis Lagoon Reconstruction

Company name: Consolidation Coal Company Mine name: Emergy Deep Mine

File # (PRO/ACT): 015/015 Acreage (Fed/State/Fee):   /  /  

Assigned reviewers: <u>Tom Suchawski</u> (Hydrology)	Review	<u>2.0</u>
_____ (Wildlife/Veg.)	Time (hrs):	_____
_____ (Engineering)	_____	_____
_____ (Soils)	_____	_____
_____ (Geology)	_____	_____

DATES:

- received with 3/22*
- (a) INITIAL PLAN RECEIVED 3/16/84 (d) NOV TERMINATION \_\_\_\_\_  
     Tech review due 4/16/84  
     " " complete \_\_\_\_\_
  - (b) OPERATOR RESUBMISSION \_\_\_\_\_ (e) BOND REVISION \_\_\_\_\_  
     Tech review due \_\_\_\_\_ Amount (\$) \_\_\_\_\_  
     " " complete \_\_\_\_\_
  - (c) FINAL APPROVAL \_\_\_\_\_  
     Stipulations due \_\_\_\_\_  
     " received \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOTE (INSPECTORS): Please attach a copy of the NOV issued to the abatement plan when received from the operator.

NOTE (REVIEWERS): Please prepare review comments in a format referencing the appropriate regulation or statute. State the deficiency as well as minimum requirement necessary to demonstrate compliance (when possible). Also fill in the number of hours spent in review by discipline. Return the revision/NOV abatement to the Special Permit Supervisor when review is complete.



To Wayne  
Sue

**Consolidation Coal Company**  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

March 13, 1984

**JIM**

MAR 16 1984

**RECEIVED**  
MAR 16 1984

Mr. James Smith  
Division of Oil, Gas, and Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

Re: Emery Mine  
ACT/015/015

**DIVISION OF  
OIL, GAS & MINING**

Dear Mr. Smith:

Please find enclosed plans for the reconstruction of the reverse osmosis lagoon as stated in my letter of 2/10/84. If these plans are satisfactory with the Division, materials will be ordered immediately and the reconstruction performed during the early summer of this year.

If you have any questions please contact me.

Sincerely,

Ronald O. Hughes  
Mine Engineer

cc: R. Holbrook, CONSOL  
D. Lof, DOGM  
W. Dunn, CONSOL

### Design Criteria

The lagoon is sized to treat the flow of reverse osmosis reject water generated by the mine at its projected level of operation. The combined effects of infiltration and evaporation will handle 0.34 inches per day of wastewater over the area of the pond, which is the amount produced daily. A factor of safety is provided in that the mine produces wastewater only five days per week. Additionally, even though no embankment would be necessary according to the calculations, a four foot high embankment will be provided.

### Location of Lagoon

The lagoon will remain in its present location to avoid any further disturbance.

### Topsoil

The area has been previously disturbed with no topsoil removed. Segregation of topsoil at this time would not be possible.

### Construction Techniques

The lagoon bottom will be scarified and leveled with well compacted material to seal the bottom to allow 0.25 inches per day of infiltration, over the pond area, as anticipated for design.

The embankment will be pushed inward and rebuilt with the same material in compacted lifts.

### Location of Inlet

To spread the flow of reject water over the bottom of the structure, the inlet will be located at the center of the lagoon. The existing pipeline will be extended from its current discharge point at the embankment.

## DESIGN CALCULATIONS

Projected Workforce: 140 Employees

Size for 130 Employees Showering

Total Volume/Day = 130 (50 Gal/ManDay) = 6,500 Gal/Day

Infiltration Allowed = 0.25"/Day

Yearly Evap. - Ave. Yearly Rainfall = 3.56' (12) - 7.22" =  
35.5"/Yr. = 0.097"/Day

Total Losses/Day = 0.25" + 0.097" = 0.347 Say 0.34"/Day

Area Req. = 6500 Gal/Day x 0.1337 CF/Gal x 1 Day/0.34" x 12"/Ft. =  
30,670 SF

Radius of Round Pond =  $\sqrt{\frac{30670}{\pi}}$  = 98.8' Say 100'

Slope Protection

The embankment slopes will be seeded with the following seed mixture:

<u>Species</u>	<u>lbs. of PLS*/Acre</u>	<u>PLS*/Sq. Ft.</u>
Crested Wheatgrass	3.0	12
Streambank Wheatgrass	3.0	11
Western Wheatgrass	3.5	10
Russian Wildrye	3.0	12
Yellow Sweetclover	<u>1.5</u>	<u>9</u>
Total	14.0	54

\*PLS - Pure Live Seeds

Reclamation

The lagoon will be reclaimed when the mine workforce is expanded, requiring the construction of a new lagoon.

USE ATTACHED  
SEED LIST

Seed Plan A

<u>Species</u>	<u>Lbs. of PLS*/Acre</u>	<u>PLS*/Sq. Ft.</u>
Indian ricegrass	3.0	13
alkali sacaton	0.5	20
galleta	2.5	9
western wheatgrass	3.0	9
<del>winterfat</del>	4.0	5
<del>4-wing saltbush</del>	4.0	6
<del>rubber rabbitbrush</del>	1.0	8
yellow sweetclover	1.5	9
desert globemallow	0.5	6
blueleaf aster	0.5	6
	<u>20.5</u>	<u>91</u>
	11.5	72

\* Pure Live Seeds

LYNN SAYS TO USE  
SEED MIX A

- LEAVE OUT DEEP  
ROOTED SPECIES  
ON EMBANKMENT

Seed Plan B

<u>Lbs. of PLS/Acre</u>	<u>PLS/Sq. Ft.</u>
0.75	12
3.0	11
0.25	28
4.0	5
4.0	6
1.0	8
0.25	14
2.5	16
1.0	6
1.0	7
0.5	6
<u>18.25</u>	<u>119</u>

Seed Plan C

<u>Species</u>	<u>Lbs. PLS/Acre</u>	<u>PLS/Sq. Ft.</u>
western wheatgrass	5.0	13
slender wheatgrass	3.0	11
alkali sacaton	0.25	10
Spike Muhly (only one available)	0.25	9
alkalagrass	0.5	13
yellow sweetclover	1.5	9
blueleaf aster	0.5	6
Indian blanket	1.0	4
	<u>12.0</u>	<u>75</u>

Seed Plan A

<u>Species</u>	<u>Lbs. of PLS*/Acre</u>	<u>PLS*/Sq. Ft.</u>
Indian ricegrass	3.0	13
alkali sacaton	0.5	20
galleta	2.5	9
western wheatgrass	3.0	9
<del>winterfat</del>	4.0	5
<del>4-wing saltbush</del>	4.0	6
<del>rubber rabbitbrush</del>	1.0	8
yellow sweetclover	1.5	9
desert globemallow	0.5	6
blueleaf aster	0.5	6
	<u>20.5</u>	<u>91</u>
	11.5	72

\* Pure Live Seeds

Seed Plan B

<u>Species</u>	<u>Lbs. of PLS/Acre</u>	<u>PLS/Sq. Ft.</u>
blue grama	0.75	12
streambank wheatgrass	3.0	11
sand dropseed	0.25	28
winterfat	4.0	5
4-wing saltbush	4.0	6
rubber rabbitbrush	1.0	8
big sagebrush	0.25	14
greasewood	2.5	16
yellow sweetclover	1.0	6
blue flax	1.0	7
evening primrose	0.5	6
	<u>18.25</u>	<u>119</u>

Seed Plan C

<u>Species</u>	<u>Lbs. PLS/Acre</u>	<u>PLS/Sq. Ft.</u>
western wheatgrass	5.0	13
slender wheatgrass	3.0	11
alkali sacaton	0.25	10
Spike Muhly (only one available)	0.25	9
alkalagrass	0.5	13
yellow sweetclover	1.5	9
blueleaf aster	0.5	6
Indian blanket	1.0	4
	<u>12.0</u>	<u>75</u>

## COMMENTS ON CONSOL'S FUAP. POND.

- DEMONSTRATE 0.25 IN./DAY INFILTRATION
- CERTIFY MAPS & PLANS.
- WHERE IS POND TO BE LOCATED?
  - WHAT IS THE POTENTIAL FOR FLOODING OR RUNOFF AFFECTING POND OR EMBANKMENTS?
- HAVE PLANS BEEN SUBMITTED TO STATE HEALTH AND APPROVED?

\*

PLANS ARE COVERED UNDER 817.49 TEMPORARY IMPOUNDMENTS (b) AND 817.46 (E)-(U).  
AS PROPOSED, THE PLANS MEET APPLICABLE REG'S.

- RECLAMATION OF THE POND NEEDS TO BE DETAILED.



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

June 11, 1984

Mr. Ronald O. Hughes, Mine Engineer  
Consolidation Coal Company  
P. O. Box 527  
Emery, Utah 84522

RE: MRP Modification Plans  
Sediment Pond Discharge  
Channel Reconstruction  
Emery Deep Mine  
ACT/015/015, #3 and #4  
Emery County, Utah

Dear Mr. Hughes:

The Division's technical staff has reviewed the sediment pond discharge channel reconstruction plans submitted to Mr. James Smith in March of 1984. Several comments were raised which Consol must address before the Division can approve this revision of the Mining and Reclamation Plan (MRP). The comments are:

- As per UMC 784.23(c): Maps and cross-sections must be stamped (certified) by a current professional engineer.
- As per UMC 817.46(i): The operator must document that the combined hydrograph of mine water discharge and the 25-year, 24-hour peakflow can safely be passed through the discharge structure.
- The plans call for an energy dissipation structure to be placed at the outlet of the culvert. Photographs taken by Dave Lof of the Division show the culvert discharging directly into the stream. Consol must provide design specifications for the energy dissipation structure and shorten the culvert so discharge is not directly into the stream.
- The plans call for welded joints on the culvert. The operator must commit to adequately welding joints such that no leakage occurs.

Page Two

Mr. Ronald O Hughes, Mine Engineer  
June 11, 1984

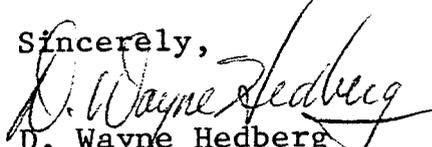
- The operator must change plan the description to include full round culvert versus half round as originally proposed.

- As per UMC 784.13 and UMC 817.111-.116 the operator must use seed mix A from page 6 of the November 11, 1983 response to technical review comments for slope protection, in place of the seed mix presented in the plan. In using seed mix A the deep rooted species should be eliminated (these are winterfat, fourwing saltbush, rubber rabbitbrush).

- Consol must prepare these plans to be integrated into the MRP. This aids in the approval process and allows easy compilation of the entire permit.

Consol must submit the requested information on or before July 13, 1984. If you have any questions please call.

Sincerely,

  
D. Wayne Hedberg  
Permit Supervisor  
Reclamation Hydrologist

DWH/ts:jvb

cc: Allen Klein, OSM  
Jim Smith, DOGM  
Joe Helfrich, DOGM  
Sue Linner, DOGM  
David Lof, DOGM  
Tom Suchoski, DOGM

92010-5 & 6

MRP REVISION/NOV TRACKING FORM

Tom 65

Type of proposal:

COAL  NON-COAL

Exploration  
 NOV abatement, NOV # \_\_\_\_\_, Abatement Issuing  
 MRP revision

Might check w/ Dave on this to see if Conrad has went ahead with this yet. That might have a bearing on our response. X  
Wang

Title of proposal: Sed pond discharge chan

Company name: Consolidation Coal Company Mine name: Emu

File # (PRO/ACT): 015/015 Acreage (Fed/State) \_\_\_\_\_

Assigned reviewers: JSS (Hydrology) Review Time (hrs): 1.0  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(Wildlife/Veg.)  
(Engineering)  
(Soils)  
(Geology)

DATES:

- (a) INITIAL PLAN RECEIVED 3/16/84 (d) NOV TERMINATION \_\_\_\_\_  
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 " " complete \_\_\_\_\_
- (b) OPERATOR RESUBMISSION \_\_\_\_\_ (e) BOND REVISION \_\_\_\_\_  
 Tech review due \_\_\_\_\_ Amount (\$) \_\_\_\_\_  
 " " complete \_\_\_\_\_
- (c) FINAL APPROVAL \_\_\_\_\_  
 Stipulations due \_\_\_\_\_  
 " received \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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MRP REVISION/NOV TRACKING FORM

Type of proposal:

COAL       NON-COAL

Exploration  
 NOV abatement, NOV # \_\_\_\_\_, Abatement deadline \_\_\_\_\_  
 MRP revision

Issuing inspector \_\_\_\_\_

Title of proposal: Sed pond discharge channel reconstruction

Company name: Consolidation Coal Company Mine name: Emery Deep Mine

File # (PRO/ACT): 015/015 Acreage (Fed/State/Fee): 1/1/1

Assigned reviewers: <u>TJS</u>	(Hydrology)	Review	<u>1.0</u>
_____	(Wildlife/Veg.)	Time (hrs):	_____
_____	(Engineering)	_____	_____
_____	(Soils)	_____	_____
_____	(Geology)	_____	_____

DATES:

- received date 3/22*
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 Tech review due \_\_\_\_\_ Amount (\$) \_\_\_\_\_  
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- (c) FINAL APPROVAL \_\_\_\_\_  
 Stipulations due \_\_\_\_\_  
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COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Consolidation Coal Company  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

March 14, 1984

Mr. James Smith  
Division Oil, Gas, & Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

Re: Emery Mine  
ACT/O15/O15

*Sed pond #1 (mine water discharge)  
pond*

Dear Mr. Smith:

Enclosed are plans for repairing damage to our sedimentation pond discharge channel. If these plans are satisfactory, materials will be ordered upon receipt of Division Approval and necessary repairs will be completed as soon as possible there after.

Sincerely,

R. G. Thompson

Encl.

cc: D. Lof  
W. Dunn  
R. Holbrook

MINE SEDIMENTATION POND DISCHARGE

SCOPE OF PROJECT: Repair erosion damage to sedimentation pond discharge and construct new discharge channel.

TOPSOIL: Area was previously disturbed, thus topsoil removal is not possible.

CONSTRUCTION: Eroded channel will be backfilled, compacted and a rip-rapped trough of uniform slope formed to hold discharge channel.

New discharge chute constructed of 18 in. diameter open culvert (18 in. culvert split in half) with welded joint will be placed on rip-rap trough to contain normal discharge flows.

*Have already implemented 18" fully rooted CMP*

SLOPE PROTECTION: Disturbed side slope will be reduced to a maximum grade of 3h:1v and either rip-rapped or seeded with the following seed mix.

*Use appropriate mix from Page 6 of November 11, 1985 response to technical review*

species	lbs. pure live seed ) PLS per acre	PLS/ft <sup>2</sup>
Crested Wheat grass	3.0	12
Streambank Wheatgrass	3.0	11
Western Wheatgrass	3.5	10
Russian Wildrye	3.0	12
Yellow Sweetclover	1.5	9
<b>TOTAL</b>	<b>14.0</b>	<b>54</b>

RECLAMATION: Final reclamation will be conducted at mine closing in accordance with mine permit requirements.

**LYNN SUGGESTED FOLLOWING SEED MIX:**

INDIAN RICE GRASS	13	3.0 PLS/A
ALKALI SACATON	20	0.5 PLS/A
GALLETA	9	2.5 "
WESTERN WHEATGRASS	9	3.0 "
YELLOW SWEETCLOVER	9	1.5 "
DESERT GLOBEMALLOW	6	0.5 "
BLUELEAF ASTER	6	0.5 "

*NO DEEP ROOTED SPECIES. 72 PLS/ft<sup>2</sup> 11.5 "*

COMMENTS ON CONSOB  
EMERY DEEP MRP REVISION

- \* - PLANS JUST CONCEPTUAL - NO CERTIFICATION -  
UMC 784.23(c)
- NO SIZING CALCS ON CULVERT
- MRP
- FLOW FROM SED. POND IS SET AT 2.14 CFS (P. 13-39 OF MRP).
  - 18" CFS CULVERT IS MORE THAN ADEQUATE
  - NEED TO EVALUATE ADDED MINE WATER DISCHARGE CAPABILITY.
  - P. 3-22 OF MRP SPECIFIES 250 GPM IS DAILY AVERAGE DISCHARGE.  
 $250 \text{ GPM} \times 2.23 \times 10^{-3} = 0.55 \text{ CFS}$
- \* DISCHARGE STRUCTURE NEEDS TO PASS  
 $2.14 + 0.55 = 2.7 \text{ CFS}$   
18" CMP CULVERT STILL ADEQUATE.
- \* - NEED INFORMATION ON ENERGY DISSIPATION STRUCTURE
- PROVIDE DESIGN SPECS OF E.D.S.
- CHECK <sup>WELDED</sup> JOINTS ON PIPE. (IF WELDS NOT USED)
- WELDS SHOULD NOT ALLOW LEAKAGE.
- CHANGE PLAN DESCRIPTION TO INCLUDE FULL ROUND CULVERT IN PLACE.
- PHOTO #27 <sup>#25 ALSO</sup> APPEARS TO SHOW DISCHARGE DIRECTLY TO STREAM W/NO ENERGY DISSIPATION STRUCTURE.

IF THIS IS SO PIPE MUST BE SHORTENED  
AND E.D.S. IMPLACED.

To Wayne  
Sue

**Consolidation Coal Company**  
Emery Mine  
P. O. Box 527  
Emery, Utah 84522  
(801) 286-2301

March 14, 1984

**RECEIVED**

**JIM**

**MAR 16 1984**

**MAR 16 1984**

Mr. James Smith  
Division Oil, Gas, & Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

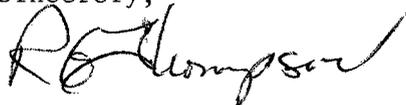
**DIVISION OF  
OIL, GAS & MINING**

Re: Emery Mine  
ACT/015/015

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Sincerely,



R. G. Thompson

Encl.

cc: D. Lof  
W. Dunn  
R. Holbrook

## MINE SEDIMENTATION POND DISCHARGE

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Western Wheatgrass	3.5	10
Russian Wildrye	3.0	12
Yellow Sweetclover	1.5	9
TOTAL	<u>14.0</u>	<u>54</u>

RECLAMATION: Final reclamation will be conducted at mine closing in accordance with mine permit requirements.

FILE ACT/015/015

Folder #10

copy Cy



RECEIVED  
AUG 19 1983

Consolidation Coal Company  
Western Region  
Emery Mine  
P. O. Box 527  
Emery, Utah 48522

8/15/83

DIVISION OF  
OIL, GAS & MINING

Mr. Cyril J. Young  
Engineering Geologist  
Division of Oil, Gas, and Mining  
4241 State Office Building  
Salt Lake City, Utah 84114

RE: Act/015/015

Dear Mr. Young:

Please find enclosed the three mine maps that you requested in your letter dated July 29, 1983. The maps are copies of our actual operating mine map. The maps show areas where pillars have been extracted, (designated by crosshatching). The dates shown in these sections are the approximate times when that general area was mined.

Please let me know if you have need of further information.

Sincerely,

Ronald O. Hughes  
Mine Engineer