

6020



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter  
Governor  
Dee C. Hansen  
Executive Director  
Dianne R. Nielson, Ph.D.  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340

August 7, 1989

Mr. Vernal Mortensen  
Senior Vice President  
Coastal States Energy Company  
175 East 400 South, Box 3  
Salt Lake City, Utah 84111

Dear Mr. Mortensen:

Re: Determination of Completeness, Permit Renewal, Skyline Mine,  
ACT/007/005, Folder #2, Carbon County, Utah

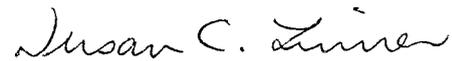
The Division has reviewed the information received July 19, 1989, in response to the Determination of Completeness Review of February 2, 1989, and subsequent meetings held between Coastal and Division personnel. The information has been found to be adequate to determine the Mining and Reclamation Plan (MRP) apparently complete. A technical review has been initiated. Attached are memos documenting some minor issues which have been identified during our completeness review. These have been discussed with Keith Welch of your office and are included here for further clarification. A prompt response to these issues will aid in the permitting effort. The technical deficiency review will be completed by September 8, 1989, as per our agreed upon schedule.

At this time the applicant should publish a Notice of Complete Permit Application as required by UMC 786.11(a). A copy of the publication notice should be sent to the Division as soon as it is available. The Division will notify all other interested agencies and allow for their comment prior to making a final decision to approve or disapprove the renewal application.

Page 2  
Mr. Vernal Mortensen  
ACT/007/005  
August 7, 1989

Please feel free to contact me or Randy Harden if you have questions.

Sincerely,



Susan C. Linner  
Reclamation Biologist/  
Permit Supervisor

Attachments  
cc: G. Zumwalt, Skyline Mine  
L. Braxton  
R. Harden  
BT244/6-7



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangarter  
Governor

Dee C. Hansen  
Executive Director

Dianne R. Nielson, Ph.D.  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340

July 28, 1989

TO: Susan Linner, Permit Supervisor

FROM: Lynn Kunzler, Reclamation Biologist *LK*

RE: Determination of Completeness Review, Skyline Mine Re-permit, ACT/007/005, Folder #2, Carbon County, Utah

## Summary:

Utah Fuel Company's submittal received on July 19, 1989 has been reviewed for completeness and adequacy. While there are several small items that are not complete, much progress has been made. There are, however, several technical questions, minor editing and reorganization that must be done before final approval is granted.

## Analysis:

### UMC 783.19 Vegetation Information - LK

The MRP and appendices contains several vegetation studies that together, provide adequate vegetation information. However, the text of the MRP only discusses the vegetation of the main permit area and refers two of five vegetation maps. Discussions of the vegetation at the loadout area and the waste rock disposal site need to be incorporated in the MRP text as well as referencing the studies and maps found in Appendix A-2.

### UMC 783.21 Fish and Wildlife Information - LK

This section is generally complete. However, Discussions regarding the importance of seeps and springs to all wildlife are not adequate. All seeps and springs are considered to be of critical value to wildlife and should be protected from impacts or have adequate mitigation for impacts.

Removing the dates (time periods) from when the raptor surveys (Section 2.10) does not correct the fact that surveys done during July are not breeding season surveys. This time period could be identified as a late nesting season or brooding season survey.

UMC 783.22 Land Use Information - LK

This section is complete

UMC 784.13 Reclamation Plan: General Requirements - LK

The reclamation time table (Table 4.2-1) does not discuss timing of revegetation work. Page 4-35 indicates that revegetation will be undertaken during the spring and early fall. Please note, for best success, seeding should occur late fall (after Oct. 1) and planting of seedlings should occur early spring (as soon as ground thaws - usually mid May). The timetable (and text) should make this clear.

Pages 4-30, 2-114 and Table 2.11-1 refers to areas that will be revegetated by handset seedlings. Yet, there is no species list or stocking levels cited. With exception to these references, the seeding/planting plan appears to cover the entire mine disturbance. These references may be referring to the reclamation of the conveyor corridor slopes. If this is so, it needs to be made clear. Also, the reclamation plan for the conveyor slopes must be in the text of the MRP and not in the Appendix that is identified for consultant reports and/or baseline data, studies, etc. that the plans were derived from.

Page 4-30 indicates that as little as 1,000 pounds per acre of mulch may be used on some areas. Please note, the Division considers a minimum of 2,000 pounds per acre of mulch needs to be applied.

The MRP does not contain a map (map 4.7.2-1 as identified in the index) that shows where the various revegetation treatments will be used.

The revegetation monitoring plan is not adequate. This plan needs to identify what parameters will be monitored and during early reclamation (years 1-3 of the liability period), i.e. survival of transplants should be conducted during the first three years after planting, with permanent transects being established at the time of planting.

This section may not be considered complete until these comments are addressed.

ACT/007/005  
July 28, 1989  
Page 3

UMC 784.15 Postmining Land Use- LK

The MRP does not provide plans for how picnic area to be established at the loadout area. Also, stock pens were part of the premine use and are apparently not part of the postmining land use. This would constitute a land use change and should be supported by a letter from the landowner.

UMC 784.22 Fish and Wildlife Plan - LK

The MRP does not provide for mitigation of seeps and springs that may be impacted by the mining operation. A seep or spring is considered impacted if there is a 50% reduction in flow due to mining. Appropriate mitigation would be replacing the lost water via means of a guzzler or other water development in the area of the impacted seep or spring.

The MRP does not provide sufficient detail of wildlife crossings for the conveyor. Until adequate detail is submitted and approved, the conveyor cannot be approved.

General Comments:

The map on page 1-31, Location of the Skyline Project Area, does not include the conveyor corridor, the waste rock disposal area or the unit train loadout area (see figure 3.2-A on page 2-123).

Attached to this review are several pages of the MRP where minor editing and corrections need to be made. These items are not considered completeness issues.

Recommendations:

The MRP is not considered complete at this time. However remaining issues are not considered major items.

Attachment  
cc: R. Harden  
BT3013/41-43

Substantial value wildlife use areas are "existence areas" for one or more species of wildlife. These areas represent the distribution of a given herd or population and are formed by the merging of high-priority and limited value wildlife use areas for a species.

Limited value wildlife use areas are "occasional use areas" for one or more species of wildlife. Such areas are not limited and although they constitute part of the substantial value wildlife use area for a species, they are not essential.

Another important <sup>crucial</sup> term used by Utah Division of Wildlife Resources is "<sup>u</sup>critical period." This refers to a time in the natural history of the species when disturbance will likely lead to serious decreases in the productivity and perpetuation of the species. Examples are the reproductive and over wintering periods. UDWR in recent years has modified the term "crucial-critical" in regard to relative biological value of wildlife habitats or use areas to just "critical". The term "crucial" now only relates to a time of animal use. The definition remains the same.

#### 2.9.2.1 Mammals

The potential area of impact is inhabited by about 57 species of mammals (Table 2.9-1). Approximately 30 percent of these species are protected and considered of high-interest to the State of Utah Division of Wildlife Resources. As such, each was considered in relation to the potential perturbations, but only those likely to be negatively impacted are discussed.

range is the limiting factor for populations of deer in the potentially disturbed habitat. The Skyline project will not decrease the acreage of winter range that limits this population of mule deer, and, therefore, the impact will be less than if critical winter habitat were involved or if summer habitat were at carrying capacity.

#### Cougar

The entire Skyline project area provides substantial value, yearlong habitat for cougar which is a game species in Utah. The animals range throughout the area, but their movements are often dictated by migration patterns of mule deer and human disturbance. Although cougars are not overly abundant and are secretive, concern must be given them particularly when the females are accompanied by their young who are learning to hunt and survive. This is considered a critical period for cougars by Utah Division of Wildlife Resources. *critical*

#### Bobcat

The mine plan and adjacent areas provide substantial value habitats for bobcats who are reputed to occupy all terrestrial habitats on the entire Skyline project area. Although little is known about the bobcat habits, critical periods would be late February when parturition occurs and May and June when the young bobcats are not as secretive as cougar, and therefore, would be less likely to avoid the high human disturbance areas. They would therefore be vulnerable to open human harassment and illegal killing.

---

!	REPLACES	!!	TEXT	!
!	Section 2.9.2 Page 2-93	!!	Section 2.9.2 Page 2-93 Date 07/17/89!	!

---

Black Bear

The entire potential area of concern provides substantial value, yearlong habitat for black bear. Although no black bear were observed the animals range throughout the entire lease area. They are not abundant nor are they active year round. The critical periods for black bear are February and March when the cubs are born and when they accompany their mother on initial foraging expeditions during early summer. Since parturition occurs within the winter den this critical period will be little impacted, but when the young are with the mother they will be susceptible to human activity, particularly harassment and illegal killing.

Cottontail Rabbit

The entire mine plan and adjacent areas provide substantial value, yearlong habitats for cottontail rabbits. The young are born between April and July which is considered critical period, but the activities associated with mining operation will in all probability not seriously alter the reproductive potential of the population. There will be increased hunting both legal and illegal, but this will likely benefit cottontail populations since hunted populations are more healthy and stable than non-hunted populations. Disturbed vegetation leading to succession also enhances reproductive potential.

Snowshoe Hare

The snowshoe hare is present in and dependent upon the spruce-fir vegetation type as a yearlong habitat use area. This habitat type is in abundance over the entire proposed project and adjacent areas, but the operation will do little to harm the total acreage of the habitat type and the hare populations dependent upon it. Although the critical period for reproduction

crucial

!	REPLACES	!!	TEXT	!
!	Section 2.9.2 Page 2-94	!!	Section 2.9.2 Page 2-94 Date 07/07/89!	!

since the carnivores and raptors will also experience declines. Game and protected species could also be impacted but hopefully the laws of protection will sufficiently deter such actions to minimize this impact.

crucial

Recreational use of the environs other than hunting will undoubtedly impact the wildlife of concern, and will occur in all seasons of the year. It is especially important that wildlife not be harassed during critical periods in their life history. During winter, wildlife are often in a delicate energy state. Unnecessary disturbance by man causes them to use up critical and limited energy reserves that often results in mortality. In less severe cases, the fetus being carried by gestating mammals may be aborted or absorbed thus reducing reproductive success and productivity of the population. Impact, however, is reduced by the small number of species wintering in the project area.

During breeding seasons, disturbance by man can negatively affect reproductive success by disrupting territorial selection or defense, interrupting courtship displays and disturbing mating animals. This could result in reduced reproductive success and ultimately in reduced population levels.

During parturition, lactation and early in the rearing process, the increased potential for disturbance of young animals could be determined. It is during this time that young animals gain the strength and ability to elude predators and man. Undisturbed habitats allow the young animals to develop in relatively unstressed situations and to utilize habitats that are secure from predators. Disturbance by man can compromise this situation and result in abandonment of the young by the female, increased accidents that result in mortality or increased natural predation.

---

!	REPLACES	!!	TEXT	!
!	Section 2.9	Page 2-103	!!Section 2.9	Page 2-103 Date 07/07/89!

---



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangarter  
Governor  
Dee C. Hansen  
Executive Director  
Dianne R. Nielson, Ph.D.  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340

August 1, 1989

TO: Susan Linner, Permit Supervisor

FROM: James Leatherwood, Reclamation Soils Specialist 

RE: Determination of Completeness, Five-Year Permit Renewal Review, Utah Fuel Company, Skyline Mine, ACT/007/005, Folder #2, Carbon County, Utah

## SUMMARY

The Five-Year Permit Renewal Review for the Skyline Mine, received July 19, 1989, has been reviewed. Several minor concerns exist and are addressed on the attached. Only one major completeness issue exists and is addressed in the following analysis.

## ANALYSIS

### UMC 783.21 Soils Resources Information - JSL

A soil description and corresponding soil survey map for the South Fork Breakout has not been provided within the Mining and Reclamation Plan (MRP). In addition to a map, identify the soils within the South Fork Breakout disturbance area, the soils identification, description and productivity levels must be given.

## RECOMMENDATION

In order for the Skyline Mine MRP to be considered complete the above mentioned concerns must be addressed.

c1  
Attachments  
cc: R. Harden  
L. Kunzler  
H. Sauer  
BT51/103

(Map 2.11-1) and the numerous soil descriptions and analyses can be readily extrapolated using the EPS report. Consolidated rock strata of the Blackhawk Formation are more difficult to map, however, and make the extrapolation of core data more difficult.

In this Application, the Aberdeen Sandstone and the overlying upper coal-bearing unit of the Blackhawk Formation are described. In the portal area, the Aberdeen Sandstone lies from 0 to 4 feet below the lowest coal seam to be mined and is continuous and of uniform lithology. Therefore, the Aberdeen description as presented suffices to characterize the lowest unit of interest throughout the portal area, even though it is poorly exposed. In contrast to the Aberdeen, the overlying sedimentary rocks are variable in extent and lithology. Because of the highly variable nature of these poorly exposed rocks, detailed mapping of individual lithologic units in the subsurface is not feasible. However, certain generalizations can be made regarding the relative percentages of the rock types present. Recent interpretative geologic work has focused on modelling ancient depositional environments for the sedimentary rocks in the coal-bearing sequence immediately overlying the Aberdeen Sandstone. Based on concepts developed it is possible to make general statements about the frequency of occurrence of various rock types in any area of the property. These predictions based on depositional models are believed to be more reliable than simple extrapolation between boreholes.

*This should go to the lithology section instead of the soil section.*

Stratigraphic studies in the permit area are based primarily on subsurface geophysical logs. These logs are available at the Skyline Mine office. The sources used to interpret lithology include the natural gamma, the gamma-gamma (density), the single-point resistivity, and sometimes the spontaneous potential and caliper logs. Studies of the relative percentages of sandstone, siltstone, claystone, and coal in each borehole suggest that ancient stream channels present in a specified stratigraphic interval had preferred orientations, and tend to be stacked in echelon or otherwise concentrated along trends of high sandstone percentage.

total suspended solids in stream flows. The overall slope of the cut banks is one horizontal to one vertical (1h:1v). This slope factor is based upon the geotechnical design recommendations (Volume A-3).

The benches that are made of compacted fill were constructed such that each lift was of sufficient height to ensure that maximum compaction occurred. When the benches reached the proper elevation, each bench was tested to ensure that compaction was adequate for building foundations and other structures and met the local and state building codes.

Upon abandonment of the mine site, the benches will be ripped, topsoiled and revegetated. The cut slopes will be reduced to a more gradual grade and will be topsoiled and revegetated as described in the topsoil and revegetation plans in Sections 4.6 and 4.7. This will allow a return of the mine site to the desired wildlife/grazing (rangeland) habitat.

#### Changehouse and Shop Complex

The interior of the building consists of office-training-safety areas, changeroom areas, analytical laboratory, warehouse storage area, shops and maintenance bays. The building was designed to meet all applicable local and state codes and regulations. The exterior siding is of a material that requires little maintenance throughout the life of the mine.

When mining is completed, the building will be removed from the mine site. Depending upon the depth, the foundation will either be fractured or covered with a minimum of two feet of soil.

*or* should be changed to and

!	REPLACES	!!	TEXT	!
!	Section 3.2.6 Page 3-32	!!	Section 3.2.6 Page 3-32 Date 07/12/89	!

was nearly completed, an exterior metal siding was placed on the steel structure.

All structural steel was painted and will be periodically repainted as necessary to maintain it. As for the metal siding, little maintenance is required throughout the life of the mine.

As soon as mining is completed, the crusher building will be removed. The structural steel and equipment will be salvaged. Depending upon depth, the foundation will (either) be fractured and covered with a minimum of two feet of soil.

*should be deleted from text.*

#### Truck Load-out

The foundation for the load-out tower was built upon compacted fill. As soon as the concrete foundation was cured, steel support columns were erected. Once in place, a 200-ton capacity storage bin was installed. After bin installation was completed, the top floor was installed. With completion of the floor, the belt drive motor, gear reducer, head pulley and dust collector system were installed. The top of the structure is completely enclosed with exterior siding. All structural steel was painted and will be periodically repainted to maintain it. The metal siding needs little maintenance throughout the life of the mine.

On abandonment of the mine, the truck load-out structure will be removed. The steel and equipment will be salvaged. The foundation will be fractured and covered with a minimum of two feet of soil.

#### Mine Portals

A total of thirteen mine portals for the three mines are constructed for the mine: four on the upper bench, one on the middle bench, five on the lower bench and three at the South Fork

---

!	REPLACES	!!	TEXT	!
!	Section 3.2.6 Page 3-34	!!	Section 3.2.6 Page 3-34 Date 07/07/89!	!

---

The spreading and compaction of the rock waste will be accomplished through the use of a dozer/loader and dump trucks. The dozer/loader will be used to spread and level the material and both the dozer/loader and the dump truck will be used to compact the material. Repeated, long-term operation of the equipment on each lift of material will ensure adequate compaction of the fill.

The Permittee cannot commit to the size of the dozer or the number of trucks to be used during the infrequent use of the pit. The Permittee will use its 10-ton capacity truck that may be supplemented by others which, in addition to the dozer, will be used as the need occurs.

The rock waste disposal site will be inspected at least quarterly during active disposal operations.

The Permittee's registered engineer or other qualified professional specialist will provide the Division a certified report within two weeks after each quarterly inspection and after the completion of construction. The reports will describe the activities during the reporting period and will certify that the site has been constructed and operated as specified in the design approved by the Division.

#### Acid and Toxic-Forming Material

The potential for encountering acid or toxic-forming materials is discussed earlier in this section. Based on these tests, these materials are not expected to be present. If encountered, a handling and disposal plan will be formulated as outlined in Section 4.4.5.

*adequate*  
*No discussion prior to this statement.*

Branch Code \_\_\_\_\_  
 Lab. No. 72203 \_\_\_\_\_  
 Rec'd. 07.20.87 \_\_\_\_\_  
 Sampled 07.17.87 \_\_\_\_\_  
 Sampled By YOURSELVES \_\_\_\_\_



SAMPLE ID:

ROCK SAMPLE

*where is this  
sample from?*

UTAH FUEL COMPANY  
 COASTAL STATES ENERGY  
 175 EAST 400 SOUTH  
 SALT LAKE CITY, UTAH 84111  
 (801) 529-7428

ACID - BASE ACCOUNTABILITY  
 CaCO<sub>3</sub> EQUIV. (TONS/1000 TONS OF MATERIAL)

COLOR	FINE	%SUL.	MAX. FROM %SUL.	AMOUNT PRESENT	MAX. NEEDED PH 7	EXCESS	PASTE PH
5Y (-1)	1	0.069	2.16	39.42		37.27	7.94

ELECTRICAL CONDUCTIVITY - 530 uMMS/CM

PARTICAL SIZE ANALYSIS (BY HYDROMETER)

- % SAND 45.6
- % SILT 38.6
- % CLAY 15.8

SODIUM ABSORPTION RATIO - 0.193 meq/L

SATURATED WATER PERCENTAGE - 39.80%

TOTAL SELENIUM - 1.08 ppm

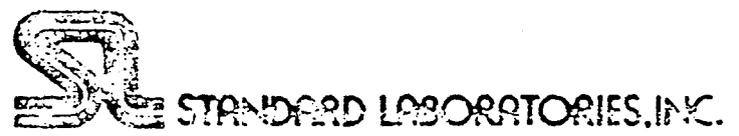
TOTAL BORON - 5.68 ppm

FOR YOUR PROTECTION THIS DOCUMENT HAS  
 BEEN PRINTED ON CONTROLLED PAPER STOCK

Respectfully Submitted,

*Cliff*  
 CLIFF SMART 08.21.87

Branch Code 43  
 Lab No 71932  
 Recd 05/05/87  
 Sampled 04/30/87  
 Sampled By YOURSELVES



SAMPLE ID: WASTE ROCK SAMPLE

*where is this sample from?*

UTAH FUEL COMPANY  
 COASTAL STATES ENERGY  
~~411 WEST 7200 SOUTH~~  
~~MIDVALE, UTAH 84047~~

ACID - BASE ACCOUNTABILITY

CACO3 EQUIV. (TONS/1000 TONS OF MATERIAL)

<u>COLOR</u>	<u>FIZZ</u>	<u>%SUL.</u>	<u>MAX. FROM %SUL.</u>	<u>AMOUNT PRESENT</u>	<u>MAX.</u>	<u>EXCESS</u>	<u>PASTE</u>
					<u>NEEDED</u>		<u>PH</u>
10YR 5/1	0	0.704	22.00	7.73	14.27	0	7.89

ELECTRICAL CONDUCTIVITY - 700  $\mu$ mhos/cm

PARTICAL SIZE ANALYSIS (BY HYDROMETER)

% SAND 71.60  
 % SILT 20.20  
 % CLAY 8.20

SODIUM ABSORPTION RATIO - 1.16  
SATURATED WATER PERCENTAGE - 39.16%  
TOTAL SELENIUM - 0.45 ppm  
TOTAL BORON - 46.8  $\mu$ g/g

FOR YOUR PROTECTION THIS DOCUMENT HAS BEEN PRINTED ON CONTROLLED PAPER STOCK

Respectfully Submitted, *Ray S. [Signature]*

## Long-Term Topsoil Storage Areas

During construction at the mine site, a stockpile area of approximately 0.6 surface acre was established in the draw on the north side of the site. The long-term stockpile is composed of topsoil collected at the mine site and portions of the conveyor bench. It will later be used for post-mining reclamation of the benches and conveyor routes.

*Topsoil stockpile  
at S. Fork should  
be included here.*

A second long-term topsoil stockpile, covering approximately 0.3 surface acre, was established at the load-out site for later reclamation use in that area.

### 4.6.3 Topsoil Protection

Long-term topsoil stockpile protection is achieved by the performance of the following operational steps:

- o A stable surface is provided in an area outside the influence of active operation.
- o As a stockpile was completed, it was left in a rough condition to minimize erosion.
- o A diversion ditch was dug around these piles to divert runoff from entering the stockpiled area.
- o Storage piles were vegetated with quick-growing, soil-stabilizing plants. Revegetation involved the immediate seeding of stockpiled topsoil with the seed mixtures listed on Table 4.6-1.
- o Signs are posted to protect the stockpiles from accidental use as fill or from other inadvertent material contamination.
- o The establishment of noxious plant species is prevented.
- o The slope of stockpiles does not exceed 2h:lv.