United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 20 1980

RECEIVED
AUG 9 1988
DIVISION OF
OIL, GAS & MINING

MEMORANDUM

TO: Walter Heine, Director
Office of Surface Mining

FROM: Joan M. Davenport, Assistant Secretary
Energy and Minerals

SUBJECT: Skyline Mine: Determination of Compatibility with Values of the MantiLaSal National Forest

I have reviewed the "Finding Pursuant to Section 522(e)(2) of SMCRA" prepared by OSM and the accompanying memorandum of the Director. I concur in the finding that the proposed Skyline underground mine and the surface effects incident thereto will not be incompatible with significant recreational, timber, economic and other values in the national forest. This concurrence constitutes my decision under Section 522(e)(2) of the Surface Mining Act and 30 CFR 761.12(c).

Joan M. Davenport

United States Department of the Interior

OFFICE OF SURFACE MINING
Reclamation and Enforcement
WASHINGTON, D.C. 20240

JUN 20 1980

MEMORANDUM

TO: Joan Davenport, Assistant Secretary
Energy and Minerals

FROM: for Walter Heine, Director
Office of Surface Mining Paul L. Reeves

SUBJECT: Skyline Mine: Determination of Compatibility with Values of the National Forest

Coastal States Energy Company and Getty Mineral Resources Company have filed a mining and reclamation plan for a proposed underground mine (the Skyline Mine) near Price, Utah in the MantiLaSal National Forest.

Section 522(e)(2) of the Surface Mining Act requires the Secretary to make a finding that surface operations and impacts incident to a proposed underground mine in a national forest will not be incompatible with significant recreational, timber, economic or other values.

Under Section 761.12(c) of OSM's regulations (December 31, 1979), I must ensure that the Secretarial Official decides the compatibility issue before acting on the mine plan. Accordingly, I have attached for your review a recommendation from Region V which concludes that there are no significant recreational, timber, economic or other values which may be incompatible with the surface mining operations incident to the proposed Skyline mine. This conclusion is based on a review of the plan and on the technical and environmental analysis prepared by Region V, (including comments from State and Federal agencies.). I agree with the Region's recommendation.

Attachment

FINDING PURSUANT TO SECTION 522(e)(2) of SMCRA

Under 522(e)(2) of SMCRA, the Secretary of Interior is required to make a finding that surface operations and impacts incident to an underground coal mine within any national forest will not be incompatible with significant recreational, timber, economic, or other values within that forest. The proposed Skyline mine is within the Manti-LaSal National Forest. The significant values of the Manti-LaSal National Forest that could be affected by the proposed mining are:

- o Water flow and quality
- o Land surface (affected by subsidence)
- o Wildlife
- o Vegetation

Surface mining activities will cause disturbance in three main areas -- the portal, road/conveyor system, and loadout/railroad facility area -- which are located close (within 100') to a perennial stream, Eccles Creek. Based on the technical and environmental analyses included in the recommendation package, OSM has determined that surface mining activities will not adversely affect stream water quantity and quality during and after mining with implementation of the sediment control measures and monitoring described in the mining and reclamation plan. There is a regional aquifer, the Sand Point Sandstone Formation, underlying the coal seam. A fault does run through the coal and aquifer.

It is believed that mining through the fault will dewater isolated sandstones located above the mine and a continuous sandstone located in the Star Point Formation below the mine. In general the water flow from faults such as these decreases to a few gallons per minute within months of encounter. In one instance, water flow from a fault continues at about 500 gallons per minute. This dewatering is not expected to change water levels appreciably in the lower sandstone. The depth to water in the vicinity of the fault is about 600 feet. The upper sandstones in the vicinity of the fault are not sufficiently large in areal extent to supply water for surface use. Prior to mining in the area of this fault, the company is required by stipulation to drill wells and monitor for drawdown of groundwater. The results of the monitoring program will be reviewed by the regulatory authority and the Forest Service to determine that impacts to the hydrological balance will be minimized prior to mining in this fault area.

Effects of subsidence to the Forest Service land will be negligible during the first five years of mining. Mining underneath Huntington Creek and near Electric Lake Reservoir is required to be studied by the applicant and results of the study submitted to the regulatory authority and Forest Service for approval prior to mining in these areas.

OSM-REGION V

Notify: Linda Hodge

Phone No.: 343-2200

From: John Hardaway

Phone No.: 327-4072

No. of Pages: 2 TM No. V1034

At present, mining is prohibited under Electric Lake and within areas that could be expected to affect (through subsidence) Electric Lake. The only mining under Huntington Creek during the first five years of mining would entail driving no more than entries for each of the three seams. These entries would be superimposed and would be required to be supported for health, safety, and environmental reasons. Therefore no subsidence is expected. Therefore, no effect of subsidence on Electric Lake or Huntington Canyon is expected. Future mining in the vicinity of these surface water features may be limited to room-and-pillar mining. Determinations of approvable mining methods for mining these sensitive areas will be based on the information obtained during the initial years of mining.

The access road/conveyor route area in Eccles Creek Canyon is a habitat area for mule deer, moose, and elk. The exact winter-summer migration route and numbers of animals that utilize the area can be estimated only as relatively high. To minimize disturbance to wildlife populations, the applicant will be required to monitor animal acceptance/rejection of eleven underpasses (near conveyor bench) proposed to be constructed in addition to providing estimates of animal use of the Eccles Creek Canyon area. Restrictions in migration are expected to be minor.

Eccles Creek has a diversity of aquatic life, including cutthroat trout. Some sediment from steep slopes adjacent to the Creek could enter the creek. However with revegetation methods as required by stipulation, in addition to sediment control measures, adverse impacts to aquatic life should be minimized during the life of the mine with aquatic populations recovering after the reclamation period.

Vegetation in the mine plan area includes some timber resources. The Forest Service has evaluated direct surface disturbance as affecting 200,000 board feet of conifer timber. The remainder of the area sustains marginally merchantable timber. The timber sales have involved insect-killed spruce. The timber could be affected by subsidence. However, the effect should be limited to occasional toppling of trees caused by surface displacements. Surface disturbance for portals, roads and other facilities will be revegetated.

Based on the above conclusions, OSM has determined that there are no significant recreational, timber, economic, or other values which may be incompatible with the surface mining operations incident to the underground coal mine as proposed for the Skyline Mine. We are recommending to the Secretary that the above finding be made with respect to Section 522(e)(2) of the Act.

UT0003

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

OFFICE OF THE REGIONAL DIRECTOR

June 20, 1980

Mr. Vernal J. Mortensen
Vice President, Utah Operations
Coastal States Energy Company
411 West 7200 South
Midvale, UT 84047

Dear Mr. Mortensen:

This is to confirm your understanding of Special Stipulations #4, 5, 7, 9, and 15 as stated in your letter of June 20, 1980. Most of the changes have been made in the official copy of the Special Stipulations.

We appreciate your cooperation in reviewing these stipulations.

Sincerely,

for DONALD A. CRANE

UT0003

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

OFFICE OF THE REGIONAL DIRECTOR

June 20, 1980

Mr. Vernal J. Mortensen
Vice President, Utah Operations
Coastal States Energy Company
411 West 7200 South
Midvale, UT 84047

Dear Mr. Mortensen:

This is to confirm your understanding of Special Stipulations #4, 5, 7, 9, and 15 as stated in your letter of June 20, 1980. Most of the changes have been made in the official copy of the Special Stipulations.

We appreciate your cooperation in reviewing these stipulations.

Sincerely,

for DONALD A. CRANE

Vernal J. Mortensen
Vice President
Utah Operations

UT0003

Coastal States
Energy Company

411 West 7200 South
Midvale, Utah 84047
(801) 566-7111

Subsidiary of
The Coastal
Corporation

June 20, 1980

Mr. Donald A. Crane
Regional Director
Department of the Interior
Office of Surface Mining--Region V
1020 - 15th Street
Denver, Colorado 80202

Re: Revised Application for Mining Permit for the Skyline Coal Mining Project near Scofield, Utah submitted by Coastal States Energy Company and Getty Mineral Resources Company

Dear Mr. Crane:

The purpose of this letter is to provide clarification, minor corrections and to confirm our mutual understanding of certain parts of the telecopied draft copy received here on June 18, 1980 containing special stipulations to be part of the approval by the regulatory authority of the above referenced Application for Mining Permit.

As previously stated in our letter of June 7, 1980, with respect to the referenced Application, Applicant reserves all rights it may have to seek and obtain a modification of any permit issued pursuant to the referenced Application in accordance with the final decision rendered by the United States District Court for the District of Columbia in the case of In Re Permanent Surface Mining Litigation, Civil Action No. 79-1144, in accordance with any other changes in the Permanent Regulatory Program for Surface Coal Mining and Reclamation Operations and/or in accordance with any other regulations administered by any federal or state regulatory authority.

The particular stipulations in question herein are presented below (or identified) in original form numbered as in the June 18 draft and followed by comments and/or revised language, as appropriate, corresponding to our understanding of the meaning of the particular stipulation.

Stipulation #4. Coal Recovery

After the first four years of mining, the applicant will re-evaluate the state-of-the-art technology in coal development to determine the feasibility of greater coal recovery during mining of thick coal. The applicant will resubmit an application for a permit by the end of the fifth year of mining (December 31, 1986).

The applicant is approved to mine coal seams thinner than 12 feet located in the following area:

Beginning in the Southeast Corner of Section 11, R. 6 E., T. 13 S., Salt Lake Meridian, thence south 500', thence east 2620', thence south 4120', thence west 750', thence north 200', thence west 640', thence south 7440', thence 2745' west, thence north 62° west 1285', thence north 86° 30' west 5860', thence north 1235', thence east 6600', thence north 27°30' east 5210', thence west 10230', thence north 2510', thence north 48°30' east 5230', thence south 60° east 7145', thence north 2120', thence east 150' to the Point of Beginning.

Comment:

- The date at the end of the first paragraph is December 31, 1986 and not December 31, 1980.

- The first line of the second paragraph is changed to: "The Applicant is approved to mine coal seams thicker than 5 feet located in..." Further, it is understood that this does not prohibit Applicant from mining coal that is thinner than 5 feet if, where, and when this becomes feasible.

- It is recognized and understood that the area described within which the Applicant is approved to mine coal is technically incorrect and that Applicant will submit an amended description within 90 days of acceptance of Departmental approval.

Stipulation #5. Subsidence

a. The applicant shall, within 90 days of acceptance of Departmental approval, submit evidence to the regulatory authority of a non-cancellable insurance policy, or equivalent thereof, to cover possible subsidence damages to owners of the Mountain Fuel Supply gas line, or alternatively, the applicant should show reason why such surety is not required pursuant to sections 817.124(c) and 784.20(c).

b. The applicant shall, within 90 days of acceptance of Departmental approval, provide the regulatory authority with a revised mine plan complying with the buffer zone requirements of 30 CFR 817.126 with respect to the Upper Huntington Creek and to Electric Lake Reservoir. The revision shall reflect that there will be both (1) no mining under Electric Lake Reservoir or Upper Huntington Creek and, (2) no mining, from which subsidence at a 30-degree (from vertical) angle of draw would influence either the Upper Huntington Creek or the high-water level of Electric Lake Reservoir.

Comment:

- In accepting the first paragraph (part "a") of this stipulation, Applicant is neither waiving nor relinquishing any of its rights with respect to the pipeline, nor is Applicant accepting any liability beyond that for which Applicant may be determined to be liable under applicable regulations, laws or court decisions.

- Subpart (1) of the second paragraph (part "b") is changed (or is interpreted to mean): "(1) No mining causing subsidence under...." Also, subpart (2) is changed to: "...at a 30-degree (from vertical) or other appropriate angle of draw..." (Emphasis added where revised.)

Stipulation #7. Roads

(Because of its length, this stipulation is not herein retyped.)

Comment:

- It is understood that the roads referred to in this stipulation are Applicant's private roads only.

Stipulation #9. Other Transport Facilities

No coal from the Skyline Mines will be hauled by rail from the load out facilities until the plan for construction and reclamation of the proposed rail spur to the load out facility has been approved by the regulatory authority.

Comment:

- The railroad spur is to be constructed, owned and operated by a common carrier railroad (D&RGW) over which Applicant has no control. However, Applicant, at the appropriate time, will exert its best efforts to make available to the regulatory authority the plan developed by the railroad for construction and reclamation (if applicable) of the proposed rail spur prior to Applicant shipping any coal by rail from the load out facilities.

- In the third line, "has been approved by" is changed to "has been submitted to".

Stipulation #15. By-Pass Road

Due to the fact that construction of the Skyline Mine facilities will permanently sever and block the Eccles Canyon Road, Coastal States will be required to provide a permanent bypass road providing through access to the same general areas. This requirement will be discussed in detail in Part Two of this Environmental Assessment.

Comment:

- This stipulation is changed (or is interpreted to mean): "...Coastal States will be required to provide a temporary by-pass road until a permanent by-pass road providing through access to the same general areas is completed." (Emphasis added where revised.)

- The last sentence, which begins with the words "This requirement will be discussed..." has been deleted.

If you are in agreement with the clarified and/or amended items as indicated herein, please so indicate by signing in the space below and then return an executed copy to me.

Sincerely,

Vernal J. Mortensen
Vice President
Utah Operations

Accepted by _____ Date _____

For Office of Surface Mining--Region V

Leo C. Smith
Sr. Vice President

Coastal States
Energy Company
Nine Greenway Plaza
Houston, Texas 77046
(713)877-6400

Subsidiary of
The Coastal
Corporation

June 19, 1980

United States Department of the Interior
Office of the Secretary
Room 6643
Washington, D. C. 20240

RE: Skyline Mine Project Reclamation and Performance Bond
O.S.M. Ref. No. UT-0003

Attention: Mr. David A. Schuenke

Gentlemen:

Enclosed herewith is the original Reclamation and Performance Bond No. 965382 in the amount of $1,850,500.00 dated June 19, 1980.

A DEX copy of the bond and this cover letter is being transmitted to you on this date.

If anything further is required, please contact us immediately.

Thank you for your cooperation.

Sincerely,

Leo C. Smith

CC: John Hardaway - O.S.M., Denver, Colorado

U7C003

COASTAL STATES ENERGY COMPANY
Nine Greenway Plaza
Houston, Texas 77046

(713) 877-1400

June 7, 1980

Mr. Donald A. Crane
Regional Director
Department of the Interior
Office of Surface Mining-Region V
1020 15th Street
Denver, Colorado 80202

Re: Revised Application for Mining Permit for the Skyline Coal Mining Project near Scofield, Utah submitted by Coastal States Energy Company and Getty Mineral Resources Company

Dear Mr. Crane:

Coastal States Energy Company, on behalf of itself and Getty Mineral Resources Company (collectively called "Applicant") hereby stipulates and agrees that the Applicant intends to comply with the referenced Application, as revised and amended, on file with the Denver Regional Office of the Office of Surface Mining and as approved in final form.

With respect to the referenced Application, Applicant hereby reserves all rights it may have to seek and obtain a modification of any permit issued pursuant to the referenced Application in accordance with the final decision rendered by the United States District Court for the District of Columbia in the case of In Re Permanent Surface Mining Litigation, Civil Action No. 79-1144, in accordance with any other changes in the Permanent Regulatory Program for Surface Coal Mining and Reclamation Operations and/or in accordance with any other regulations administered by any federal or state regulatory authority.

Very truly yours,

LCSmith

Leo C. Smith
Senior Vice President

cc: John Hardaway
Howard Roitman, Esq.
Hank Ipsen, Esq.

SKYLINE MINES, CARBON AND EMERY COUNTIES, UTAH

Proposed By

COASTAL STATES ENERGY COMPANY AND GETTY MINERAL RESOURCES COMPANY

FEDERAL COAL LEASES - #U020305
U044076
U0142235
U0147570
U073120

CONTENTS OF MINE PLAN RECOMMENDATION PACKAGE

1. Memorandum from Director to Assistant Secretary for Energy and Minerals recommending approval with stipulations.
2. Memorandum from Regional Director to Assistant Secretary for Energy and Minerals recommending approval with stipulations.
3. Draft Memorandum from Assistant Secretary for Energy and Minerals to Regional Director.
4. Standard Stipulations.
5. Special Stipulations.
6. Technical Analysis.
7. Environmental Assessment.
8. Concurrence Letters.
9. Notice of Availability of the Mining and Reclamation Plan for Public Review.
10. Notice of Availability of Pending Decision as submitted to the Federal Register.

Submitted to Director, OSM
From Region V, OSM

Questions may be directed to
Regional Director, OSM

Com: 303/837-5421 FTS: 327-5421

United States Department of the Interior

OFFICE OF SURFACE MINING
Reclamation and Enforcement
WASHINGTON, D.C. 20240

JUN 2[illegible] 1980

Memorandum

To: Assistant Secretary, Energy and Minerals

From: Acting Director, Office of Surface Mining Paul L. Rees

Subject: Approval with Stipulations of Skyline Mining and Reclamation Plan, Coastal States Energy Company and Getty Mineral Resources Company, Carbon and Emery Counties, Utah (Federal Leases: U020305, U044076, U0142235, U0147570, and U073120)

Attached is a memorandum from Region V Director, Donald A. Crane, which sets forth a brief history of the subject mine, a narrative of steps taken to determine the adequacy of the proposed mine plan, Region V recommendations and his recommendation for approval. Also attached are the Environmental Analysis (EA), Technical Analysis (TA) and various required concurrences.

I recommend your approval of the mining and reclamation plan with the stipulations.

Attachment

Schwenke
6/20/80

Assistant Secretary--Energy and Minerals

Approve Joan M. Davenport * JUN 20 1980

Non-Approve _____

With described stipulations

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
BROOKS TOWERS
1020 15TH STREET
DENVER, COLORADO 80202

OFFICE OF THE REGIONAL DIRECTOR

June 13 1980

MEMORANDUM

To: Joan M. Davenport, Assistant Secretary for Energy & Minerals

Through: Walter Heine

From: Donald A. Crane

Subject: Approval with Stipulations of Skyline Mining and Reclamation Plan, Coastal States Energy Company and Getty Mineral Resources Company, Carbon and Emery Counties, Utah (Federal Leases: U020305, U044076, U0142235, U0147570, and U073120)

I recommend that the Department approve with stipulations the Skyline mining and reclamation plan submitted by Coastal States Energy Company and Getty Mineral Resources Company. This proposed underground mine will be located approximately 23 miles northwest of Price, Utah in the Manti-LaSal National Forest.

The proposed mine plan area covers 6,400 acres of which approximately 100 acres would be disturbed by surface facilities and approximately 4,900 acres would be affected underground. Mining will be underground incorporating room and pillar, paneling and longwall mining methods. Coal will be shipped via the Denver Rio Grand Railroad to unknown coal markets.

The operation would involve mining the Upper O'Conner, Lower O'Conner B and Lower O'Conner A coal seams. Production from the mines is projected to start in 1982 and reach a production of 5.4 million tons annually in 1991. Production is projected to remain at this level through the life of the mine (35 years). Coastal States Energy Company would mine 124.5 million tons from mineable reserves of 212.8 million tons or approximately 58 percent extraction of mineable reserves. Coal recovery for each seam is proposed to be limited to a maximum of 12 feet. However, the individual seams are as thick as 30 feet in parts of the lease area. Techniques for recovering the thick seams are being studied and may be required at a later time.

Adverse impacts caused by subsidence cannot be assuredly estimated or mitigated at this time. The special stipulations would protect the perennial stream and the reservoir overlying the mine plan area from adverse effects.

Socioeconomic impacts of the Skyline Mine could be significant to certain communities in Carbon and Sanpete Counties as public services and housing are presently inadequate to handle an influx of a large work force. The Geological Survey's (USGS) regional and site-specific EIS, Development of Coal Resources in Central Utah, July 1979, analyzed the severe strains that surrounding communities might experience with a major mine opening in or near these counties. Because of the potential for significant impacts on certain municipalities when coal production is started (Fairview, Mount Pleasant, Spring City and Scofield), OSM has included special socioeconomic stipulations in the preferred alternative which requires Coastal States Energy Company to study, propose, and implement mitigation measures in a timely manner.

On April 11, 1980, the Notice of Availability was published and on June 2, 1980, the Notice of Proposed Decision was published in the Federal Register. As technical deficiencies in the mine plan were discovered, Coastal States Energy Company was contacted and additional revisions were made. In order to ensure expeditious response to questions, Coastal States maintained staff liaison in OSM's office during preparation of the technical and environmental analyses.

The application underwent a joint review between OSM, the Utah Division of Oil, Gas and Mining (DOGM), and the Forest Service, Manti-LaSal National Forest. The State has concurred with OSM's draft analysis and stipulations (June 12, 1980) and added one stipulation which has been incorporated in the stipulations package.

The Forest Service has prepared a final Environmental Assessment (EA) Report. A copy of their EA, along with their letter of concurrence, will be provided to OSM on Wednesday. All of the stipulations the Forest Service requested have been included. The mining and reclamation plan has also been reviewed by the U.S. Geological Survey and the Fish and Wildlife Service (FWS); neither office had any stipulations. Copies of all concurrence letters submitted to OSM are included in the recommendation package.

The applicant's plan was reviewed under the Interim Regulatory Program and the performance standards of the Permanent Regulatory Program for Federal Lands. The application has been found to be in compliance with both programs provided the standard and special stipulations are agreed to by the applicant, although approval at the present time would be under the Interim Program. The applicant has sent a letter to OSM agreeing to comply with the mining and reclamation plan regardless of the current status of the Permanent Regulatory Program as a result of Court rulings (see attached). This commitment supports approval with the standard and special stipulations.

Hardway

Standard Stipulations
Attached to Departmental Approval of Coal Mining and Reclamation Plan
Coastal States Energy Company's and Getty Mineral Resources Company's
Proposed Skyline Mines
Federal Coal Leases #U-020305
#U-044076
#U-0142235
#U-0147570
#U-073120

The approval to mine at the site(s) described in the referenced mine plan is subject to the following standard and special conditions and stipulations. This approval shall be revocable at the discretion of the Director, Office of Surface Mining, if the operator fails to comply with any condition or stipulation. The term "Regulatory Authority" as used herein (including the Special Stipulations) means both the Federal Office of Surface Mining and the Utah Division of Oil, Gas, and Mining unless otherwise specified.

1. The operator agrees to be bound by the provisions of Section 517 of the Surface Mining Control and Reclamation Act of 1977, 30 USC 1267 (P.L. 95-87, hereinafter referred to as "Act.") and agrees to allow the authorized representatives of the Secretary, without advance notice or a search warrant, upon presentation of appropriate credentials, and without delay, to:

A. Enter upon or through any surface coal mining and reclamation operations to:

1. Inspect any coal mining and reclamation operation, monitoring equipment, or procedure conducted pursuant to the permit;

2. Collect samples and other relevant information regarding air or water, fish and wildlife, soils, vegetation and other resources protected under the Act, this Chapter and the State program; and,

3. Obtain access to any copy of any records required to be maintained under the terms and conditions of the permit or the regulatory program.

B. Be accompanied by private persons for the purpose of conducting an inspection in accordance with Section 521(a) of the Act.

The term "authorized representative of the Secretary" as used in Section 517 and this paragraph shall be construed to include, but not be limited to, employees of the United States who are supervised by, or detailed or assigned to the Office of Surface Mining, any person under contract who is acting on behalf of the Secretary or any person employed by the State Regulatory Authroity if it is authorized to regulate surface coal mining operations on federal lands; or any other person identified as an authorized representative by a letter signed by the Director, Office of Surface Mining.

2. The operator shall comply at all times with the provisions of the Surface Mining Control and Reclamation Act of 1977, the Mineral Leasing Act of 1920, as amended, and the rules and regulations promulgated pursuant to said Acts, and such other requirements as the Regulatory Authority shall promulgate by rule.

3. The operator shall conduct surface mining and reclamation operations only on those lands specifically designated on the map(s) submitted and approved for the term of the permit, and only in the manner or with the processes and techniques described in the approved mining and reclamation plan.

4. The operator shall (a) install, maintain, and use any monitoring equipment required by the Regulatory Authority as a condition of this approval or required subsequent to approval during the life of the mine; (b) establish and maintain appropriate records of such monitoring; (c) evaluate the results in accordance with such methods, at such location, intervals, and in such manner as the Regulatory Authority shall prescribe; (d) make reports of the results of monitoring as required by the Regulatory Authority and (e) provide such other information as the Regulatory Authority shall require.

5. The operator shall comply with the Surface Mining Control and Reclamation Act of 1977; the Federal Metal and Nonmetallic Mine Safety Act; the Federal Coal Mine Health and Safety Act of 1969, the Clean Water Act; the Clean Air Act, as amended; the Resource Conservation and Recycling Act, as amended; the Refuse Act of 1899; the Fish and Wildlife Coordination Act of 1934; the Mineral Leasing Act of 1920, as amended; and any regulation, performance standard, effluent limit, emmission limit, water quality standard, or ambient air quality standard promulgated or approved thereunder, as well as all applicable state and local laws, ordiances, regulations, standards and limitations.

6. Compliance with any design criteria, or technology requirement, even where design criteria or the technology has been approved by the Regulatory Authority, shall not relieve the operator of the duty to comply with any applicable effluent limitations, emission limitation, applicable performance standard, water quality standard, ambient air quality standard, or any order issued by the Regulatory Authority under Section 521 of the Surface Mining Control and Reclamation Act.

7. The operator shall file a request with the Regulatory Authority seeking the release of all or part of a performance bond only during those seasonal periods when it is possible for the Regulatory Authority to inspect the area subject to the proposed release and make a determination (a) regarding the completeness or reclamation; (b) the degree of difficulty to complete any remaining reclamation, including success of revegetation; (c) whether pollution of surface or subsurface water is occurring; and (d) the probability and estimated cost of abating such pollution or their applicable reclamation requirements.

8. Each of the mining, reclamation or monitoring procedures, techniques, methods or descriptions contained in the approved mining and reclamation plan or in any requirement, stipulation or condition established by the Regulatory Authority as part of any approval of a mining plan, or revision or modification thereof, or by order of the Regional Director folllowing such approval shall be deemed a "permit condition required by this Act" for the purposes of enforcement under Section 521 of the Act and "a condition of a permit issued pursuant to a Federal Lands Program" for the purposes of Section 518 of the Act.

9. Special Stipulations follow on 9 pages (17 Special Stipulations).

Special Stipulations

1. Hydrology

The applicant must evaluate the potential impacts of mining on the Valentine and Joes Valley faults. A program involving additional wells in and around the fault zones followed by pump tests to determine discharge rates direction of preferred drawdown associated with the Valentine and Joes Valley fault should be initiated. Following the initial evaluation of the fault zones, a monitoring scheme should be presented to the regulatory authorities. Following approval of the monitoring plan, properly packed and cased wells should be installed. Water levels should be monitored monthly and water quality should be sampled seasonally during the first year and annually thereafter. The applicant must submit plans for the revised water monitoring scheme by December 31, 1980.

2. Geology

The applicant shall supply to the regulatory authority within 90 days of the acceptance of Departmental approval, results of overburden analyses from at least one core hole from the portal area. This includes each stratum to be affected, including the strata immediately below the lowest coal seam to be mined (Lower O'Connor A coal seam and the Flat Canyon coal seam if tnis is to be mined). Overburden analyses shall include pH, electrical conductivity, soluble calcium, magnesium and sodium, sodium adsorption ratio, neutralization potential, and particle size.

3. Topsoil Protection

a. If applicant anticipates using any material as a substitute or supplement to topsoil, the regulatory authority will be notified of such an intention and information showing the suitability of this material for revegetation submitted within 90 days of acceptance of Departmental approval.

b. Until Coastal States Energy Company provides to the regulatory authority the following information (which is found to be adequate):

i) Depths to which soil will be removed from disturbed areas
ii) Volume of soil removed from disturbed areas
iii) Volume of soil available for revegetation
iv) Depths of redistributed oil associated with species used in revegetation,

the following conditions will have to be met: it will be necessry for Coastal States Energy Company to remove all suitable soil material, A, B, and C horizons and stockpile this mateiral for later use. In cases where C horizon material would not be suitable as a topsoil, as in the case of skeletal soils (high coarse fragment content), two soil lifts will be required. The first lift, or A and B horizons, will have to be separately stockpiled from the second lift C horizon material. The location of the stockpiled C horizon material will have to be indicated to the regulatory authority three months prior to stockpile construction.

4. Coal Recovery

After the first four years of mining, the applicant will re-evaluate the state-of-the-art technology in coal development to determine the feasibility of greater coal recovery during mining of thick coal. The applicant will resubmit an application for a permit by the end of the fifth year of mining, (December 31, 1986).

The applicant is approved to mine coal seams ~~thinner~~ thicker than ~~12~~ 4 5-feet located in the following area:

Beginning in the Southeast Corner of Section 11, R.6E., T. 13 S., Salt Lake Meridian, thence south 500', thence east 2620', thence south 4120' thence west 750', thence north 200', thence west 640', thence south 7440', thence 2745' west, thence north 62° west 1285', thence north 86°30' west 5860', thence north 1235', thence east 6600', thence north 27°30' east 5210', thence west 10230', thence north 2510', thence north 48°30' east 5230', thence south 60° east 7145', thence north 2120', thence east 150' to the Point of Beginning. will modify

5. Subsidence

a. The applicant shall, within 90 days of acceptance of Departmental approval, submit evidence to the regulatory authority of a non-cancellable insurance policy, or equivalent thereof, to cover possible subsidence damages to owners of the Mountain Fuel Supply gas line, or alternatively, the applicant should show reason why such surety is not required pursuant to sections 817.124(c) and 784.20(c).

b. The applicant shall, within 90 days ~~of~~ acceptance of Departmental approval, provide the regulatory authority with a revised mine plan complying with the buffer zone requirements of 30 CFR 817.126 with respect to the Upper Huntington Creek and to Electric Lake Reservoir. The revision shall reflect that there will be both (1) no mining causing subsidence under Electric Lake Reservoir ~~or Upper Huntington Creek~~ and, (2) no mining, from which subsidence at a 30-degree (or other equivalent) (from vertical) ~~angle of draw would influence~~ either the Upper Huntington Creek or the high-water level of Electric Lake Reservoir.

6. Revegetation

a. The applicant shall within 90 days of acceptance of Departmental approval, submit to the regulatory authority, for approval, a revised seed mixture reducing the amount of introduced species in the seed mix. Justification of any introduced species must be provided showing these will provide a diverse and effective vegetative cover of the same seasonal diversity and are compatible with wildlife and livestock postmining uses. The applicant must specify all seed, seedling, and willow cutting sources.

b. In order to enhance wildlife habitat the applicant will supply a revised revegetation plan of riparian habitat that will provide a more diverse community than that proposed. Quaking aspen, root stock will be included in the revegetation plan for aspen communities, woody species stocking densities, seedling size, and whether tubling or bare root stock will be used, must be specified. This information must be submitted within 90 days of acceptance of Departmental approval.

c. Prevention of noxious plants on topsoil stockpiles will be accomplished by hand grubbing unless alternate means are approved by the regulatory authority.

d. The applicant shall hydroseed or hand broadcast and rake the herbaccous seed mix and then hydromulch on slopes greater than or equal to 2h:1v. On flatter slopes, mulch will be applied at a rate of 1500-2000 lbs/acre. On critical slopes where netting is required to establish permanent vegetation, a biodegradable netting will be used. Alternate seeding and mulch application may be used subject to approval by the regulatory authority.

e. The applicant may elect to revegetate slopes steeper than 1.5h:1v with or without topsoil. In either case, the applicant will ensure that these slopes will be permanently stabilized and revegetated sufficient to prevent erosion and maintain slope stability. Revegetation and stabilization of road and conveyor belt slopes will be evaluated at the end of each growing season by establishing and monitoring randomly located erosion pins and correlating with vegetative cover data. The applicant will submit details on this monitoring procedure to the regulatory authority for approval within 90 days after acceptance of Departmental approval. Monitoring data will be submitted to the regulatory authority within 4 months of collection. This monitoring will occur on an annual basis until January, 1984 and seeding, mulching and stabilization techniques are demonstrated to be effective in controlling erosion and ensuring road and conveyor slope stabilization. If practices are not controlling erosion and providing slope stabilization, reclamation and/or operation techniques will be modified subject to approval of the regulatory authority.

f. The applicant must subject revegetated areas to a clipping study approved by the regulatory authority which simulates herbage removal through grazing, or allow grazing of livestock at proper use levels, representative of postmining land use during the last two years of liability.

g. The applicant must resubmit vegetative data collected at random points using a method which gives empirical values sufficient to detect a 10% change in vegetative cover. Sample size will be such that a 10% change is detectable with 90% accuracy. These data need only be collected for communities to be disturbed and for reference areas which will be used for comparision (aspen, sagebrush, spruce-fir, riparian). If areas are disturbed (i.e., portal (riparian areas), than an area as close to the disturbed area as possible should be selected as a reference area for success standards. A minimum of the following data will be provided: 1) canopy cover by species and total canopy cover excluding trees, 2) productivity by life form, and 3) density of woody species by life form (trees and shrubs). The applicant will provide statistical tests showing similarity between proposed disturbance areas and reference areas. This information will be submitted by December 31, 1980 to the regulatory authority for approval of reference areas.

h. The applicant must submit the acreage and proportion of the total area that each vegetation community comprises in the portal loadout area and the conveyor-access road area. This information will be sumitted by December 31, 1980 with the above information.

i. The applicant must submit a specific plan for evaluating success of revegetation (diversity cover, productivity, density of woody species),

methods for data collection and how revegetation areas will be compared with reference areas. All reclaimed areas (i.e. conveyor slopes) must be evaluated. This will be submitted to the regulatory authority by December 31, 1980 subject to regulatory approval.

j. The applicant must qualitatively monitor reference areas at least every two years to see if reference areas have been subject to heavy animal use, subsidence, or other man-induced degradation. If so, an additional reference area must be approved by the regulatory authority.

k. The extended period of liability will begin after the last period of augmented seeding, fertilizing and other mechanical practices. Revegetated areas will be monitored the last years of liability and compared with reference areas.

i. The extended period of liability will be ten years unless the applicant can supply site-specific data justifying a 5-year period.

7. Roads

a. Within 30 days of acceptance of Departmental approval of the mining and reclamation plan, the applicant shall provide to the regulatory authority, plans for the Water Tank Access road, review and approval. Plans shall include plans; profiles; culvert and culvert locations (both horizontal and vertical); drainage ditch cross sections culvert inlet and culvert details; the passive resistance of the foundations, and the weight of the vehicle to be used; calculations showing that all culverts can safely pass the 10 year-24 hour precipitation or greater can safely pass the 20 year-24 hour precipitation event and calculations showing that all drainage ditches can safely pass the 10 year-24 hour percipitation event.

private b. Within 30 days of acceptance of Departmental approval, the applicant shall provide a maintenance plan for all the roads in the mine plan area.

c. Within 90 days of acceptance of Departmental approval of the mining and reclamation plan, the applicant shall provide to the regulatory authority a plan for the restoration of the water tank access road for review and approval.

private d. Within 90 days of acceptance of Departmental approval of the mining and reclamation plan, the applicant will provide to the regulatory authority a plan for disposal of all road surfacing materials removed in road restoration for review and approval.

private e. Within 30 days of acceptance of Department approval of the mining and reclamation plan, the applicant shall provide to the regulatory authority, in copies, a plan for use or disposal of all material that is excavated during road construction. The plan should include tables or calculations of volumes of all materials excavated, placed in fill embankments, and disposal of elsewhere; an effective swell factor for excavated materials; and place of disposal of excavated material not used to construct fill embankments.

8. Backfilling and Grading

The applicant will, within 90 days of the acceptance of Departmental approval, submit to the regulatory authority or have his geotechnical consultant submit to the regulatory authority a statement with backup calculations showing that the terrace-like cuts can be expected to equal or exceed a safety factor of 1.3.

9. Other Transport Facilities

No coal from the Skyline Mines will be hauled by rail from the load out facilities until the plan for construction and reclamation of the proposed rail spur to the load out facility has been ~~approved by~~ submitted to the regulatory authority.

10. Air Resources Protection

The monitoring program will be conducted for at least 12 months after completion and use of the overland conveyor. At the conclusion of the 12 month period, Coastal States Energy may request that OSM remove the TSP monitoring requirement if the concentrations are low.

11. Fish and Wildlife

a. 1) The applicant will provide quantitative baseline data showing utilization of the Eccles Creek Canyon by elk, mule deer and moose. Data collection will address the question of whether or not Eccles Creek Canyon is utilized as a luggume migration route. It will also assess and quantify localized movements and use of the Eccles Creek Canyon by elk, mule deer and moose. Quantitative estimates of resident populations of elk, deer and moose in the Eccles Creek drainage will be provided.

A plan for big game data collection will be submitted to the regulatory authority for approval within 30 days of the company's acceptance of Departmental approval of the mine plan. The plan should utilize information collected in the past by the Utah Division of Wildlife Resources and the Forest Service background and as a basis for developing the site specific baseline data gathering plans. Data collecton will commence when the company receives the regulatory authority's aproval of the plan; it will continue for one calendar year following initiation of field data collection. By December 31, 1981, the company will submit results of the baseline data gathering to the regulatory authority. At this time the regulatory authority will assess the data and determine whether continuation of baseline data collection is necessary.

2) Following construction of the conveyor and completion of the conveyor bench in 1983, and no later than December 31, 1983, the applicant will submit to the regulatory authority a plan for monitoring animal acceptance/rejection of the conveyor wilderness. This monitoring shall provide quantitative estimates of attempt to cross, and how many are turned back. This monitoring shall continue for five years, or until the regulatory authority has determined that sufficient data has been collected to evaluate the impacts of the conveyor/road on mule deer, elk and moose utilization of the Eccles Creek Canyon. If the regulatory authority finds that elk, mule deer, or moose are

moving across the drainage in numbers of significantly less than prior to conveyor construction, and that they are in fact turning away from the road/conveyor, the regulatory authority may elect to require further mitigation efforts.

b. The applicant will commit to:

1) exclusion of wildlife from ponds containing toxic-forming materals.

2) no use of persistent pesticides unless as part of an approved reclamation management plan.

3) Prevent, suppress and control forest, range, and coal fires which are not part of an approved management plan.

12. Cultural Resources

a. The applicant will submit, within 60 days of acceptance of Departmental approval of the mine plan, additional information to OSM and the Utah SHPO on the Abandoned Eccles Canyon Mine.

b. The applicant shall ensure that a sample survey for cultural resources is performed in areas of the mine plan that may be affected by subsidence. This survey should concentrate on locating sites that may be especially sensitive to the effects of subsidence. These site types include, but are not limited to: standing wall structures, both historic and prehistoric; rock art; and rock shelters. A minimum of 10% of the area that may be impacted by subsidence shall be surveyed. Areas that have previously been surveyed (excluding drill hole and corresponding access road surveys) may be used in this 10% survey. This additional survey may be random, or may concentrate on areas that, in the judgement of a professional archaeologist, would be more likely to contain sensitive cultural resources. Methods used to survey the additional area will be justified in our survey report. This survey will commence within 60 days of acceptance of departmental approval of this mine plan, and the report will be submitted to the OSM and the SHPO within 120 days of approval. The report shall be written using the standards outlined in OSM's draft "Proposed Guidance to Applicants." If cultural resources are located that are eligible for nomination to the National Register of Historic Places (30 CFR 60.6) and which may be adversely impacted by subsidence a plan to mitigate these impacts shall be prepared and submitted to the regulatory authority for approval. Impacts will be mitigated prior to commencement of subsidence-causing activities.

c. If, during the course of mining operations, previously unidentified cultural resources are discovered, the applicant shall ensure that the site is not disturbed and shall notify the regulatory authority. The operator shall ensure that the resource(s) is properly evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.6). Should a resource be determined eligible for listing, the operator shall consult with and obtain the approval of the regulatory authority and the Utah SHPO concerning the development and implementation of mitigation measures as appropriate.

d. All vehicular traffic, personnel movement, and construction be confined to the locations examined for the mine plan by the cultural resources survey and

the access roads leading into these locations.

e. The company shall instruct their personnel that it is a violation of federal and state laws to collect individual artifacts or to other wise disturb cultural resources. All personnel shall refrain from any such disturbance.

f. No construction activities shall be alllowed in the SE 1/4 of the SW 1/4, section 13, T135, R6E, Carbon County, until the Utah SHPO concurs with OSMs recommendations of No Effect pursuant to 36 CFR 800.4. If the SHPO does not concur that the Abandoned Eccles Canyon Mine is not eligible, a Determination of Eligibility will be sought from the Keeper of the Register. If the site is determined eligible, a mitigation proposal must be submitted to the regulatory authority and the Utah SHPO for approval. This proposal will be developed and implemented in accordance with the Advisory Councils Guidelines for Making "Adverse Effect" and "No Adverse Effect" Determinations for Archaeological Resources in Accordance with 36 CFR Part 800. (Attachment #2). All work will be completed at the site, and a preliminary report of such activities accepted by the regulatory authority and the Utah SHPO prior to any construction activities in the area.

g. No construction activities shall be allowed in the SE1/4 of the SE1/4, section 17, T135, R7E, north of the existing road in Eccles Canyon until the Utah SHPO concurs with OSM's recommendations of No Effect pursuant to 36 CFR 800.4. If the SHPO does not concur that sites AERC 270U/1 and 270U/2 are not eligible, a Determination of Eligibility will be sought from the Keeper of the Register. If the sites are determined eligible, a qualified archaeologist shall be present during the initial stages of construction north of the road to ensure that the applicant avoids all impact to these sites.

13. Bonding

a. Within 1 week after acceptance of Departmental approval of the mine plan, the company must submit:

1) Supporting calculations (per hour cost, man hours for labor and equipment, etc.) for the estimated costs of reclamation already submitted.

2) Evidence that adequate bond exists to cover removal and reclamation of surface subsidence-monitoring measures including continued monitoring for subsidence throughout the life of the mine and the extended liability period.

3) A map showing each area of land within the permit area for which a performance bond will be posted.

4) Evidence that insurance requirements of section 806.14(b)(c) are met. These requirements are: Evidence that the insurer will notify the regulatory authority if the company fails to renew the public liability insurance policy. In addition, the company must demonstrate that the policy covers use of explosives and damage to water wells and that the policy will be maintained in full force during the life of the permit and any removal thereof, and during completion of any reclamation operations.

b. Before any land disturbing activities take place, the company must submit a bond approved by the regulatory authority and payable to the State of Utah and the U.S. Government.

14. Social Economic Impact

a. The company shall conduct a comprehensive study of the social, economic, and community impacts associated with the development of the Skyline Mine. This study shall encompass all impacted communities such as Scofield, Fairview, Mt. Pleasant, Spring City, Price, Helper, and other Carbon, Sanpete, Emery, and Utah County communities. It shall be commenced upon Departmental approval of the mining and reclamation plan. This study shall include, but not be limited to, an analysis of the construction and mining work force, residential patterns, the community infrastructure associated with the identified work force, housing, transportation, and recreation impacts of the Skyline Mine project. As a result of the comprehensive study, the company will develop appropriate mitigation measures in consultation with the Counties Municipalities, Southeast Utah Association of Governments and the Regulatory Authority. The study shall include the following subjects:

1) an assessment of the construction and mining work force housing patterns and if this assessmet indicates significant housing shortages near Scofield, the company shall develop a plan to allievate housing shortages;

2) a survey of its work force to evaluate the need to devlop a coordinated trasportation program (i.e. buses, vans, etc.) for the construction and permanent work force.

3) The company shall submit to the Counties, the Municipalities, the Southeast Utah Association of Governments, and the Regulatory Authority the results of the comprehensive study and the implementation of measures that have been undertaken by the company to allieviate the impacts of the mine. This effort shall be done on an annual basis commencing at the time of Departmental approval and the company shall submit a written report to the above named entities that evaluates the success of any mitigation measures.

b. The company shall participate in any organized municipal, multi-municipal, county, or regional efforts to assess the impacts of the Skyline Mine and the cummulative impacts of future energy development in the region.

15. By-Pass Road

Due to the fact that construction of the Skyline Mine facilities will permanently sever and block the Eccles Canyon Road, Coastal States will be required to provide a temporary bypass road until a permanent bypass road providing through access to the same general areas. ~~This requirement will be discussed in detail in Part Two of this Environmental Assessment.~~ as completed

16. Construction Activities

a. A wire fence must be erected and maintained around the perimeter of the portal area to protect grazing stock and wildlife. Additional ventilation shafts and other structures must be similarly fenced, covered or otherwise protected.

b. All timber removed during construction of the portal area will be sold to Coastal States or their sub-contractors prior to its removal. A timber cruise will be conducted by Forest Service personnel to determine the volume of timber and cost of the settlement sale.

c. A valid State burning permit will be required for all burning to dispose of vegetation and other debris from clearing the mine site.

d. All construction equipment trucks and power tools used for site clearing and construction must be equipped with approved spark arrestors.

e. While the mine is in operation an attempt should be made to maintain the partial retention visual quality objective. If possible, facilities, shapes, sizes, amounts, etc., should be subordinate to the characteristics surrounding landscape when viewed from middle ground (i.e. from the bypass road). Colors of the structures and facilities should compliment earth tones.

17. Reclamation Activities

a. Post mining reclamation procedures necessary to meet visual quality objectives include the following:

1) To allow the mine site to revegetate, a cattle-proof fence of indigenous nature should be installed.

2) In order to create a natural appearance, trees and shrub plantings should not terminate on the toe of the slope. Linkages should run short of the toe in some areas and should extend slightly into the canyon bottom in other areas. Sagebrush and grasses should be re-established by seed. Trees may be planted as seedlings.

3) Rocks, originally designated as wind barriers, should be placed at the bottom of large solid rock cuts in an informal way and should be covered with soil and planted.

4) Structural removal should include concealment or removal of structures containing obtrusive form, line, color or texture.

b. Area cleanup should include alteration, concealment or removal (as directed by the Forest Service) of construction of mine debris.

c. It is recognized that land management policies and disturbed land reclamation technology can, and probably will, change over the life of the Skyline Mines project. In view of this, reclamation of the mine site will be required to satisfy the standards current at the time of reclamation and will be conducted using the best available current technology.

June 12, 1980

TECHNICAL ANALYSIS

The Mining and Reclamation Plan for the Skyline Mines
Carbon and Emery Counties, Utah

Proposed by
Coastal States Energy Company and Getty Mineral Resources Company
Federal Coal Leases #U-020305
#U-044076
#U-0142235
#U-0147570
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U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement
Region V
Denver, Colorado

Interim Program Cross Reference for noted deficiencies

771.23 - 211.10(g)

778.13(other)*

778.15 - 211.70

778.17*

778.19 - 715.11(b)

779.12(a) - 211.10(c)(6)(ii)

779.12(b) - 211.4(d)(9)

779.15 - 211.10(c)(2)
- 211.10(c)(6)(xii),(7)(iii)

779.16 - 211.10(c)(2)

779.19 - 211.10(c)(2)

779.21 - 211.10(c)(2)

779.24 - 211.12

779.27 - 211.40(a)(24)

780.12 - 211.10(c)(7)(iv)

780.14 - 211.10(c)(6)(iv)
211.12, 211.40

780.16 - 211.4(d)(9)

780.21 - 211.10(c)(2)(6)(xiv)

780.25 - 211.40(a)(b)

780.33*

780.37 - 211.10(c)(7)(iv)

785.15 - 211.40(20)

778.13 - 211.10(c)(1)

778.14*

778.16 - 211.4(d)

778.18*

778.20 - 211.5(b)

779.14 - 211.10(c)(2)

779.14 - 211.10(c)(6)(xii),(7)(iii)

779.17 - 211.40(a)(6)

779.18 - 211.10(c)(2)

779.20 - 211.10(c)(2)

779.22 - 211.10(c)(3)

779.25 - 211.10(b)(7)

780.11 - 211.40(a)

780.13 - 211.40(a)(11)

780.15 - 211.10(c)(6)(ix)

780.18 - 211.10(c)

780.23 - 211.10(c)

780.29 - 211.40(a)(6),(a)(13)

780.35 - 211.10(c)(7)(iii)

785.19 - 211.40(a)(25)

Underground Mining**

784.20 - 211.3
(Subsidence)

*Not specifically addressed in interim regulations, however, these items will be requested from the applicant upon implementation of the permanent regulations.

**The Permanent Regulatory Program address permit application for surface Mining under 30 CFR 778,779,and 780. Permit applications for underground mines are addressed under 30 CFR 782, 783 and 784. Subsection numbers are compatible except as listed.

Table of Contents

Page	1	Hydrologic Balance-Surface Water
	2~~8~~	Hydrologic Balance-Ground Water
	44	Alluvial Valley Floors
	46	Geology
	52	Topsoil Protection
	61	Operations on Prime Farmland
	63	Explosives
	67	Coal Recovery
	71	Subsidence Control
	76	Revegetation
	91	Protection of Fish and Wildlife
	102	Roads
	119	Backfilling and Grading
	126	Other Transport Facilities
	133	Air Resources Protection
	139	Land Use
	142	Cultural Resources
	148	Bonding Requirements
	152	Miscellaneous Compliance Analysis

Hydrologic Balance

A. Description of Existing Environment (Surface Water and Ground Water)

Surface Water - The Skyline Permit Area is located in the headwaters of the Price and San Rafael River Basins (see Figure 1), which are tributaries of the Green River. Within the Skyline project area, there are four perennial watershed: East Eccles Canyon, Green Canyon, Winter Quarters Canyon (all tributaries of Pleasant Valley Creek in the Price River Basin), and West Huntington Creek (a tributary of the San Rafael River). The site of the permit area is around 6400 acres of which approximately 4470 drains toward the San Rafael River via Huntington Creek. The drainage east of the divide flows primarily through Eccles Creek. The streams which compose these watersheds are perennial in nature (Volume 1, p. 2-33). Both the mine site (portal area) and the coal loadout basin area are in the Eccles Drainage basin. Channels draining the permit area form dendritic patterns, with stream channels of the area flowing in all four major directions. Slopes on the permit area are steep, averaging approximately 31 percent. The topography is somewhat rugged with elevations ranging from 8510 to 9655 feet above mean sea level. Dominant aspects are to the west in Huntington Creek basin and to the east in Price River basin. The landscape varies greatly, with more of the permit area covered with conifer and aspen vegetative communities.

The climate of the Skyline Mine Area is typical of subalpine areas in the central region of Utah. The average monthly temperatures range from 15°F in January to 60°F in July, with extreme temperatures of about -40°F and 80°F. Average annual precipitation is 25 to 30 inches, mostly in the form of snow from October through May, although 8 inches of rain is typical from May to September. Potential evaporation is less than 18 inches per year. Because of the climatological conditions in the area (high precipitation and low evapotranspiration which results in excess water), there are numerous water sources in the Skyline project area. Most of these are undeveloped springs, seeps, and streams. The one notably developed water body located partially in the project area is Electric Lake, a 31,200 acre-foot reservoir whose upstream tip covers a portion of (103 acres) the southwest corner of the project area in Huntington Creek. This reservoir is owned and operated by Utah Power and Light Company as a storage facility for water used at coal-fired power plants in Castle Valley.

Snowmelt is the primary source of water for the perennial streams in both the Huntington Creek and Price River Basins. As a result, flow volumes per unit area are high in the headwaters and low near the mouth of the basins.

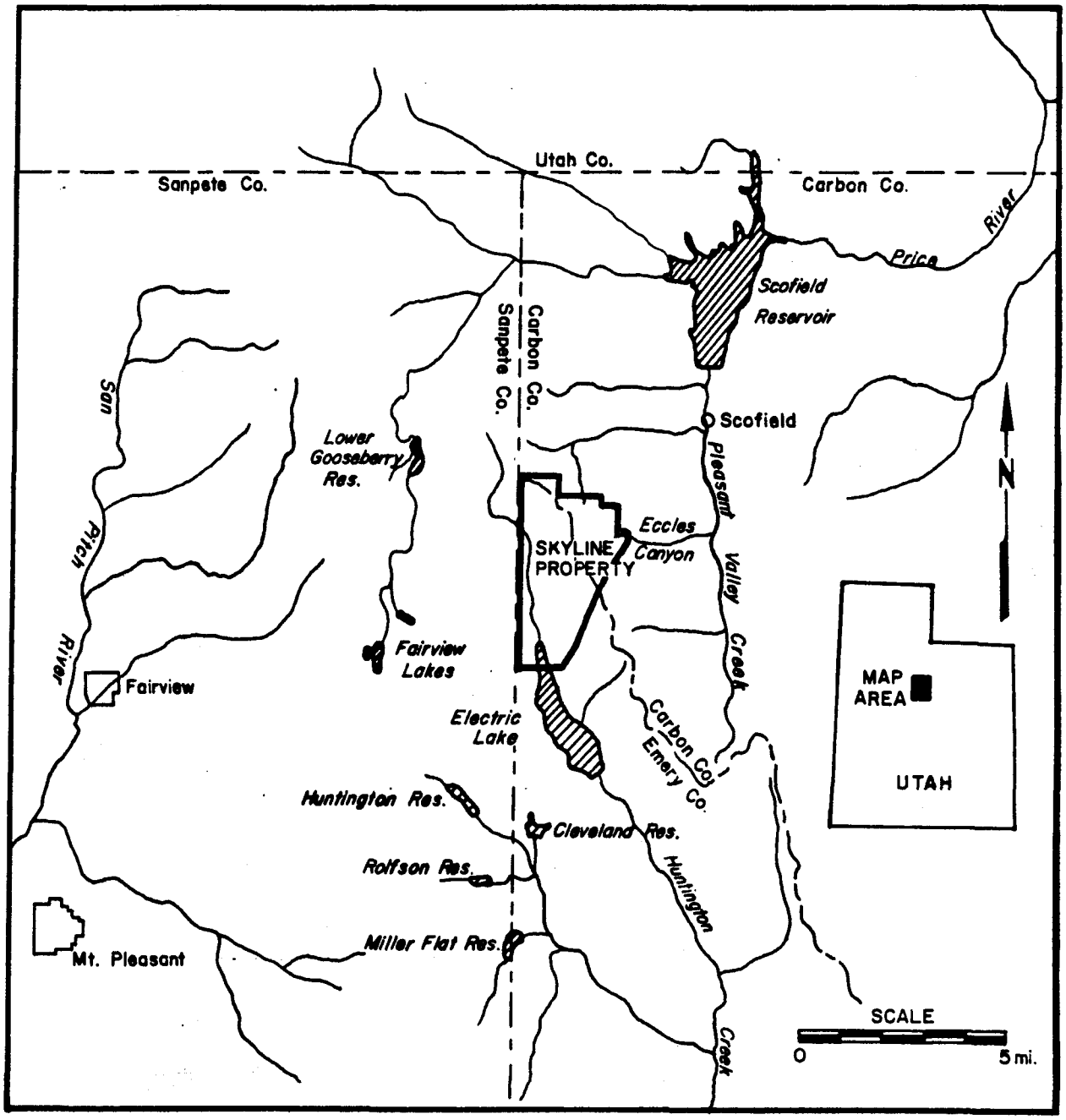

Figure 1-- Location of the Skyline project Area

The watersheds draining the project area yield an average of approximately 13.5 inches of water annually to the Price River basin. Because of the relatively impermeable Blackhawk Formation which underlies all of the Huntington Creek basin (either on the surface or directly beneath the surface member), the yield to the San Rafael River basin is slightly higher (averaging approximately 16 inches per year). Results were based upon a flow duration curve.

Flows in Huntington Creek above Electric Lake can be expected to vary between 1 and 200 cubic feet per second. Flows of Eccles Creek above Pleasant Valley Creek normally vary between 1 and 50 cubic feet per second. Selected streams on and adjacent to the Skyline property were:

	Channel Bar Width, Ft.	25-Year Peak cfs	50-Year Peak cfs
Main Fork, Eccles Creek above South Fork	2.0	11.0	11.7
S. Fork Eccles Creek above Main Fork	2.5	15.6	16.6
Eccles Creek above Pleasant Valley Creek	3.5	26.4	28.2
Huntington Creek above Burnout Canyon	7.0	78.5	84.4

Source: Volume A-1, Hydrologic Section, p. 21.

These estimates are based upon channel geometry-linear regression method (Fields, 1975).

Electric Lake has been classified as 3A and 4 while Scofield Reservoir has been classified as 1C, 3A, 4 as well as 2B (protected for recreational uses, excluding swimming). Standards for 2B and 3A include an increase in turbidity of 10 NTUs (Nephelometric Turbidity Units).

Ground Water

There are two ground water systems present in the Skyline Mine permit area. A shallow system, which has very local recharge provides water to numerous seeps and springs averaging one water source for approximately every 40 acres in the area through thin sandstone layers in the Blackhawk Formation. There is also a deep aquifer system which is present in the saturated rocks surrounding and below the coal. The principle controlling factor affecting the occurrence and availability of ground water in these two systems is the geologic environment.

Geologic Controls - All the units exposed on and immediately adjacent to the Skyline Mine permit area are included in the Cretaceous Mesa Verde Group. The stratigraphy and lithology of the units, in ascending order, are: The Star Point Sandstone; a massive, medium-grained sandstone approximately 1000 feet thick; the Blackhawk Formation: a formation of interbedded sandstone, siltstone, shale, and coal, which is approximately 750 feet thick; and the the Castlegate Sandstone: a massive medium to coarse-grained sandstone approximately 240 feet thick. The coal to be mined is located in the Blackhawk Formation.

The Blackhawk Formation plays an important role in the ground water regime due to the heterogenous lithology. The shales in this formation have a large influence on the occurrance of the springs and seeps in the project area, which are considered as part of the shallow ground water system. A majority of the springs issue from west-facing slopes, often at a sandstone-shale interface considerably above the adjacent stream bed. Water which infiltrates into the soil and is not consumptively used percolates down until an impeding shale lense is met. It then follows the shale member downdip until an outlet is reached (either the surface or a discontinuous sandstone member).

B. Description of Applicant's Proposal (Surface Water)

General

The construction/installation of surface facilities at the mine site, loading area, as well as the mine access road and conveyor belt route during the first five years of operation will disturb 74.8 acres. During the second five years of operation 1.0 acres will be disturbed for the construction/installation of a ventilation shaft. A total of 75.8 surface acres will be distrubed during the life of mine.

Diversions

The applicant, Coastal States Energy Company and Getty Mineral Resources Company, has designed stream diversions at both the mine site area and the coal loadout area. The confluence area of the three tributaries of Eccles Creek form a crowsfoot drainage pattern at the mine site. One tributary extends in a northerly direction, the second in a northwesterly direction and the third southwesterly direction. To ensure that the water quality of these streams will not be degraded as a result of mine facilities operation, the stream flow will be diverted into corrugated metal pipe (CMP) culverts located under the mine benches.

These culverts are designed to pass the peak runoff of a 100-year, 24 hour precipitation event. The combined drainage area is 820 acres. Twenty feet of upstream area will be riprapped. A pool structure will be constructed immediately downstream of the outlet structure. Following completion of mining activities, the culverts will be removed and the stream channel bed will be restored.

In order to provide sufficient area for coal storage facilities at the mouth of Eccles Canyon, approximately 1,200 feet of stream channel will be displaced to the north, next to the Canyon road. It is designed to handle the 100-year, 24-hour precipitation event. The stream channel will be constructed with meanders. The resulting stream will be slightly shorter in length and have a slight increase in vertical drop.

Three main tributaries merge to form the Eccles Creek within the 36 acre mine site. The applicant proposes to divert these streams under the bench facilities through a system of large diameter culverts. The culverts have been designed to carry the peak runoff from a 100-year, 24-hour precipitation event (Skyline Mine Plan, p. 3-39, p. 4-65).

These shales also have a significant influence on the deep ground water system in that they act as aquitards. This characteristic results in a reduced recharge at slow rate to the deep ground water aquifers. Also, this deep system has little effect on the surface hydrologic regime in the permit area since the water generally flows well below the perennial streams of the permit area (i.e., the water level contours show no connection with permit area streams).

The Skyline Mine permit area lies on the west flank of the Clear Creek anticline. As such, the dip of the strata and, therefore, the ground water movement is predominantly to the west. In addition, fault zones in the permit area have some hydrologic consequences. These faults will only have local hydrologic importance within the Blackhawk Formation because of the high bentonite content in the shale, giving it an ability to rapidly seal. In contrast, faulting within the Star Point Sandstone will probably increase the water yield capacity of the unit through creation of secondary porosity.

Aquifer Parameters - Measurements at a network of observation wells installed in the project study area indicate that ground water flows in the west to south-west direction, generally following the dip of the strata. Flow gradients average about 250 feet per mile; however, a flow gradient of 700 feet per mile was encountered in the southern portion of the lease area. The latter gradient is an anomally associated with the Valentine Fault zone, which passes through one of the observation well sites.

Drawdown and recovery tests, which were conducted at two differenct depths in an open test well located in the proposed portal area, indicated that the tranmisivity of the Blackhawk Formation is approximtely 18 gallons per day per foot. No significant difference in transmissivity exists between the coal zone and the Aberdeen Sandstone. Discharge rates were measured to be on the order of 5 gallons per minute, whereas specific yields in the area were 0.2 to 0.7 percent.

2.412 ft [illegible]
8.5×10^{-4} cm/sec

The watersheds draining the project area yield an average of approximately 13.5 inches of water annually to the Price River basin. Because of the relatively impermeable Blackhawk Formation which underlies all of the Huntington Creek basin (either on the surface or directly beneath the surface member), the yield to the San Rafael River basin is slightly higher (averaging approximately 16 inches per year). Results were based upon a flow duration curve.

Flows in Huntington Creek above Electric Lake can be expected to vary between 1 and 200 cubic feet per second. Flows of Eccles Creek above Pleasant Valley Creek normally vary between 1 and 50 cubic feet per second. Selected streams on and adjacent to the Skyline property were:

	Channel Bar Width, Ft.	25-Year Peak cfs	50-Year Peak cfs
Main Fork, Eccles Creek above South Fork	2.0	11.0	11.7
S. Fork Eccles Creek above Main Fork	2.5	15.6	16.6
Eccles Creek above Pleasant Valley Creek	3.5	26.4	28.2
Huntington Creek above Burnout Canyon	7.0	78.5	84.4

Source: Volume A-1, Hydrologic Section, p. 21.

These estimates are based upon channel geometry-linear regression method (Fields, 1975).

The shallow groundwater system is a source of surface water recharge. This is evident from the measured discharge of ground water into two creeks in the permit area. The annual groundwater yield to Huntington Creek above Burnout Canyon was calculated to be 2.43 cfs, or 19 percent of the annual streamflow. The groundwater yield to Eccles Creek above Pleasant Valley was calculated to be 3.47 cfs, which accounted for 64 percent of the annual streamflow (Volume A-1, Hydrologic Section, p. 63).

The recharge area for the deep groundwater system has not been adequately identified.

Ground Water Quality - Inferences on groundwater quality were drawn from data collected almost entirely from springs. This is a result of a comparison of water quality data collected from the permit area springs, local mines, and a well, which indicated that the springs were indicators of the quality of the deep groundwater system of the area (Hydrologic Inventory Report, p. 88-89, Vo. A-1, Appendices).

Almost without exception, the groundwater in the area is of a strong calcium bicarbonate type. Although the quality of the deeper ground water is expected to be more uniform, the data show that three distinctive qualities of spring water can be found in the project area.

Springs issuing near the outcrop of the Castlegate Sandstone in the northwest corner of the project area have very low dissolved solids content (normally less than 100 milligrams per liter). This results from the lack of shalely layers in the Castlegate. Local conditions have probably resulted in the slightly higher concentration in the springs issuing in the headwaters of Eccles Canyon (dissolved solids concentrations between 300 and 350 milligrams per liter). Springs issuing over the remainder of the project area have dissolved solids content which generally varies from 180 to 260 milligrams per liter, averaging 220 milligrams per liter.

Water Use - Surface and groundwater rights in the general area are primarily for stockwatering and irrigation. Stockwatering rights are located almost entirely and directly on the streams. Irrigation rights are centered around the town of Scofield and in Flat Canyon (southwest of the permit area). Irrigated lands consist primarily of pasture. Only one spring in the northwest corner of the permit area has a filed water right. A flow of 0.022 cfs, between July 1 and September 30, is allocated to the U.S. Forest Service.

In addition to surface water runoff, the portal area pond will also receive water discharge from the mine. This water will normally be routed to a storage tank for eventual return to the mines for dust control. In the event the tank is full, the pond will receive the mine water.

C. Evaluation of Compliance

Additional information was received after several of the sections in "Hydrologic Balance" were written. Sections with revisions are noted with an asterick ("*"). Revisions can be found in Section D and E (Revisions to Applicant's Proposal and Re-evaluation of Compliance, pp. 25-26).

817.42 Hydrologic Balance: Water Quality Standards and Effluent Limitations

All surface drainage from disturbed areas will be passed through sedimentation ponds as shown on "Portal Surface Facilities Rough Grading and Drainage Plan" and "Coal Storage and R/R Facilities Grading and Drainage Plan" (Map 3-42 and 3-44, respectively).

Ponds will be constructed in the specified locations prior to surface disturbance. Discharge from the ponds will meet applicable effluent limitations. Both sedimentation ponds are designed to detain runoff from a 10-year, 24-hour precipitation event.

Summary: Will Comply.

817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Groundwater Flow, and Ephemeral Streams

The applicant proposes to use diversion ditches, trapazoidal and V-shaped, to divert overland flow around the disturbed areas of Eccles Creek. Typical cross sectional drawings are provided on Map 3-12A (Drawing 111-C).

Mine Site Diversion Channels - The applicant states that the mine site diversion channels will be designed and constructed to carry the peak flow resulting from 100-year, 24-hour precipitation event. However, the 10-year, 24-hour event is given. It is given to be 1.55 inches, which does not correspond to other 10-year, 24-hour events in the Mine Plan. Surface runoff and peak flow figures are given with no substantial or direct references. (Page 4-66 Mine Plan). Also, no drainage area map was given.

Water Quality - The quality of surface water in the headwaters region is excelent, with total dissolved solids (TDS) concentrations normally varying between 100 to 400 milligrams per liter. However, this quality deteriorates rapidly as the streams cross the saline Mancos Shale downstream and receive irrigation return flows from Mancos-derived soils. TDS concentrations in the Price and San Rafael Rivers, near their confluence with the Green River, generally vary between 1500 and 4000 miligrams per liter (mg/l). Sediment yields in the two basins experience similar geographic variations, with the bulk of the sediment yielded at the mouths of the two major rivers coming from those areas which are underlain by the highly erodable Mancos Shale.

In the Skyline project area itself, the surface water quality is of a calcium bicarbonate type. Total dissolved solids (TDS) range in concentration from less than 100 mg/l in Huntington Creek during high flow conditions induced by spring snowmelts to greater than 500 mg/l in Pleasant Valley Creek during low flow conditions.

As with the TDS concentrations, total suspended solids (TSS) concentrations vary with the flow rate. As an example, Eccles Canyon has shown natural TSS concentrations of 178 mg/l and 7.7 mg/l at two sampling sites during the period of April through June. During the period of October through December, these same two sites had TSS concentrations of 11.0 mg/l and 6.7 mg/l, respectively. TSS concentrations ranged from 40 mg/l to 226 mg/l in the Huntington Creek Basin.

The pH tends to be rather constant in the surface waters, normally varying between 7.5 and 8.5. Total iron measurements varied in concentrations from less than .01 mg/l to 5.84 mg/l. Higher concentrations were related to higher stream flows. This is due to the association of iron with sediment. Dissolved iron was one-fifth to one-tenth of the concurrent total iron concentration. Total manganese concentrations ranged from .02 mg/l to 0.6 mg/l. No seasonal variations were noted for dissolved iron or total manganese.

Most all surface streams in the permit area have been classified by Utah Division of Health as:

1C protected for domestic use with prior treatment process;

3A protected for cold water aquatic life; and

4 protected for agricultural uses including stock watering.

Hydrologic Balance

A. Description of Existing Environment (Surface Water and Ground Water)

Surface Water - The Skyline Permit Area is located in the headwaters of the Price and San Rafael River Basins (see Figure 1), which are tributaries of the Green River. Within the Skyline project area, there are four perennial watershed: East Eccles Canyon, Green Canyon, Winter Quarters Canyon (all tributaries of Pleasant Valley Creek in the Price River Basin), and West Huntington Creek (a tributary of the San Rafael River). The site of the permit area is around 6400 acres of which approximately 4470 drains toward the San Rafael River via Huntington Creek. The drainage east of the divide flows primarily through Eccles Creek. The streams which compose these watersheds are perennial in nature (Volume 1, p. 2-33). Both the mine site (portal area) and the coal loadout basin area are in the Eccles Drainage basin. Channels draining the permit area form dendritic patterns, with stream channels of the area flowing in all four major directions. Slopes on the permit area are steep, averaging approximately 31 percent. The topography is somewhat rugged with elevations ranging from 8510 to 9655 feet above mean sea level. Dominant aspects are to the west in Huntington Creek basin and to the east in Price River basin. The landscape varies greatly, with more of the permit area covered with conifer and aspen vegetative communities.

The climate of the Skyline Mine Area is typical of subalpine areas in the central region of Utah. The average monthly temperatures range from 15°F in January to 60°F in July, with extreme temperatures of about -40°F and 80°F. Average annual precipitation is 25 to 30 inches, mostly in the form of snow from October through May, although 8 inches of rain is typical from May to September. Potential evaporation is less than 18 inches per year. Because of the climatological conditions in the area (high precipitation and low evapotranspiration which results in excess water), there are numerous water sources in the Skyline project area. Most of these are undeveloped springs, seeps, and streams. The one notably developed water body located partially in the project area is Electric Lake, a 31,200 acre-foot reservoir whose upstream tip covers a portion of (103 acres) the southwest corner of the project area in Huntington Creek. This reservoir is owned and operated by Utah Power and Light Company as a storage facility for water used at coal-fired power plants in Castle Valley.

Snowmelt is the primary source of water for the perennial streams in both the Huntington Creek and Price River Basins. As a result, flow volumes per unit area are high in the headwaters and low near the mouth of the basins.

Runoff from undisturbed areas surrounding the mine site will be fed into diversion channels. These channels will be triangular or trapezoidal. The applicant proposes to use sedimentation ponds to settle out suspended solids from the overland flow across the disturbed areas. Mine water encountered at the working face in the mine will be collected and pumped to impoundments located in each mine. The impoundments will allow solids to settle out. Mechanical equipment will be used to remove grease and oil before the water is used for dust suppression, or possibily pumped out of the mine. Any water pumped out of the mine will be further treated in the portal area sediment pond (pages 4-38, 4-41, Skyline Mine Plan). Control of the pH and heavy metal treatment will be provided if necessary (p. 3-42).

In addition to storm runoff treatment in sediment ponds, grease and oil skimmers in the mine, and oil and water separators in maintenance and cleaning areas, sanitary sewage will be treated by an extended aeration package plant. A containment pond for sewage effluent at the loadout facility will be constructed.

Ponds, Impoundments, Banks, Dams, Embankments

Two sedimentation ponds have been designed for the retention of surface water runoff, one for the portal area and one for the coal loadout area. Each retention pond has been designed to provide adequate volume for a theoretical 24-hour detention of runoff resulting from a 10-year, 24-hour precipitation event. The spillway risers for both ponds will be set at elevations such that the entire volume of runoff from the design event would be retained in the pond with no discharge providing that the water levels in each pond were at or below the sediment storage level prior to the storm. Each pond will be equipped with a dewatering value at the sediment storage level.

The ponds could also be maintained in an essentially full condition. In this situation, runoff from a precipitation event would replace previously clarified water.

Descriptions, maps, and cross sections of the structure and their locations are included in the mine plan, along with hydrologic information applicable to the design.

In addition to surface water runoff, the portal area pond will also receive water discharge from the mine. This water will normally be routed to a storage tank for eventual return to the mines for dust control. In the event the tank is full, the pond will receive the mine water.

C. Evaluation of Compliance

Additional information was received after several of the sections in "Hydrologic Balance" were written. Sections with revisions are noted with an asterick ("*"). Revisions can be found in Section D and E (Revisions to Applicant's Proposal and Re-evaluation of Compliance, pp. 25-26).

817.42 Hydrologic Balance: Water Quality Standards and Effluent Limitations

All surface drainage from disturbed areas will be passed through sedimentation ponds as shown on "Portal Surface Facilities Rough Grading and Drainage Plan" and "Coal Storage and R/R Facilities Grading and Drainage Plan" (Map 3-42 and 3-44, respectively).

Ponds will be constructed in the specified locations prior to surface disturbance. Discharge from the ponds will meet applicable effluent limitations. Both sedimentation ponds are designed to detain runoff from a 10-year, 24-hour precipitation event.

Summary: Will Comply.

817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Groundwater Flow, and Ephemeral Streams

The applicant proposes to use diversion ditches, trapazoidal and V-shaped, to divert overland flow around the disturbed areas of Eccles Creek. Typical cross sectional drawings are provided on Map 3-12A (Drawing 111-C).

Mine Site Diversion Channels - The applicant states that the mine site diversion channels will be designed and constructed to carry the peak flow resulting from 100-year, 24-hour precipitation event. However, the 10-year, 24-hour event is given. It is given to be 1.55 inches, which does not correspond to other 10-year, 24-hour events in the Mine Plan. Surface runoff and peak flow figures are given with no substantial or direct references. (Page 4-66 Mine Plan). Also, no drainage area map was given.

Coal Storage Diversion Channel - The same comments apply to this design as in the previous design of the Mine Site Diversion Channels.

Summary: It is unknown as to whether this section is in compliance until more detailed information is submitted.

* 817.44 Hydrolgic Balance: Stream Channel Diversions

Stream Channel Diversion - There will be stream channel diversions at both the portal area and the coal loadout area. Section 4.19 of the Mine Plan discusses these diversions in detail. The designs of the stream diversion systems are predicted on the surface water hydrology, specifically surface runoff and drainage characteristics, of the contributing area. The average annual flow is less than 5 cfs; therefore, a Corp of Engineers 404 permit is not necessary. A brief analysis of the information presented in the Mine Plan is given below:

Mine Site Stream Diversion - (Page 4-65 Mine Plan)

1. Identify method used. The applicant does not identify the method used to size the diversion system.

2. Assumptions inherent in method. Assumptions cannot be identified since the method is not clear.

3. Review data. The combined drainage area is 820 acres (p. 4-65). The precipitation from a 100-year, 24-hour storm is 2.25 inches. Surface runoff would be 0.12 inches.

4. Check data. Page 12 of the Hydrology Report in the Mine Plan states that 1,820 acres drain on the surface primarily to Eccles Creek. The drainage area is total, or for each of the three tributaries cannot be checked on maps. The 100-year, 24-hour precipitation event is said to be 3.6 inches in the Sediment Pond Design Description.

5. Describe applicant's method. Apparently the applicant determined a peak flow of 130 cfs from the data presented above and sized the single 72 inches culvert. It is not clear how each of the three smaller culverts were sized, nor how the peak flow was determined. Only results are given.

6. Identify problems. There is a complete lack of documentation and the data presented is not consistent with any other data presented in the mine plan.

Since the respective drainage areas for each of the three tributaries are not given, the culvert sizing cannot be adequately checked. However, the main culvert (72 inch diameter) can be checked since the drainage area is known and the peak flow has been estimated.

Using Mannings Equation and the data supplied in Map 3-14 (Drawing 114-C) the main culvert can pass 422 cfs which is sufficiently greater than the applicant's peak flow estimate of 130 cfs.

$$V = \frac{1.486}{n} \times r^{2/3} \times s^{1/2}$$

where $n = 0.021$ (SCS Engineering Field Manual)

$$r = \frac{d}{4} = 1.5$$

$V = 14.95$ fps

$Q = AV = (28.27\ ft^2)\ (14.95\ fps) = 422$ cfs

Loadout Stream Diversion

1. Identify method used. The method is not identified by the applicant.

2. Assumptions inherent in method. Assumptions cannot be determined.

3. Review data. 1,500 feet of stream channel must be relocated. The new channel is designed for the 100-year, 24-hour precipitation event. The peak flow will be 190 cfs.

4. Check data. The only data presented which can be checked is the stream length of 1,500 feet. Measurements taken from Map 3-44 check out.

B. Description of Applicant's Proposal (Surface Water)

General

The construction/installation of surface facilities at the mine site, loading area, as well as the mine access road and conveyor belt route during the first five years of operation will disturb 74.8 acres. During the second five years of operation 1.0 acres will be disturbed for the construction/installation of a ventilation shaft. A total of 75.8 surface acres will be distrubed during the life of mine.

Diversions

The applicant, Coastal States Energy Company and Getty Mineral Resources Company, has designed stream diversions at both the mine site area and the coal loadout area. The confluence area of the three tributaries of Eccles Creek form a crowsfoot drainage pattern at the mine site. One tributary extends in a northerly direction, the second in a northwesterly direction and the third southwesterly direction. To ensure that the water quality of these streams will not be degraded as a result of mine facilities operation, the stream flow will be diverted into corrugated metal pipe (CMP) culverts located under the mine benches.

These culverts are designed to pass the peak runoff of a 100-year, 24 hour precipitation event. The combined drainage area is 820 acres. Twenty feet of upstream area will be riprapped. A pool structure will be constructed immediately downstream of the outlet structure. Following completion of mining activities, the culverts will be removed and the stream channel bed will be restored.

In order to provide sufficient area for coal storage facilities at the mouth of Eccles Canyon, approximately 1,200 feet of stream channel will be displaced to the north, next to the Canyon road. It is designed to handle the 100-year, 24-hour precipitation event. The stream channel will be constructed with meanders. The resulting stream will be slightly shorter in length and have a slight increase in vertical drop.

Three main tributaries merge to form the Eccles Creek within the 36 acre mine site. The applicant proposes to divert these streams under the bench facilities through a system of large diameter culverts. The culverts have been designed to carry the peak runoff from a 100-year, 24-hour precipitation event (Skyline Mine Plan, p. 3-39, p. 4-65).

5. Describe applicant's method. Based on information contained on Maps 3-44 (Drawing 3-201-C) and 3-14 (Drawing 114-C) the applicant designed a channel to:

a) Pass 190 cfs peak flow from a 100-year, 24-hour precipitation event. It is unknown as to how peak flow was determined.

b) Maintain a channel length close to the original. It is unclear as to what the diversion length would be. Map 3-14 shows a channel length decrease of 400-feet (from 1,800 feet to 1,400 feet in length); Map 3-9A shows a diversion length of approximately 1,050 feet; while the discussion on page 4-67 states that the original stream channel is 600 feet long compared to the new channel of 500 feet. The applicant must submit a map of adequate scale (i.e. 1 inch = 100 feet) showing the location and length of the premining channel as compared to the diversion.

c) Maintain an elevational change close to the original. The applicant states on page 4-67 that the stream gradient will be changed from 0.024 to 0.027.

d) Riparian vegetation will be re-established on the banks of the stream.

6. Re-evaluate by applying Mannings Equation to the suggested channel configuration shown in Map 3-14, the following calculations were made at bank full stage:

$$Q = \frac{1.486}{n} A r^{2/3} x s^{1/2}$$

n = 0.045 (Page 14-27, SCS Engineering Field Man.)

r = 3.7 (Calculated from Map 3-14)

$r^{2/3} = 2.39$

A = 43.5

s = 0.027 (Page 4-67 Mine Plan)

$$Q = \frac{1.486}{0.045} (43.5) \quad (2.39) \quad (0.027)^{-1/2}$$

= 564 cfs

The channel should be able to carry the peak flow resulting from the 100-year, 24-hour precipitation event. However, before OSM can determine adequacy with this section, a revised diversion plan must be submitted and approved correcting the deficiencies discussed in this section.

Summary: It is impossible for OSM to evaluate the effectiveness of the stream diversions method of calculation used to determine the peak runoff values. If adequate information is provided to justify the proposed sizing of the diversions, this section will be in compliance. If the information suggests a need for modification of the size of the diversions, this stipulation will be modified.

817.45 Hydrologic Balance: Sediment Control Measures

The applicant has designed several sediment control measures into the overall drainage control plan.

1. Both disturbed areas - mine site and coal loadout - will have runoff diversion ditches constructed upstream to prevent runoff from entering the disturbed area. (Futher evaluation is provided in Section 817.43 of this report).

2. The CMP stream diversion system for the portal area will include riprapped sections upstream from the culverts and settling, energy-dissipating pools downstream.

3. Mine drainage will be treated by septic tanks and in underground storage and to settle solids and remove oil and grease.

4. Diversion ditches will be riprapped and/or vegetated.

5. All sediment generated in the disturbed area will be kept within that area.

6. The mine access road will be surfaced with asphaltic concrete; however, no plans are presented for control of sediment coming off the cut/fill faces of the mine access road nor the water tank access road. (See Revegetation).

817.46 Hydrologic Balance: Sedimentation Ponds

Two sedimentation ponds for surface water runoff are proposed by the applicant: one for the portal area and one for loadout and railroad facilities. Both sedimentation ponds are scheduled to be constructed prior to disturbance of the undisturbed area to be drained into the pond. They will be located in the disturbed areas adjacent to Eccles Creek. The size of these ponds have been checked (see below) by OSM and were found to be adequate.

Portal Area Pond Criteria

	Attached Design Description
Disturbed Area	36 acres
10-yr., 24-hr. precip. event	2.4 inches
10-yr., 24-hr. runoff	1.44 inches
Runoff Volume	188,200 cu. ft. (4.32 acre-feet)
Sediment Volume	156,800 cu. ft. (3.60 acre-feet)
Underground mine water volume	0 cu. ft.
Total Volumes	345,000 cu. ft. (7.92 acre-feet)

Load Area Pond Criteria

	Attached Design Description
Disturbed Area	5.3 acre
Runoff Depth	1.44 inches
Runoff Volume	27,700 cu. ft. (0.64 acre-feet)
Sediment Volume	23,100 cu. ft. (0.53 acre-feet)
Total Volume	50,800 cu. ft. (1.17 acre-feet)

Sediment Storage Volume

A sediment storage was obtained by multiplying the number of contributing disturbed areas by 0.1 acre-foot. All calculations were checked and were found to be accurate. Also, most areas of the portal bench will be surfaced with either black-top or coarse material. This will reduce the amount of sediment that would be picked up during rainstorms or melting snow conditions.

Detention Time

Both sedimentation ponds are designed for total containment of the runoff resulting from a 10-year, 24-hour precipitation event. Each pond is provided with a dewatering valve located just above the sediment storage level to provide discharge of the storm water after sufficient detention time.

Runoff storage volume was calculated using the SCS Curve Number method. A curve number value of 90 was used for all disturbed lands. Runoff volumes in the portal reservoir does not include estimated contributions from mine dewatering or discharge from the septic tanks. Both of these flows are estimated to be small amounts (an estimated gallons per minute or in 24-hours for mine discharge) and sporadic. Because of the conservative nature that the sediment storage volume was calculated (0.1 acre foot of storage volume per acre of disturbed land), the total storage volume is adequate.

All calculations used in determining runoff storage volumes were checked and were found to be correct. Although no runoff predicting method was cited, the format and values used allows for assuming that the SCS curve number method was used.

* Dewatering

A gated spillway is used to control the principle spillway. As viewed on the design sketches (Map 3-43 and 3-45), the control valve cannot be reached when the pond is filled to the design volume. Therefore, applicant must demonstrate access to the valve or the valve must be relocated to an area that is accessible when the pond is full.

Short Circuiting

Ponds are designed with inlets and outlets on opposite ends to minimize any potential short circuiting. Length/width ratios for the sedimentation ponds associated with the portal and the loadout are approximately 4:1 and 2:1, respectively.

Sediment Removal

The applicant has committed to remove sediment when 60% of the design sediment storage volume is exceeded. (Vol. 1, p. 3-53).

Emergency Spillway

A combined principle/emergency riser type spillway will be used. The discharge risers at each pond will be equipped with a circular trash rack and oil barrier which will force the flow down under the barrier into spillway. The emergency spillway is designated to discharge runoff resulting from precipitation events up to the 100-year, 24-hour frequency. The portal area pond discharges into a 72-inch diameter corrugated steel pipe which carries the Eccles Creek drainage beneath the portal facilities. Discharge from the loadout area pond will be diverted into Eccles Creek. A rip-rapped section for both ponds along the pond embankment crest will be provided to prevent overtopping should the principle emergency spillway pipe become blocked during an extreme precipitation event.

Embankment Elevation

Freeboard is 2.4 and 25-feet for the portal area pond and the loadout pond, respectively. This exceeds the 1.0 foot requirements.

Dam Settlement

5% settlement allowance has been made for all sedimentation ponds (Vol. 2, p. 3-25).

Embankment Width

The portal area pond will be dug into the ground; therefore, an embankment width is not applicable. The loadout area pond will have an eight-foot top width. Using the equation (H + 35)/5, where H=8-feet, a required top width is 8.6 feet. A stability analyses has shown that the embankment will be stable with an 8-foot top width; therefore, a top width of 8-feet is sufficient.

* Embankment Slopes

Since the portal area pond is dugout, the side slope requirement is not applicable. The loadout area pond will have both inside slopes and outside slopes at 2h:1v. This does not meet the requirements of Section 817.46(m).

Embankment Foundation

To eliminate in-fill or soil materials a three-foot thick blanket of selected materials having a seepage rate of not more than 10^{-4} cm/sec. will be placed at both ponds (Vol. 3, p. 4-52d). The ponds will be constructed in the existing soil with the excavated material used for the pond embankments.

20 Acre-Foot Capacity

The portal area pond will be dugout completely below the ground level. The loadout pond will have a storage capacity of 1.17 acre-feet and a dam height of eight-feet; therefore, this section is not applicable for either pond. However, 36-inch seepage barriers are being used at both ponds. Although this is not a deficiency, it should be pointed out that the discharge pipe out of the portal area pond is 30-inches in diameter. A 36-inch seepage barrier will have limited effectiveness.

Registered Engineer and Inspection of Temporary Impoundments

Sedimentation ponds were designed by a professional engineer registered in the State of Utah (Maps 3-43 and 3-45). Although inspection schedules are not specified, commitment to MSHA regulations by the applicant should serve as compliance of 817.46(r) and (t).

Sedimentation Pond Removal

Following cessation of mining operations, the sedimentation pond will remain until the mine site is revegetated, stabilized and surface runoff is demonstrated to meet the applicable water quality standards. After these conditions have been met, the water will be permanently diverted from the pond and the residual water in the pond allowed to evaporate. The pond will be backfilled with topsoil and revegetated following total water evaporation and bottom sediment stabilization (Vol 2. p. 3-53).

Summary: The embankment slopes of the loadout area sedimentation pond must either be shown to be stable (when saturated) at a 2h:lv slope or modified to come into compliance with 817.46(m). The applicant must demonstrate access to the dewatering value to be in compliance with 817.46(d).

817.47 Hydrologic Balance: Discharge Structures

Culvert outlets from each of the two sediment ponds and from the major drainage culvert will consist of 12 inch concrete head walls, minimum six feet deep pools and 15 feet long, side slopes of 1:1 and riprapped all round. See Culvert Outlet Detail 4, Map 3-12A (Drawing 111-C) for details.

Runoff diversion ditches will also discharge to Eccles Creek. At the point of confluence, riprap will be used to reduce the velocity when scouring of Eccles Creek. See Maps 8-42, 3-44, and 3-8 for locations of these structures.

Summary: Will comply.

817.48 Hydrologic Balance: Acid-Forming and Toxic-Forming Materials

The applicant does not anticipate encountering any acid-forming and/or toxic-forming materials during mining. A stipulation under Geology requires analyses of additional core data to determine acid-forming and/or toxic-forming material. Based on the proposed mine water and surface runoff water treatment facilities water will be detained and treated prior to discharge.

The applicant has stated that adjacent underground mines have not encounted acid or toxic mine drainage (Response to OSM question Number 9.)

Summary: If the information is submitted as required under Geology, will comply.

817.49 Hydrologic Balance: Permanent and Temporary Impoundments

There will not be any permanent impoundments associated with the proposed Skyline facilities. The only temporary impoundments will be the two sedimentation ponds.

The evaluation of compliance is in Section 817.46 of this report.

All perimeter interior slopes will be no greater than 2 (horizontal): 1 (vertical) except along the north side of the portal area pond where the slope will be 1:1. In this area, rock will be exposed which should provide sufficient slope stability (Skyline Project Sedimentation Ponds Design Description, p.4).

The applicant states that only minimum maintenance will be required beyond the sediment removal requirements (Skyline Mine Plan, p. 3-53).

Embankment slopes will be stabalized through revegetation (Skyline Mine Plan, p. 3-53).

Summary: See Section 817.46.

817.54 Hydrologic Balance: Water Rights and Replacement

The applicant has identified potentially affected water rights, (Page 2-40, Skyline Mine Plan) as being almost entirely and directly on the streams for stock watering. Only one spring in the permit area has a field water right.

The applicant owns 248 acre-feet of water rights in the Scofield Reservoir. Water right exchanges have been and will be made for rights from wells to be located in the permit area. (Page 4-34, Skyline Mine Plan). A 30 acre-feet exchange has been approved and a 118 acre-feet exchange is pending. The applicant states that water will be replaced if necessary.

In regards to two springs located adjacent to the northeast corner of the lease area and in response to OSM's ACR comment No. 6, the applicant states that if underground mining by Coastal States is determined to have materially damaged rights associated with these springs, Coastal States will make appropriate reconciliatory action. If necessary, Coastal States will construct a pipeline and pump a comparable flow of water from the portal area to the springs.

Mining related subsidence may result in the interruption of flows from several perennial springs and the Electric Lake Reservoir. A stipulation, presented in the discussion about subsidence, specifies a revised mine plan complying with the buffer zone requirements of 30 CFR 817.126. The revision shall reflect that there will be no mining under or at a 30-day degree (from vertical) angle of draw which would influence either Upper Huntington Creek or the high-water level of Electric Lake Reservoir. This stipulation protects the integrity of these surface water bodies and their related water rights.

Summary: Will comply.

817.55 Hydrologic Balance: Discharge of Water into an Underground Mine

There is no reference through the mine plan to discharging water into any underground mine workings. Surface runoff will be controlled on the surface and discharged to surface waters. Underground water encountered during mining will be treated and used in the mine, and pumped to the surface when necessary.

Summary: Will comply.

817.56 Hydrologic Balance: Postmining Rehabilitation of Sedimentation Ponds, Diversions, Impoundments, and Treatment Facilities.

Following cessation of mining operations, the sedimentation pond will remain until the mine site is revegetated, stabilized and surface water is demonstrated to meet applicable water quality standards. After these conditions have been met, the water will be permanently diverted from the pond and the residual water in the pond allowed to evaporate. The pond will be backfilled with topsoil and revegetated following total water evaporation and bottom sediment stabilization. (Page 3-53, Skyline Mine Plan).

The same procedure will be followed for postmining rehabilitation of the coal loadout area sediment pond. (Page 3-53, Skyline Mine Plan).

Summary: Will comply.

817.57 Hydrologic balance: Stream Buffer Zones

Because of the steep topography associated with the Skyline permit area, all surface mining activities will be located wihtin 100-feet of Eccles Creek which is a perennial stream. Surface mining activities can be divided into three major areas of disturbance, the portal, road/conveyor system and loadout/railroad facilities. A variance can be given of the 100-foot requirement only if during and after mining the water quantity and quality from the steam section within 100-feet of the surface mining activities is not adversely affected.

The major concern over water quality is the additional contributions of suspended sediment that may be produced during construction. The applicant had developed their own "Earthwork Phase Construction Plan-Water Quality Protection Plan." March, 1980. This document details the timing of construction and sediment control measures to be taken during construction. OSM has reviewed this document and had found that there are adequate controls to protect water quality (i.e., additional contributions of suspended sediment). No stream water will be used during mining activities. Since no consumptive use of water is planned, no adverse impact on water quantity will occur. Therefore, the variance from the 100-foot requriement is given for the planned activities. A detailed examination of the sediment control from the three major areas of disturbance is given below.

Portal Area

Construction activities in the portal area include construction of minor diversions, stream diversions, the portal bench; a sedimentation pond; shop facilities, and coal transport facilities. The first two actions will be the minor diversion channels and the stream diversion.

Minor diversion construction

These channels will be slightly above the disturbed area so as to effectively collect runoff. This operation is expected to last approximately 90 days. The diversion channels will be inspected routinely especially after each storm. The channels will be cleaned and repaired as needed. Minor diversion channels were checked for engineering adequacy in Section 817.43.

Stream diversion

The portal area is located at the confluence of the three tributaries of Eccles Creek. One tributary extends in a northerly direction, the second in a northwesterly direction, and the third in a southwesterly direction. All stream flow will be diverted into corrugated metal pipe culverts which are proposed to be located under the mine benches (see 817.44 Hydrologic Balance Stream Diversions). A total of 3800-feet of Eccles Creek will be diverted into this underground culvert system. The culverts have more than adequate capacity to safely pass the peak runoff of a 100-year, 24-hour rainstorm. Each culvert will have adequate space even if ice accumulates inside the culverts during the winter months.

The diversion will be carried out prior to most earthwork activities in order to prevent contaminants from entering the stream during and after earth-work. Stream enclosure operations expecially will be watched and monitered closely. Appropriate sediment traps will be installed.

The first step in creating the diversion channel will be to prepare a strip of ground parallel to each existing stream segment to receive the culvert. This preparaton may include grading and placement of a base material. In most cases adequate distance has been allowed between the planned diversion location and the stream to prevent direct involvement with the stream. This activity will be closely supervised and assessed in terms of turbidity and sediment trap placement.

Upon completion of culvert placement, the stream will be diverted into the culvert for the duration of construction and operation periods. After the stream has been diverted into the new culverts, rock will be placed in the old channel bed, thus permitting the old stream channel to handle subsurface flow. Once the benches are formed on top of the culverts, these rock drains will prevent the fill from becoming saturated.

The rock used in the old channel bed will be taken from the portal area and must be removed in any event. Rock stockpiling activities will occur at the same time as the diversion work so that the rock will be ready when it is needed.

It will require a two-month period, to install the stream diversion system and prepare the lower bench before construction of the sedimentation pond. During this early construction phase, temporary sediment control will consist of log, pole, or stone check dams, straw bales or sediment basin traps. All sediment control measures will be manually cleaned out (Water Quality Protection Plan, Drawing No. 4).

Road/Conveyor System

Current access to the portal area is by 2.6 miles of county road. At present, the lower part Eccles Canyon Road has been improved for about 1.2 miles. The applicant proposes to further improve the entire 2.6 miles of road, and construct a conveyor line next to the road. Due to the steep topography in the Eccles Drainage, the applicant proposed to cut into the hillslope to

provide the room needed for both the road and the conveyor. According to maps 2-101-C through 2-109-C dated 3/80, approximately 2100-feet of the road (in four separate reaches) will have fill material on being located on the stream side of the road. In all these reaches, the toe of the fill is greater than 15-feet away from the centerline of Eccles Creek. Eccles Creek has a predicted peak runoff resulting from the 100-year, 24-hour rainfall of 25.7 cfs (at the mouth of Eccles Canyon). Therefore, these three fills will be well out of the 100-year floodplain of Eccles Creek. Also, all fill slopes are to be revegetated at the earliest possible available growing season (See Revegetation).

Map 2-10-C shows the toe of the fill located within five feet the center-line of Eccles Creek. A site visit by an OSM staff personal (John Nadolski, 6/10/80), confirmed that the stream had moved its channel away from the road. The stream is 42-feet from the toe of the present road fill. An estimated 17-feet of fill is needed to straighten the road in this section.

All road construction will be performed during the low flow periods. Sediment control will include straw bales and log or rock dams. All sediment control devices will manually be cleaned out. Earthwork Phase Construction Plan-Water Quality Protection Plan). Bin walls will be used where road modificaton swill be close to the stream channel. Rip rap will be used to stabalize the toe of the slope, where needed. Combined, these methods are adequate controls to protect surface water quality during construction.

Loadout/Railroad Facilities

The only proposed facilities located with 100-feet of Eccles Creek will be the silo bench and the sedimentation pond. Both of these facilities are located out of the 100-year flood plain and should not adversely affect water quality.

Summary: Will Comply

D. Revisions to Applicant's Proposal

On June 3, 1980, the Coastal States Energy Co. submitted additional information to update the mine plan.

E. Evaluation of Compliance of Revision

817.43 Hydrologic Balance: Diversions and Coinveyance of Overland Flow, Shallow Groundwater Flow, and Ephemeral Streams

The mine site diversion channel and the loadout diversion channel were designed to safely convey 23 cfs and 35 cfs, respectively. Information submitted in "Determination of the 100-year Flood Plain of Eccles Creek and Mud Creek "(May, 1980) show that previous peak flow estimates were conservatively high. Therefore, the diversion channels are adequate.

Summary: Will Comply

817.44 Hydrologic Balance: Stream Channel Diversions

Revisions were submitted in "Determination of the 100-year Flood Plain of Eccles Creek and Mud Creek" (May, 1980).

1. Identify method used. SCS-curve number method. Curve numbers of 40 and 52 were used for the 24 and six-hour storms respectively.

2. Assumptions inherent in method. The SCS-curve number method is the state-of-the-art for predicting peak rainfall runoff; however, snow melt runoff is difficult to predict. Most (70-90 percent) of the stream flow in mountain areas is the result of snow melt (Brown and Skavy, 1974).

3. Review data. Appropriate precipitation inputs were used. Also, an acceptable runoff hydrograph was used.

4. Check data. Calculations were checked and found to be accurate. The

The applicant has designed the stream diversion system very conservatively. OSM checked and verified that the coal storage stream diversion is correctly designed to prevent significant sediment deposition during low flows.

During a site visit by OSM personnel (John Nadolski, June 10,1980), it was noted that a USGS stream-flow gaging station had been installed near the site of the loadout facilities. A hydrologic technician (John D. Lehleitner, Morrison-Maierle, Inc, Farmington, New Mexico) was maintaining the station, and he informed OSM personnel that Eccles Creek had an instantaneous discharge (approximatley 2:00 P.M.) of 32.6 cfs. The stream was at bank-full conditions. This reading conflicts with the predicted 100-year, 24-hour peak runoff estimate of 22.2 cfs (Determination of the 100-year Flood Plain of Eccles Crek and Mud Creek; May, 1980).

The portal stream diversion and loadout stream diversion were currently designed to safely convey 130 and 190 cfs, respectively. Because of the conservative nature in which these diversion were designed, OSM agrees that the sizing is adequate.

The Technical Analysis (Loadout Stream Diversion 5-b) discusses several discrepancies in the documentation of the stream diversion length. The applicant resubmitted a map of this stream diversion on June 3, 1980 (Determination of the 100-year Flood Plain of Eccles Creek and Mud Creek, Diagram 3-201-C). This map confirs that the original stream channel is 600-feet long compared to a new channel of 500-feet.

Summary: Will Comply

817.46 <u>Hydrologic Balance: Sedimentation Ponds</u>

d) The applicant will construct a walkway to provide access to the sedimentation ponds dewatering device control value (correspondence from Vernal J. Mortensen, Coastal States Energy Company, June 9, 1980).

m) The applicant has demonstrated that the embankment for the loadout sedimentation pond will be stable (factor of safety=2.0) with slopes at 2h:1v (correspondence from Vernal J. Mortensen, Coastal States Energy Company, June 9, 1980).

Summary: Will Comply.

F. Necessary Stipulations and Justifications

(None)

G. Summary of Compliance

H. Proposed Departmental Action

To approve.

I. Residual Environmental Impacts

Even with sediment control measures, construction activities will contribute additional suspended sediment to the streamflow. During mining activities, point sources of sediment may be the cut/fill slopes of the access road.

J. Alternatives to Proposed Action

Several alternative locations for the access road were considered. However, the steep topography, the colluvial material on the the north slope, and the landslide zones on the south slope restricted relocating the road. Because proposed access road is a modification to an existing road (with varing degrees of improvement), locating the road in another location would have caused more environmental harm.

B. Description of Applicant's Proposal (Ground Water)

1. Discussion of hydrology relationships are included in Section A and C. Out of the 6400 acres in the permit area, 4839.0 acres will be disturbed by underground mining during the life of the mining operations. The major movement of deep gound water is in a generally westerly direction in conformity with the westerly dip (Structral map, Plate 1). Locally the water may move along faults (Plates 5, and Surface Geology map in Response to ACR questions). As the result of this structural control many springs discharge on the east slopes of topographic slopes, from this discontinous sandstone strata underlain by perching strata of shale cropout. Relatively little hydraulic interconnection and movement in a vertical direction across strata may be expected because of the presence of relatively impermeable shale and shaly sandstone, below the coal zone, is the most productive aquifer. It will probably be the source of a proposed well supply in the portal area. In general, movement of ground water is slow because of relatively low

permeabilities. Presumably most recharge occurs at locations of up-dip outcrops of permeable sandstones. Average annual precipitation of 25 to 30 inches probably provides an excess of available water for recharge, thus probably assuring replacement of the small quantities of ground water that can be produced under the prevailing permeability conditions. The plentiful precipitation and apparent lack of soluble mineral constituents probably is responsible for the general high quality (less than 350 mg/l TDS) of natural ground and surface water.

2. The volume of spoil will be small. There are no plans for processing the coal; therefore, wastes are not planned to be placed in abandoned mine workings. Because of the apparent relatively good quality of the earth materials adjacent to the coal, the dilution and rapid runoff due to high precipitation, and the relatively low permeabilities of the surface materials, there appears to be little opportunity for ground water contamination from spoils stored on the surface.

3. Relatively little pumpage of ground water from the mine is expected, therefore, relatively little drawndown may be expected in the vicinity of the mine. Any cone or depression that might occur would probably dissipate rapidly after mining ceases.

4. Water supply for the underground operations will be from seepage into the mine. Relatively little water for surface needs will be pumped from a well.

5. Water will be treated in the mine by settling of solids, and removal of oil and grease, by use of a skimmer, before removal from the mine, into storage tanks from which it will be recycled to the mine for dust control or to the mine site sedimentation pond.

6. Sanitary sewage will be treated by a package treatment (24-hour retention) and a multi-media filter and recycled to the mine.

Evaluation of Pumping Tests

Drawdown and recovery tests were conducted at two different depths in a test well located in the proposed portal area (see map, Plate 7). The aquifer tests are described in Vol. A-1, pages 84-88, and briefly in Vol. 1, Section 2.3.4, page 2-29. Tests were run in the open hole at drilling depths of 200 feet (within the coal zone of the Blackhawk Formation, above the Aberdeen Sandstone) and 300 feet (at the bottom of the Blackhawk Formation, below the Aberdeen Sandstone. Comment: This perhaps should read "in" the Aberdeen Sandstone). Pumping test data are plotted in Figures 26 and 27.

At the 200 foot depth, transmissivites of 21.0 and 16.6 gallons per day per foot were calculated for the drawdown and recovery tests respectively.

Check Calculations: $T = \frac{264}{s} Q$ or t/t'

(Refer to Figs. 26 and 27 for Q, S and t/t')

$T = 264 \times 6.3$ = approx. 21.3 for drawdown test

$T = \frac{264 \times 6.3}{99 \text{ (approx)}}$ = approx. 16.8 for recovery test

At the 300 foot depth, transmissivities of 16.3 and 17.9 gallons per day per foot were calculated for drawdown and recovery test respectively.

Check calculation:

$T = \frac{264 \times 4.2}{68 \text{ (approx)}}$ = 16.3 (approx) for drawdown test

$T = \frac{264 \times 4.2}{62 \text{ (approx)}}$ = 17.9 (approx) for recovery test

The mine plan concludes: first, the low transmissivities and discharge rates indicate that the Blackhawk Formation is, at best, a poor aquifer; and second, there is not significant difference between the aquifer properties of the coal zone and those of the Aberdeen Sanstone. Thus, the Aberdeen cannot be considered a major water bearing zone.

The two conclusions appear to be essentially correct. There is a possibility that the above calculated transmissibity of the Blackhawk may be conservatively high (conservative relative to potentials for inflow of ground water into the mine workings from the Blackhawk Formation): the steepening of the slope (i.e., greater rate of drawdown) of the 200 feet depth curve on Fig. 26, after about 50 minutes of pumping, may indicate that the aquifer is of limited extent; accordingly, any calculations for the steeper slope part of the curve would show a smaller transmissivity than that calculated in the mine plan.

The applicant estimates that inflow to the mine will equal less than 10 gallons per minute per active face, with mine entries dry approximately 500 feet up-dip from the face. This rate could change significantly if the mine encounters a sandstone layer at the face of a displaced fault.

C. Evaluation of Compliance (Ground Water)

Additional information was received after several of the sections in "Hydrologic Balance" were written. Sections with revisions are noted with an asterick ("*"). Revisions can be found in Section D and E (Revisions to Applicant's Proposal and Re-evaluation of Compliance, pp. 41-42.

817.48 Hydrologic Balance: Acid-Forming and Toxic-Forming Spoil

See discussion of 817.48 under Surface Water.

817.50 Hydrologic Balance: Underground Mine Entry and Access Discharge

817.50(a) As stated in the mine plan the portal area will be substantial above the ground water table (Response to OCM ACR question No. 2). As shown on the map Attachment 1, "Updated Ground Water Piezometric Contour Map" the upper O'Conner seam is above the piezometric surface near Eccles Creek where the portal will be located, thereby, limiting the possibility of gravity discharge from the O'Conner seam. A negative slope of 4 percent (Vol. 3, Section 4.11.7, p. 4-41) should further limit discharge. Pumpage will discharge the water that may be encountered in the three mined seams, during the period of mining. Mine entries will be sealed to prevent or minimize postmining gravity discharge.

817.50(b) The mine plan does not indicate any need or plan for gravity discharge. If such a discharge were to be needed, it appears that such discharge could meet the requirements of 817.50(b). A NPDES permit will be acquired and monitoring of discharge will be done as required by permit (Vol. 1, p. 2-31). Chemical analytical data for water from the mine monitored springs, nearby O'Conner mine, Belena No. 1 Mine, and the Alpine School District well are present in Vol. A-1, Tables 15 and 16 (Pages 90 and 92) of Hydrologic Inventory. Discussions of the analyses presented on page 93 indicate that with some few exceptions each chemical parameter of these waters meet the state water quality standards for uses specified for water in the area. These waters also meet the minimum effluent limitations specified in 30 CFR Section 817.42. The high alkalinity, low acidity, and generally basic nature of these water (page 92) indicate that acid drainage problems should not develop as a result of the proposed mining. In general, the natural waters are of good quality, thus indicating no tendencies for poor quality water which might be aggravated by mining activities.

Summary: Complies with Section 817.50(a) and (b).

* 817.52 <u>Hydrologic Balance: Surface and Ground Water Monitoring</u>

1. Ground water monitoring information will be collected from springs, wells, mines, and streams. The monitoring program is described in Volume 1 of the mine plan, pages, 2-30 and 2-31, and in Volume A-1, pages 61, 80 and 88.

Water quality data will be collected each year during August from the springs, mines and a proposed water well in the portal area (Vol. 1, p. 2-30). Samples will be analyzed for parameters listed in Table 2.3-1 (Vol. 1, p. 2-31) or an approved abbreviated schedule (Vol. 1, p. 2-30).

Data from the springs will indicate the mining impact on the primary water source (i.e., springs for stock and wildlife watering). The nine springs that have been chosen for monitoring of ground water quality and quantity are shown on Plate 5. An inventory of springs and seeps on and immediately adjacent to the Skyline Property, was made in low-flow periods, September and October of

1978 and September of 1979 (Vol. A-1, p. 57). During these inventories the springs and seeps were located on a map (Plate 5), estimates of discharge were made, samples were collected, and the specific conductances and temperatures were determined. Certain samples, representatives of flow, quality and geographic variation over the property, were sent to the laboratory for analyses of calcium, magnesium, potassium, sodium, bacarbonate, chloride, sulfate, and TDS. These analyses are presented in Vol. A-1, Attachment C and summaries are shown diagramatically on the map, Plate 5.

Several general characteristics of the springs were observed: (a) many springs are on the west facing slopes (strata dip to west) at base of sandstones (perched on underlying shale); (b) the high location of some springs and the discontinuous nature of the sandstone indicates local sources of recharge, i.e., small surface depression on basin near the springs; (c) few springs are fault related (the bentonitic shale of the Blackhawk Formation that underlies most of the site area apparently seals faults and fractures); (d) travertine, found at springs, probably results from high calcium bicarbonate type of water being discharged and is not of deep seated origin, and (e) 30% of the sites were seeps, most flowed less than 2 gpm and only 4 flowed more than 10 gpm.

These springs are the sole source of ground water used in the site area. They are the water source for wildlife and sheep. Thus, the spring monitoring will provide indications of any mining impact on ground water supplies for these use.

The nine springs selected for monitoring, on the basis of flow, quality, and geographic situation, are listed in Table 10, page. 62. Specific characteristics of each spring which lead to its selection is also given. Priority in selection was given to developed and/or high flowing springs, where potential water supply impact might be greater. A list of parameters to be sampled can be found in Volume 1, Table 2.3-1.

Water level monitoring (Vol. 1, p. 2-30) will be conducted at each of the well sites shown on Plate 4 (Vol. A-1, Appendices). Well data also will be collected from the proposed water supply well in the portal area. The data collected from the wells (and mines also) will indicate impacts on the deep ground water system.

Water level data (in addition to water quality data, as described above) will be collected (Vol. 1, p. 2-30) during August for each of the wells (five) shown on Map Plate 4. These five locations were selected from among a number of coal exploration sites and converted to observation wells. At each site a 2-inch casing was installed into the Star Point Sandstone (at depth of 60-90 feet below the Lower O'Conner "A" seam, ref. geologic column, Figure 2, page 5, Vol. A-1) with the lower 20 feet being perforated, thus providing a measure of the piezometric head in the Star Point Sandstone, which is the most productive of the strata within the geologic column. A shallow hole was drilled nearby, normally above the coal zone, and a 2-inch casing, perforated over the lower 20 feet, was installed. Four of the shallow holes were drilled; a fifth one at deep-hole site W26-1 was not drilled, because of time limitation before USFS permit for drilling operations expired at the beginning of elk hunt.

These pairs of deep and shallow observation wells will provide a measure of vertical hydraulic gradient. If vertical flow should occur in the uncemented annular space outside the basing, the vertical gradient will be less. With sloughing of sidewall material and sealing of the annular space the head differences, if any, between the two perforated elevations will become more pronounced.

Surface Water

An ongoing hydrologic program will be conducted at 14 stream stations (9 in the Eccles Canyon Drainage Basin and 5 in the Huntington Creek Drainage Basin). Canyon surface water monitoring stations, will be continued on a seasonal basis (spring runoff, fall, and winter).

Table 1. ABBREVIATED WATER QUALITY ANALYTICAL SCHEDULE

Field Measurements	Laboratory Measurements	
Discharge	Ammonia (NH_3as N)	Phenol
pH	Bicarbonate	Phosphate (PO_4 as P)
Specific Conductance	Calcium	Potassium
Temperature, Air	Chloride	Sodium
Temperature, Water	Iron, Total	Sulfate
	Magnesium	Suspended Solids
	Manganese, Total	Total Dissolved Solids

The August sample will continue to be analyzed according to Table 2.

In addition to the annual comprehensive samples, stations in Eccles Canyon will be sampled monthly (when accessible) during construction and the first two years of operation. These samples will be analyzed for the parameters listed in the abbreviated schedule above. Following the first two years of mine operation, the frequency of sampling will be decreased to a seasonal basis.

Annual (August) samples are presently being collected on Huntington Creek. As mining progresses toward Huntington Creek (one year prior to any potential underground impact), seasonal samples will be collected from the five surface water monitoring stations in the basin.

As presented, the proposed water monitoring program does not adequately define the hydrologic system nor will the program define changes in the system. Problems are located basically in consideration of groundwater. As proposed, sampling of all wells and springs will be performed in August. An annual sample shows no seasonal variation nor is it likely to show any trends. The applicant must expand their monitoring to, at the minimum, seasonal. Also, the location of the springs do not include representatives along Valentine fault, Joes Valley fault, or O'Conner fault, Both of these faults have been defined by the applicant as possible conveyance structures or saturated zones, (Vol. A-1, p. 73 and p. 82). The applicant must expand their monitoring program to include respresentative sampling of these faults.

Aquifers below the coal are not adequately monitored at this time because, holes drilled to the lower Star Point formation they were not packed off to monitor only the lower aquifer. The data received from these holes do not provide adequate monitoring of water levels nor water quality in the Star Point sandstone aquifer.

There is a great potential for the mining operation to affect the Star Point sandstone aquifer when the mining intercepts the Valentine fault. The drill core shows that the fault provides a connection between the Blackhawk formation and the Star Point sandstone. During the drilling of the hole that penetrated the fault, ground water was being blown from the hole at a rate of approximately 110 gpm (Vol A-1, p.82). This drill hole produced significantly more water than any other hole drilled on the project. Because the fault is connected to a regional aquifer (the Star Point sandstone) there is a low potential for the mining operation to experience large groundwater inflows.

The Joes Valley fault in the southwest corner of the proposed mine plan area has not been evaluated with regard to the affect it may have on the mining operation.

Coastal States Energy must evauate the potential impacts of mining into the the Valentine and Joes Valley faults in consultation with the regulatory authorities. A program involving wells in and around the fault zones followed by pump tests to determine discharge rates and direction of perferred drawdowns associated with the Valentine and Joes Valley faults should be intiated. Following the initial evaluation of the fault zones, a monitoring scheme to document drawdowns on the Star Point sandstone should be presented to the regulatory authority. Following approval of the monitoring plan, properly packed and cased wells should be installed. Water levels should be monitored monthly and water quality should be sampled seasonally during the first year and annually thereafter.

The applicant must submit plans for the monitoring scheme by December 31, 1980.

Summary: If the applicant expands their water monitoring program and confirms the validity of the revised peizometric maps, will comply with Section 817.50(a) and (b).

817.51 Hydrologic Balance: Protection of Groundwater Recharge Capacity

Information evaluated by OSM indicates that there will be relatively little or no significant impact of the mining operations on groundwater quality or quantity used in or off the mine plan area. The shallow groundwater zone that supplies spring water for wildlife and stock watering (the only use on the site) is essentially isolated by the thick intervening series of relatively impermeable sandstone and shales above the coal strata. The high precipatation of about 30 inches per year (Vol. A-1, p. 10) in this area of high groundwater recharge should more than compensate for any minor water losses due to the mine. Possible as the result of the high precipitation, and continuing leaching of solubles and dilution, essentially all of the surface water and aquifer supplies reported in the area are of high quality (less than 500 ppm). Thus, recharge to and discharge from the mine should not be contaminating, nor should the mine operation add appreciable contaminants to the natural waters. Groundwater quality data will be submitted to the Utah Division of Oil, Gas, and Mining. An NPDES discharge permit will be obtained and all discharge will be monitored in accordance with the permit (Vol. 1, p. 2-32).

It appears that relatively little water will enter the mine because of the low vertical permeability of both the shale in the Blackhawk Formation that contains the three seams to be mined, and the Aberdeen Sandstone that underlies the lowermost of the three seams (Vol. A-1, Fig. 2, p.5); the relatively poor transmissive characteristics of the faults due to sealing action of shales; and the apparent discontinuous nature and/or poor recharge and storage charactersitics of the sandstone. Any water that enters the mine will be pumped to Eccles Creek.

Hansen (1979) reports that mines in the Wasatch Plateau coal field generally yield less than 10 gallons per minute, with drifts dry approximately 500-feet up-dip from the face. According to the applicant, this condition has been observed locally in the O'Conner and Belina No. 1 mines. When the mines encounter sandstone leases at the face of a fault, the inflow rate to the mine could substantially increase (on the order or 1,000 gallons per minute for a few weeks).

Groundwater contours are presented on the map, Plate 7, and indicate a general down-dip hydraulic gradient toward the west-southwest. This piezometric configuration has been updated (or revised) on the basis of water level information from additional measurement sites; the updated piezometric surfaces are presented on maps, Attachment 1, 3, and 4 (see Apparent Completeness Review Questions and Responses).

These updated configurations show a north-northwest trending piezometric high crossing the permit area, approximately coincident with the Emery-Carbon County line, which is on the topographic high or divide between the Eccles Creek and Hunginton Creek watersheds.

These coincidence of the topographic and piezometric surfaces might normally imply a cause-effect relation, such as recharge to the ground water zone along the topographic high (or conceivable the presence of a permeable high-angle fault along the trend of the topography high). In view of the apparent relative vertical impermeability of the Blackhawk Formation, even where faulted, which might be expected to preclude appreciable recharge from the surface to deeper zones, how can the piezometric high for the relatively deep aquifers (Attachments 3 and 4) be explained? It is possible that near surface water can enter and flow down the annular space of the wells and cause the water level in the hole to rise toward the shallow water ground water elevation? Is there a possibility that the original configuration of the ground water contours, Fall, 1979, shown on Plate 7, is an approximation of the true deep ground water piezometric surface, with a continuous southwesterly gradient?

The applicant should confirm the validity of the revised piezometric maps relative to the question presented above. Also, if warranted the applicant should discuss any appropriate remedial measures that are feasible from economic and other standpoints including possible self remediation due to expected closure of the annual spaces by expansion of shale derived clays around the casing.

Summary: Does not comply; however, if the stipulation under Water Monitoring (817.52) is followed, the needed information will be provided.

*817.53 Hydrologic Balance: Transfer of Wells

The applicant has not stated any plans to transfer an exploratory or monitoring well for future use as a water well.

Summary: Applicant must provide additional information.

817.54 Water Rights and Replacement

See discussion of 817.54 under Surface Water.

817.55 Hydrologic Balance: Discharge of Water into an Underground Mine

See discussion of 817.54 under Surface

817.13 Casing and Sealing of Drill Holes; General Requirements

The Appendix of Vol. A-5 of the mine plan contains an "application for approval of exploration plan" submitted to U.S. Geological Survey, August 31, 1978. The consequent "Approved Exploration Plan, 1979 Skyline Mines" describes plans for managing drill holes. Mine plan, Section 4.9 Opening and Sealing Plan, summarizes the approved plan for drill holes, and also discusses shafts and mine entries, as summarized below.

817.14 ~~B~~Casing and Sealing of Drilled Holes: Temporary

As specified in the approved drilling plan (ref. 816.13 above) all exploratory drilling holes upon abandonment were completely plugged from the bottom to the collar and the drill hole locations appropriately marked (Vol. 3, Sec. 4.9, p. 4-30) states that the shafts will be filed from the bottom to collar with non-combustible material and will be capped...in compliance with 30 CFR 75.1711-1. A typical cap is illustrated in Figure (map) 3-6C.

Seals will be installed in all entries (Vol. 3, Sec. 4.9, p. 4-30) as soon as the mining is completed and the mine is to be abandoned...in compliance with 30 CFR 75.1711.2.

Summary: Will comply.

817.15 Casing and Sealing of Drilled Holes: Permanent

All exploration holes will be sealed in a manner described in 817.14, except where left open as water-monitoring stations. At the end of mining, the water monitoring wells will be sealed in a manner similar to that described under 817.14.

Summary: Will Comply

D. Revision to Applicant's Proposal

On June 3, 1980 and on June 9, 1980, Coastal States Energy Company submitted additional information to update the mine plan.

E. Re-Evaluation of Compliance

817.52 Hydrologic Balance: Water Monitoring

The correspondence of June 3, 1980 confirmed several changes in the water monitoring stations and in the frequency of water monitoring.

Station Changes and Additions

The hydrologic monitoring stations are shown in Plate 4 of Volume A-1 of the Mine Plan. The following changes to the monitoring stations should be included with the plan; station 10-1 shall be replaced with U.S. Forest Service Station 93.5. Station 36-2 shall be replaced with the monitoring stations selected in the area of the coal outcrop (Section 24) in South Fork. Station 17-2 (Plate 6, Mine Plan), the "iron" spring near the mouth of Eccles Canyon, shall be added to the monitoring program. Station 35-8 (Plate 5, Mine Plan) shall be added to the monitoring program.

Change in Monitoring Frequency

All well water levels shall be measured seasonally rather than during August only as proposed in the Mine Plan.

Summary: Still does not adequately define the geohydrologic system; however, if the applicant expands their water monitoring program to include the fault system, will comply.

817.53 Hydrologic Balance: Transfer of Wells

In the June 9, 1980 correspondence, the applicant confirmed that there are no plans to transfer any exploratory or monitoring wells for use as a water well.

Summary: Will Comply

F. Proposed Special Stipulations with Justification

Coastal States Energy must evauate the potential impacts of mining into the the Valentine and Joes Valley faults in consultation with the regulatory authorities. A program involving wells in and around the fault zones followed by pump tests to determine discharge rates and direction of preferred drawdowns associated with the Valentine and Jose Valley faults should be intiated. Following the initial evaluation of the fault zones, a monitoring scheme to document drawdowns on the Star Point sandstone should be presented to the regulatory authority. Following approval of the monitoring plan, properly packed and cased wells should be installed. Water levels should be monitored monthly and water quality should be sampled seasonally during the first year and annually thereafter.

The applicant must submit this revised information, with annual summaries, by December 31, 1981.

The applicant will confirm

G. Summary of Compliance.

If the proposed stipulation is implemented this section will be in compliance.

H. Proposed Departmental Action

Approve mining plan based on implementation of the stipulation.

I. Residual Environmental Impacts of Proposed Departmental Action

Some change in the geologic structure, such as by subsidence and removal of coal will occur. Impacts include the possibility of dislocating isolated springs and seeps. Because of the very local recharge system, any dislocated spring or seep should re-establish itself within a few hundred feet of its former location. Fracturing should not cause a conduit connection between the mine and the land surface.

During mining approximately several hundred gallons per minute will be intercepted from the deep ground water flow. This ground water is presently either recharging Huntington Creek or some more westward drainage. The amount of intercepted water is not enough to disrupt the hydrologic balance in the former receiving basin or Eccles Canyon where the mine water is discharged. Mining should have little adverse influence on ground water quality.

J. Alternative to Proposed Action

A less stringent water monitoring plan was considered; however, due to the complex nature of the geohydrologic system and the fact that the deep ground water system is not well defined at this time, OSM considers the revised water monitoring program to be justified. Like all monitoring programs, a review of future data may indicate a need for revision of the monitoring (i.e., schedule, location, or parameters being test).

Coastal states Energy did not address the alluvial valley floor regulations any further than described in the preceeding narrative. The following discussion reflects OSM's attempt to analyse the potential for an AVF in the adjacent area of the proposed Skyline mining operation.

The mouth of the Eccles Creek Valley (approximately 23 acres) and large portions of the Huntington Creek Valley (approximately 145 acres) appear to meet the geomorphic criteria of AVF (streamlaid deposits of sufficient acreage) ~~to from).~~ The valleys of Eccles Creek and Huntington Creek are considered by OSM to be the two valleys that may be affected by the Skyline mining operations therefore these valleys are considered in the adjacent area of the proposed mine and it is appropriate to apply the criteria of sections 785.19 and 822 regarding AVF's to these valleys.

OSM contacted the SCS (James Nelson, Castle Dale; Utah,) the Forest Service (Dennis Kelly, hydrologist, Manti-LaSal National Forest, Price Utah); the SCS (Gary Moreau, Price, Utah); and the Utah Department of Natural Resources, Division of Oil, Gas, and Mining (Tom Suchoski) regarding the presence of flood irrigation practices in the region of the proposed Skyline Mine. Mr. Moreau identified some irrigation activities in Upper Huntington Valley; however, the general opinion from the persons that were questioned, was that the growing season was too short to justify extensive irrigated agricultural valleys. The hydrologic balance will not be affected for Huntington Creek (see Subsidence) during the first five years of mining.

OSM concludes that due to the short growing season in the vicinity of the proposed Skyline Mine and the total lack of farming practices in the area, the valleys of Huntington Creek and Eccles Creek are not alluvial valley floors.

Although the valleys of Eccles Creek and Huntington Creek have not been designated avf's damage to the hydrologic balance of the mine plan and adjacent area must be minimized and long term changes in that balance must be prevented. The reader is referred to sections 817.41-817.57 of this technical analyses for a discussion of the mines affect on the hydrologic balance.

Summary: Will Comply

785.19(c) Alluvial Valley Floors

The applicant has attempted to present precipitation and evaporation data for the area of the propose mine in order to demonstate that the area proposed to be disturbed by underground mining and associated facilities is not arid or semiarid. Section 785.19(c)(1) of the permanent program requires that alluvial valley floor regulations be applied to operations within a valley holding area includes any stream in arid or semiarid regions of the United States. Therefore, the applicant's intent was to demonstrate a water excess (i.e., that precipitation exceeds evapotranspiration) so that the AVF requirements would not have to be addressed. The approach used by the applicant did not account for monthly precipitation inputs versus-evaporation but rather locked at yearly totals. The use of moisture by plants during the growing season does not relate well to yearly total moisture balances expecially in an area such as the proposed mine site where most ofthe precipitation falls as snow.

The annual consumptive use by native riparian plants in the area varies form approximately 13 inches for riparian grasses (SCS-modified Blaney-Criddle method, p.4-85 Volume 3 of the mine application) to approximately 16.5 inches for silver sagebrush (from Stargess, 1977 p 4-85 Vol. 3 of the mine application). During 1978 2.5 and 1.75 inches of precipitation was measured at Scofield (el. 7720 ft.) and Scofield down (el. 7630 ft.) respectively (located in te vicinity of the mine el. 8,000-8,800H), during the growing season (May-September). Similarly the precipitation data colleted by Coastal States Energy Company at a meteorologicl station located near the proposed mine site, showed 3.77 inches of rainfall during the growing season (May-September). The on site data also demonstrates a moisture efficit during the growing season.

OSM concludes that the vicinity of the proposed Skyline mine is arid or semiarid due to moisture deficiencies in the growing season and it is appropriate to apply the alluvial valley floor criteria of sections 785.19 and 822.

783.14 Geology Description

A. Description of the Existing Environment

The proposed Skyline coal mine is about 23 miles northwest of Price, Utah, at the northern end of the Wasatch Plateau. The terrain is mountainous, and the proposed portal of the mine is at an elevation of approximately 8700 feet at

the head of Eccles Canyon. The coal deposits are in the Blackhawk Formation of the Mesa Verde Group (Upper Cretaceous). The beds dip gently westward and form the western flank of the Clear Creek Anticline. Several north-trending faults of apparently small displacement, the most presistent of which is the Valentine Fault, cut the area. The steep slopes on the east side of Huntington Creek north of Burnout Canyon and west of the Valentine Fault are dormant landslide areas.

Five coal seams exist within the lease area (See Fig. 2) three of which will be mined. The bottom seam, the Flat Canyon, is 0 to 11 feet thick, lies immediately below the Aberdenn Sandstone, and is not mined due to its limited continuity. The lowest seam to be mined, the Lower O'Conner A Seam, is 0 to 26 feet thick and lies directly on the Aberdeen Sandstone. It ranges between 1000 and 1800 feet in depth below the surface. Twenty to eighty feet above his seam is the 17-foot-thick Lower O'Connor B Seam, followed by the 19-foot-thick Upper O-Conner Seam, 100 feet higher. Finally, about 400 feet above this seam is the McKinnon Seam. Based on current information, this seam reaches a minable thickness only in the southweat area of the leasehold. Here it attains a maximum thickness of 8.2 feet.

B. Description of Applicant's Proposal

The applicant proposes to construct an underground coal mine designed to produce an estimated 5 million tons per year. Mining will extend throughout an area of about nine square miles. In addition to the underground mine, extensive surface facilities over approximately 76 areas will be required. These will consist of coal storage and other facilities at the mine portal, a conveyor belt in Eccles Canyon, and railroad loading facilities at the lower end of Eccles Canyon where it joins Pleasant Valley.

Geology of the lease area is well described in the application with maps and cross-sections, except for the several north-south trending faults mapped within the lease area are not described (i.e., magnitude of displacements, affected units) and conclusions regarding the possible effect of these displacements upon mining and reserve recovery are difficult to make.

C. Evaluation of Compliance

Additional information was received after several of the sections in "Geology" were written. Sections with revisions are noted with an asterick ("*"). Revisions can be found in Section D and E (Revisions to Applicant's Proposal and Re-evaluation of Compliance, pp. 49-50.

1. 783.14(a) Geology Description -- The mine plan includes a description and general statement of the geology within the proposed mine plan area down to and including the first aquifer to be affected below the lowest coal seam to

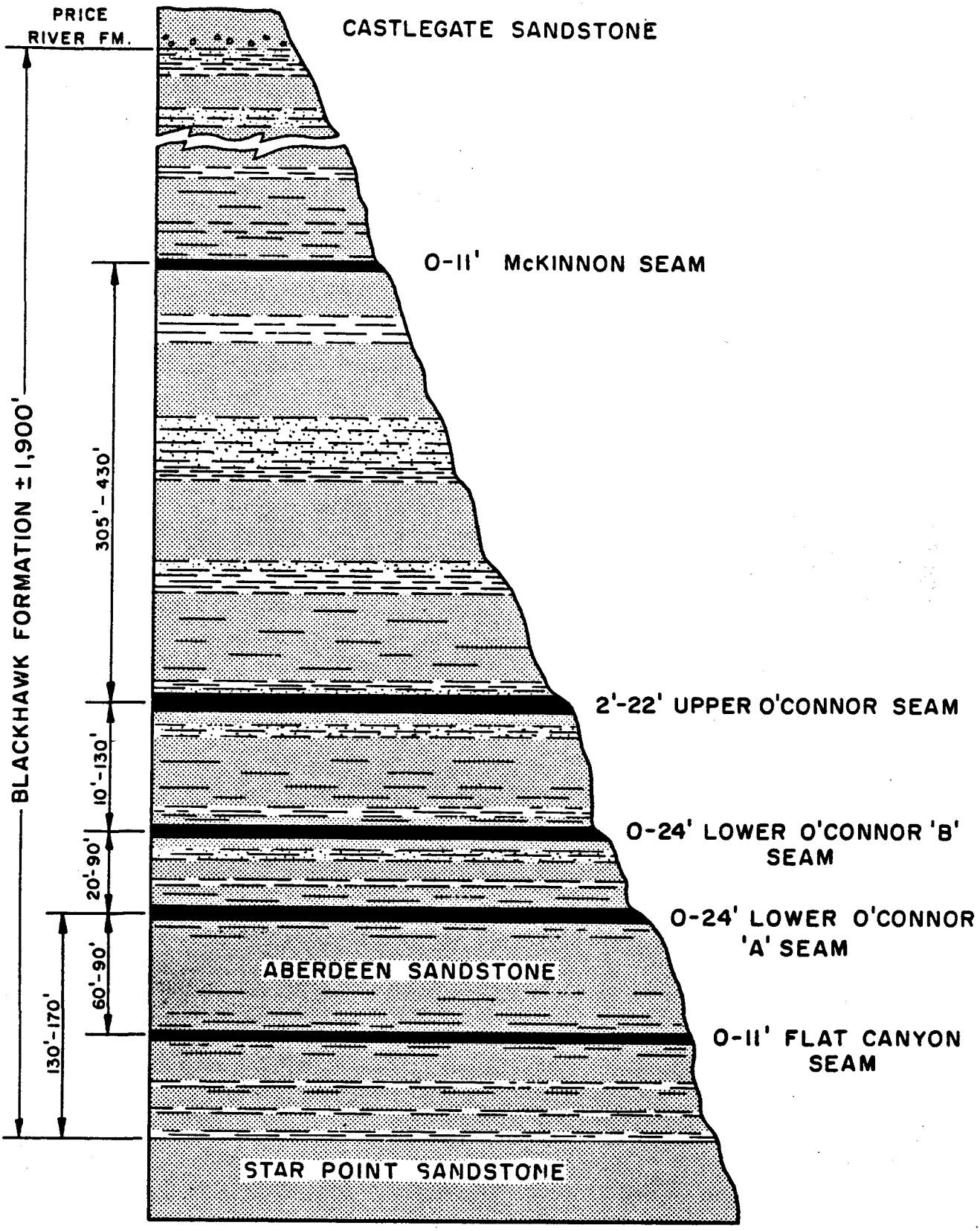

FIGURE 2 GENERALIZED COLUMNAR SECTION - ECCLES CANYON AREA

Applicant's maps and cross-sections adequately illustrate the structure and stratigraphy of the proposed mining area.

The major joint-set trends generally north-south with subsets trending generally east-west. Joints in the mine portal area are adequately described in the Dames and Moore geotechnical report and are plotted on the geologic map (volume A-1, plate 1).

The number and spacing of drill holes on the property is governed to a large extent by the mountainous terrain. Although drill holes are sparse in certain areas, the overall pattern of holes drilled on the property is regarded as adequate. Drill hole information, including collar elevations and lithologic description of coal seams and overburden, is regarded as adequate. Moreover, stratigraphic correlation between drill holes is good.

A more comprehensive and refined understanding of the faults and joint sets should develop as exploration continues during mining. Coastal States Energy Company has committed to a continuation of geologic investigations and evaluations (Vol. 1, p. 2-4) and compliance with 783.14(a) is partly achieved. Additional data regarding fault displacement and geometry and joint patterns should be discussed and submitted to the regulatory authority when it becomes available.

Summary: Applicant will comply.

2. 783.14(a)(2)(I) Location of Subsurface Water

Applicant has not adequately identified areas where water will be intercepted by face-up activities.

Compliance with 783.14(a) is partly achieved.

3. 783.14(a)(2)(I) Depth, Classification, and Geologic Structure of Overburden

Applicant's overburden maps, isopach maps, cross-sections, and descriptions of the lithology of Blackhawk Formation are sufficient for compliance.

Compliance with 783.14(a)(2)(I) is acheived.

4. 783.14(a)(2)(II) Pyritic Content and Potential Alkalinity of the Strata Immediately Above and Below the Coal Seams to be Mined, and the Clay Content

Pyritic content of the strata immediately above and below the coal seams to be mined is not addressed. The Dames and Moore geotechnical report states that various chemical tests were performed on representative rock samples from the floor and roof of strata immediately adjacent to the coal seams to be mined. These tests were preformed on rock samples from two holes in the mine portal area, and consisted of the following determinations: pH and alkalinity; percentage of water souble sulfates, bicarbonate, and carbonate; and total solids. Also, tests were made to determine the abundance of several trace elements and heavy minerals. Tests to determine electrical conductivity, sodium absorption ratio, Na, Ca, Mg, and S (org./inorg.) were not made and are needed.

The clay content of the strata immediately below the coal seams to be mined is not addressed but since the clay content in this zone ranges from nearly 0 to 100 percent, an analysis is not necessary.

Compliance with 783.14(a)(2)(III) is not achieved; however, if overburden analyses is expanded, will comply.

5. 783.14(a)(2)(IV) Pyrite, Marcasite, and Sulfur Content of the Coal Seams.

Applicant's determination of the forms of sulfur occuring in the coal seams is adequate.

Compliance with 783.14(a)(2)(IV) is achieved.

6. 783.25 (c & d) Coal Geology

Applicant's treatment of the depth, thickness, outcrop, strike and dip of the three coal seams to be mined is adequate.

Compliance with 783.25 (c & d) is achieved.

D. Revisions to Applicant's Proposal

1. 783.14(a)(2)(I) Location of Subsurface Water

Reference is made to 2., Hydrology and Geology in applicant's Initial Response to OSM's Apparent Completeness Review. Applicant responded to the question raised by OSM by submitting Attachment 1, a revision of Plate 7 of the original report. Applicant also explained that the map, when used in

combination with the structural contour map of the Upper O'Connor Coal Seam (Plate 1) could be used to predict which part of the coal seam lies beneath the water table. Applicant also explained that the permeability of the sandstones within the Blackhawk Formation is very low, hence they should not be regraded as aquifers.

E. Reanalysis of Compliance

1. 783.14(a)(2)(I) Locations of Subsurface Water
If stipulation under Ground Water Hydrology is met, will comply.

F. Proposed Stipulations with Justification

783.14 (a)(2)(iii) and (iv)

(iii) The physical properties of each stratum within the overburden, including compaction and erodibility: and, (iv) Chemical analyses of each stratum to be affected, including the stratum immediately below the lowest coal seam to be mined, to identify, at a minimum, those horizons which contian potential acid-forming toxic-forming, or alkalinity-producing materials.

Applicant shall supply to the Regulatory Authority within 90 days of permit approval, results of overburden analyses from at least one core hole from the portal area. This includes each stratum to be affected, including the stratum immediately below the lowest coal seam to be mined (Lower O'Connor A coal seam, and Flat Canyon coal seam if this is to be mined). Overburden analyses shall include pH, electrical conductivity, soluble calcium, magnesium and sodium, sodium adsorption ratio, neutralization potential and particle size.

G. Summary of Compliance

Will comply, with the stipulation that additional information is submitted regarding 783.14(a)(2)(iii) and (iv).

H. Proposed Departmental Action

The geologic part of the application should be approved when the additional information specified under F, proposed special stipulations, has been submitted and found to be adequate.

I. Residual Environmental Impacts of Proposed Departmental Action

If underground mining is allowed subsidence will occur. Subsidence will effect the surface by slightly lowering the topography. At the same time, subsidence may induce landslides (principally on the east side of the Huntington Creek Drainage). Subsidence may have affect the hydrologic regime by dislocating or interupting spring flow.

1) Geology & Hydrology 2) this residual impact/subsidence & topography 3) effects of subsidence to induce format landslides.

J. Alternative to Proposed Action

If the additional information specified and F and special stipulation have not been submitted or found to be inadequate approval of the application should be withheld.

817.21 Topsoil Protection

A. Description of Existing Environment

The permit area consists of 6400 acres, 75.8 acres of which will be disturbed by surface activities. Soil parent materials appear to be weakly to strongly consolidated sedimentary materials ranging through sandstones, shales, siltstones and a few lenses of almost pure clay (Geology Section). Coal seams have doubtless contributed to the organic carbon content of the soils. The soils report provided in the mining and reclamation plan does not adequately discuss soil depths but it is suggested from the information provided the soils range from shallow to deep and are mostly high in coarse fragments. Textures range from sandy loams to loams with a few clay loams. Soil temperatures range from frigid to cryic and moisture regimes are either udic or ustic. Soil genesis appears to be producing at least some argillic horizons in the area, according to the profile descriptions, and most soils appear to have mollic epipedons, many of them are overthickened.

There is a question as to the accuracy of the soil classification for the majority of the profiles described. Also family groupings appear to be in error in some instances. Profile descriptions lack an estimation of coarse fragments in the profile.

B. Description of Applicnt's Proposal

1. Coastal States Energy Company conducted a combined soil and vegetation survey, including soil analyses. A soils' map was prepared only for the portal yard area (Map D, Vol. A-5) and correlated with plant communities. Soils were only classififed to the family level. At each vegetation reference site, a soil pit was excavated, and soil examined down to parent material. In addition to depth information obtained from the soil pit descriptions, there were 100 soil depth measurements taken along the transect areas.

The applicant proposes to conduct a soil survey of the portal yard area, loadout facilities area and conveyor belt-road area. Soils will be described to the series level. The soil survey will be conducted during the summer of 1980 (conversation with Keith Welch, Coastal States Eergy Company, 5/29/80).

2. Results of soil analyses are in Table LXVIII p. 122-123, Vol. A-5. Soil sampling sites are located on the Portal Yard Area Soil Map (Map D, Vol. 5). Soil analyses include effervescense (estimate of calcium carbonate percentage), texture analysis, pH, electrical conductivity, nitrate-nitrogen,

percent total nitrogen, and the elements zinc, copper, manganese, iron, potassium, magnesium, calcium and phosphorus. No sodium adsorption ratio's are given (samples were not analyzed for sodium) but it appears from the pH's and electrical conductivities given that this is not necessary. Values for pH range from 5.0 to 7.5 with the majority of samples ranging from 5.0 to 6.6. Electrical conductivity varies from 0.60 to 1.88 millimhos/cm. Low salt content and acidic pH's are not indicative of a sodic environment.

3. The topsoil stripping depths are discussed in section 4.6, p. 4-18, Vol. 3. A horizon material (from two to six inches) and B horizon material (from six to ten inches) will be removed, leaving C horizon material in place. Volumes of stripped soil are presently estimates (conversation with Keith Welch, 5/29/80). Specific volumes of stripped topsoil will be available upon the completion of the soil survey to be conducted in the summer of 1980.

4. Applicant has stated that vegetation will be removed (section 4.6, Vol. 3) prior to excavation or other surface disturbance. Trees will be harvested, trimmed and placed in a location predescribed by the U.S. Forest Service. Bushes will be piled in a location and burned according to directions given by the U.S. Forest Service. Soil will be removed by rubber-tired scrapers (where suitable), bulldozers, front-end loaders and dump trucks. Adequate supervisory personnel will be present to insure proper techniques in topsoil removal.

5. There will be both short-term and long-term topsoil stockpiles. Short-term stockpiles will be redistributed on the mine site upper cuts, which will be reclaimed almost immediately. The long-term stockpiles consist of one located in a draw on the north side of the mine site on 0.6 acres and one on the load-out site on 0.3 acres. Short-term stockpiles will be included with the long-term stockpiles (conversation with Keith Welch, 5/29/80) and will remain in existence for up to three years. The reclamation timetable (Table 4.2-1, section 4, p. 4-4, Vol. 3) lists long-term stockpiles being established and stablized in 1981-1982. Final reclamation will not occur until the year 2016, using these materials.

6. Prior to redistribution, the topsoil stockpiles will be disced using farm tractors or similar equipment to break up the topsoil, insuring a more uniform spreading of the topsoil on disturbed areas. Regraded land will be scarified with a ripper before redistribution occurs. Within a suitable time period to seeding, topsoil will be distributed and allowed to settle. A "suitable time period" has been defined as six months, (correspondence from Vernal J. Mortensen, Coastal States Energy Company, 6/3/80). Topsoil will be spread in accordance with the type of vegetation to be established (deeper for

aspen and spruce, thinner for sagebrush). (Conversation with Keith Welch, 5/29/80 - depths will be established upon completion of soil survey conducted during the summer of 1980). Surface compaction will be reduced by using a dryland chisel plow running at a suitable depth. This will prepare a seed bed and reduce wind and water erosion. Prior to seeding, topsoil will be analyzed to determine fertilizer requirements (correspondence from Vernal J. Mortensen, Coastal States Energy Company, 6/3/80).

Following redistribtion, the topsoil will be fertilized using a nitrogen-base fertilizer.

7. It is stated that short-term topsoil stockpile will be sprayed with water or temporarily revegetated to retard erosion.

Long-term stockpiles will be placed on a stable surface away from active operations. The completed stockpile will have a rough surface to minimize erosion and will be vegetated at once with quick-growing, soil-stabilizing plants. Noxious weeds will be controlled (refer to Revegetation Section). The long-term stockpiles will not be removed or disturbed until re-distributed. Diversion ditches will be used to divert runoff from the stockpiles. Signs will be posted to prevent accidental use for purposes other than reclamation.

The stockpiles at the portal and load-out areas will have a slope of 2:1.

8. The applicant's proposal for control of fugitive dust from disturbed areas appears adequate (see air quality section).

C. Evaluation of Compliance of Proposal

1. 817.21(a) <u>Adequate Soil Segregation</u>

Suitable topsoils (A & B horizons) will be segregated from C horizons and placed in stockpiles before excavation. It is estimated that, in general, the A horizon is two to six inches thick and the B horizon is six to ten

inches thick. These estimates may need to be revised pending a new soil survey but at this point the applicant is in compliance with this section.

(b) Redistribution schedule

The applicant states that soils removed form the mine site, the load-out site and the road and conveyor cut areas at the beginning of construction in 1981 will either be used to reclaim side-hill cuts at the mine site plus access road cuts within three years (1981-1984) or will be placed in long-term stockpiles for use at final mine reclamation in 2016.

Applicant is in compliance with this section.

Summary: Complies with 817.21.

2. 817.22 Topsoil Removal

(a) Existing vegetation will be removed and topsoil collection will occur prior to excavation or other surface disturbance operations within the affected areas. Applicant states (section 3.2 Components of Operation, p. 3-43, Vol. 2) that vegetation occurring at the mine site is of two types: (1) trees, which will be harvested, trimmed and placed in a location predescribed by the U.S. Forest Service, and (2) grasses and bushes. The bushes will be piled and burned. Applicant is in compliance with this section.

(b) Applicant has stated that topsoil (A and B horizons) will be removed and stored. No C material will be used for revegetation purposes (see Section 817.21).

Applicant is in compliance with this section.

(c) The existing, thought inadequate, soil survey indicates that some thin topsoil situations may very well occur. Profile descriptions indicate, generally, that soils range from 10 to 20 inches deep in the areas surveyed with some moderately deep and deep soils on toe slopes and alluvial positions. Descriptions also indicate an abundance of coarse fragments in the profiles.

Applicant is not in compliance with this section as adequate soil baseline data has not been submitted.

(d) Applicant has stated that A and B horizons will be removed together in one operation and replaced as one unit. Considering the nature of the parent material (as far as can be ascertained at this time) and the generally coarse-loamy textures of the soils, this is a reasonable method.

Applicant is in compliance with this section at this time.

(e) Applicant does not anticipate using any waste material as a substitute or supplement to topsoil. If in the future, it is determined from additional soil survey information that substitute material is needed, the regulatory authority will be notified of such an intention and information will be provided as specified in this section prior to issuance of any approval.

Applicant is compliance with this section.

(f) Applicant has stated that all areas to be disturbed by construction will be stripped of topsoil in 1981. Estimates are given for volumes of topsoil removed. Specific volumes will be indicated upon the completion of a soil survey to be conducted during the summer of 1980 (conversation with Keith Welch, 5/29/80).

With the information provided, applicant will be in compliance with 817.22.

817.23 Topsoil Storage

(a) Applicant has stated that all topsoil will be stockpiled in either short-term stockpiles to be redistributed within three years (according to the reclamation timetable p. 4-4, Vol. 3) or in two long-term stockpiles that will remain until final redistribution upon mine closure in 2016.

Applicant is in compliance with this section.

(b) Areas designated for the long-term stockpiles are (1) in a draw on the north side of the site (Map 3-8, Mine Surface Facilities Plot Plan) and (2) at the load-out site. The draw site may be stable but the stockpile will be subject to a large amount of runoff. A diversion will be used to channel runoff. An effective vegetative cover to control surface runoff on the long-term stockpile will be established and maintained.

Short-term soil stockpiles will be in existence for up to three years. Material left in place from six months to three years will be vegetated in manner similar to long-term stockpiles to control erosion (correspondence with Vernal J. Mortensen, Coastal States Energy Company, 5/13/80; refer to Revegetation Section).

Stockpile material left in place for up to six months will be either sprayed with water or temporarily vegetated to control erosion (section 4.6.3).

817.24 Overburden Scarification/Topsoil Redistribution

(a) Prior to topsoil redistribution, regraded land will be scarified by a ripper-equipped tractor. The ground surface will be ripped to a suitable depth in order to reduce surface compaction, provide a roughened surface assuring topsoil adherence and to promote vegetational root penetration.

Applicant is in compliance with this section.

(b) Topsoil redistribution procedures will ensure an approximate uniform thickness consistent with the proposed reclamation plan. Topsoil for the proposed aspen and spruce areas will be spread in relatively deeper layers than for the proposed sagebrush areas due to the vegetational characteristics of each type. Actual soil depths for redistributed topsoil will be available upon completion of soil survey to be conducted in the summer of 1980 (conversation with Keith Welch, 5/29/80). Topsoil will be redistributed at a time of the year suitable for seeding permanent vegetation. Revegetation will occur during the first available growing season (conversation with Keith Welch, 5/29/80). Topsoil will be exposed for up to six months (correspondence from Vernal J. Mortenson, Coastal States Energy Company 6/3/80). To minimize compaction of the topsoil following redistribution, travel on reclamation areas will be limited. After topsoil has been applied, surface compaction will be reduced by using a dryland chisel plow running at a suitable depth. This operation will also help prepare a proper seed bed and protect the redistributed topsoil from wind and water erosion.

Applicant states that necessary measures will be employed to ensure stability of topsoil on graded slopes. What these measures are, such as redistribution on the contour, must be clearly stated for all disturbed areas. This information must be submitted to the regulatory authority within three months of permit approval.

With information provided, applicant will be in compliance with 817.24.

817.25 Topsoil: Nutrients and Soil Amendments

The applicant plans to test the topsoil before it is seeded to determine the type and amount of fertilizer required (correspondence with Vernal J. Mortensen, Coastal States Energy Company, 5/31/80).

Applicant is in compliance with 817.25.

D. Revisions to Applicant's Proposal

Coastal States Energy Company submitted to OSM a supplemental soils report for the Skyline project area, 6/10/80. An order one SCS soil survey for the load-out and portal yard areas, and an order two SCS soil survey for the conveyor route was presented. Included in the report were soils maps, soils sampling location soil profile descriptions and results of the following analyses: pH, electrical conductivity, soluble calcium, magnesium and sodium, sodium adsorption, peront organic matter, and texture.

E. Reanalysis of Compliance

Based on information from the supplemental soil report, it can be stated that soils from the portal, load-out and conveyor-road areas of the mine plan area area are suitable for revegetation. Coastal States Energy Company did not indicate in the supplemental soils report volumes of soil to be removed or depths of redistributed soil associated with the species used in revegetation.

Until volumes and depths of soil are provided to the regulatory authority, it will be necessary for Coastal States Energy Company to remove all suitable soil material, A, B, and C horizons and stockpile this material for later use. In cases where C horizon material would not be suitable as a topsoil, as

in the case of skeletal soils (high coarse fragment content), two soil lifts will be required. The first lift, or A and B horizons, will have to be separately stockpiled from the second lift or C horizon material. The location of the stockpiled C horizon material will have to be provided to the regulatory authority.

F. Proposed Special Stipulations and Justifications

817.22 Topsoil: Removal

Topsoil substitutes and supplements.

Stipulation: If applicant anticipates using any material as a substitute or supplement to topsoil, the regulatory authority will be notified of such an intention and information showing the suitability of this material for revegetation submitted within three months of permit approval.

817.22 Topsoil: Removal, and 817.24 Topsoil: Redistribution

a) 817.22-Material to be removed

Applicant has not indicated the depths to which soils will be removed or volumes of soil to be removed form the disturbed areas (portal, load-out, and conveyor-road areas).

b) 817.24 Topsoil: Redistribution

817.24(b)(1) - Topsoil and other materials shall be redistributed in a manner that achieves an approximate uniform, stable thickness consistent with the post-mining land uses, slopes and surface drainage systems.

The applicant had indicated relative soil volumes and soil depths of redistributed soil associated withthe species used in revegetation. Specific soil depths and soil volumes of redistributed soil need to be provided by the applicant.

Stipulation:

Until Coastal States Energy Company provides to the regulatory authority the following information (which is found to be adequate):

i) Depths to which soil will be removed from disturbed areas;
ii) Volume of soil removed from disturbed areas;
iii) Volume of soil available for revegetation;
iv) Depths of redistributed oil associated with plant species used in revegetation.

The following conditions will have to be met: it will be necessary for Coastal States Energy Company to remove all suitable soil material, A, B, and C horizons and stockpile this material for later use. In cases where C horizon material would not be suitable as a topsoil, as in the case of skeletal soils (high coarse fragment content), two soil lifts will be required. The first lift, or A and B horizons, will have to be separately stockpiled from the second lift or C horizon material. The location of the stockpiled C horizon material will have to be indicated to the regulatory authority three months prior to stockpile construcion.

c) 817.24 Topsoil: Redistribution

The applicant has not adequately addressed erosion control procedures for exposed topsoil prior to revegetation. Refer to Revegetation section, stipulation 817.114, of this Technical Analysis.

G. Summary of Compliance

The applicant will comply if the above stipulations are met.

H. Proposed Departmental Action.

To approve salvage and replacement of suitable topsoil materials on the proposed disturbed area.

I. Residual Environmental Impacts of Proposed Departmental Action.

The proposed action will impact 75.8 acres out of 6,400 acres on the permit area, about one percent of the total. On a percentage basis, this is a very minor impact. However, the coarse-loamy soil textures, combined with high elevation short-growing seasons, and the potential for runoff associated with high-intensity, short-duration rainstorms and snowmelt does produce the possibility of serious erosion when soils are exposed. Effective erosion control measures are imperative once soils are exposed and exposures must be kept to a minimum.

Soils genesis on several soils exhibiting possible development of argillic horizons and others with high accumulations of organic matter in the surface horizons will be considerable set back. Coarse fragment volumes will increase and be redistributed more evenly throughout the profile. Soils will become more homogenous from the standpoint of texture. In general, the soils will be in a relatively young state and rapid vegetation establishment will be the key to allowing pedogenesis to begin again and to restore the diversity of soils now present.

J. Alternatives to Proposed Action

Given the necessity for establishing a portal and associated facilities for underground mining, there appears to be no reasonable alternative to the applicant's proposed general plan for handling and reclamation of the permit area.

823.1 - 823.15 <u>Special Performance Standards-Operations on Prime Farmlands</u>

A. Description of Existing Environment

The proposed permit area is located in Carbon and Emery Counties, Utah in mountainous terrian approximately four miles southwest of Scotfield, Utah. The area is at an elevation of approximately 8,000 feet and the climate is one of short growing seasons and a deep snowpack during the winter.

The soils are coarse-textured, have a high coarse fragment volume and are generally located on moderately steep to steep slopes. Narrow areas of alluvial and terrace soils are located in the bottoms of narrow drainageways. These soils exhibit some degree of development and have accumulations of organic matter on the surface.

Vegetation is aspen, fir and spruce with some cool desert shrubs, mountain brush and riaparian representation.

Existing and historical land uses are grazing, recreation, forestry and mining. There is no apparent evidence of an agricultural use, either past or present, and its present location almost totally (99 percent) within Forest Service boundaries would seem to effectively preclude such use.

There is no presently acceptable soil survey in existence on the permit area, but SCS has made an on-site inspection of the permit area.

B. Description of Applicant's Proposal

The applicant states that an investigation has been conducted as per 30 CFR 783.27, paragraph (b), items 1 through 5, and a determination was made by them that no prime farmland exists in the Eccles Canyon area. A negative determination of the existence of prime farmland was requested from the SCS and a letter substantiating such a determination was received from Dr. Theron B. Hutchings, State Soil Scientist, Soil Conservation Service, Utah, on August 20, 1979 (Volume A-5, Technical Correspondence).

C. Evaluation of Compliance

The permit application is in compliance with 783.27 and a negative determination has been provided by SCS.

D. Revision of Applicant's Proposal - (None)

E. Reanalysis of Compliance - (None)

F. Necessary stipulations and Justifications - (None)

G. Summary of Compliance - Will comply.

817. Explosives

A. Surface blasting will be conducted in conjunction with the construction of operational facilities.

B. Description of Applicant's Proposal

1. Applicant will conduct surface blasting in conjunction with site preparation work (p. 3-27).

2. Blasting will be confined to site-specific cases, hence details relating to blasting agent, pattern, loading, stemming and firing have not been determined.

3. Warning signal will be three short blasts from air horn sounded 60 seconds before a blast (p. 3-29) and four long blasts to indicate all is clear following a blast. Warning and all-clear signals will be posted at the site.

4. Access: Warning signs will be posted at all entrances to the permit site (p. 3-29).

5. Log: A blasting log will be kept for all blasts, an example being shown in the appicant's permit application (pp. 3-32 through 3-34).

6. Training: Applicant's Safety Director will conduct testing and training to include instructions to assure that all operators understand and observe all applicable rules, regulations and safety standards (p. 3-28).

C. Evaluation of Compliance of Proposal

Applicant's proposal satisfies all requirements as set forth in Section 817.61, 817.62 and 817.67. Deficiencies in the applicant's proposal pertain to Sections 817.65 and 817.68 in the following respects:

1. Section 817.65 Subsection (b)(2)(ii): Applicant does not state that oral notices will be provided to persons within one-half mile of the blasting site; he should further address the publication of his blasting schedule including instructions to residents on the method for requesting blasting survey;

2. Section 817.65 Subsection (b)(2)(iii): Applicant does not acknowledge that blasting report may have to be filed within 3 days of night blasting event;

3. Section 817.65 Subsection (g): Applicant does not state that flyrock from blasts would be restricted to the regulated access area and would not travel more than one-half the distance to the nearest dewelling or occupied structure; he does not address the method used to control air blast; and

4. Section 817.68 Subsection (r): Applicant's example blasting report (pp.3-33 & 3-34) does not include provision for reporting the number of persons in the blasting crew.

D. Revisions to the Applicant's Proposal

1. Use of Explosives

1.1 Point of Clarification

The Applicant describes, on pp. 3-28 and 3-29, the proposed procedures for pre-blast surveys and publication of the blasting schedule. The Applicant will include, in the blasting schedule publication, instructions on requesting pre-blasting surveys for residents or owners of dwellings within one-half mile of any surface blasting site as covered in Sections 817.61-817.68 (30CFR).

1.2 Section 817.65 Subsection (b)(2)(ii)

The Applicant will, in addition to the required warning signals, provide oral notice to all persons within one-half mile of the blasting site if blasting is to be conducted between sunset and sunrise.

1.3 Section 817.65 Subsection (b)(2)(iii)

If blasting between sunset and sunrise is required, the Applicant will provide a complete written report to the regulatory authority within three days after the night blasting. The report will include a description in detail of the reason for the delay in blasting including why the blasting could not be held over to the next day, when the blast was actually conducted, the warnng notices given, and a copy of the required blast report.

1.4 Section 817.65 Subsection (g)

The Applicant will insure that flyrock, including blasting material traveling along the ground, shall not be cast from the blasting vicinity more than half the distance to the nearest dwelling or other occupied structure and in no case beyond the line of property owned or leased by the Applicant.

1.5 Section 817.68 Subsection (r)

The Applicant has revised the example blasting report (pp. 3-33 & 3-34) in order to report the number of persons in the blasting crew.

E. Reanalysis of Compliance

817.65 Use of Explosives: Surface Blasting Requirements

The applicant has committed to all requirements.

Summary: Will Comply

817.68 Use of Explosives: Records of Blasting Operations

The applicant has revised the blasting report in order to report the number of persons in the blasting crew.

Summary: Will Comply

F. Proposed Special Stipulations with Justification

(None)

G. Summary of Compliance

Will Comply

H. Proposed Departmental Action

Approval of permit.

I. Residual Environmental Impacts of Proposed Departmental Action

Because blasting will be confined to site preparation work, primarily near the mine portal area, environmental impact from blasting is of a temporary, transient impact and is expected to be of minor or negligible environmental consequence.

J. Alternative to Proposed Action

An alternative to blasting would be to require that all excavated material be loosened and removed by ripping. However, in view of the remote location and improved stability that can be achieved for rock cuts in the vicinity of the mine portal area by using controlled blasts, the proposed blasting is recommended over ripping.

817.59 Coal Recovery

A. Description of Existing Environment

Physically, the mine permit area includes 6,400 acres, leasehold in Carbon and Emery Counties, Utah. The mine site will occupy moderately rugged country with elevations ranging from 8,400 to 9,600 feet. Access to the mine portal site will made by a 2 1/2 mile access road to be constructed along the Eccles Canyon drainage. A coal loadout facility will be constructed along the Eccles Canyon drainage. A coal loadout facility will be provided at the mouth of Eccles Canyon, adjacent to U.S. Highway 96 and a spur of the Denver and Rio Grande Western Railroad. Coal produced from the mine will be transported by belt conveyor along a route that parallels the access road in Eccles Canyon to be stored in two to four 15,000 ton silos at the loadout facility.

Coal production of the permit will be from the lower portion of the Blackhawk Formation. Five potentially mineable coal seams within this unit are locally identified as: 1) McKinnon, 2) Upper O'Conner, 3) Lower O'Conner B, 4) Lower O'Conner A, and 5) Flat Canyon coal seams. At the proposed mine, the Upper O'Conner (Mine No. 1), Lower O'Conner B (Mine No. 2), and Lower O'Conner A (Mine No. 3)seams will be mined. The underground operation will consist of multiple seam development, one mine in each seam.

The McKinnon seam is stratigraphically 300 to 430 feet above the prinicpal production zone whereas the Flat Canyon seam is 60 to 90 feet below this zone. The McKinnon seam does not correlate with any major production zone of the Wasatch Plateau or Pleasant Valley area. Similarly, correlation of the Flat Canyon seam with productive horizons farther south is uncertain. The McKinnon seam is not considered a mineable unit by the applicant, only in the southeast corner of the tract does the seam reach a maximum thickness of 8.2 feet. Rock-splits within the seam are common, and the widely spaced drill holes do not adequately define a continuous mineable thickness.

The Flat Canyon seam is of mineable thickness in the southwest corner of the tract where it is reported to be 8.5 to 11 feet thick. The seam, however, as defined by drill hole data is extremely variable in thickness and continuity

throughout much of its area distribution and the seam is limited in occurrence. Owing to uncertainty of thickness and continuity of the McKinnon and Flat Canyon, development does not currently seem economically justifiable.

B. Description of Applicant's Proposal

Total inplace reserves of all five seams of the Lower Blackhawk Formation are 294 m. tons. Current plans to not mine the McKinnon and Flat Canyon seams reduces the reserves to 268 m tons. Mineable reserves are further reduced to 213 m. tons by the following constraints: 1) coal in excess of 12 feet in thickness (state-of-the-art underground mining techniques preclude removal of more than 12 feet), 2) coal in excess of 30 feet or less of interburden thickness between seams (personal safety and roof stability preclude mining these seams), the seam with the lesser of two tonnages being reduced, and 3) coal within the 250 ft. exclusion area around Electric Lake (110.2 acres). The projected total recovery is 124.5 m tons (585) of the total mineable reserve.

The applicant proposes a multiple seam underground coal mining operation. Three seams are to be mined, each from a separate mine. (See Table 2) Planned production is five million tons per year over a 30-35 year mine life, using both room-and-pillar method of extraction as will as long wall mining techniques. Total planned extraction is 124.5 m tons from mineable reserves of 212.8 m tons, or approximately 58 percent extraction of mineable reserves. (see p. 3-19).

Table 2

	Mineable Reserve (in M. tons)	To Be Mined (in M. tons)	% Extraction	Extent of horizontal workings first five years (acres)
Upper O'Connor	67.16	37.67	56.1	1,128
Lower O'Connor "B" seam	63.51	36.78	57.9	-0-
Lower O'Connor				

Current plans are not to recover coal from the McKinnon and Flat Canyon seams. However, the proposed mine plan does not schedule extraction of seams below the mineable McKinnon for at least 10 to 15 years, and ample time exists for detailed investigations for the possible extraction fo McKinnon coal. The deepest seam the Flat Canyon may ultimately be mined but not until the planned operations have extracted the three overlying coal seams.

The qualtiy of the mined coal is expected to run 11,500/BTU with 0.5% sulfur. Mined coal will not be mechanically cleaned. The coal will be shipped by ~~fill~~ rail from the coal loadout facility.

C. Evaluation of Compliance

The applicants proposed action will result in the extraction of three to five potentially mineable coal seams. Of the three seams to be mined, overall extraction of 58% seems acceptable in view of special complexities related to ground control in multiple seam mining, reach of mining machines in thick coal (greater than 12 feet), and limitations of extraction necessary to control mine subsidence and assure personnel safety. The applicant has developed a plant to recover the maximum amount of coal possible and economically feasible under the aforementioned conditions and using state-of-the-art technology in coal development.

During the first five years of mining, the coal seams being mined will generally be less than the maximum planned mining height of 12 feet (Maps 3-2A, 3-2B, and 3-2C). Beginning in the sixth year, mining in the Lower O'Conner A seam will be in coal exceeding 12 feet in thickness. After the initail five years of mining, the applicant must re-evaluation the state-of-the-art technology in coal developemtn to determine the feasibility of greater recovery during mining of thick coal.

Of the five potentially mineable seams, the Upper O'Conner, the Lower O'Conner B, and the Lower O'Conner A will be developed to the maximum extent possible. The McKinnon seam (upper most coal) is not considered a mineable unit, only in a limited area southeast of the lease tract is it potentially mineble. Extensive rockwork is required to gain access to the mineable McKinnon, and development is not currently, economically justifiable. The applicant plans to investigate further the mineability of this unit; ample time is available (10 to 15 years) to evaluate potential development. The Flat Canyon seam (lower most coal) is not currently planned to be developed. Its occurrence is not widespread within the permit area; at best the thickest portion is just south of the Skyline property. Productive potential of the Flat Canyon is speculative and existing data do not encourage economic development.

The applicant plans to investigate further the potential development of the McKinnon and Flat Canyon seams as well as seams within the other units not currently possible to develop. As new mining techniques are developed, the applicant plans to consider enhanced recovery of currently unmineable coal.

D. Revisions to Applicants Proposal

None

E. Reanalysis of Compliance

None

F. Proposed Special Stipulations with Justification

After the first five years of mining, the applicant will re-evaluate the state-of-the-art technology in coal development to determine the feasibility of greater coal recovery during mining of thick coal.

G. Summary of Compliance

Will Comply.

H. Proposed Departmental Action

I. Residual Environmental Impact of Proposed Department Action

Approximtely 124.5 m tons of coal will be mined, and approximately 169.5 m tons (57% of total reserves) left in place. Thus all coal will either be mined and/or left in place and lost. Current mining technologies, maximum utilization and conservation of coal, and maintenance of environmental integrity are planned by the applicant.

J. Alternative to Proposed Action

Applicant could be required to mine all mineable portions of the McKinnon and Flat Canyon seams in addition to the planned operations. However, in view of the probable mining economics, apparent lack of continuity for mineable portions in the two aforementioned seams, and difficulties in developing the uppermost McKinnon seam, this alternative proposed action is not recommended. The applicant's proposed action is reasonable and justifiable.

817.121, 122, 124, 126 Subsidence Control

A. Description of Existing Environment

The permit location is an unpopulated and relatively isolated area. Features of the existing environment to be considered with respect to subsidence include perennial streams, impoundments, structures, aquifers and aquifer recharge areas, and agricultural and silvicultural lands. As identified by the applicant, the significant features, are those of a hydrologic nature, a natural gas pipeline, and improved roads and Electric Lake Reservoir.

B. Description of the Applicant's Proposal

The applicant proposes to mine, by underground methods of room-and-pillar and longwall, three seams of coal over most of the 6,400 acre permit area, (Volume II, Exhibits 3-1A, 3-1B, 3-1C). (Specific references to subsidence control are contained in Volume III, pp. 4.57 et seq. and will not be further referenced in this text). Depth to mining ranges from 400 to 2000 feet, Subsidence is predicted to range from 0 to 16 feet. Overall lowering of surface, as opposed to local failure, is predicted. Some degrees of protection have been provided by the applicant for structure which may be materially damaged through subsidence. These include a compensation plan for damage to drainages, roads and pipeline and limiting extraction to 50 per cent under the pipeline, and a detailed plan for Electric Lake Reservoir.

If subsidence does induce damage to the pipeline or roads, the applicant proposes to repair damages, or to compensate the pipeline owner for repairs made and to compensate for any other damage (pp. 4-59).

The applicant agrees to pump subsurface waters diverted towards Huntington Creek from the Price River Basin (pp. 4-29). The applicant proposes to mine under Electric Lake Reservior with "planned and controlled subsidence."

A monitoring plan is proposed by the applicant. This plan involves color aerial photography and surface monumentation and surveys. The purpose of the photography is apparently to document the pre-mining condition. The proposed surveying monitoring plan calls for a minimum of 3 monuments per panel, on panel and/or the 2 barrier pillars, surveyed to ± 1 foot accuracy at 6-month intervals.

C. Evaluation of Compliance of Proposed Plan

784.20 Subsidence Control Plan

The applicant includes the required survey to establish the presence of structure and renewable resource lands which, if subsidence does occur, will incur material damage and diminution of value or reasonably foreseeable use of the land. The survey's findings require compliance with the subsidence control plan regulations, 784.20(a) through (d), as:

"(a) A detailed description of the mining method...," which is included.

"(b) A detailed description of the measure to be taken to prevent subsidence from causing material damage or lessening the value or reasonably foreseeable use of the surface, including:

(1) the anticipated effects of planned subsidence,

(2) Measures...taken...to reduce...subsidence,..." which are included.

"(3) Measures to be taken on the surface to prevent material damage or lessening of the value or reasonably foreseeable use of the surface..."

Under 784.20(b)(3), only a nominal monitoring plan is proposed.

"(c) A detailed description of...measures...to mitigate...effects..." which is included, but does not meet the requirements of 30 CFR 817.124 (see below),

"(d) A detailed description of measures to be taken to determine the degree of...damage (to the) surface..." which is not included.

In summary, the plan does not address 30 CFR 784.20(b)(3)(i) through (iv), 30 CFR 784.20(c)(4) and 30 CFR 784.20(d). This is not necessarily a fatal flaw, depending on the adherence to 30 CFR 817.121, 122, 124 and 126. However, the surface monitoring plan as proposed by the applicant is not substantial and is, therefore, not acceptable.

817.122 Subsidence Control: Public Notice

Does not comply. Applicant has not formally outlined the procedure expected to be followed in complying with 817.122. The faith to comply is, however, inferred from this section in general. Furthermore, the surface manager is the Forest Service, who, in concurring with permit approval actions, is well advised of the proposed mining. There are no residence on or adjacent to the proposed permit area.

The applicant states that subsidence induced damages that might occur to the pipeline would be repaired by the applicant or compensation made to the owner for repairs to the pipeline and other damages incurred (pp. 4.59). The applicant agrees to regrade or repair damages to any of the public roads.

817.124 Subsidence Control: Surface Owner Protection

The applicant states that subsidence induced damages that might occur to the pipeline, would be repaired by the applicant to compensation made to the owner for repairs to the pipeline and damages incurred (pp.4-59). The applicant agrees to regrade or repair damages to any of the public roads in the permit area (pp.4.59). However, similar-type claims are not, and must be, made for damages that might occur to the Electric Lake Reservoir. The applicant has not shown full bonding to cover the cost of damages that could occur to the preceding entities. The applicant does agree to pump mine-collected waters to restore any depleted sub-surface waters diverted from natural flow in the Price River Basin and Huntington Creek (pp. 4-29). In section 817.124(c), the applicant is requied to purchase a noncancellable premium paid insurance policy, or the equivalent, to compensate the owner of any surface structure for subsidene-induced damages. In view of the foregoing discussion, the applicant is not in compliance as no evidence of such bonding or insurance has been indicated in the applicant's permit application.

817.126 Subsidence Control: Buffer Zones

The applicant proposes to mine beneath Huntington Creek and near Electric Lake (refer to Volume 2, Exhibit 3-2b). Although the applicant plans to carefully mine these areas, subsidence behavior is not completely understood or appreciated at this time. Section 817.126(a) states that "Underground mining activities shall not be conducted beneath or adjacent to any perennial stream, or impoundment having a storage volume of 20 acre-feet or more, unless the regulatory authority, on the basis of detailed subsurface information, determines that subsidence will not cause material damage to streams, water bodies and associated structures."

The applicant plans to mine in these areas well in the future. It is believed that the applicant does not currently possess sufficient information (i.e., subsidence behavior data) to justify mining in area. The applicant appears to satisfy the remaining requirements in section 817.126 (e.g., 817.126(b), 817.126(c), and 817.126(d)).

F. Proposed Special Stipulations with Justification

1. The applicant shall, within 90 days of the effective permit date, submit evidence to the regulatory authority of a non-cancellable insurance policy, or equivalent thereof, to cover possible subsidence damages to owners of the Mountain Fuel Supply gas line, or alternatively, the applicant should show reason why such surety is not required pursuant to sections 817.124(c) and 784.20(c).

This stipulation is necessary to assure compliance with 30 CFR 817.124(c).

2. The applicant shall, within 90 days of the effective permit date, provide the regulatory authority with a revised mine plan complying with the buffer zone requirements of 30 CFR 817.126 with respect to the Upper Huntington Creek and to Electric Lake Reservoir. The revision shall reflect that there will be both (1) no mining under Electric Lake Reservoir or Upper Huntington Creek and, (2) no mining, from which subsidence at a 30-degree (from vertical) angle of draw would influence either the Upper Huntington Creek or the high-water level of Electric Lake Reservoir. The applicant may present a future minor modification to this plan which will designate mining in these areas, both subsequent to future scientific data verifying the technical feasibility of controlling, or eliminating, subsidence and subsequent to future compliance with insurance and/or bonding protection of Electric Lake Reservoir complying with 30 CFR 817.124.

This stipulation is necessary to assure compliance with 30 CFR 817.124(c).

G. Summary of Compliance

Will comply with proposed stipulations.

H. Proposed Departmental Action

The Department should approve the proposed plan with the above listed stipulations.

I. Residual Environmental Impacts of Proposed Department Action

The proposed actions, as stipulated, would permit underground mining without an unjustifiable risk to perennial streams or Electric Lake Reservoir. Mining under or near these locations would be permitted when sufficiently detailed information is available to substantiate that mining will not cause permanent subsidence induced damages to these features.

J. Alternative to Proposed Action

The department could approve the applicant's mining plan as submitted. Based upon the lack of detailed subsidence studies and data, this action does not seem advisable at this time.

817.111-187.117 Revegetation

A. Description of Existing Environment

The Skyline Mine property lies within Carbon and Emery Counties, Utah (T13S, R6E). It is 6,400 acres with 6,330 acres lying in Manti-La Sal National Forest. The remaining 70 acres were leased from Carbon County. (Vol A-4, Land Use, p. 1) The elevation ranges from 8500-9500 feet. (Vol A-5, Soils and Vegetation, p. 1) The average annual precipitation for the area is 25-30 inches (Vol 1, 2-43).

The following vegetation types exist on the lease area: sagebrush, spruce-fir-aspen, spruce-fir, aspen riparian, aspen-grass-forb-elderberry-conifer, fringed sagebrush, and snowberry-sagebrush (Table II, Vol. A-5, p. 56).

Spruce-fir and aspen-spruce-fir communities make up 40% of the vegetation within the lease area. The forest floor is frequently shaded and production is negligible (Vol A-5, Soils and Vegetation, p. 3).

Nine percent of the lease area is aspen, primarily on south facing slopes and ridges. This community type is transitional to aspen-grass-forb-elderberry communities, which make up 33% of the lease area. These communities are the most diverse types in the lease area (Vol A-5, Soils and Vegetation, p. 4, p. 9).

Sagebrush, fringed sagebrush, and sagebrush-snowberry community types occupy 13% of the lease area, primarily on shallow soils (Vol A-5, Soils and Vegetation, p. 4)

The riparian type is found along the major drainages, minor tributaries, spring lines, seeps and "perennial wet channels, down slope from minor springs." Wetland areas were dominated by red top, silver sagebrush, sedges, grasses and numberous (Vol A-5, Soils and Vegetation, p. 5).

Approximately 1% of the lease area (miscellaneous) consists of sandstone ledges which hold serviceberry, aster, ferns, and other species which are uncommon in the communities (Vol. A-5, Soils and Vegetation, p. 6).

Plant production is variable with aspen and grass-forb-elderberry communities ranging from 451.8 - 835.5 pounds of grazeable forage per acre, sagebrush with as much as 917.1 pounds per acre and riparian with 180.5 and 286 pounds per acre (Vol A-5, Soils and Vegetation, pp. 9-10).

Aspen spruce and fir all produced an average annual growth increment of 4.2 mm per year. Spruce and fir were found to be three times as dense as aspen. Aspen stands showed a mixture of age and size classes while aspen-spruce-fir stands showed a trend toward conifer dominance. Co-dominance of the two conifer species was seen at Reference Site 3. At the portal site, however, the forest shows dominance spruce while the more xeric conditions of Reference Sites 1 and 2, have fir showing dominance (Vol A-5, Soils and Vegetation, pp. 10-11).

Total proposed surface disturbance areas include the portal area (45.5 acres), overland conveyor (10 acres), mine access road (10.4 acres), and loadout site (9 acres) (Vol. 3, p 4-9) Vegetation communities for these areas excluding the loadout site are in Table 3. The portal area consists of aspen (22%), spruce-fir (45%), sagebrush (8%), and previously disturbed communities (25%) (Table 4).

Similarities between reference areas and proposed disturbance areas is shown by the "congruence of species numbers in each of the types." A diversity in reference area aspen sites of 22-29 species is only slightly higher than in the areas to be disturbed (19-25). Riparian sites in areas to be disturbed involved 27-34 species while the sedge community in Burnout Canyon Reference site 3 had 15-17 and the riparian zone of Reference Site 4 has 17-26 species (Vol. A-5, Soils and Vegetation, p. 12).

The total productivity of the areas to be disturbed (839 animal units) will be lost during the operation of the mine. By assuming a grazing period of three months July - September) the loss was calculated to be nine cow-calf units per year (Vol A-5, Soils and Vegetation, p. 12).

No proposed endangered or threatened plant species were found nor have they been recorded from the permit area (Vol A-5, Soils and Vegetation, p. 13).

Table 3 Vegetation communities for proposed surface disturbance areas.

Surface Facilities	General Area Classification	Land Area (Acres)	Grazing Potential Animal Units (AU)	Grazing Potential Animal Unit Month (AUM)
Portal Yard Area	Spruce-Fir	15.8	0	0
	Aspen	7.9	114	3.8
	Sagebrush	2.9	84	2.8
	Disturbed	8.5	0	0
	Riparian	1.0	38	1.3
Subtotal		36.1	236	7.9
Main Access Road (Including Conveyor corridor)	Aspen	4.0	57	1.9
	Sagebrush	13.9	389	13.0
Subtotal		17.9	446	14.9
By-Pass Road	Spruce-Fir	4.3	0	0
	Aspen	5.8	83	2.8
Subtotal		10.1	83	2.9
Total		64.1	765	25.6

Table 4. Summary of Characteristics of Vegetation Communities on the Proposed Portal

Community	Major Tree Species	Major Shrub Species	Major Grass Species	Major Forb Species	Production (lbs./acre)	Acreage
Sagebrush	_____	bog sage snowberry rubber rush rabbitbrush	wheatgrass Kentucky Bluegrass Subalpine neddlegrass	Fremont Geranium	1085	
Spruce-Fi	Englemann Spruce Subalpine Fir Squaw currant	Snowberry Mountain lover	Mountain brome	Heartleaf Amiea Spreading Sweetroot	____ ____	
Aspen	Quaking Aspen	Snowberry	Mountain brome Blue wildrye Kentucy bluegrass Wheatgrass	Lanawert Sweetpea Snowy Stickseed Tuber starwort Yarrow	446	
Riparian[1]						

[1]This area was not sampled at the portal area because of previous disturbance

B. Description of Applicant's Proposal

Revegetation of disturbed areas will be done in the "earliest possible available growing season." The applicant interpret available growing season to mean favorable spring and fall intervals during which revegetation attempts have the optimum chance for success. (Addendum letter, June 3, 1980, p.5).

On south facing flat areas with slopes of less than 33:1 the following seed mix will be planted at rate of 12 pounds per acre:

Bromus inermis	Smooth Brome (Lincoln)	3-4 lbs/acre
Phleum pratense or	Foxtail	
Alopecurus pratensis	Timothy or Meadow	1-2 lbs/acre
Melilotus officinalis	Yellow Sweetclover	1-2 lbs/acre
Medicago sativa	Alfalfa (Ladac or Nomad)	1-2 lbs/acre
Linum perenne	Lewis Flas	1-2 lbs/acre
Dactylis glomerata	Orchard Grass	1-2 lbs/acre

(Vol 3, section 4.7, pp. 4-23-4-24)

South facing slopes of 2:1, or greater will be treated with handset plants of sagebrush, (Artemisia tridentata) (Chrysothamnus nauseosus), rabbitbrush, snowberry, or red elderberry at the above mentioned shrub species 1 m intervals. The seed mix given above will be seeded around the above mentioned shrub species (Vol 3, Section 4.7, p. 4-23).

North facing slopes will be planted with handset seedlings of Engleman spruce and/or subalpin fir at intervals of not greater than 2.5 m intervals. Spreading sweet root, heart leaf arnica and grasses may be seeded between the spruce/fir species in the following amounts (Vol 3, Section 4.7, pp. 4-23-4-24).

Osmorhiza chilensis	Spreding Sweetroot	1-2 lbs/acre
Arnica cordifolia	Heart-leaf Arnica	1-2 lbs/acre
Bromus inermis	Smooth Brome	3-4 lbs/acre
Bromus ciliatus	Fringed Brome	1-2 lbs/acre
Dactylis glomerata	Orchard Grass	1-2 lbs/acre

Topsoil stockpiles will be seeded with the grass-forb seed mix used for south facing slopes (Vol. 3, 4-20).

Riparian areas will be reestablished with salix species at 1-foot intervals in the wet margins and with fringed brome seeded at 4lbs/acre on the banks. Steep slopes which have been rip-rapped will not be revegetated (Addendum letter, June 3, 1980, p. 5).

Seeding of the south facing slopes 33:1 and flat areas will be done with a cyclone spreader. Seeding of slopes greater than 2.1 will be done with a hydro-seeder. Shrubs and trees will be handset (Vol 3, section 4.7, pp. 4-25).

A straw or wood mulch will be used on lesser slopes. Straw will be cramped into the soil with standard farming equipment before seeding. On critical slopes where slippage is a probable, a matting will be used to hold seed and mulch.

The recommended species are known to survive in the region without supplemental water (Vol 3, Section 4.7, pp. 4-25).

The establishment of noxious plants will be prevented on stockpiles.

The applicant will check all seeded areas (at the end of each grazing season) for at least the first five years of reclamation. When successful revegetation is apparent (80% of the original cover during three year period) the interval of future monitoring will be changed to five years basis. Areas not achieving 80% of the original cover after five years will be "immediately investigated to determine possible failure cause(s), so that positive steps can be taken to establish the desired permanent vegetation during the next seasonal opportunity." A written report will prescribe the corrective actions to be taken before the next growing season (Vol 3, Section 4.7, p. 4-26).

The sampling methods used in collecting baseline data as will be applied to determine the degree of success of the revegetation attempts (Vol A-5, Section 4.7 p. 4-26).

Preliminary studies determined that twenty 2x5 dm plots would be adequate for sampling baseline data since a 10% increase in this number failed to give a 10% increase in the number of species found. A total of 30 plots were measured in each vegetation type (Vol A-5, Soils and Vegetation, p. 12).

Vegetation data were collected on the proposed portal yard area. A transect was placed in each vegetation type excluding riparian areas because of prior disturbance. One transect was placed in an aspen community where the bypass road will be located. An area which originally had been proposed for a waste rock disposal area was sampled and consisted of aspen, riparian, and spruce-fir communities. A transect was placed in each type. This site has been designated reference site WD.

Four other reference areas, each consisting of 2-3 communities, have been established representing the aspen-grass-forb-elderberry, spruce-fir-aspen, spruce-fir, sagebrush, and riparian communities. A transect was placed in each community (Vol A-5, p.).

Permanent 100 m transect were established along the contour in each vegetation type of each reference area. Canopy cover was determined following Daubenmine (1975). The canopy was projected as ground cover for each species of forb, grass or shrub along thirty 2x5 dm plot spaced systematically at 3 m intervals. The starting location of each transect was determined by the final location of a tossed or rolled hoop (Vol A-5, Soils and Vegtation p. 8 and telephone conversation confirmation 5/30/80).

Shrubs and trees on spruce-fir and aspen sites were sampled by the pint-quarter-method described by Curtis (1956). Tree species were also studied by using 5x15 m plots to determine size-class distributions for each forest type. A Swedish increment borer was used to detrmine the ages of trees and the average annual increments of growth in diameter were measured (Vol. A-5, Soils and Vegetation, p. 8 and telephone conversation confirmation 5/20/80).

Productivity data for grass and forb species were gathered using the weight estimate method (Range Analysis Handbook, USDA 1970) in which the weight of each species was estimated in ten plots. Approximately one plot out of 5 was clipped. The remainder of plots were estimated occularly. Estimates were converted to dry weights and expressed in pounds per acre. Due to low productivity in spruce-fir stands, these areas were not sampled for productivity (Vol. A-5, Soils and Vegetation and telephone conversation confirmation 5/30/80).

C. Evaluation of Compliance

1. 817.111 Revegetation: General requirements

The applicant has included 85-87% and 50-57%, by weight of introduced species in the herbaceous seed mixes. Although these species may provide quick stabilizing cover for protection of erosion, heavy use of introduced species often results in low diversity of seeded areas (Sindelar et. al. 1975). The applicant has not adequately demonstrated how these introduced species meet wildlife and livestock needs during each season, similar to native species. Smooth brome has been noted as being sodbinding and allelopathic (Rice 1974, Crab 1961, Woods 1960, Benedict 1941). Heavy seeding of this species diversity fom being acheived. Since the proposed disturbance area is relatively small, if the ratio of introduced species to native species is reduced, still maintaining adequate seed, and no one species is allowed to dominate the mix, natural succession from adjacent seed sources should be fairly rapid.

The riparian community is a habitat of critical importance to wildlife. Baseline data show elderberry and current present along with numberous forbs and sedges and grasses. The applicant proposes only willows and fringed brome to be seeded. Because of the importance of this habitat, a more diverse vegetative community than the one proposed, should be established. (Also 30 CFR 817.97).

In addition, the aspen community comprises 20-25% of the vegetation within the proposed area of disturbance. Aspen is not proposed to be used in revegetation. Roekstock could be left in the topsoil stockpiles or placed following topsoiling and resprouting of this species would occur much faster than if left entirely to natural succession.

Stabilization and erosion prevention are critical on 1 1/2:1 or steeper slopes. Species selected for these steep slopes must reflect this need. The applicant has not stated the seed, seedling, and willow cutting sources. Informaion has not been supplied as to the size of seedlings to be transplanted or whether tubling or bare rootstock will be used. This information is important in evaluating stocking densities. For example, tubling seedlings have up to twice the survival rate as bare root stock (Ed Dennis, SCS State Range Conservationist, Denver, Colorado, personal communication June 5, 1980).

The applicant has retained the flexibility of using more than one species (i.e. snowberry or red elderberry, timothy or meadow foxtail, sweet root and heart-leaf arnica). It is not stated when one species will be selected over another species. The applicant states the total woody species density to be used and the species to be used, but not the stocking density of each species.

Prevention of noxious weeds on topsoil stockpiles has been proposed, but not information has been provided as to when and how this will be accomplished.

2. 817.112. Revegetation: Use of introduced species. The applicant has not supplied quantitative information from field trails demonstrating the introduced species can provide the diversity necessary, and that reinvasion of native species will be rapid. This problem is discussed under 817.111.

3. 817.113. Revegetation Timing

The applicant proposes to revegetate during the spring or fall. Steep slopes will be revegetated immediately following topsoiling. The flexibility is necessary because although best success will probably result form fall seeding (October) some species may have better success when planted in spring (i.e., willows). Also activiies past the fall planting season or early deep snows would necessitate spring planting.

4. 817.114. Revegetation: Mulching and other soil stabilization practices.

The applicant has proposed to topsoil all disturbed area so 1:1 slopes and less. The 1:1 slopes will occur extensively along the road and conveyor areas. If some topsoil could be effectively kept in place, a much better growth medium would be available for revegetation. Through communication with people experienced in this field, the stability of topsoil on 1:1 slopes is doubtful. The applicant has not supplied information to indicate otherwise. Upon saturation, such as following snow melt or high intensity storms the topsoil will likely slump to the bench area, carrying seed and mulch with it.

A netting material would not prevent slumping of saturated topsoil. Nettings have not been demonstrated to be effective on slopes steeper than 1.5:1.

Although benches would revegetate successfully, the steep slopes would probably not sustain a good vegetative cover and thus be a potential source for erosion. Much of the sediment, however would be halted at the bench area. Eventually, the slope would probably stabilize at a flatter slope. In the meantime, the degree of impact is uncertain. This is a problem that warrants monitoring the cut and fill slopes that will be done immediately to further analyze future conveyor cuts.

The applicant has not stated specifically the mulching practices that will be used in different situations.

5. 817.115. Revegetation: Grazing

The applicant has not stated the method of demonstrating that vegetation can support a grazing capacity similar to that for lands not disturbed by mining activities.

6. 817.116. Revegetation: Standards of Success

The vegetation inventory was sampled systematically along permanent transects. Systematic sampling does not provide an unbiased estimation of variance. The entire transect must be considered one sampling observation in calculation of the variance. Without an estimate of variance, sampling adequacy and objective statistical comparison of disturbance areas with reference areas cannot be obtained. Sample adequacy tests of cover and productivity are necessary in order to determine if the sample size is large enough at the 90% confidence level, to detect an error in accepting reference areas as being equal to proposed surface disturbance areas, when in fact they are not equal. If reference areas are less than proposed surface disturbance areas in total plant cover or productivity, a statistical comparison must be used to determine if these reference areas are really different than proposed surface disturbance areas, or the difference is due to random variation.

Vegetative cover data were estimted by Daubenmire cover classes which are not sensitive enough to detect a 10% change in vegetative cover required by 30 CFR 817.116(b)(3). Variance obtained from using class data may not represent actual the population variance. Grazing productivity was stated as negligible in the spruce-fir community, but no quantitative data were given to support this. Cover and productivity of the proposed disturbance areas must be empirically given for each community.

The disturbance of vegetation communities for the proposed conveyor belt, access road, and loadout site is not delineated on the vegetation maps. The acreages of each community to be disturbed have not been summarized and no information describing the composition of these communities has been reported. It is difficult to determine whether these communities are represented by reference areas.

Although riparian areas exist on the proposed disturbance areas, these critical habitats were not sampled, presumably because they have been previously disturbed. However, no mention of the degree of disturbance occurring at the loadout area is mentioned. For communities that have been previously disturbed (i.e., the portal yard riparian area), references located as close to the proposed surface disturbance areas as possible should be selected and sampled to be used as future reference areas.

The applicant has selected reference areas, but no mention is made as to how these reference areas will be used in comparison with revegetated areas in order to determine success. The applicant has proposed to reestablish 4 basic communities: 1) spruce-fir-grass-forb on northern slopes, 2) grass-forb on flatter southern facing slopes, 3) shrub-grass-forb on steeper southern facing slopes, and 4) willow grass on riparian areas. Specific comparison as to the reference area(s) to be used in comparison for success and specific tests to be made have not been addressed. The applicant proposes to sample at 5-year intervals after the first 5 years. The applicant must sample the last two years of the period of extended liability.

It is important to maintain the intergrity of the reference area. The reference areas will be subject to subsidence, grazing and possible man-made degradation. Multiple reference areas have been proposed, therefore if continuing monitoring is conducted and a reference area is destroyed, a reserve reference area can be used for comparison purposes.

7. 817.117. <u>Revegetation: Tree and shrub stocking for forest land.</u>

Since postmining use includes wildlife, reference areas containing woody stem densities similar to proposed disturbance areas must be selected. This data should be included in baseline data.

D. Revisions to Applicants Proposal (None)

E. Reanalysis of Compliance (None)

F. Proposed Stipulations

1. 817.111 <u>Revegetation</u>

a. The applicant shall within 90 days of plan approval, submit to the regulatory authority, for approval a revised seed mixture reducing the amount of introduced species in the seed mix. Justification of any introduced species must be provided showing these will provide a diverse and effective vegetative cover of the same seasonal variety and are compatible with wildlife and mulch applications may be used subject to approval by the regulatory authority.

b. In order to enhance wildlife habitat (Also 30 CFR 817.97) the applicant will supply a revised revegetation plan of riparian habitat that will provide a more diverse community than that proposed. Quaking aspen rootstock will be used, must be specified. This information will be supplied with the information above, to the regulatory authority for approval within 90 days of plan approval.

c. Prevention of noxious plants on topsoil stockpiles will be accomplished by hand grubing unless alternate means are approved by the regulatory authority.

2. 917.112 Revegtation: Use of Introduced Species.

The stipulation under 817.111(a) will satisfy requirements.

3. 817.113 Revegetation: Timing

No stipulation

4. 817.114 Revegetation: Mulching and other Soil Stabilizing Practices.

a. The applicant will hydroseed or hand broadcast and rake the herbaceous seed mix and then hydromulch on slopes greater than or equal to 2h:1v. On flatter slopes, mulch will be applied at a rate 1500-2000 lbs/acre. On critical slopes where netting will be used, alternate seeding and mulch applications may be used subject to approval by the regulatory authority.

b. The applicant may elect to revegetate slopes steeper than 1:5h:1v with or without topsoil. In either case, the applicant will ensure that these slopes will be permanently stabilized and revegetated sufficient to prevent erosion and maintain slope stability. Revegetation and stabilization of road and conveyor belt slopes will be evaluated at the end of each growing season by establishing and monitoring randomly located erosion pins and correlating with vegetative cover data. The applicant will submit details on this monitoring procedure to the regulatory authority for approval within 4 months of plan approval. Monitoring data will be submitted to the regulatory authority within 4 months of collection. This monitoring will occur on an annual basis until January 1984 and seeding, mulching and stabilization techniques are demonstrated to be effective in controlling erosion and ensuring road and conveyor slope stabilization. If practices are not controlling erosion and providing slope stabilization, reclamation and/or operation techniques will be modified subject to approval of the regulatory authority.

5. 817.115 Revegetation: Grazing

The applicant must subject revegetated areas to a clipping study approved by the regulatory authority which similates herbage removal through grazing, or allowing grazing of livestock at proper use levels representative of postmining land use, the last two years of liability.

b. 817.116 Revegetation: Standards for success

a) The applicant must resubmit vegetative data collected at random points using a method which gives empirical values sufficient to detect a 10% change in vegetative cover. Sample size will be such that a 10% change is detectable with 90% accuracy. These data need only be collected for communities to be disturbed and reference areas which will be used for comparison (aspen, sagebrush, spruce-fir, riparian). If areas are disturbed (i.e., portal riparian acreas), than an area located as close to the disturbed area as possible should be selected as a reference area for success standards. A minimum of the following data will be provided: 1) canopy cover by species and total canopy cover excluding trees, 2) productivity by life form, and 3) density of woody species by life form (trees and shrubs). The applicant will provide statistical test showing similarity between proposed disturbance areas and reference areas. This information will be submitted by December 31, 1980 to the regulatory authority for approval of reference areas.

b) The applicant must submit the acreage and proportion of the total area each vegetation community comprises of the portal loadout area the conveyor-access road area. This information will be submitted with the above information subject to regulatory approval.

c) The applicant must submit a specific plan for evaluating success (diversity cover, productivity, density of woody species), methods for data collection and how revegetation areas will be compared with reference areas. All reclaimed areas (i.e., conveyor slopes) must be evaluated for success. This will be submitted to the regulatory authority by December 31, 1980 subject to regulatory approval.

d) The applicant must qualitatively monitor reference areas at least every two years to see if reference areas have been subject to heavy animal use, subsidence, or other man-induced degradation. If so, an additional reference areas must be approved by the regulatory authority.

e) The extended period of liability will begin after the last period of augmented seeding, fertilization, and other mechnical practices. Revegetated areas will be monitored the last two years of liability and compared with reference areas.

f) The extended period of liability will be ten years unless the applicant can supply site-specific data justifying a 5-year period.

7. 817.117 Revegetation: Tree and shrub stocking for forest land.

Stipulations under 817.116(a) will satisfy this requirement.

G. Summary of Compliance

Will comply if the stipulations under 817.111-817.117 are met.

H. Proposed Departmental Action

To approve the revegetation plan as proposed by the applicant. If the plan is carried out as described and augmented by the above stipulations it is anticipated that the applicant will reestablish a diverse and permanent vegetative cover sufficient to control wind and water erosion. It is expected that the proposed revegetated communities will support the designated postmining land uses of rangeland and wildlife habitat.

I. Residual Environmental Impacts

Underground mining at the Skyline mine will cause a temporary loss of rangeland and wildlife habitat as a result of surface disturbance. Wind and water erosion will result from land disturbance until disturbed areas are temporarily or permanently stabilized. Because of the small acreages involved, if rapid stabilization is acheived, these losses will be small.

Due to the steep slopes that will be exposed from the mining operation, erosion is a critical factor that must be carefully controlled. Cut slopes of 1:1 and fill slopes of 1.5h:1v will be exposed along the conveyor and road cut slopes. Although large fill slopes from the conveyor bench will be exposed, these slopes should be able to revegetated because of the topsoil available, and erosion losses should be temporary. Topsoil stability on cut slopes is doubtful, grasses, forbes, and shrubs will stabilize benches. Deep rooting

shrubs are important for slope stability. Shrubs will probably provide the majority of permanent cover and stability on the slopes. Final cover and productivity of these slopes will be less than the previously existing vegetation communities. As the steep slope stabilizes erosion will occur. Much of the original sediment will be halted at the terrrace benches. As the vegetative cover on the bench becomes established, the ability to hold soil will increase. The width of the benches will permit natural slope readjustment over time and stable slope will probably be acheived.

The applicant proposes to restore grassland, shrubland and tree vegetation types that will support premining land uses. Natural revegetation should be fairly rapid which will augment the initial revegtation. Through time, physiognomy of the vegetation communities will resemble premining activities even with optimal success, species diversity, compostion and distribution of cover and production within each life form will probably differ from the adjacent, existing vegetation. Several dominant species present in the premining disturbed areas (i.e., forb species) will not be included in the seed mixture due to limited availability of seed. The ultimate presence of the non-seeded species will be based on their competitive ability to reinvade the reclaimed areas. Because of the small local areas involved, reinvasion should be rapid. The difference in final species composition should not adversely affect the ability of the reclaimed areas to support postmining land uses.

J. Alternatives to the Proposed Action

Destruction of vegetation on the proposed road slopes portal and loadout areas and that due to subsidence could only be avoided by the prohibition of mining. Revegtation of flatter slopes will be successful, and the temporary loss of land to livestock and wildlife is small. Revegetation effects of steep slopes will be monitored so effective control of erosion is obtained. Subsidence effects on vegetation communities with be small. Therefore, this alternative appears unjustifiable.

Flatter cuts for roads could be acheived by using retaining walls. This is an expensive, artificial structure which currently can not be justified. However, if road stabilization techniques fail, this alternative may need to be reconsidered.

A raised conveyor belt would eliminate the need for conveyor cuts. Conveyor cuts coincide with road cuts in upper Eccles canyon, and thus do not present much of an additional problem in that that location. Therfore, initial raising of conveyor belts seems unwarrented. However, if road and initial conveyor sloes become unstable, a reevaluation of this possibility must be made prior to cutting conveyor slopes in lower Eccles canyon.

K. Literature cited

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Woods, F.W. 1960. Biological antagonism due to phytotoxic root exudates. Bot. Rev. 26: 546-569,

817.97 Protection of Fish and Wildlife

A. Description of Existing Environment (783.20)

The Skyline Mine Plan area is located on the Wasatch Plateau in central Utah at an elevation of approximately 8,000 feet. The area is dominated by forest vegetation. Common important wildlife species are mule deer, elk, moose and cutthroat trout. A wildlife assessment was conducted by Clyde Pritchett, Duane Smith and others from Brigham Young University. R. N. Winget prepared the initial Aquatic Inventory and site description dated October 10, 1979 and an updated revision dated January 28, 1980. The scope of wildlife studies was identified by the Utah Division of Oil, Gas and Mining in consultation with the U. S. Forest Service and Utah Division of Wildlife Resources.

1. No threatened or endangered species or evidence of their presence has been observed on the mine plan area. The mine plan states that peregrine falcons are known to nest within 20 miles of the mine plan area, but no suitable nesting habitat exists on or within five miles of the mine plan area. Ten to 20 bald eagles winter from November until freeze-up (normally January) on Scofield Reservoir north of the mine plan area, and pass through the mine plan area in migration. No bald eagle nests are known in Utah at present, and locations of all known historical nest sites are greater than 50 miles from the mine plan area. No black-footed ferrets or indications of their presence have been recorded on or near the mine plan area. (A search was conducted on site.) Golden eagles have been recorded in the mine plan area, but no nests have been reported and none were located during field surveys in 1979.

In a letter dated May 19, 1980, the U.S. Fish and Wildlife Service (USFWS) stated, "We have determined that the bald eagle and the black-footed ferret, both Federally listed as endangered, may be present in the project vicinity." This determination is based on range maps only, and constitutes a requirement that the possible presence of these species be addressed. Clark Johnson, USFWS Coal Coordinator in Utah, stated (Personal Communication 6/5/80) that the inclusion of the black-footed ferret was an error, and confirmed that bald eagles would not be found on the permit area.

2. Three big game species (elk, mule deer and moose), two small game species (cottontail and snowshoe hare), and cutthroat trout occur in the mine plan area.

The Skyline Mine Plan area and adjacent areas are considered high priority summer range for moose and the South Fork (of Eccles Canyon) area as "crucial-critical" habitat. (Vol. A-5., p. 20-21). No quantitative data were provided for moose in the Eccles Canyon area. The Utah Division of Wildlife Resources (UDWR) defines crucial-critical wildlife use areas as "sensitive use areas necessary to sustain the existence and perpetuation of one or more species during critical periods in their life cycles. Biological intracacies dictate that significant disturbances cannot be tolerated...on crucial-critical sites (since) disturbance to crucial-critical use areas or habitats will result in irreversible changes in species composition and/or biological productivity of the area so classified.

The entire area is considered high-priority summer habitat for mule deer. High-priority wildlife use areas are defined by UDWR to be "intensive use areas for one or more species. (Vol. A-5, p. 25). Twenty-five to thirty-five animals summer in Pipe Spring Canyon, 20 to 30 in James Canyon. Numerical data are not available for mule deer use of Eccles Canyon. "Mule deer frequented Eccles Canyon and were sighted from the mouth of the canyon to the top of the ride. Fresh tracks were frequently observed on the road. Most draws coming into Eccles Canyon had deer trails in them, but (three) had heavily used trails."

According to UDWR, the deer population on this unit is below the carrying capacity of the excellent summer range. The amount of high-priority and crucial-critical winter range is the limiting factor for populations of deer in the potentially perturbed habitat. The proposed 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 crucial-critical winter habitat were involved or if summer habitat were at carrying capacity. (Vol. A-5, p. 25, 27).

Mule deer winter to the east and northeast of the mine plan area. Figure 3 (attached) shows two migration routes to the mule deer wintering area, one of which indicates movement generally down, and east from the Eccles Canyon area.

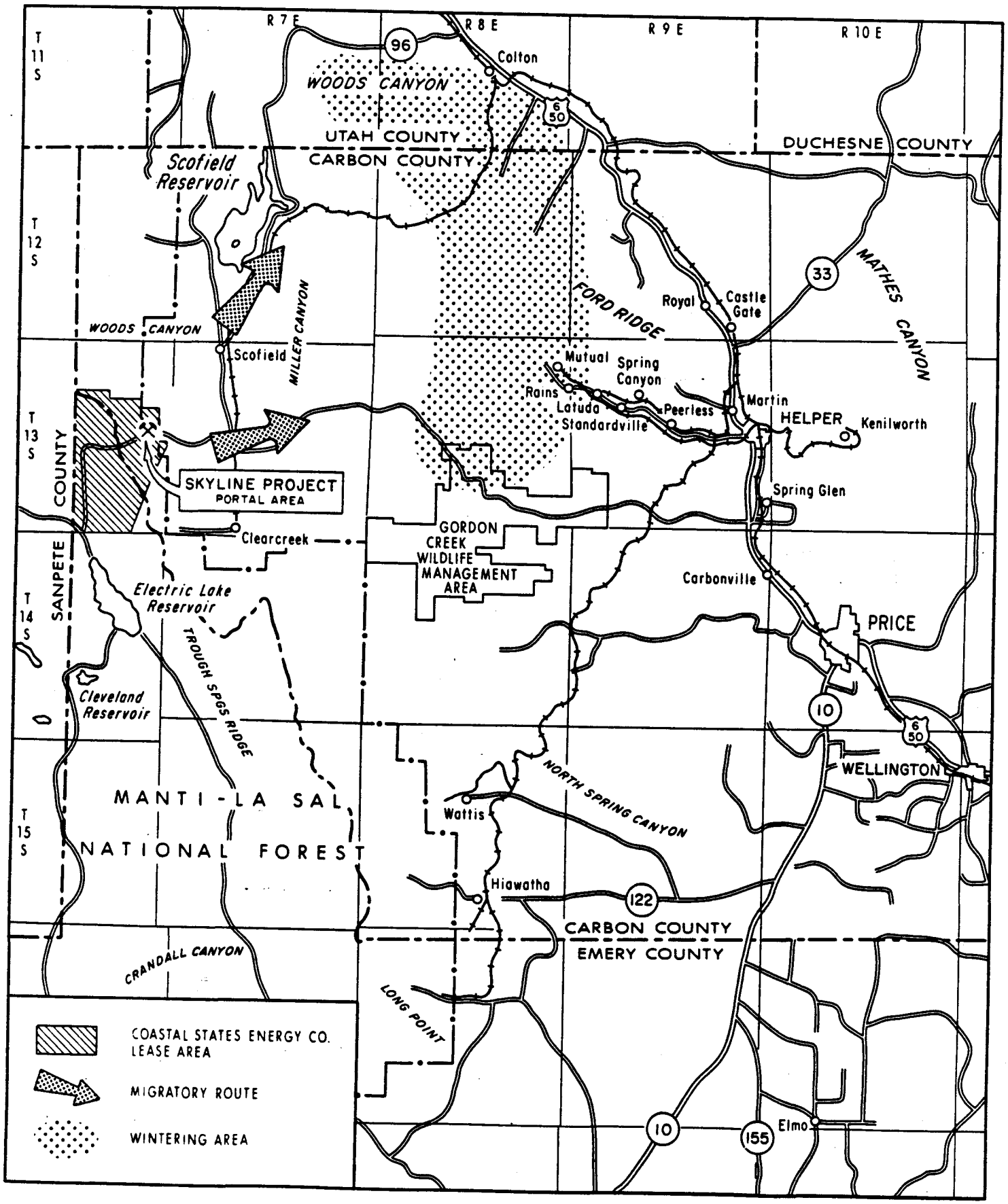

Fig. 3 Winter range and migratory route of *mule deer* living in the environs of the Skyline lease area

The mine plan area and adjacent areas are considered high summer habitat for elk. (VOl. A-5, p. 21). "During the fieldwork, elk sign (track and pellets) were commonly observed throughout the project area. In the early part of the summer, before traffic increased, elk were often sighted from the road in Eccles Canyon, but after human activity increased...the elk adjusted their daily patterns to avoid disturbance from vehicles and man. They seem to seek refuge in South Fork and periodically utilize Eccles Canyon on a crepuscular or nocturnal bases." (Vol. A-5, p. 22). No quantitative data were provided for elk using the Eccles Creek Canyon.

Since "elk often traverse a 10-mile stretch during short periods of time, particularly when disturbed...obstructions to movement should be minimized." (Vol. A-5, p. 24). Also, Figure 4 (attached) shows an elk migration route generally parallel to Eccles Canyon, and heading toward the elk wintering range to the east; this gives further indication of the importance of free animal movement in the Canyon.

"Efforts should be made to concentrate human activity and disturbance in Eccles Canyon and to maintain at least status quo in South Fork or the adjacent canyons. Both overpasses and underpasses should be provided so that elk can cross the conveyor that will otherwise function as a barrier to movement. This is essential to elk that occupy or traverse South Fork, between the Belina Mine and Skyline conveyors. Lack of passages may render this most favorable habitat useless for elk production and use. (Vol. A-5, p. 25).

The important habitat considerations within the permit area and facilities corridor are: 1) elk and mule deer migrate east from the mine plan area between their winter and summer ranges; 2) the Wildlife Assessment identifies eleven game trails which intersect the proposed access road and coal conveyor route; 3) the South Fork area is an elk calving ground and is also an important year-round moose habitat; 4) Huntington Creek above Electric Lake in the southwest corner of the mine plan area is considered by the UDWR as a valuable cutthroat recruitment area for Electric Lake; 5) cutthroat trout were found to be successfully reproducing in the vicinity of the confluence of the South Fork and the Main Fork of Eccles Creek (sta. EC03) and downstream for that point; 6) the macroinvertebrate communities of both Huntington Creek above Electric Lake and Eccles Creek have considerable species diversity, with large numbers of Ephemeroptera, Plecoptera, and Tricoptera giving evidence to the high quality waters in these creeks. (Vol. A-5, p. 3).

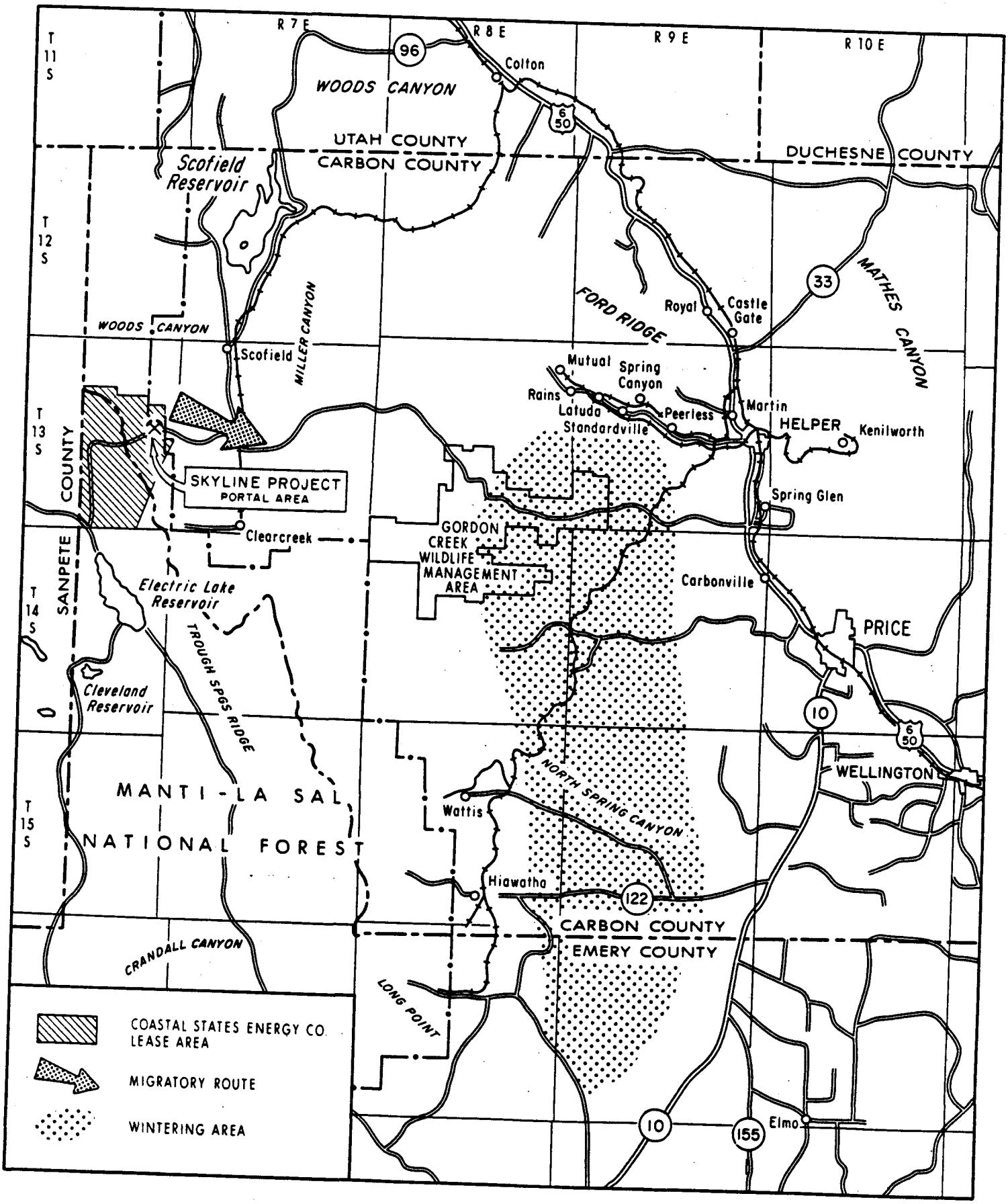

Fig. 4 Winter range and migratory route of *elk* living in the environs of the Skyline lease area

B. Description of Applicant's Proposal (784.21, 817.97)

There are several aspects of the applicant's proposal which have potential to affect fish and wildlife importantly. They are:

1. The 2.6 mile conveyor bench and road located along the northside of Eccles Creek. The implications of these facilities to resident wildlife consists of blockage of daily movement of large and small animals. In addition, Figures 4 and 5 (Vol. A-5) indicate that migratory movement along the drainage may also be impacted.

2. Also along this conveyor/road facility, there is considerable potential for uncontrolled erosion of cut and fill slopes. These slopes would be located in the hillside above the conveyor bench and would consist of one to four terraces with steep (1:1) slopes. From the best advice OSM has been able to obtain, these steep slopes would be extremely difficult to vegetate and stabilize (See Revegetation section of this document). This could be a source of continual sedimentation with accompanying lowering of aquatic habitat value. In addition, the bank below the road is very close to Eccles Creek - in some places to the waters' edge. Mitigation is discussed in Surface Water Hydrology, but even with BTC/BAT and good maintenance, the road bank will be a source of erosion and coal spillage to the creek.

3. The proposed portal facilities area will impact 4,200 feet of the upper Eccles Creek stream channel: 500 feet of the upper north fork; 1,000 feet of the upper middle fork; 1,300 feet of the upper south fork; and 1,400 feet of the upper Eccles Creek extending to the National Forest boundary. These streams will be diverted into closed culverts which will carry the waters through the facilities area to prevent the addition of sediments, coal dust and other pollutants to the stream waters. (p. 4-62). This is judged to be satisfactory protection for the downstream biota.

4. "Approximately 1,600 feet of lower Eccles Creek in the area of coal storage and loading facilities will be relocated into a new channel designed to provide eddies, pools and riffles. Log deflector and log dams will be used to provide spawning gravel beds and will be designed to maintain the structural integrity of the beds during high flow events. The applicant plans to establish riparian vegetation on soil covered banks." Details of the above described structures are presented satisfactorily in the Aquatic Ecology Report of Volume A-5; details of what riparian species will be planted have not yet been provided (see Revegetation Section of this document). "Road crossings to the coal storage and load-out facilities will be over open bottom culverts with five foot minimum widths and rock bottoms to ensure free passage of migrating fish. At the conclusion of mining, it is anticipated that the stream channel diversion at the load-out facilities area will be an equal or better trout habitat than the existing channel. Therefore, the applicant proposes to leave the stream in the new channel rather than restore it to its premining location in order to avoid redisturbing the fish habitat." (p. 4-63). With stipulation covering riparian revegetation in the Revegetation section of this document, the stream channel diversion plan is BTCA, and is judged satisfactory.

817.97 (a) The applicant will mitigate adverse impacts to wildlife by the following means:

1. On June 12, 1980, the applicant submitted map (Access Road and Conveyor Plan and Profile) showing eleven passages under the conveyor for wildlife use. Seven of these passages bridge natural drainages entering Eccles Creek. There are additional underpasses, one at each conveyor transfer tower. In addition, an overpass will be provided in lower eccles Canyon near the loadout, where the conveyor passes under the road.

2. Buses will be provided to transport employees from central locations in the various communities to the mine site, thus eliminating the bulk of employee vehicular traffic through wildlife habitat. (Response to OSM March 30, 1980 Completeness letter).

3. Eccles Canyon Road will have a posted speed limit of 25 mph. Warning signs will be installed along the Eccles Canyon road in the vicinity of each animal underpass of the overland conveyors. (Page 4-64).

4. Power transmission lines for underground mining and related activities in the permit area will be designed and constructed to comply with the guidelines set forth in "Environmental Criteria for Electric Transmission System" (USDI, USDA (1970)). Power distribution will be designed and constructed in accordance with REA Bulletin 61-10 "Powerline Contacts by Eagles and Other Large Birds."

5. The final report on the 1980 raptor survey in the Eccles Canyon area will be submitted by July 15, 1980. Data will include maps of sitings. (Coastal States' June 3, 1980 letter).

6. The applicant is in the process of establishing a conservation training program for mine employees. This program, to be conducted by personnel of the Utah Division of Wildlife Resources, will be included as part of the routine mine training schedule. (Coastal States' June 3, 1980 letter).

7. Construction activity in the portal area will not begin until after the peak spring high flow has passed. Additionally, construction related impact on Upper Eccles Creek will be minimal during placement of the pipe diversion system. This activity, which will occupy the approximately 30 days, will move any significant stream impact well beyond the peak flow period. (Coastal States' June 3, 1980 letter).

9. The impact of the mining activity on the aquatic community will be monitored as recommended by Dr. Robert Winget in the Aquatic Wildlife Section (A-5), with the exception that the applicant cannot commit UDWR to a fish monitoring program. The applicant will, however, assist UDWR in this activity as scheduled by UDWR, and will share all monitoring data with DWR. (Coastal States' June 3, 1980 letter).

The Fish Habitat Plan (Aquatic Wildlife, Vol. A-5) submitted by Dr. Winget represents his suggested program and was worded as such. The applicant finds his environmental protection features acceptable and will follow his program. (Coastal States June 3, 1980 letter).

10. The data requested by the U. S. Fish and Wildlife Service on non-game avian species, especially the pileated and Lewis Woodpecker and Williamson Sapsucker, will be added to Dr. White's study task list. Surveys for these species will be conducted primarily in the wooded areas proposed for disturbance. (Coastal States' June 3, 1980 letter).

11. The restored stream channels in the portal area will be revegetated in the same manner as all disturbed riparian zones in the lower loadout portion of the canyon. Post-mining monitoring will be consistent with monitoring requirements for other riparian zones. (Coastal States' June 3, 1980 letter).

C. Evaluation of Compliance of Proposal

817.97 (a) and 784.21 (2). The applicant's proposal is not in compliance with these sections, principally because lack of adequate baseline data on elk, deer and moose movements on a seasonal and daily basis across and down Eccles Canyon makes formulation of a plan to minimize disturbances to these animals virtually impossible. It is impossible to assess importance of the canyon either for special uses (i.e., fauning or migration routes) or as summer range. In view of the previously discussed information submitted to OSM (indicating the special wildlife values of this drainage), and because the OSM analysis is handicapped by the lack of seasonal quantitative data on these important species, we are constrained to take a "worst case" view of potential big game.

The most desirable mitigation the applicant could provide is elevation of the conveyor--off the bench--from the portal to load out facilities. This is one of the principle recommendations of the U. S. Fish and Wildlife Service (letter of May 8, 1980 to Cleon Feight). The Fish and Wildlife Service noted that the road appears to encroach on the riparian zone, and the conveyor passages would funnel animals through immediately onto the haul road.

On June 12, 1980, the applicant submitted to OSM a new map of the Access Road and Conveyor Plan and Profile. (Maps 2-101-C to 2-109-C, Rev. 0). This map shows eleven well-spaced crossings under the conveyor bench. These underpasses will be sized according to UDWR criteria (3 m tall and 5 m wide). Seven of the crossings are positioned on drainages and can be expected to be used by those individuals who tolerate man-made underpasses. The UDWR (Larry Dalton, pers.com. June 10, 1980) expects good use of these by mule deer. Use by elk and moose is "open to question."

In addition, there are four crossings under transfer towers which may have limited use because crossings under transfer towers which may have limited use because animals that "spook" easily (some big game, and most predators) may be deterred by the noise of the motor and coal falling immediately overhead. Animals with small home ranges are likely to use the passages through to the stream and riparian zone because of distance to travel along the conveyor barrier. (They may use open spaces 12" tall along the base of the conveyor structure). Proximity to the highway presents a second hazard to animals who may be somewhat disoriented as they emerge from under the conveyor.

In general, the spacing and placement of conveyor underpasses is good. However, there is very little known about how various species of animals will accept these passages. It is important for the regulatory authority to find out to what degree these passages are accepted (or rejected), since they constitute a major mitigation for impacts to wildlife from the proposed mining operation.

The importance of Eccles Creek as a big game corridor and summer range is indicated by the UDWR. The UDWR statements are neither confirmed by nor disapproved by the applicant's sparse data collected during one season and by unknown methods. Thus, it is important to gather additional baseline data in Eccles Creek Canyon to better assess the animal populations which would be affected by the conveyor and road. In addition, the applicant should provide a big game monitoring plan to show the effectiveness of these mitigation structures.

2. 817.97 (b). The applicant has performed an adequate survey of habitat and possible occurrence of endangered species.

3. 817.97 (c). The applicant is committed to acceptable construction of power transmission lines.

4. 817.97 (d) (1). Location and operation of haul and access roads will minimize impacts to important fish and wildlife species, as provided above under 817.97 (a) and below under 817.97 (d)(5).

5. 817.97(d)(2). Fencing to underpasses is deemed undesirable in the road/conveyor corridor as it would constitute another obstruction to movement.

6. 817.97(d)(3). Applicant should commit to exclusion of wildlife from ponds containing toxic materials.

7. 817.97(d)(4). Restoration of Eccles Creek aquatic habitat will be carried out acceptably under the plan presented for the portal and loadout areas. Disturbance to terrestrial wildlife is minimized by underground mining.

8. 817.97(d)(5). Restoration of riparian vegetation is addressed in the Revegetation Section of this document.

9. 817.97(d)(6). Avoidance of stream channels is discussed under the Surface Hydrology Section of this document, especially under 817.57. Restoration of relocated stream channels is by an acceptable plan.

10. 817.97(d)(7)(8). The applicant should commit to avoid the use of persistent pesticides and to prevent and control fires.

11. 817.97(d)(9). The applicant has not demonstrated that reclamation plans were developed with adequate consideration given to food and cover for wildlife. (See stipulation under Revegetation Section of this document).

D. Revisions to Applicant's Proposal (None)

E. Reanalysis of Compliance - (Not Applicable)

F. Proposed Stipulations with Justification

1a. The applicant will provide quantitative baseline data showing utilization of the Eccles Creek Canyon by elk, male deer and moose. Data collection will address the question of whether or not Eccles Creek Canyon is utilized as a big game migration route. It will also assess and quantify localized movement and use of the Eccles Creek Canyon by elk, mule deer and moose. Quantitative estimates of resident populations of elk, deer and moose in the Eccles Creek drainage will be provided.

A plan for big game data collection will be submitted to the regulatory authority for approval within 30 days of the company's acceptance of departmental approval of the mine plan. The plan should utilize information collected in the past by the Utah Division of Wildlife Resources and the Forest Service as background and as a basis for developing the site specific baseline data gathering land. Data collection will commence when the company receives the regulatory authority's approval of the plan; it will continue for one calendar year following initiation of field data collection. By December 31, 1981, the company will submit results of the baseline data gathering to the regulatory authority. At this time the regulatory authority will assess the data and determine whether continuation of baseline data collection is necessary.

2. The applicant will commit to:

a. Exclusion of wildlife from ponds containing toxic-forming materials.

b. Following construction of the conveyor and completion of the conveyor bench in 1983, and no later than December 31, 1983, the applicant will submit to the regulatory authority a plan for monitoring animal acceptance/rejection of the conveyor underpasses. This monitoring should provide quantitative estimates of how many animals attempt to cross, and how many are turned back. This monitoring shall continue for five years, or until the regulatory authority has determined that sufficient data has been collected to evaluate the impacts of the conveyor/road on mule deer, elk and moose utilization of the Eccles Creek Canyon. If the regulatory authority finds that elk, mule deer, or moose, are moving across the drainage in numbers significantly less than prior to conveyor construction, and that they are in fact turning away from the road/conveyor, the regulatory may elect to require further mitigation efforts.

c. No use of persistent pesticides unless as part of an approved reclamation management plan.

d. Prevent, suppress and control forest, range, and coal fires which are not part of an approved management plan.

G. Summary of Compliance

If stipulations are accepted by the applicant, the mine plan will be in compliance.

H. Proposed Departmental Action

To approve, with stipulations, the applicant's plan to minimize disturbances and adverse impacts to wildlife caused by the Skyline Mine Operation.

I. Residual Environmental Impacts

Wildlife habitat on the area of disturbance, 75 acres, will be lost for the life of the mine. In addition, some disruption of animal movement patterns may result, although the applicant will use best technology currently available to minimize this problem.

J. Alternative to Proposed Action

Since mining cannot be carried out without disturbance to the portal area and transportation corridor, no reasonable alternatives to the proposed action were identified. However, elevation of the conveyor is a valid alternative. This would result in decreased erosion from conveyor bench cuts and virtually eliminate impediment to animal movement. As background to this, OSM has been informed that Valley Camp Coal Company has proposed an elevated coal conveyor for the nearby Belina Mine. The Belina Mine is located on Whiskey Gulch, a tributary which joins Eccles Creek approximately one mile east of the Skyline portal area. The Belina conveyor would follow Whiskey Gulch north to Eccles Creek, cross over, then turn east to a loadout on Pleasant Valley Creek. The plan is to install conveyor towers by lowering them from a helicopter to previously constructed bases, thus involving minimal ground disturbance. In this way, Valley Camp would avoid the animal crossing problem in Whiskey Gulch which the applicant must address in Eccles Creek.

817.150 to 817.156 Roads

A. Description of Existing Environment

The Skyline Mine lies on the northern end of the Wasatch Plateau about 2 miles southwest of Scofield, Utah. In general, the plateau surface is rugged to rolling and attains elevations in excess of 11,000 feet giving it a mountainous aspect. The proposed mine sites are located in Eccles Canyon. Eccles Canyon is about 3 1/2 miles long and characterized by rounded ridges and steep slopes of about 70 percent near the canyon bottom. Most bedrock in the mine plan area is covered by soil and vegetation. Along the narrow bottom land of Eccles Canyon the soils are 10-20 feet deep, formed from old landslide and alluvial deposits. Vegetation in the area is typical of an alpine environment with spruce and fir on the north-facing slopes and aspen on the south-facing slopes. A 35-acre landslide area has been identified along the south side of Eccles Canyon extending about 650 either side of the Forest boundary. A 200 foot wide slump has been identified near the No. 1 portal along the north side.

Current access to the mine plan area is by state highway, county road, and Forest Service road. State Highway 96 runs north and south from Scofield, past the mouth of Eccles Canyon and on to a junction with U.S. 6 near Soldier Summit. The proposed mine portals lie 2.6 miles up Eccles Canyon on county road and Forest Service Development Road 50227. About 1.2 miles of the road have been improved to carry coal truck and commuter traffic from the Belina No. 1 mine; it is graveled, graded, maintained, and of a width to permit easy passage of the trucks. The remaining 1.4 miles of road have been graded and receive some maintenance. About 1,250 feet of the upper section of road is Forest Development Road 50227 on National Forest land. The road extends past the proposed mine portals and connects with other unimproved roads in Huntington Creek and other drainages.

B. Description of Applicant's Proposal

1. Road Uses

Eccles Canyon road and the Mine Access road are the two main roads leading to the mine site. Eccles Canyon road is the current Eccles Canyon road from State Highway 96 to the proposed By-Pass road. The Mine Access road is the current Eccles Canyon road from the proposed By-Pass road to the portal area. They will be used throughout the life of the mine to transport employees, by bus, from the parking lot, located near the loadout facility, to the mine, and as the main access for all maintenance equipment and all supply trucks. In addition, it will be used for temporary transportation of coal in 26 ton trucks from the mine site to the railroad beginning in 1982 and continuing until the planned overland conveyor is completed in 1984.

Other roads in the mine site will be used daily for inspecting of shafts and fans, and periodically for inspection and maintenance of such facilities as water tanks, substations, core drillings, and hydrologic and subsidence monitoring points.

Speed limits on the private roads will be 20 mph. Coal haul trucks will observe a 25 mph speed limit on all other roads.

2. Road Construction

The applicant states that the road design has been performed by registered, qualified, professional engineers in accordance with all available design technology. The Eccles Canyon road and the Mine Access road will be used to haul coal from 1982 to 1984, and thus are classified as Class I Roads. The Water Tank Access road is a Class II Road. However, it meets all the criteria for a Class I Road in all areas except Drainage. Therefore, the Water Tank Access road will be evaluated with the Class I Roads in all areas except Drainage, where it will be evaluated as a Class II Road. There are no Class III roads proposed for the transportation system of the Skyline Mine operation. In all cases, topsoil and vegetation will be cleared only to the extent necessary to accomodate road and ditch construction. Stabilization and revegetation of all cut and fill slopes resulting from road construction will be performed during the first seasonal opportunity.

Sediment control for all roads is planned. Sediment control is discussed in the Hydrology section of this Technical Analysis.

Eccles Canyon Road

At present, the lower part of the Eccles Canyon Road has been improved for about 1.2 miles. But, with the anticipated increases in commuter traffic and coal haulage trucks, the applicant and others believe that, to ensure public safety and to mitigate dust conditions, approximately 2.5 miles of road improvements will be necessary. Maps 3-9 (A though F) and 3-10 show the proposed alignment profile and a typical cross section of the Eccles Canyon Road upgrade using U.S. Forest Service specifications. In addition, culverts and road ditches which will be constructed are illustrated. (Map 3-12A and Map 3-12B). As shown in the design, the steepest portion of the road is a 10.0% grade, sustained for 270 feet. No other grades on the road will exceed 8.0%. There are no switchbacks on the road.

The Eccles Canyon road will have two lanes, each of which will be 17 feet wide, with road shoulders of 4 foot width. The road will crown in the center and have a 2% slope from the crown to the drainage ditches.

The proposed road subgrade will be cut using bulldozers, motor graders, front-end loaders and haul trucks. Following completion of the subgrade cut and culvert addition, a six inch sub-base will be laid, graded, compacted and finished to a smooth, uniform line. When the sub-base has been finished, it will be sprayed with a bituminous sealant. Four inches of aggregate base course will be laid, graded, compacted and finished to a smooth, uniform line. Three inches of asphalt concrete surface will be spread and compacted in a single course on the aggregate base course. The road will be repaired and maintained as required throughout the life of the mines.

The applicant will construct drainage ditches on both sides of all throughcuts and on the inside shoulder of a cut-and-fill section. Culvert type cross drains will be placed as needed according to grade, so that water will be diverted before reaching large fill areas. The drainage ditches will be designed to safely pass the peak runoff of a 10 year, 24 hour precipitation event.

Culverts will be designed to safely pass a 10 year, 24 hour precipitation event without a head of water at the entrance. Culverts will be equipped with trash racks and debris basins as needed to ensure that debris from the drainage ditches will not impair the function of the culvert. The culverts will be designed, constructed and maintained to sustain the weight of all vehicles travelling over them. A downgrade angle of approximately 30% will be used for installing all culverts which cross the road. The inlets of the culverts may be riprapped to minimize erosion.

After construction, the road will become part of the State Road Collector system.

Mine Access Road

Maps 3-9 (A through F) show the alignment, typical cross sections of the mine access road, related drainage ditches, and indicate the type of road culverts which will be constructed to meet required performance standards. As shown in the design, the steepest portion of the access road is a 9.5% grade sustained for 1,450 feet. No other grades on the access road are to exceed 9.5%. There are no switchbacks on any access road.

The mine access road will have two lanes, each 11 feet wide and road shoulders of 4 foot width. The road will crown in the center and have a 2% slope from crown to drainage ditches.

Vegetation and topsoil wil be removed prior to any extensive earth work. The road subgrade will be cut using bulldozers, motor graders, front-end loaders and haul trucks. Following completion of the subgrade cut and culvert addition, a six inch sub-base will be laid, graded and compacted. The sub-base will be finished to a smooth uniform gradient. Once the sub-base has been finished, it will be sprayed with a bituminous sealant. Four inches of aggregate base course will be laid, compacted and finished to a smooth uniform line. Three inches of asphalt concrete surface will be spread and compacted in a single course on the aggregate base course. The road will be repaired and maintained as required throughout the life of the mines.

The drainage ditches on both sides of the access road will be equipped with trash racks and debris basins as needed to ensure that debris from the drainage will not impair the functions of the drainage and sediment control structures. The drainage ditches will be designed to safely pass the peak runoff from a 10 year, 24 hour precipitation event.

Culverts across the road will be spaced as needed, according to grade, so that water runoff can be intercepted before reaching large fill areas. Culverts will be constructed to minimize the possibility of plugging, collapsing and erosion of inlet and outlet areas. The culverts will be designed to safely pass a 10 year, 24 hour precipitation event without a head of water at the entrance.

Water Tank Access Road

For the construction of water storage tanks and continued inspection of the tanks, an access road will be constructed from Forest Development Road 50227. The alignment and a typical cross section of the Forest Service road and related ditches are shown on maps 3-19 and 3-20 respectively. Also indicated are pipe culverts which will be construction the Forest Service road. The grade of the Water Tank Access road will be 10%.

The Water Tank Access road will be 16 feet wide. The road will be surfaced with eight inches of road base gravel.

Drainage ditches will be constructed on the inside shoulder of the Water Tank Access road. The drainage ditches will be equipped with trash racks and debris basins as needed. Drainage ditches will be designed to safely pass the peak runoff from a 10 year, 24 hour precipitation event. Culverts across the road will be spaced as needed, according to grade, so that water runoff can be diverted before reaching large fill areas. The pipes will be constructed to minimize the possibility of plugging, collapsing and erosion of inlets and outlets. Culverts will be designed to safely pass the 10 year, 24 hour precipitation event without a head of water at the entrance.

Forest Development Road 50227

The applicant has consulted with the U.S. Forest Service concerning Forest Development Road 50227. It was determined from these consultations that, due to conflicts between construction and other traffic on the road, an alternative route (By-Pass road) for other traffic would have to be established. Maps 3-19 and 3-10 show the alignment and a typical cross section of the proposed Forest Development Road and related ditches. As shown, the steepest portion of the road is an 8% grade sustained for a distance of 1.19 miles and a smaller portion of 0.28 miles. There are no switchbacks on the road.

The applicant has no plans to construct the road along intermediate drainage ways. The applicant will surface the road with a road base gravel at a thickness of 8 inches and will construct drainage ditches on the inside shoulder of the road. The drainage ditches will be designed to safely pass the peak runoff of a 10 year, 24 hour precipitation event. Culvert crossdrains will be placed as needed according to grade, so that water can be intercepted before reaching a construction fill area. Culverts will be designed to safely pass a 10 year, 24 hour precipitation event and will be equipped with trash racks and debris basins which will be constructed so as not to impair the function of the culverts. The culverts will be designed, constructed and maintained to sustain the weight of vehicles travelling over them and to prevent collapsing. All aspects of the proposed road will be consistent with the standards of the U.S. Forest Service.

3. Reclamation

The applicants proposal for reclamation of roads is detailed in Vol. 3, p, 4-1 et.seq., and Vol. 2, p. 3-51, and maps 3-16A, 3-18, 3-39 and 3-40.

After mining is completed, the Mine Access road will remain in place until the disturbed areas have been stabilized by revegetation, and the surface runoff has been determined to meet water quality standards. All surface road blacktop will be removed from the reclaiming area. The stream will be returned to its approximate premining channel and the disturbed areas will be regraded and recontoured. The ground at the sites will be scarified, so as to reduce compaction and allow better soil retention and vegetation establishment. Finally, crossdrains and water bars will be constructed, and the disturbed areas will be topsoiled and revegetated.

The applicant will establish a monitoring program to ensure that an acceptable vegetation cover is established. The Eccles Canyon road and the By-Pass road will not be reclaimed as they are consistent with the postmining use of the land.

C. Evaluation of Compliance of Proposed Plan

817.150 Roads: Class I: General

The applicant has submitted detailed plans for road construction and improvements for the roads in the mine plan area. The applicant proposes that the Eccles Canyon road and the By-Pass road will be left as part of the approved postmining land use. All other roads will be removed and reclaimed. All roads are designed by a professional engineer.

Compliance with 817.150(b) will be evaluated in the fish and wildlife and the hydrology sections.

Summary: Complies with 817.150(a), 817.150(c), and 817.150(d), if the Forest Service, the State of Utah Carbon County, Sanpete County and Emery County approve the Eccles Canyon road and the By-Pass road as permanent structures.

817.151 Roads: Class 1: Location

The applicant proposes to locate the improved Eccles Canyon road and the Mine Access road along the present Eccles Canyon road alignment which runs along the creek bottom. Since Eccles Canyon is so narrow, the present road encroaches on the creek in places. Widening the road would cause it to encroach further on the creek. However, the road will be constructed outside an approved buffer zone. Most of the road will be built on unconsolidated alluvium which has the potential of eroding at a rate of 20 cubic yards per acre.

No stream fords are proposed.

The By-Pass road will be designed by the State of Utah Department of Transportation and will not be used in the production of coal.

Locating the improved roads along the same alignment as the old roads will minimize sedimentation and erosion because less surface area will be disturbed by improving the existing road than by relocating it.

Summary: Complies with 817.151.

817.152 Roads: Class I: Design and Construction

The overall grade of all roads does not exceed 10%. No grade on any road exceeds 10%.

The horizontal alignment is as consistent with the existing topography as possible. The alignment is determined in accordance with the anticipated volume of traffic and weight and speed of vehicles to be used. Horizontal and vertical alignment are coordinated to ensure that one will not adversely effect the other.

The applicant states that cut slopes shall not exceed 1:1 in unconsolidated material or 0.25h:1v in competent rock.

The geotechnical report submitted with the mine plan (Vol. A-4 p. 26-29) indicates that cut slopes should not exceed 1:1 in unconsolidated material and incompetent rock, or 0.5h:1v in competent rock.

The report further states that all cut faces with a vertical height of more

No cut and fill data or profile data is provided for the water tank access road.

The applicant does not specifically mention fill embankments in the proposal. It is not clear if there will be any embankments or if the applicant left road embankments out of the mine plan.

The applicant proposes to remove topsoil before road construction, and place it in the two topsoil stockpiles as shown on Maps 3-8 and 3-9A.

The applicant states that stabilization and revegetation of all cut and fill slopes resulting from road construction will be performed during the first seasonal opportunity.

The 8 foot wide benches located along cut slopes of 25 feet in vertical height or greater will act as temporary control along the cut slopes.

Summary: Does not comply with 817.152(c)(1) and 817.152(d), and 817.152(e); however, if stipulation is met, will comply.

817.153 Roads: Class I: Drainage

The water control system is designed to safely pass the 10-year, 24-hour precipitation event with regard to culverts and drainage ditches.

All water flowing off the road will flow through sediment control devices and flow into Eccles Creek. Benches will minimize erosion on the cut slopes during construction and until permanent erosion control measures can be implemented.

Vegetation will not be cleared for more than the width necessary for road and associated ditch construction.

Ditch design for the Mine Access road only states that drainage ditches on both sides of the access road will be equipped with trash racks and debris from the drainage will not impair the functions of the sediment control structures.

There are only 9 culverts proposed for the 2.6 miles of road between the portal area and the loadout facility. Calculations using the Manning equation, the typical drainage ditch cross section shown on Map C-12B, and peak flows from the culvert calculations submitted by letter dated June 3, 1980 indicate that the velocity of water flowing through the drainage ditch in the area of culvert C-5 is 21 feet per second during the 10-year, 24-hour precipitation event second that causes erosion. Therefore, there are not enough culverts crossing the road. All culverts are designed to safely pass the 10 year, 24-hour precipitation event. Only one culvert, C-8, has an end area greater than 35 square feet, but it was only designed for the 10-year, 24-hour precipitation event. There are no culverts shown on the drawings for the Water Tank Access road. All drainages will be equipped with trash racks and debris basins as needed to ensure that debris from the drainage will not impair the functions of the sediment control structures. Only the Eccles Canyon road states that culverts will be designed, constructed and maintained to sustain the weight of all vehicles traveling over them. Culverts on the Eccles Canyon road will be constructed with a downgrade angle of approximately 30%. No culverts are shown on the road profiles; therefore, verticle location is unknown. Cover for culverts on Eccles Canyon road and the Mine Access road is at least 13 inches. Cover for culverts on the Water Tank Access road is at least 8 inches. The inlets of the culverts on the Eccles Canyon road may be rip rapped. Culvert detail drawings show riprap at culvert outlets.

There will be no stream crossings and no natural drainages will be altered.

Summary: Does not comply with 817.153(a)(2) and 817.153(c); however, if stipulation is met, will comply.

817.163 <u>Roads: Class II: Drainage</u>

The water control system for the Water Tank Access road consists of a drainage ditch on the inside shoulder of the road. The drainage ditch is designed to safely pass the peak runoff from a 10-year, 24-hour precipitation event.

Drainage ditches are planned only for the inside shoulder of the Water Tank Access road.

There are no culverts noted on the Water Tank Access road plan.

No natural drainages will be altered.

Summary: Complies with 817.154.

817.154 Roads: Class I: Surfacing

The applicant proposes that the Eccles Canyon road and the Mine Access road will be constructed with a 6 inch sub-base, sprayed with a bituminous sealant, 4 inches of aggregate base course, and 3 inches of asphalt cement surface. The Water Tank Access road will be surfaced with 8 inches of road base gravel.

Acid or toxic forming substances will not be used in road surfacing.

Summary: Complies with 817.154.

817.155 Roads: Class I: Maintenance

The applicant states that all roads will be repaired throughout the life of the mine. The applicant also states that all roads will be sprayed with water or non-toxic dust supression chemicals as required to control dust. This is not an adequate road maintenance plan. JN

Summary: Does not comply with 817.155.

817.156 Roads: Class I: Restoration JN

After it is no longer needed for operations, reclamation, and monitoring, the mine access road will be closed to vehicular traffic; natural drainage patterns will be restored; all bridges and culverts will be removed; roadbeds will be ripped and scarified; cut slopes will be shaped to blend with the natural contour; crossdrains, dikes, and water bars will be constructed to minimize erosion; and road surfaces will be topsoiled and revegetated.

All road surfacing material will be removed, but no mention is made of where it will be disposed.

No mention is made of the restoration of the Water Tank Access road.

Eccles Canyon road and the By-Pass road will be left as part of the approved postmining land use.

Summary: Does not comply with 817.156(a) with regard to the Water Tank Access road. Does not comply with 817.156(b).

D. Revisions to Applicant's Proposal JN

The applicants design for fill embankments is outlined in Maps 2-101-C through 2-109-C, and the narrative submitted June 3 and 6, 1980 in letters from the applicant.

1. Construction Method

Embankment will be placed on properly prepared surface stripped of topsoil and with unsuitable soil removed. Immediately prior to placing embankment, the surface, except for rock, will be proof rolled. Proof rolling will consist of compacting the surface upon which embankment material is to be placed, to an in-place density of at least 90 percent of maximum laboratory density. The prepared surface will be inspected by the Applicant's Engineer prior to placing embankment.

The Applicant will load, haul, spread, place and compact suitable materials in embankments and will finish the embankments to the grade, slope and alignment as indicated. Embankment slopes will be compacted and dressed to provide a uniform and dense slope. Embankments will be built with approved materials from excavation from cuts or from special ditch excavation.

When embankment is to be placed and compacted on hillsides, or when new embankment is to be compacted against existing embankments, or when embankment is built one-half width at a time, the slopes that are 4h:1v or steeper when measured at right angles to the roadway will be continuously benched over those areas where it is required as the work is brought up in layers. Benching will be of sufficient width to permit operations of placing and compacting equipment, however, each bench will have a horizontal dimension of not less than six feet. Each bench will be cut as close to the one below as the ground slope will permit. Acceptable material cut out of benches will be incorporated into the new embankment.

The applicant will load, haul, spread, place and compact suitable materials in embankments and will finish the embankments to the grade, slopes and alignment as indicated. Embankment slopes will be compacted and dressed to provide a uniform and dense slope. Embankments will be built with approved materials from excavation from cuts or from special ditch excavations.

When the embankment is to be placed and compacted on hillsides, or when new embankment is to be compacted against existing embankments, or when embankment is built one-half width at a time, the slopes that are 4h:1v or steeper when measured at right angles to the roadway will be continuously benched over those areas where it is required as the work is brought up in layers. Benching will be of sufficient width to permit operations of placing and compacting equipment, however, each bench will have a horizontal dimension of not less than six feet. Each bench will be cut as close to the one below as the ground slope will permit. Acceptable material cut out of benches will be incorporated into the new embankment.

When embankments are placed on side slopes exceeding the 1v:5h, the existing ground will be plowed or stepped to insure a stable embankment. When rock is encountered, a keyway will be cut. The keyway will be a minimum of 10 feet in slope height and will extend a minimum of 2 feet below the tow of the fill to insure a stable embankment.

Embankments formed of material containing less than 25 percent by weight of rock larger than six inches in greatest dimension will be spread in successive horizontal layers not exceeding 12 inches in uncompacted thickness. Material containing more than 25 percent by weight of rock larger than six inches in greatest dimension will be placed in horizontal layers of sufficient depth to contain the maximum size rock present in the material; provided, however, that in no case shall the maximum size of rock nor the thickness of layers before compaction exceed 18 inches.

Embankment slopes will meet compaction requirement. This may be accomplished by overfilling and cutting embankment slopes back to design grades or by running compaction equipment up and down on the slopes to compact surface materials to meet specification requirements. Travel paths of traffic and construction equipment will be dispersed over the compacted surface so that rutting of the surface does not occur.

Grades not otherwise indicated will be at uniform levels or slopes between points where elevations are given, or between such points and existing grades. The finish surface of all grades wil be smooth, compacted, and free of irregular surface changes to a tolerance of 0.10 feet above or below the design grade or cross-section.

As soon as practical after commencement of an embankment section, the central portion thereof will be raised or crowned with grades not to exceed 5 percent so that the surface of the embankment will drain freely. The applicant's contractor will maintain drainage grades throughout construction of embankments until completed to indicate levels and grades. Prior to seasonal suspension of the work, the completed compacted surfaces will be properly crowned or sloped and smoothed with a flatwheel roller to drainage ditches to allow run-off of surface water.

Stabilization and revegetation of all cut and fill slopes will be performed during the first seasonal opportunity.

2. Materials

It is expected that excavated material will be suitable for use as fill. Materials will be placed in such a manner that after placement and compaction, the compacted embankment materials will be homogeneous and free from voids, lenses, or any other imperfections. Fill materials will be free from organic matter, rubbish, or other undesirable substances. Frozen embankment materials will not be used, and embankment will not be placed upon a frozen or snow-covered surface.

All material will be deposited in embankments so that rock, cobbles, sand and gravel will be well distributed through the other materials and not nested in any position within or under materials and not nested in any position within or under the embankments. Embankments formed of rock will be well distributed and the unfilled spaces will be filled completely with smaller rock so as to form a dense, well distributed embankment. Embankments formed principally of silts and clays will be placed in continuous, approximately horizontal layers not more than eight inches in loose thickness prior to being compacted. Earth materials will be placed in embankment in a manner that prevents concentrated pockets of fine-grained portions of excavated materials, and care will be exercised to place and blend materials uniformly across the embankment. The combined excavation and placing operations will be such that the materials in the embankment will be blended sufficiently to secure the best practicable degree of compaction and stability.

3. Compaction

Embankment material, except rock, will be compacted to an in-place density as specified according to the following:

Area	Average Required Density (Percent of ASTM D 1557 Maximum Density)
Structural embankment fill areas on which structure will be placed including conveyor benches and roadways	95
All other areas	90

All rock embankment material, to which the specified compaction tests are not applicable, will be compacted with a minimum of four passes of a heavy (not less than ten tons) vibratory roller or other approved equipment. Each pass of the roller will overlap the preceding pass a minimum of six inches. Additional criteria may be specified by the applicant's engineer to insure sufficient compaction of the material to which the specified compaction tests are not applicable.

4. Soil Moisture

Material containing sand or silt with water content in such proportions as to prevent them from compacting properly will not be used without first being dried as specified hereinafter. Clods or hard lumps or earth having maximum dimensions of more than eight inches will be broken up before being placed on the embankments. Material that is too wet to permit compaction to the specified density will be dried to the required mositure content. Discing, harrowing, pulverizing, plowing or blending may be necessary to achieve the required moisture content for compaction.

Material that is too dry will be wetted as required to permit compaction to the specified density. When water is added, the soil will be mixed so that the moisture content is uniform throughout the soil layer.

5. Quality Control

All field and laboratory testing required to determine compliance with the requirements will be performed by the applicant. At least one field density determination may be taken for approximately each 500 cubic yards of compacted material. Field density will be determined in accordance with ASTM D 1556 or D 2922. Field samples will be taken at locations selected by the engineer.

On a weekly basis an independent soil consultant will make density determinations in locations other than those used by the construction engineer or assistant.

As per telephone conversation with the applicant on June 12, 1980 and confirming letter, cut slopes will not exceed 1h:1v in unconsolidated material or incompetent rock, or 0.5h:1v in competent rock. Fill embankment slopes will be 2h:1v or flatter. Cut slopes and fill embankments will be constructed, and fill embankment material will be selected as outlined in the geotechnical report, Vol. A-4.

E. Reevaluation of Compliance of Proposed Plan

817.152(c) Cuts

Summary: Complies with 817.152(c)(1)

817.152(d) Fill Embankments

Summary: Complies with 817.152(d)

F. Proposed Stipulations with Justification

Within 30 days of acceptance of Departmental approval, the applicant shall provide to the regulatory authority, in two copies, a maintenance plan for all the roads in the mine plan area. This plan should cover all the points listed in 817.155.

Within 30 days of acceptance of Departmental approval of the mining and reclamation plan, the applicant shall provide to the regulatory authority, in seven (7) copies, plans for the Water Tank Access road, and revised plans for the Eccles Canyon road and the Mine Access road for review and approval. Plans shall include plans; profiles; culvert locations (both horizontal and vertical); drainage ditch cross section; culvert inlet and outlet details; calculations showing that all culverts will sustain the vertical soil pressure, the passive resistance of the foundation, and the weight of the vehicle to be used; calculations showing that all culverts can safely pass the 10-year - 24-hour precipitation event, and that all culverts with an end area of 35 square feet or greater can safely pass the 20-year - 24-hour precipitation event; and calculations showing that all drainage ditches can safely pass the 10-year - 24-hour precipitation event.

Culverts will be spaced in accordance with 817.156(c) or 817.163(c) as applicable or the applicant will submit calculations showing that water is flowing into all culverts during a 10-year - 24-hour precipitation event at a velocity of 3 feet per second or less. This stipulation is required persuant to 30 CFR 816.152, 30 CFR 816.153(a), 30 CFR 816.153(c), and 30 CFR 816.163(c).

This stipulation is required persuant to 30 CFR 817.155 to ensure that all roads are properly maintained.

Within 90 days of acceptance of Departmental approval of the mining and reclamation plan, the applicant shall provide to the regulatory authority a plan for the restoration of the water tank access road for review and approval.

This stipulation is required persuant to 30 CFR 817.156(a).

Within 90 days of acceptance of Departmental approval of the mining and reclamation plan, the applicant will provide to the regulatory authority a plan for disposal of all road surfacing materials removed in road restoration for review and approval.

This stipulation is required pursuant to 30 CFR 817.156(b) to ensure that all road surfacing materials are disposed of properly.

Within 90 days of acceptance of Departmental approval the applicant shall provide to the regulatory authority a plan for sediment control along the Water Tank Access road or a statement of why such control is unnecessary. This stipulation is required persuant to 30 CFR 817.152(c)

Within 30 days of acceptance of Department approval of the mining and reclamation plan, the applicant shall provide to the regulatory authority a plan for use or disposal of all material that is excavated during road construction. The plan should include tables or calculations of volumes of all materials excavated, placed in fill embankments, and disposed of elsewhere; an effective swell factor for excavated materials; and place of disposal of all excavated material not used to construct fill embankments.

This stipulations is required persuant to 30 CFR 817.101(b).

G. Summary of Compliance.

Will comply with stipulations regarding erosion control, water tank access road restoration, culverts, cut material disposal, and road surfacing material disposal.

H. Proposed Departmental Action.

To conditionally approve the underground mining, in terms of roads, provided that the plan is enhanced as stipulated above within the stipulated time period; provided that, on failure to satisfy the terms of the stipulations, approval be revoked; final approval being contingent on Forest Service and State of Utah, Carbon County, Emery County, and Sanpete County approval of the Eccles Canyon road and the By-Pass road.

I. Residual Environmental Impact of Proposed Departmental Action.

The stream channel will be encroached upon, and in some places, moved. Some of the unconsolidated material along the creek will be cut into, and, until stabilizing vegetation is established, it will be subject to increased wind and water erosion. On site erosion rates could increase up to 20 cubic yards per acre per year on exposed soils. Erosion control practices would reduce erosion rates significantly, but there would still be a potential hazard for sediment increase in Eccles Creek and the South Fork of Eccles Creek by both surface erosion and potential mass movement. The cross section of the creek will be altered during the mining operation. But, it will be returned, as closely as possible, to its original cross section during reclamation.

A portion of the Eccles Canyon road will be permanently re-routed away from the mine site to the by-pass road.

J. Alternatives to Proposed Action.

To approve the mining and reclamation plan, with regard to roads, without stipulation.

To disapprove the mining and reclamation plan, with regard to roads.

To require the applicant to build the road out of the creek bed, and up on the ridges. This would cause more sedimentation and erosion because a greater surface area would be used.

To require that mulching, chemical stabilizers, or another erosion control method, in addition to the benches, to provide temporary erosion controls. This will make it more difficult to revegetate.

To require that all slopes be cut at 1:5h:1v or flatter to aid in revegetation. This will cause additional sedimentation and erosion because a greater surface area would be used.

816.100 - 816.106 Backfilling and Grading

A. Description of Existing Environment.

The existing environment is moderately rugged everywhere with slopes approaching 50 percent in the vicinity of the mine portal locations. Elevations within the permit area range from 8,300 to 9,600 feet. Backfilling and grading will be confined to Eccles Canyon where there is a perennial stream.

The predominant geological formation consists of interbedded sandstones and shales that comprise the 1,900 foot thick Blackhawk formation in the permit area.

Details that relate to topography, physiography, geology, hydrology, etc. are thoroughly described and were illustrated in color photographs that are presented by the applicant in his permit application.

B. Description of Applicant's Proposal.

Site development is primarily relegated to the mouth of Eccles Canyon where a coal loadout facility is to be constructed; to approximately 2 1/2 miles of the Canyon where an access road will be located, a conveyor installed, and 46-kw powerline extended; and, to the head of Eccles Canyon where mine portals and related facilities will be located.

Five potentially mineable coal seams are located within the permit area that consists of 6,400 acres. However, only three seams will be mined; the upper O'Conner seam, the lower O'Conner "B" seam, and the lower O'Conner "A" seam. Approximately five million tons of coal per year will be extracted from three underground mines, one for each seam, over a 30 to 33 year mine life.

1. Mining sequence and development: The applicant plans to start site work in June, 1980, with actual facilities construction to being early in 1981. Production buildup from underground work will start in January, 1982; mining will continue through the year 2015. Total production is planned at 124.5 million tons with the last mining operations in the year 2015.

The mining sequence, scheduling, methods description and equipment requirements are discussed in detail and were illustrated by extensive exhibits in the applicant's permit application (Vol. 2) which should be consulted for further details and information.

2. Backfilling, grading procedures: Most surface restoration will be confined to the site area at the portal location in upper Eccles Canyon, to a portion of the 2.5 miles access roadway and conveyor route along Eccles Canyon, and to the coal loadout facility at the mouth of Eccles Canyon. However, it is possible that a required stipulated condition to the subject permit to correct subsidence induced damages could occur to any of the following features: (1) the gas pipeline owned by Mountain Fuel Supply Company; (2) the Eccles Canyon bypass road (to be constructed by the Permittee), and (3) to land surface in the upper reaches of Huntington Creek near Electric Lake.

3. Swell factors and calculations supporting: Backfilling and grading procedures proposed by the applicant are restricted to reclaiming a portion of the access road and conveyor routing and to the mine facilities and loadout facilities as already described. Earthenwork will essentially be related to regrading, hence, cut-fill calculations and cognizance of swelling and compactions are not required.

4. Postmining topography - slope analysis, hydrologic analysis, channel profiles: In general, postmining topography will resemble premining topography as well as upper reaches of the Eccles Canyon access. The site area will not be exactly like the original countoured surface, primarily because steep rock cuts that will be necessary to gain sufficient site area and underground access cannot be practically regraded. The immediate mine site will, however, be regraded to achieve an aesthetically pleasing as well as stable area reducing detrimental effects from erosion. The mine access road in the lower reaches of Eccles Canyon will not be restored as this will connect with the Eccles Canyon road (to be constructed by the applicant) which will remain as a permanent feature of the postmining landscape.

The applicant proposes to substantially restore the Eccles Canyon drainage to its premining course. In the mine site restoration, two rock wind break barriers, and four stream drop structures that consist of riprap will be constructed (refer to Exhibits 3-16 and 3-39). Stream culverts will be taken out and sedimentation ponds backfilled (p. 4-2).

5. Excess spoil; deficient spoil, impoundments: Excess or deficient spoils pertain to surface mine restoration and are not applicable to the restoration proposed in this permit application. There will be no permanent impoundments of any kind.

6. Contemporaneous reclamation: The applicant proposes some contemporaneous reclamation for the embankments at the mine site area near the portals. It is planned to re-establish vegetation in order to stabilize planned embankments at the mine site area near the portals. It is planned to re-establish vegetation in order to stablize planned embankments, reducing the potential for erosion. Portions of stream diverted channel ways will also be revegetated (see Exhibit 3-14). Most of the reclamation effort will, however, take place upon cessation of mining.

C. Evaluation of Compliance of Proposed Plan.

1. 817.101 and 817.102 Backfilling and Grading: General Requirements:

The applicant's proposed reclamation plan complies with all requirements as set forth in this section. The mine site area will not be completely restored, as terraces will be left and it would be impractical and inadvisable to backfill exposed rock cuts. According to subsection 817.102(b), suitably designed terraces can be left in place. The access road in lower Eccles Canyon and the Eccles Canyon road will not be restored as these roads will constitute permanent features as part of the approved postmining land use (Wildlife and Grazing). All other restoration complies with backfilling and grading regulations of Section 817.102.

2. 817.102

(a) Premining, postmining slopes: retain on solid bench, moderate slope 1.3ssf - Generally, with the exception of the above described terrace-like structure, slopes will be backfilled, and regraded to their approximate original contour. Fills will be deposited and compacted in lifts. Dames and Moore, acting as geotechnical consultants to the applicant, have detailed two types of rock cuts to be used in the mine portal area that will be excavated at 1h:1v or 1h:2v, depending upon the actual rock characteristics. Both types of rock cuts will include benches and constitute the previously mentioned terrace structures (see Exhibits 3-8 and p. 3-40 and 3-41). Near and above the portal for Mines No. 2 and 3, bin-type retaining walls will be constructed to help maintain stability (Exhibit 3-12B). Slopes on fills will be graded at 1.5h:1v. While the geotechnical consultant does not indicate a safety factor, adequate jointing is not oriented to cause or contribute towards slope failure (see Exhibit 4 in Vol. A-4). A series of test pits and drillholes have been used to investigate soil structure throughout the Eccles Canyon construction site (Exhibit 2A through 3D in Vol. A-4), and specifications for foundation design and embankment work have been based upon professional engineering standards or judgments.

(b) Terraces if approved: Terrace structure is indicated by the applicant as previously discussed. Benches for these terraces are eight feet wide. In view of the limited site area for mine access development, and in view of the rugged terrain, the proposed terrace design should be acceptable to the regulatory authority.

(c) Small depressions: The applicant does not specifically describe the use of small depressions in his proposed reclamation work but Exhibit 3-18 implies that small depressions may result from reclaiming the access road and conveyor bench along the upper Eccles Canyon.

(d) Grade along contour: The applicant does not state that grading will be performed along the contours; however, because re-grading is severely restricted as a result of the surrounding topography such grading practice is imperative.

3. Applicant states that upon abandonment of the mine site, cut slopes will be reduced to a more gradual grade and will be topsoiled and revegetated (p.3-43; and Exhibit 3-16). However, for some of the steeper rock cuts, such restoration may not be practical and may, in fact, result in increased erosion and decreased slope stability. Section 817.102(2)(b) provides that cut-fill terraces may be allowed in the final graded slope. The applicant should, at time of final grading, reduce only those cut or terraced slopes where practical and where increased erosion and reduced stability would not result from regrading. The applicant should place topsoil and revegetate any benches left in the final terraces, upon abandonment, or sooner, if practical. Whether terrace-like structures are to be regraded or left in place, the applicant will construct animal trails as more-or-less illustrated on Exhibit 3-16 at the time of permanent abandonment.

3. 817.103

(a) Acid or Toxic Material - Cover 4 feet. Coal-cover four feet. Upward migration of salts. Proximity to drainage course. Applicant states that underground wastes will be stored underground and will not be transported to surface for storage (p. 4-56). Therefore, provisions in Section 817.103 are not applicable.

4. 817.71 Disposal of underground development waste and excess spoil - For reasons stated in the above-described comment, provisions contained in Section 817.71 are also not applicable. Applicant must obtain approval of MSHA for underground storage of mine development waste. (See Section 817.71(m).) For the same reason presented for underground waste disposal, Section 817.72, 817.73, and 817.74 are not applicable.

5. 817.106 Procedures to monitor for and regrade rills and gullies - Applicant does not state that gullies or rills deeper than nine inches would be regraded.

D. Revisions to Applicant's Proposal

The applicant will not reclaim the Eccles Canyon road from the mouth of Eccles Canyon to the point of confluence with the South Fork of Eccles Canyon. This portion of road is identified as the Eccles Canyon Road on the revised drawing 101-C (Map 3-7). The only section of the road to be reclaimed is that portion from the mine site to the confluence of Eccles Canyon and the South Fork of Eccles Canyon. This portion of the road is identified as the Mine Access Road on revised drawing 101-C (Map 3-7). The reclamation work is described on p. TN 4-2 of the Skyline Mining and Reclamation Plan.

817.102 Backfilling and Grading: General Grading Requirements

The applicant will develop cutslopes with 1h:2v slopes in competent rock only and will develop cutslopes with 1h:1v (maximum) slopes in less competent materials such as soil and colluvium. A statement and documenting calculations for cutslopes in talus/colluvium, completely weathered materials, and rock are presented in Appendix 3.

817.106 Regrading or Stabilizing Rills and Gullies

The applicant will fill, regrade, or otherwise stabilize any rills or gullies deeper than 9 inches which form in areas which have been regraded and topsoiled. The areas adjacent to any rills or gullies which have been filled, regraded or otherwise stabilized, will be reseeded or stabilized acording to Sections 817.111 - 817.117 (30 CFR).

E. Reevaluation of Compliance

817.106 Regrading or Stabilization of Rills and Gullies

Summary: Will comply

F. Proposed Special Stipulations with Jusitification.

While the cut-fill embankments proposed in the vicinity of the mine portal areas appear to have been adequately designed by professional geotechnical engineers, the applicant will, within 90 days of the effective permit date, submit to the regulatory authority, or have his geotechnical consultant, submit to the regulatory authority a statement with backup calculations showing that the terrace-like cuts can be expected to equal or exceed a safety factor of 1.3

G. Summary of Compliance.

If the proposed stipulation are implemented, this section will be in compliance.

H. Proposed Departmental Action.

The Department should approve the reasonable retention [illegible]eper terraced rock cuts in the vicinity of the mine portals as part of the final graded contours. Restoration of steep rock cuts does not appear practical or prudent.

I. Residual Environmental Impacts of Proposed Department Action

Approval of the applicant's proposed actions in this section should result in an acceptable mine abandonment and reclamation procedure in the year 2015. Applicant will remove silos, conveyors, loadout facilities and substantially regrade all site work. The lower portion of Eccles Canyon road and by-pass will be left as permanent features to assure compatibility with final land usage (grazing and wildlife).

J. Alternative to Proposed Action

The Department could reject the stipulation to include steeper portion of terrace structures into the final regraded topography. Rejection of this stipulation would not appear to be prudent, at least not without a thorough analysis of the alternative to regrade all terrace slopes. Other actions proposed by the applicant do not appear to present reasonable alternatives that justify consideration.

817.180 Other Transportation Facilities.

A. Description of Existing Environment.

The Skyline Mine lies on the northern end of the Wasatch Plateau. In general, the plateau surface is rugged to rolling and attains elevations in excess of 11,000 feet giving it a mountainous aspect. The proposed mine sites are located in Eccles Canyon and South Fork of Eccles Canyon. Eccles Canyon is about 3 1/2 miles long and characterized by steep slopes (about 70 percent) near the canyon bottom and rounded ridge crests. Most bedrock in the mine plan area is covered by soil and vegetation. Along the narrow bottom land of Eccles Canyon, the soils are 10 to 20 feet deep and formed from old landslide and alluvial deposits. Vegetation in the area is typical of an Alpine environment with spruce and fir on the north-facing slopes and aspen on the south-facing slopes. A 35-acre landslide area has been identified along the south side of Eccles Canyon extending about 650 feet either side of the Forest boundary. A 200 foot wide slump has been identified near the northside of the portal area.

There are no existing other transportation facilities on the mine site. A spur of the Denver and Rio Grande Western railroad extends from Coltron siding to Clear Creek. It is unfit for traffic south of the Utah No. 2 mine, about a mile north of Eccles Canyon.

B. Description of Applicant's Proposal.

1. Mining Operation

Map 3-21 is a flow diagram of the entire coal handling system. Run of Mine (ROM) coal will be brought out of Mine Portals 1, 2, and 3 (interior to mine) by portal belt conveyors (BC-1, BC-2, and BC-3 respectively) which terminate at transfer towers. From there, coal will be transported by belt conveyors (BC-4, BC-5, and BC-5A respectively) to the 8,000 ton capacity storage silo. The coal will be discharged from the bottom of the silo by 7 vibrating feeders to conveyor BC-6 for ultimate delivery to the crusher.

An overland conveyor system, located on the north side of the canyon will carry crushed coal approximately 2.5 miles to the coal storage and coal loadout facilities. This system consists of five conveyors (BC-8, BC-9, BC-10, BC-11A and BC-11B). The conveyors will be 48 inches wide, have a belt speed of 600 feet per minute, and have a carrying capacity of 500 tons per hour.

The conveyors will be rope-supported in a manner similar to typical underground units. As far as possible, the conveyors will be supported from a graded bench, 12 feet wide.

At locations where a particular conveyor has to span a gulley or similar ground depression, the conveyor will be supported in a steel framed gallery with sides and a roof sheeting cover and enclosed at the bottom with timber or steel plating. Conveyor elevation points will also be constructed so as to correspond with the natural animal crossings.

The conveyor system will include a single 36-inch walkway alongside the belt. Both the conveyor and walkway will be totally covered (Map 3-30B). The conveyor will be furnished with flywheels or brakes to equalize drift times to ensure that coal is not discharged to a stopped conveyor.

Each conveyor will be fitted with a drive capable of handling the demand or regenerative load, whichever is the greatest, during acceleration, normal running, or deceleration. Each conveyor, with a center to center distance equal to 2,000 feet or greater, will be additionally fitted with two 180 degree turnover devices. The devices will ensure that coal particles which may stick to the belt will not fall off and create maintenance problems.

Maps 3-9 (A through F) show the alignment and gradient profile of the overland conveyor belt. A typical cross section of the overland conveyor belt route is shown on Map 3-12B. The location of the conveyor will be on the north slope of Eccles Canyon at an elevation above that of the Eccles Canyon Road. As shown in the design, the steepest portion of the conveyor is a negative 20.23% grade sustained for 430 feet. The average negative grade of the conveyor route is 7.6% and the average positive grade is 4.6%. Cut slopes along the route will not exceed 1h:1v in unconsolidated materials and 0.25h:1v in rock. Geotechnical investigation indicates that unconsolidated materials will be stable if slopes are cut at 1h:1v. As part of the air quality control program, the belt and transfer points will be enclosed to reduce fugitive dust.

The rail loadout facility (shown in plan on Map 3-9A) is located at the mouth of Eccles Canyon near Highway 96. The train loading system will be designed to load coal into rail cars at a rate of 5,000 tons per hour while the cars are moving at approximately 0.66 miles per hour. The system will consist of a 200-ton capacity bin fitted with a 48-inch square air operated control gate and a telescopic chute that can be retracted and traversed to one side to permit the locomotives to pass.

In addition to the train loading system there will be a truck loading system (shown on Map 3-21) at the mine site. The truck loading facility implemented at the mine site will consist of a 200-ton capacity bin fed by a 30-inch wide belt conveyor (BC-7).

Maps 3-15 and 3-10 show the alignment profile and a typical cross-section of the railroad right-of-way and related ditches. Also indicated are the culverts and entrance and exist channels which will be constructed to maintain performance standards. As shown in the design, the grade of the railroad will not exceed 3%. Cut slopes will not exceed 1h:1v in unconsolidated materials and 0.25h:1v in rock. Topsoil will be removed before any initial construction. Topsoil will be stockpiled in areas shown on Maps 3-8 and 3-9A. Vegetation will be cleared only to the width necessary to accommodate the track ballast and associated ditch construction.

The Denver and Rio Grande Western Railroad Company will design the rail haulage system and ensure that no refuse coal, acid producing or toxic material will be used in the rail ballast which will contaminate surface drainage. The rail haulage system will be designed to maintain the water quality of runoff from the facilities into Pleasant Valley Creek.

2. Reclamation

The applicants proposal for reclamation of other transportation facilities is detailed in Vol. 3 (p. 4-1 et. seq.) and Maps 3-16A, 3016B, 3-17, 3-18, 3-39 and 3-40.

After all the coal is mined, beginning in 2016, the applicant proposes to return the conveyor route and loadout to a grazing postmining land use. All surface structures, equipment, and road blacktop will be removed. All solid waste generated in the abandoment operation will be collected and removed from the reclaiming area. In the portal area, the stream will be returned to its approximate premining channel and the disturbed areas will be regraded and recontoured. The ground at the sites will be scarified, so as to reduce compaction and allow better soil retention and vegetation establishment, and topsoiled. Finally, the disturbed areas will be revegetated.

The applicant will establish a monitoring program to ensure that an acceptable vegetation cover is established.

C. Evaluation of Compliance of Proposed Plan.

817.180 Other Transportation Facilities

The applicant has provided detailed plans for the overland conveyor system, and both the truck and the train loading system.

Compliance with 817.180(a)(1) will be evaluated in the fish and wildlife section.

Compliance with 817.180(a)(2), and 817.180(b) will be evaluated in the hydrology section.

Compliance with 817.180(d) will be evaluated in the air quality section.

The applicant states that cut slopes shall not exceed 1:1 in unconsolidated material or 0.25h:1v in competent rock.

The geotechnical report submitted with the mine plan (Vol. A-4, p. 26-29) indicates that cut slopes should not exceed 1:1 in unconsolidated material and incompetent rock, or 0.5h:1v in competent rock.

The report further states that all cut faces with a vertical height of more than 6 feet should be constructed at 1:1 over the entire height.

There are no detailed plans for the railroad spur, either for construction or for reclamation.

Summary: Does not comply with 817.180 with regard to railroads.

D. Revision to Applicant's Approach

As per telephone conversation with the applicants on June 12, 1980 and confirming letter, cut slopes will not exceed 1h:1v in unconsolidated material or incompetent rock, or 0.5h:1v in competent rock. Fill embankment slopes will be 2h:1v or flatter. Cut slopes and fill embankments will be constructed, and fill embankment material will be selected as outlined in the geotechnical report, Vol. A-4.

E. Reevaluation of Compliance of Proposed Plan

Summary: Complies with 817.180(c).

F. Proposed Special Stipulations with Justification.

No coal from the Skyline Mines will be hauled by rail until the plan for construction and reclamation of the proposed rail spur to the loadout facility has been approved by the regulatory authority.

This stipulation is requred pursuant to 30 CFR 817.180.

G. Summary of Compliance

Will comply with regards to the overland conveyor, truck and train loading system, provided there are no other stipulations regarding fish and wildlife, hydrology, or air quality. Does not comply with regard to rail transportation.

H. Proposed Departmental Action.

To approve the proposed underground mining operation, terms of other transportation, except rail and to withhold approval of rail transportation until a detailed construction and reclamation plan for the rail spur is submitted, and reviewed, ~~and approved.~~

I. Residual Environmental Impact of Proposed Department Action.

The stream channel will be encroached upon, in some places, moved. Some of the unconsolidated material along the creek will be cut into, and, until stabilizing vegetation is established, it will be subject to increased wind and water erosion. On site erosion could increase up to 20 cubic yards per acre per year on exposed soils. Erosion control practices would reduce erosion rates significantly, but there would still be a potential hazard for sediment increase in Eccles Creek and the South Fork of Eccles Creek by both surface erosion and potential mass movement. The cross section of the creek will be altered during the mining operation. But, it will be returned, as closely as possible, to its original cross section during reclamation.

J. Alternative to Proposed Action.

Approve the proposed underground mining and reclamation plan, in terms of rail transportation, without stipulation.

817.95 Air Resources Protection

A. Description of Existing Environment

The Skyline Coal Mine permit area is located in Carbon and Emery Counties, Utah, approximately 22 miles northwest of Price. The permit area is near the north end of the Wasatch Plateau, in mountainous terrain, about two miles southwest of Scofield, Utah. Projected production rate of the underground mine is approximately five million tons per year with a maximum projected production of 5.4 million tons per year. The total production period is expected to be 30 to 35 years. The size of the permit area is about 6,400 acres with about 4,839 acres being underground mined.

Baseline air quality and meteorological data are contained in the Skyline Mine Federal Mining Permit Application in Volumes I and A-4. Background air quality and meteorological data have been recorded and reduced from January 1, - December 31, 1979. Meteorological parameters were measured at two locations: (1) near the proposed crushing operations at the mine portal site at Boardinghouse Peak, and (2) near the proposed loadout facilities at the base of Eccles Canyon. Parameters measured at each site were wind direction, wind speed, and temperature. At Boardinghouse Peak (elevation 9,943 feet) and Eccles Canyon (elevation 7,950 feet) data were recorded to characteristic wind flow patterns in and along the canyon. Total suspended particulate (TSP) data were collected by high-volume samples every third day beginning in June, 1979 for a five-month period at Boardinghouse Peak and at Clear Creek. The location of the monitoring stations are shown in Figure 5. The Boardinghouse Peak and Eccles Canyon sites are approximately 2.5 miles northwest and 3 miles north of the community of Clear Creek, respectively.

Data collected at the proposed mine site show the average monthly temperature ranges from about 15°F in January to about 60° F in July. Based on NOAA records, the temperature extremes range from -40° F to 89°F and the average annual precipitation is estimated to be around 25 inches. Snow accumulations average about 4.5 feet. Prevailing wind direction within the general area of the Skyline Mine site is from the sourthwest. The Boardinghouse Peak wind roses (Figure 6) for the January 1 - December 31, 1979 monitoring period reflects prevailing flow from the southwest to west-northwest. The Eccles Canyon data was collected at one site for about five months then the site was moved to a point approximately 40 yards northwest of the former site on May 24. The wind roses for Eccles Canyon (Figure 7 and 8), indicate the influences of drainage flow corresponding to the east to west orientation of the canyon.

H. Proposed Departmental Action

To approve, with stipulations, the applicant's plan to minimize disturbances and adverse impacts to wildlife caused by the Skyline Mine Operation.

I. Residual Environmental Impacts

Wildlife habitat on the area of disturbance, 75 acres, will be lost for the life of the mine. In addition, some disruption of animal movement patterns may result, although the applicant will use best technology currently available to minimize this problem.

J. Alternative to Proposed Action

Since mining cannot be carried out without disturbance to the portal area and transportation corridor, no reasonable alternatives to the proposed action were identified. However, elevation of the conveyor is a valid alternative. This would result in decreased erosion from conveyor bench cuts and virtually eliminate impediment to animal movement. As background to this, OSM has been informed that Valley Camp Coal Company has proposed an elevated coal conveyor for the nearby Belina Mine. The Belina Mine is located on Whiskey Gulch, a tributary which joins Eccles Creek approximately one mile east of the Skyline portal area. The Belina conveyor would follow Whiskey Gulch north to Eccles Creek, cross over, then turn east to a loadout on Pleasant Valley Creek. The plan is to install conveyor towers by lowering them from a helicopter to previously constructed bases, thus involving minimal ground disturbance. In this way, Valley Camp would avoid the animal crossing problem in Whiskey Gulch which the applicant must address in Eccles Creek.

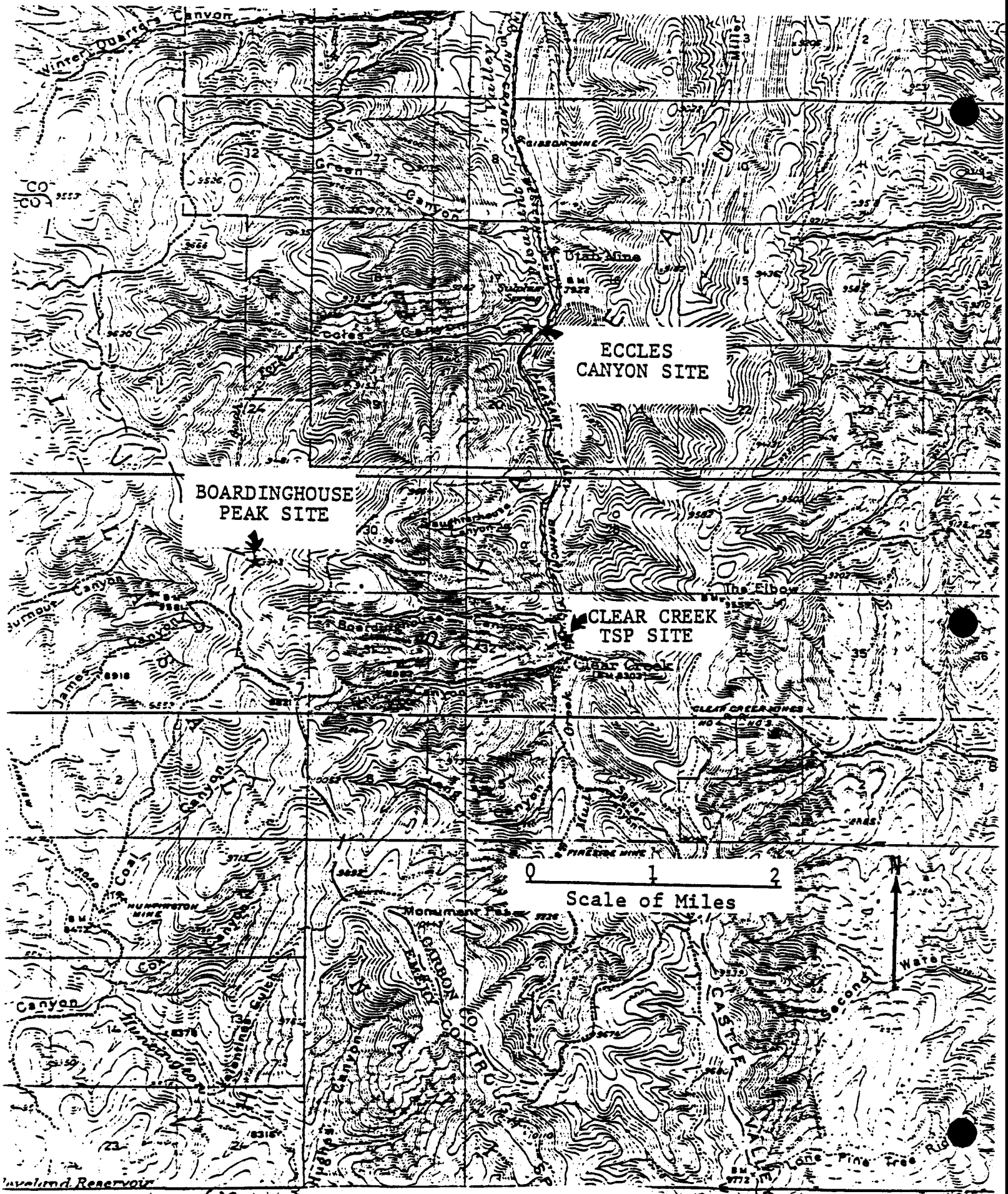

FIGURE 5

MONITORING STATIONS

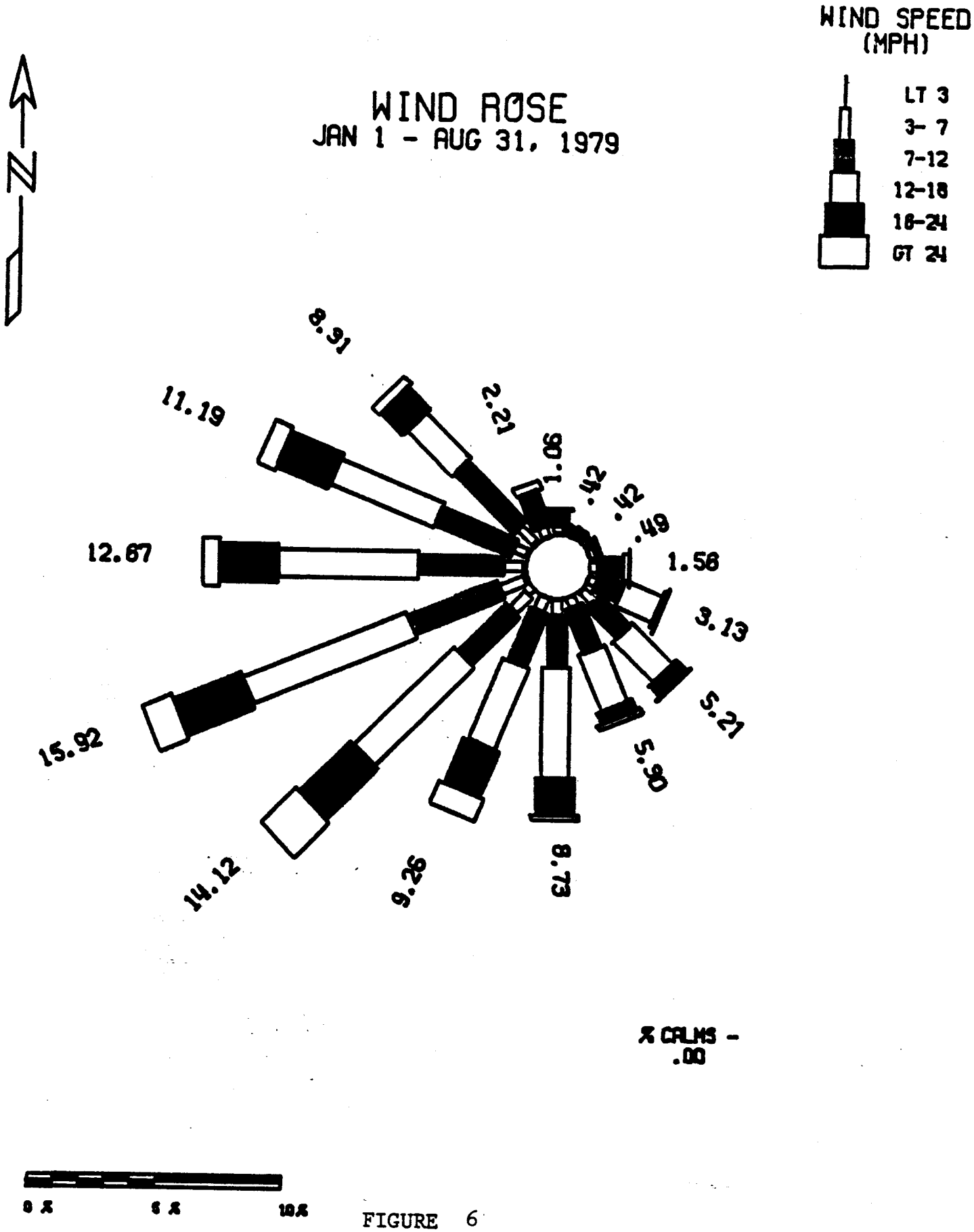

FIGURE 6

BOARDINGHOUSE PEAK - SITE 040

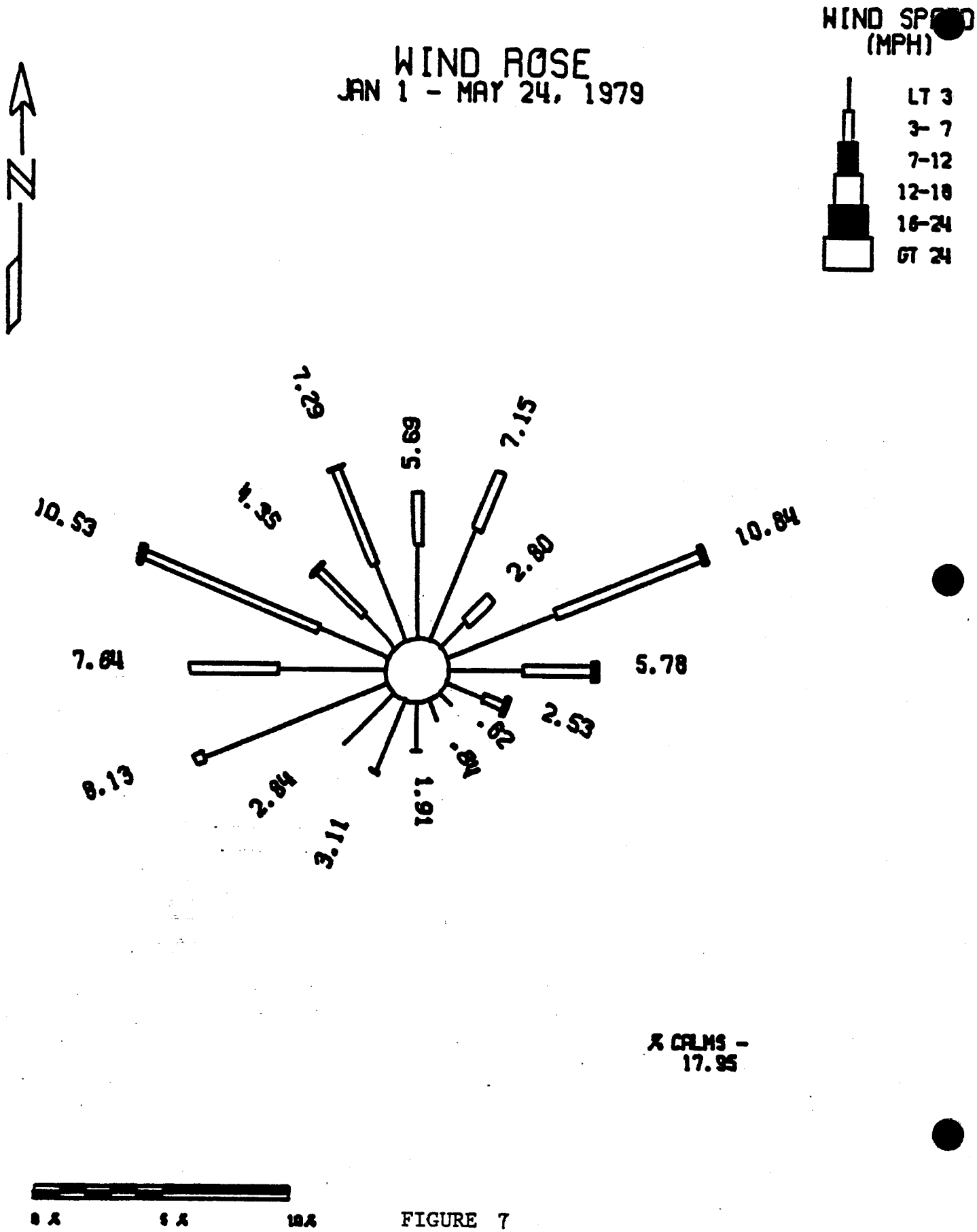

FIGURE 7

ECCLES CANYON

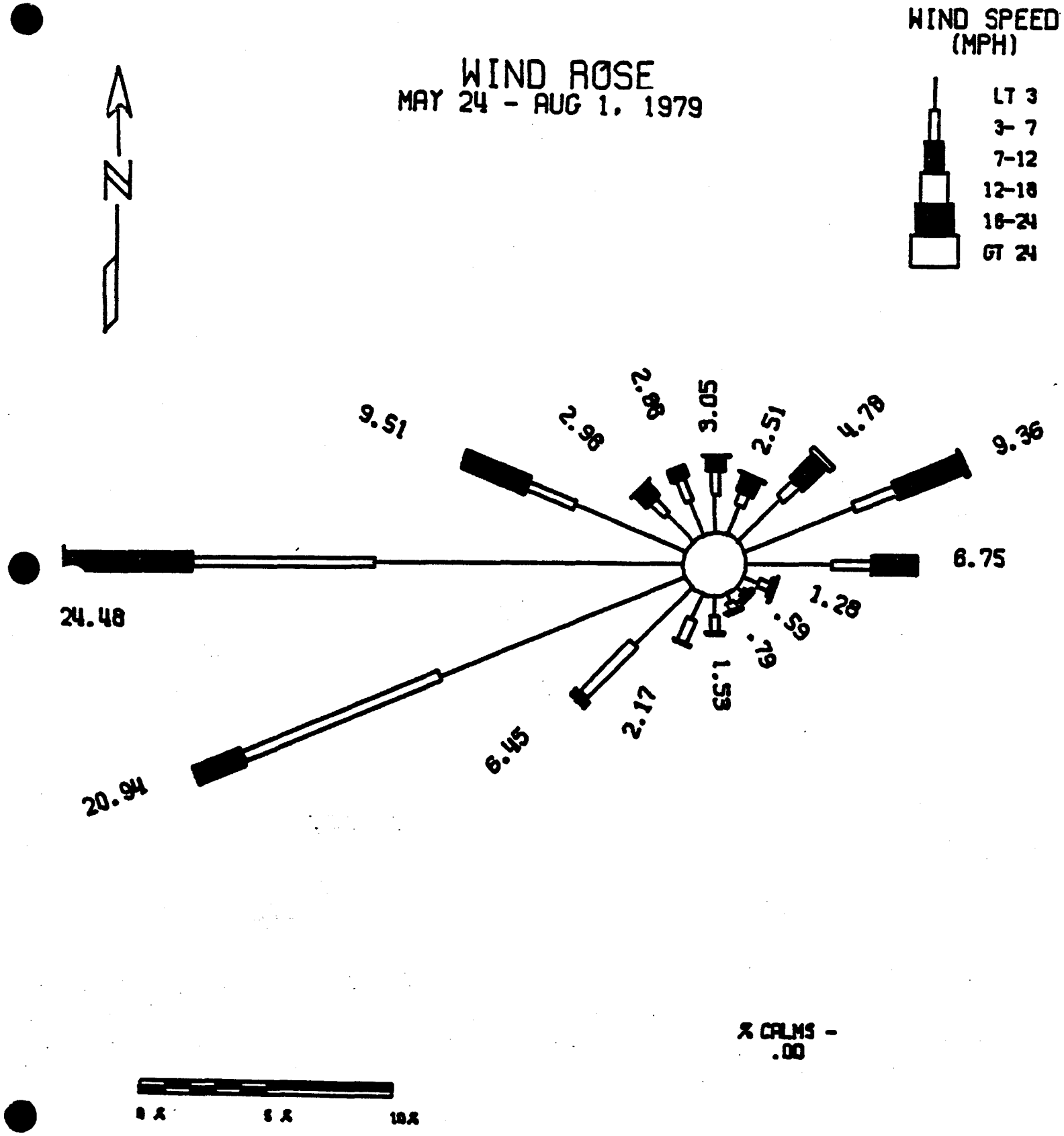

FIGURE 8

ECCLES CANYON

The TSP values of the permit area are characterized by data collected at Clear Creek and Boardinghouse. The concentration at the Clear Creek site averaged about 42 ug/m^3 (July - November, 1979). The Boardinghouse Peak network reported a three month TSP average of 30 ug/m^3 (June - October, 1979).

B. Description of Applicant's Proposal

1. Permit Status

Coastal States Energy Company received their PSD permit from EPA on December 19, 1979 and they received their air permit from the Utah Bureau of Air Quality on February 13, 1980.

2. Fugitive Dust Control Plan

A fugitive dust control plan for the Skyline Mine is part of the overall air pollution control plan contained in Volume III and A-5 of the mine plan. The main potential sources of fugitive dust at the proposed mine sites are expected to include construction of the Eccles Canyon road, access roads, ventilation fan areas, topsoil storage piles, and coal handling facilities.

To control particulate emissions on the Eccles Canyon road, water trucks will spray the road surface and shoulders with water and non-toxic chemical dust suppressants throughout the upgrading process. Upon completion of upgrading and paving, the cut and fill slopes along the road right-of-way will be temporarily stabilized with non-toxic chemicals. Those disturbed lands will be revegetated during the first seasonal opportunity. (See Revegetation). After the road surface is paved, and throughout the remaining project life, water trucks will spray the road surface and shoulders as necessary to suppress dust buildup. Coal truck speed will be restricted to 25 mph. Coal will be hauled until 1984 when the coal conveyor is expected to be completed and thereafter only where the conveyor is down for repair.

Vehicular traffic on infrequently used maintenance and inspection roads (i.e., more water tanks) will be restricted to authorized personnel and maximum vehicle speed will be limited to 20 mph. These roads will be treated with water and/or non-toxic chemical dust suppressants. For moderately used daily roads for inspection of shafts and fans, the restrictions and maintenance will be similar to that of the infrequently used roads except that the application of water and non-toxic chemical suppressants to these roads may be more frequent. For frequently used roads, connecting the mine site to Eccles Canyon and to material supply and storage, a soil stabilization agent will be worked into the upper layer of the roadbed and road graders will periodically remove accumulations of spilled materials from the roadbeds. Vehicular speed will be limited to 20 mph and roads may be treated with water or non-toxic chemicals. Revegetation of disturbed areas will occur within one season. (See Revegetation).

Areas within 100 feet of ventilation fans will be cleared of vegetation and combustible material. Cleared areas which expose dust forming debris will be stabilized by compacting and maintaining a stable gravel base. For topsoil stockpiling, a non-toxic chemical dust suppressant will be temporarily used for stabilization purposes with the stockpile being revegetated following final emplacement of topsoil. (See Revegetation.)

The principal potential sources of fugitive dust emissions related to the proposed coal handling facilities are:

- conveyors
- portal belt sampling buildings
- coal storage facilities
- crusher building
- overland conveyor
- railroad loadout

Conveyor belts from the two portals to the sampling buildings, from the sampling buildings to the run of mine coal storage silo, from the silo to crusher, from the crusher to the railroad loadout silos to the railroad loadout would be fully enclosed. The mine plan includes two portal belt sampling buildings which will receive coal deliveries. Each portal sampling building would be an enclosed structure equipped with a fabric filter baghouse.

Fabric filter baghouse collectors would be installed at the fully covered belt discharge to the 8,000 ton run of mine silo and in the silo reclaim tunnel. The two to four railroad storage loadout silos would utilize similar fugitive dust control measures to those proposed for the run of mine storage silo as noted previously. These control practices represent BACT.

The crusher building would be totally enclosed and equipped with a fabric filter baghouse. The truck loadout bin, which would be used while the overland conveyor is being built and when it is disabled, would be fully enclosed except for the truck access. A fabric filter baghouse collector would be installed at the bin and conveyor exchange point. Drop distance from the bin to the truck would be minimized by the use of a coal chute. Transfer points would be totally enclosed and discharge height at each point would be minimized.

The railroad loadout would be enclosed and a fabric filter baghouse collector installed. A telescoping chute would be used to load the raidroad cars.

Temporary coal stockpiles and travel areas around the pile would be sprayed with water and a non-toxic chemical dust suppressant to prevent fugitive dust emissions. An emergency truck dump hopper would be used when the overland conveyor is out of service. The hopper would be equipped with water sprays activated automatically by truck sensors to control fugitive dust emissions. The coal haul trucks would be covered. The emergency coal storage pile would be reclaimed and deposited into a reclaim hopper which will discharge onto the silo belt.

3. Air Quality Monitoring

The proposed monitoring program consists of high-volume air samples, to measure TSP concentrations, located at three different sites near crusher (#1), near railroad loadout (#2) and Clear Creek (#3) (Figure 9). A portable weather monitoring station would collect wind direction, speed and temperature data. TSP concentrations will be collected every three days for the 12 months following commencement of mining operations. After six months, the TSP data will be evaluated to see if any adjustments are needed.

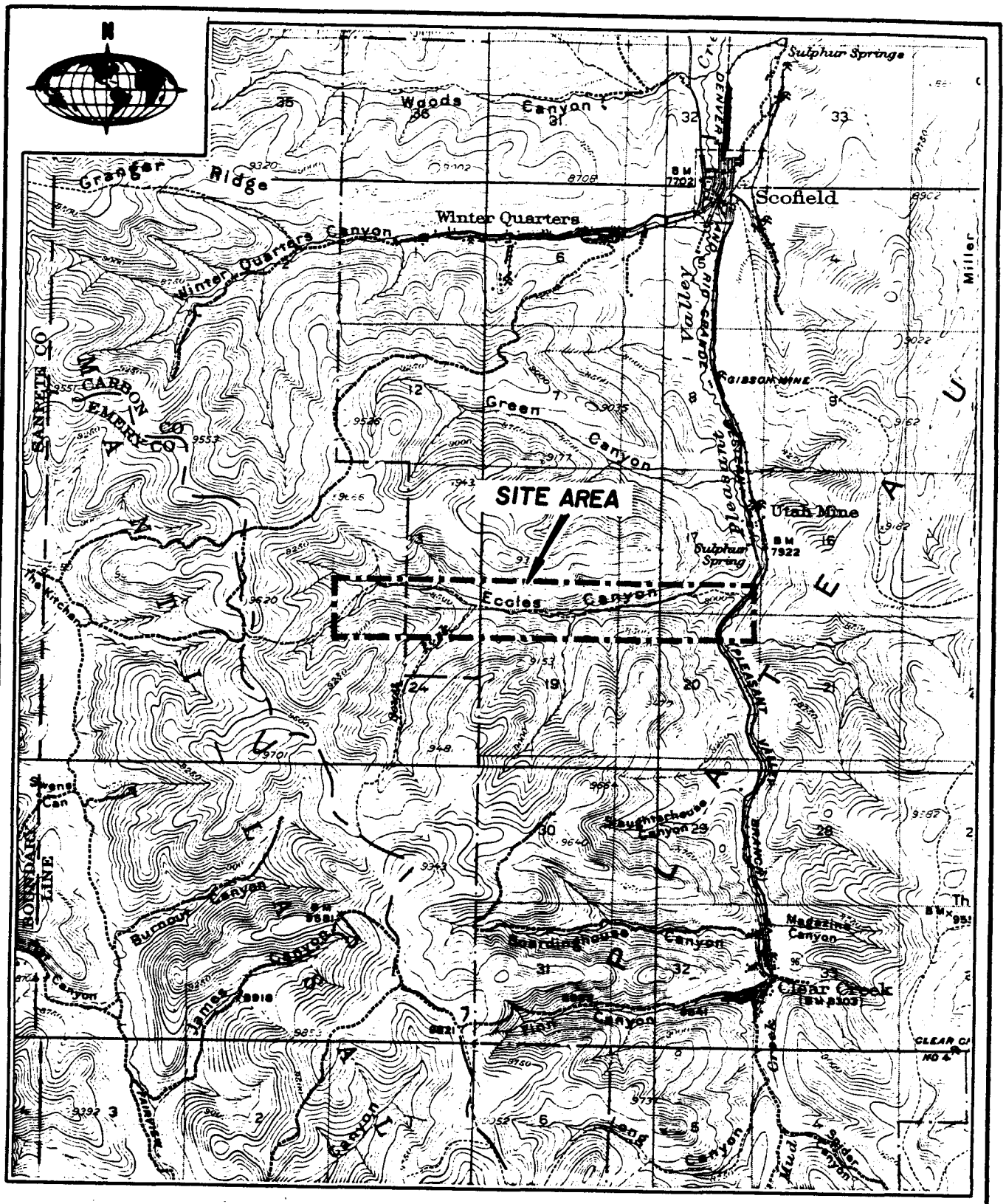

FIGURE 9

SCALE IN FEET
1000 0 1000 2000

VICINITY MAP

REFERENCE
U.S.G.S. 15 MINUTE QUADRANGLE
ENTITLED "SCOFIELD, UTAH" 1923.

C. Evaluation of Compliance of Proposal

1. The climatological information reported in Volume I and meteorological data in Volume A-4 provide an adequate data base for determining the climatology of the mine site area.

2. The fugitive dust control program as proposed by the Skyline Mine in Volume III, and approved by EPA and Utah Bureau of Air Quality, is adequate.

3. The TSP monitoring program, as proposed, is not adequate. Monitoring for only the first 12 months would monitor the mine during low production but and high construction activities may not evaluate the control efficiency during maximum production using the conveyor system.

D. Revision to Applicant's Proposal

None.

E. Reevaluation of Compliance

None.

F. Proposed Special Stipulations with Justification

The monitoring program will be conducted for at least 12 months after completion and use of the overland conveyor. At the conclusion of the 12 month period, Coastal States Energy may request that OSM remove the TSP monitoring requirement if the concentrations are low.

G. Summary of Compliance.

The fugitive dust control plan and air quality monitoring plan as stipulated are in complaince.

H. Proposed Departmental Action

To approve the proposed fugitive dust control practices and air quality monitoring plan as stipulated.

I. Residual Environmental Impacts of Proposed Departmental Action.

The impact of the proposed mine site would consist of minor degregation of the local and regional air quality. The total estimated particulate emissions from the mine at maximum production is 46 tons/year (See EPA application in mine plan Volume A-5). Once roads are upgraded, federal and state TSP primary and secondary standards are expected to be met at the Eccles Canyon site. Visibility will not likely be impaired to any significant degree by the mining operations.

783.22 Land Use

A. Description of Existing Environment

The Skyline property is located at the northern end of the Wasatch Plateau in both Carbon and Emery counties (T 13 S, R 6 E). The lease area is made up of 6400 acres, 6330 acres of which are in the Manti-LaSal National Forest. The remaining 70 acres are outside the forest area and contain coal rights which are leased from Carbon County (Vol. A-4 Land Use p. 1). The area is typical of the plateau-valley terrain and vegetation characterizing the Wasatch Plateau. The terrain is mountainous and the proposed portal of the mine is at an elevation of approximately 8700 feet at the head of Eccles Canyon. Vegetation types characterizing the Wasatch Plateau are sagebrush, spruce - fir-aspen, spruce-fir, aspen, riparian, aspen-grass-forb-elderberry - conifer fringed sagebrush and snowberry sagebrush.

There are four sheep allotments issued by the Forest Service, which are contained within the lease area. These allotments are in use from July-September and involve a total of 2,723 sheep over the entire allotment area (Vol. A-4, Land Use, p. 3).

Another use of the lease area is recreation. This is mainly in the form of hunting big game, small game and gamebirds; fishing in Eccles Canyon below the proposed portal area; sightseeing; and snowmobiling. There is also some limited camping and picnicking in the mouth of Eccles Canyon. And, importantly, the Eccles Canyon Road provides the only direct access from Scofield Reservoir to Huntington Canyon. It is used as an access route to the Scofield Reservoir recreation area as well as recreational areas at higher elevations in the northern end of the Wasatch Plateau (Vol. A-4, Landuse, pp. 3-5).

Cutting firewood and fenceposts are the primary forest uses. Occasionally timber is sold from the National Forest lands to salvage insect-killed spruce. A sale of 2.5 million board feet in the area of Kitchen Creek was made in 1977 (in section 22 and the western half of section 23, directly west from Eccles Canyon). An additional 1.5 million board feet has been opened for bid (in the upper side of the south side of Eccles Canyon) and should be awarded within a few months (Vol. A-4, Land Use, p.5).

B. Applicant's Proposal

The postmining land use is discussed in section 4.12, Vol. 3 of the mine plan. The applicant proposes to return the mine site area to its original wildlife/grazing habitat. The conveyor route and loadout site will be returned to the original premining use as grazing land. The proposed access road, which runs from State Highway U-96 to the mine site, is presently a service road of the U.S. Forest Service. For postmining land use, this road would be removed from the mine site to South Eccles Canyon. The remaining portion of the access road will become part of the new bypass route being planned by the U.S. Forest Service. Table 4.12-1 summarizes the premining, proposed postmining and alternate land uses.

C. Evaluation of Compliance of Proposal

Revegetation of all disturbed areas will take place during the first available season (conversation with Kieth Welch, Coastal States Energy Company, 5/29/80), following grading and topsoil redistribution procedures and will include, as necessary, the addition of remedial soil treatments. Topsoil will be exposed for up to six months prior to seeding (correspondence with Vernal Mortensen, Coastal States Energy Company, 5/31/80).

Species for revegetation proposed by the applicant (Vol. 3, Section 4.7, pp 4-23 to 4-24), have not been demonstrated to provide a diverse plant community necessary for optimum post-mining wildlife use. It will be necessary for the applicant to follow the conditions of the stipulation in the revegetation section of this technical analysis listing species necessary to establish a diverse plant community.

During the life of the project and with special emphasis at abandonment, recreational resources will be assessed by the U. S. Forest Service (Foster, 1979). This will include a review of postmining fishing, hunting, camping, hiking, and recreational land use. If it is found, during the liability period, that any of these activities may be decreased due to the mining operation, corrective actions may be taken (the term "may" will be changed to "will", conversation with Kieth Welch, 5/29/80).

D. Revisions to Applicant's Proposal - (None)

E. Re-evaluations of Compliance - (Not applicable)

F. Proposed Stipulations with Justification - (None)

G. Summary of Compliance - Will comply.

If the proposed stipulation (refer to Revegetation section of this Technical Analysis) are implemented, this section will be in compliance.

H. Proposed Departmental Action

To approve the applicant's determination of land uses on the proposed permit area prior to mining, and the land uses that will follow mining; to approve as adequate the likelihood that the designated postmining uses will be achieved.

I. Residual Environmental Impacts of Proposed Department Actions

The land use of 75.8 acres surrounding the face up will be removed for at least 36 years. Some effect may occur on land use as a result of subsidence, but significant effects cannot be determined at this time.

If recontouring and revegetation are successful, the effects on land use will be minimal.

Cultural Resources

A. Description of Existing Environment

Ten cultural resources survey reports have been prepared for the Coastal States Energy Company's proposed Skyline Mine. Areas surveyed include drill sites, access roads, by-pass roads, seismic lines, coal loading site, mine portals, waste rock disposal site, and water storage site.

Two historic sites and one archaeological isolated occurance were located and recorded by these surveys. An additional historic site, the abandoned Eccles Canyon Mine, was noted in the mine plan, but was not recorded by the cultural resources survey. OSM staff archaeologists have recently recorded this site. Site descriptions provided below are compiled from the application, a recent (May 30, 1980) submission of additional site data by Archaeological Environmental Research Corporation (AERC), and site forms compiled by OSM archaeologists.

Site AERC 270U/1 is an historic, multiple room structure, located on a ridge at the mouth of Eccles Canyon. Only a deteriorating stone foundation remains.

Site AERC 270U/2 is an historic, single room structure also located on a ridge at the mouth of Eccles Canyon. Only a deteriorating stone foundation remains.

A broken projectile point was recovered from a drilling site by Forest Service personnel prior to the archaeological survey performed for the applicant. No additional cultural resources were located by survey of this drill site.

The abandoned Eccles Canyon Mine, located on the side and floor of Eccles Canyon, consists of three collapsed mine portals, and several collapsed and deteriorating wooden structures. Some of the structures are partially in Eccles Creek.

Complete descriptions of sites AERC 270U/1 and 270U/2 have recently been submitted by AERC. The abandoned Eccles Canyon Mine has been recorded and photographed by OSM. These three sites do not appear to meet the Criteria of Eligibility for the National Register of Historic Places (36 CFR 60.6). A request for concurrence has been submitted to the Utah State Historic Preservation Officer (Attachment #1) pursuant to 36 CFR 800.4, however no reply has been received. The isolated occurance is not eligible for nomination to the National Register.

The history of the area and the general nature of known cultural resources have not yet been adequately described by the applicant. A stipulation is being proposed (see section F) that will require the applicant to submit a complete cultural resources survey report that will include this information.

B. Description of Applicants Proposal 784.17

Cultural resources surveys were conducted by Archaeological-Environmental Research Corporation (AERC) in all areas that are proposed to receive direct impact by surface activities. A sample survey of areas that may be impacted by subsidence has not been conducted. A proposed stipulation (See Section F) will require the applicant to conduct such a survey. The three identified historic sites have been recommended as being not eligible for nomination to the National Register.

The Criteria of Effect (36 CFR 800.3(a)) have been applied by OSM. Recommendations for a No Effect Determination have been sent to the Utah State Historic Preservation Officer, pursuant to 36 CFR 800.4 (Attachment #1). If he concurs with these recommendations, there will be no effect to known or currently identified significant cultural resources.

To prevent impact to unknown cultural resources the applicant has proposed the following:

1) All vehicular traffic, personnel movement, and construction be confined to locations examined and the access roads leading into these locations.

2) All personnel refrain from collecting individual artifacts or from disturbing any cultural resources in the area.

3) A qualified archaeologist will be consulted should cultural remains from subsurface deposits be exposed during construction work, or if need arises to relocate or otherwise alter the construction area.

These recommended stipulations will be integrated into the Proposed Special Stipulations (section F).

C. Evaluation of Compliance

1. Applicants Compliance

Cultural resources surveys were conducted on all areas of the mine plan that are proposed to be subjected to surface construction activities. An adequate sample survey to inventory sites that may be impacted by subsidence has not yet been conducted. If the three historic sites are found to be not eligible, there will be no effect to known significant cultural resources, and no mitigation measures will be necessary. If the abandoned Eccles Canyon Mine is found to be eligible for nomination to the National Register, a proposal for the mitigation of adverse impact will be required from the applicant.

The applicant has provided the information necessary for OSM to begin the consultation process with the Utah SHPO, pursuant to Section 106 of the National Historic Preservation Act of 1966. The applicant must still submit additional information on the abandoned Eccles Canyon Mine, a complete and acceptable survey report, and a survey report documenting the required sample survey. The exact nature of this information is documented in Proposed Special Stipulations (section F).

2. OSM Compliance

OSM has complied with procedures required by Section 106 of the National Historic Preservation Act of 1966 by evaluating the eligibility of the three historic sites and recommending a Determination of No Effect (Attachment #1). If the Utah SHPO concurs with OSM's recommendations, consultation with the Keeper of the National Register of Historic Places and the Advisory Council on Historic Preservation will not be necessary. Consultation with the above mentioned agencies will continue pursuant to 36 CFR 66 and 36 CFR 800 if the Utah SHPO does not concur with OSM's recommendations.

OSM will be in compliance with all applicable legislation and regulations when the comments are received back from the Utah SHPO. Until that time, OSM has proposed special stipulations (see section F) to protect the sites.

D. Revisions to Applicant's Proposal

If the mine plan is approved, the applicant will be submitting additional information as required in Section F, Proposed Special Stipulations.

E. Re-Evaluation of Compliance

If the Utah SHPO does not concur with OSM's recommendations, a re-evaluation of the procedures will be necessary, as will additional compliance with applicable legislation and regulations. Mechanisms for this compliance are stated in Section F.

F. Proposed Special Stipulations

1) The applicant will submit, within 60 days of acceptance of departmental approval of the mine plan, additional information to OSM and the Utah SHPO on the Abandoned Eccles Canyon Mine.

Justification: Pursuant to OSM's letter to the Utah SHPO (Attachment #1); complete documentation of the site is necessary if it is to be destroyed with no further work required.

2) The applicant shall ensure that a sample survey for cultural resources is performed in areas of the mine plan that may be affected by subsidence. This survey should concentrate on locating sites that may be especially sensitive to the effects of subsidence. These site types include, but are not limited to: standing wall structures, both historic and prehistoric; rock art; stratified sites; and rock shelters. A minimum of 10% of the area that may be impacted by subsidence shall be surveyed. Areas that have previously been surveyed (excluding drill hole surveys) may be used in this 10% survey. This additional survey may be random, or may concentrate on areas that, in the judgment of a professional archaeologist, would be more likely to contain sensitive cultural resources. Methods used to survey the additional areas will be justified in the survey report. This survey will commence within 60 days of acceptance of departmental approval of the mine plan, and the report will be submitted to the OSM and the SHPO within 120 days of approval. The report shall be written using the standards outlined in OSM's draft "Proposed Guidance to Applicants". If cultural resources are located that are eligible for nomination to the National Register of Historic Places (36CFR60.6) and which may be adversely impacted by subsidence; a plan to mitigate these impacts shall be prepared and submitted to the regulatory authority for approval. Impacts will be mitigated prior to commencement of subsidence-causing activities.

Justification: In accordance with Attachment #1 and Part II, section B of the Programmatic Memorandum of Agreement among the Department of the Interior, Bureau of Land Management, Office of Surface Mining Reclamation and Enforcement, and United States Geological Survey, and the Advisory Council on Historic Preservation Regarding the Federal Coal Management Program (PMOA).

3) If, during the course of mining operations, previously unidentified cultural resources are discovered, the applicant shall ensure that the site is not disturbed and shall notify the regulatory authority. The operator shall ensure that the resource(s) is properly evaluated in terms of the National Register of Historic Places eligibility criteria (36CFR60.6). Should a resource be determined eligible for listing, the operator shall consult with and obtain the approval of the regulatory authority and the Utah SHPO concerning the development and implementation of mitigation measures as appropriate.

Justification: In accordance with Part II, section F of the PMOA.

4) All vehicular traffic, personnel movement, and construction be confined to the locations examined for the mine plan by the cultural resources survey and the access roads leading into these locations.

Justification: An intensive survey of the mine plan has not been accomplished. Significant cultural resources may be located outside the surveyed areas.

5) The company shall instruct their personnel that it is a violation of federal and state laws to collect individual artifacts or to otherwise disturb cultural resources. All personnel shall refrain from any such disturbance.

Justification: To prevent damage to significant cultural resources that may be located outside the surveyed areas.

6) No construction activities shall be allowed in the SE 1/4 of the SW 1/4, section 13, T13S, R6E, Carbon County, until the Utah SHPO concurs with OSM's recommendations as stated in Attachment #1. If the SHPO does not concur that the abandoned Eccles Canyon Mine is not eligible, a Determination of Eligibility will be sought from the Keeper of the Register. If the site is determined eligible, a mitigation proposal must be submitted to the regulatory authority and the Utah SHPO for approval. This proposal will be developed and implemented in accordance with the Advisory Councils Guidelines for Making "Adverse Effect" and "No Adverse Effect" Determinations for Archaeological Resources in Accordance with 36 CFR Part 800 (Attachment #2). All work will be completed at the site, and a preliminary report of such activities accepted by the regulatory authority and the Utah SHPO prior to any construcion activities in the area.

Justification: Pursuant to Part II, sections B, C, and H of the PMOA.

7) No construction activities shall be allowed in the SE 1/4 of the SE 1/4, section 17, T13S, R7E, north of the existing road in Eccles Canyon until the Utah SHPO concurs with OSM's recommendations as stated in Attachment #1. If the SHPO does not concur that sites AERC 270U/1 and 270U/2 are not eligible, a Determination of Eligibility will be sought from the Keeper of the Register. If the sites are determined eligible, a qualified archaeologist shall be present during the initial stages of construction north of the road to ensure that the applicant avoids all impact to these sites.

Justification: Pursuant to Part II, sections C and D of the PMOA.

G. Summary of Compliance

The applicant will be in compliance with OSM regulations if all stipulations in Section F are adhered to. OSM will be in compliance with Section 106 of the National Historic Preservation Act of 1966 when the comments of the Utah SHPO are received by OSM. OSM has begun the compliance process by submission of Attachment #1 to the Utah SHPO, and by enforcing compliance with the Proposed Special Stipulations (Section F).

H. Proposed Departmental Action

Approve with proposed special stipulations.

I. Residual Impacts of Proposed Departmental Action

During mining operations one historic site will be destroyed. If the Utah SHPO concurs that the site is not eligible, no mitigation measures will be necessary to mitigate adverse impact. If the site is determined "eligible", a data recovery program will be developed and implemented to mitigate this adverse impact. Even with a well-developed mitigation plan, however, some data will be lost. Furthermore, once the site is destroyed, it can never be re-examined. Thus, there would be a loss of potential data, as well as the physical loss of the site.

Known and unknown cultural resources located in the vicinity may be impacted by mining activities as a result of increased populaton in the area. There may be increased vandalism and unauthorized collections associated with recreational activities and other pursuits.

J. Alternative to Proposed Action

One alternative would be not to mine. No cultural resources would be destroyed. Another alternative would be to move the mine facilities. There is no guarantee however, that this would not impact other, previously unknown, cultural resources.

Bonding Requirements

A. Description of Existing Environment

The proposed Skyline Mine will be located on 6,400 acres of national forest (6,330 acres) and Carbon County (70 acres) land.

The present land uses at the proposed site are grazing (sheep), wildlife, hunting (large and small game and game birds), fishing, sightseeing, snowmobiling, and limited camping and picknicking. Cutting firewood and fence posts are the primary forest uses.

B. Description of Applicant's Proposal

The company proposes to submit a performance bond to the regulatory authority in accordance with the bonding requirements of section 800-808 (30 CFR 211.3, 211.10 and Section 509 of SMCRA) to guarantee that lands affected by the proposed mining operation will be reclaimed according to the vegetation requirements of Section 515 of the Act, so that the reclaimed land will be capable of supporting the postmining land uses of forestry, recreation, wildlife, and sheep grazing. The company submitted estimated costs for computing the bond amount as shown in tables 4.3-1 through 4.3-2 (reproduced from the mine plan).

C. Evaluation of Compliance of Proposal

The company stated that a bond was not necessary for the surface area above the underground mine workings because subsidence would be slow and uniform and would not necessitate reclaiming the surface. Section 800.11(b) stipulates that "An operator shall not disturb surface acreage or extend any underground shafts, tunnels or operations prior to receipt of approval from the regulatory authority of a performance bond covering the surface acreage to be affected." OSM agrees that any subsidence occurring above the underground mine workings would probably not necessitate reclamation. However, if the monitoring program indicates that subsidence is having an adverse effect, then the regulatory authority would adjust the bond amount to include this area. The surface subsidence-monitoring measures pursuant to 30 CFR 211.3 (section 509 of SMCRA and 30 CFR 784.20) must be bonded to cover removal of the monuments and revegetation. Consequently, the estimated bond amount submitted by the company needs to increased to cover these measures. In addition, pursuant to 30 CFR 211.3 (30 CFR 784.13(b)(2)), the company needs to submit supporting calculations (man hours, costs for labor and equipment, etc.) for the estimated bond amount, so that the regulatory authority can determine if the amounts listed are accurate reflections of the reclamation costs. The company also needs to submit a map showing each area of land within the permit area for which a performance bond will be posted, pursuant to 30 CFR 211.3 (30 CFR 784.23(b)(3)). After OSM reviews the requested material and determines adequate bond amount, the company must submit an approved performance bond, payable to the State of Utah and the U.S. Government, before beginning any land disturbing activities, pursuant to 30 CFR 211.3 (30 CFR 800.11). The amount of this bond may be adjusted by the regulatory authority as required by changes in acreage; methods of mining; standards of reclamation; and future costs of reclamation, restoration, and abatement work, pursuant to 211.3 (30 CFR 805.14).

TABLE 4.3-1

COMPUTATION OF BOND AMOUNT

ESTIMATED BOND AMOUNT - 1980

	ACRES	AMOUNT
Mine Site		
1. Slope Areas	10.8	$ 78,100
2. Terrace	22.9	141,200
3. Access Road	10.7	107,700
5. Powder & Cap Magazines		6,300
6. Water Tank Area	0.4	2,800
7. Topsoil Stockpile	0.6	1,000
8. Sedimentation Pond Backfill	0.0	17,000
Overland Conveyor	10.0	60,000
Mine Access Road		
* From Eccles By-Pass Branch (South Fork) to Loadout (Cut Slopes)	10.4	62,200
Loadout Site	8.7	64,400
1. Topsoil Stockpile	0.3	600
2. Sedimentation Pond Backfill	0.0	3,400
	74.8	$ 546,400

Acreage total does not include 1.0 acre area for Mine #2 ventilation shaft which will not be disturbed during the first five years of the mining operation.

*Typographic Correction

TABLE 4.3-1 (contd)

COMPUTATION OF BOND AMOUNT

ESTIMATED BOND AMOUNT - 1981

Mine Site	Amount
1. Mine No. 1 Portal Area	$ 40,000
2. Conveyor Foundation	10,000
3. Shop - Warehouse	10,000
4. Sampling Tower (1,2 & 3)	1,000
5. Silo and Feed Tunnel	39,000
6. Crusher	500
7. Truck Loadout	500
8. Mine #2 and #3 Portal Areas	35,000
Removal Cost for Steel Frame Building	300,000
Removal Cost for Equipment	56,000
	$ 492,000

ESTIMATED BOND AMOUNT - 1983

	Amount
Overland Conveyor	$ 65,000
Loadout Site	
1. Silos (2)	250,000
2. Railroad Loadout	500
3. Changehouse	3,000
4. Parking Area	17,000
	$ 335,500

TABLE 4.3-2

ESTIMATED

RECLAMATION COSTS

1979 DOLLARS

PHASE	Area Description	No. of Acres	Concrete and/or Blacktop Removal	Back-filling	Grading	Ripping	Topsoil Addition	Fertil-ization and/or Neutral-ization	Seeding and Tree Planting	Moisture Retention	Maintenance and Monitoring	Total
	MINE SITE											
	Final Reclamation - Completed Areas at Final Slope - Includes Side Hill Cuts	8.3	-	-	-	16,600	18,300	2,500	4,200	8,300	8,300	58,200
OPERATION	Temporary Stabilization Topsoil Stockpile	0.6	-	-	-	-	-	200	300	-	500	1,000
	MINE ACCESS ROAD BANKS											
	Final Reclamation - Eccles By-Pass Branch To Loadout	10.4	-	-	-	20,800	22,900	3,100	5,200	-	10,200	62,200
	LOADOUT SITE											
	Temporary Stabilization - Topsoil Stockpile	0.3	-	-	-	-	-	100	200	-	300	600
	Subtotal (Operation Phase - Short-term Bond)					37,400	41,200	5,900	9,900	8,300	19,300	122,000

TABLE 4.3-2 (contd)

ESTIMATED

RECLAMATION COSTS

1979 DOLLARS

PHASE	Area Description	No. of Acres	Concrete and/or Blacktop Removal	Back-filling	Grading	Ripping	Topsoil Addition	Fertil-ization and/or Neutral-ization	Seeding and Tree Planting	Moisture Retention	Maintenance and Monitoring	Total
	MINE SITE											
	Water Tank Area	0.4	-	-	-	800	900	100	200	400	400	2,800
	Side Hill Cuts in #1 Portal Area	1.0	-	-	-	2,000	2,200	300	500	1,000	1,500	7,500
	Upper Terrace	7.8	-	-	-	15,600	17,200	2,300	3,900	-	7,800	46,800
	Mine #1 Portals		-	40,000	-	-	-	-	-	-	-	40,000
ABANDONMENT	Conveyor Foundations		2,000	-	-	-	-	-	-	-	-	2,000
	Drainage Reconstructions		-	-	500	-	-	-	-	-	-	500
	Middle Terrace	7.8	-	-	-	15,600	17,200	2,300	3,900	-	7,800	46,800
	Shop-Warehouse		10,000	-	-	-	-	-	-	-	-	10,000
	Mine #1 Sampling Tower		500	-	-	-	-	-	-	-	-	500
	Conveyor Foundations		3,000	-	-	-	-	-	-	-	-	3,000
	Silo & Feed Tunnel		30,000	9,000	-	-	-	-	-	-	-	39,000
	Drainage Reconstruction		-	200	500	-	-	-	-	-	-	700
	Side Hill Cuts in Portal #3 Area	1.5	-	-	-	3,000	5,000	400	700	1,300	2,000	12,400
	Lower Terrace	5.8	-	-	-	11,600	12,800	1,800	2,900	-	5,800	34,900
	Mine #3 Change House		25,000	-	-	-	-	-	-	-	-	25,000
	Crusher		500	-	-	-	-	-	-	-	-	500

TABLE 4.3-2 (contd)

ESTIMATED

RECLAMATION COSTS

1979 DOLLARS

PHASE	Area Description	No. of Acres	Concrete and/or Blacktop Removal	Back-filling	Grading	Ripping	Topsoil Addition	Fertil-ization and/or Neutral-ization	Seeding and Tree Planting	Moisture Retention	Maintenance and Monitoring	Total
	Lower Terrace (Cont.)											
	Sampling Tower (2 & 3)		500	-	-	-	-	-	-	-	-	500
	Conveyors		5,000	-	-	-	-	-	-	-	-	5,000
ABANDONMENT	Truck Loadout		500	-	-	-	-	-	-	-	-	500
	Mines 2 and 3 Portals		-	35,000	-	-	-	-	-	-	-	35,000
	Drainage Reconstruction		-	-	500	-	-	-	-	-	-	500
	Sedimentation Pond Backfill		-	17,000	-	-	-	-	-	-	-	17,000
	Terrace Banks	1.5	-	-	2,100	3,000	3,300	500	800	1,500	1,500	12,700
	Subtotal (Mine Site - Abandonment Phase)		77,000	101,200	3,600	51,600	58,600	7,700	12,900	4,200	26,800	343,600
	Intake Shaft Area	1.0	-	5,000	-	3,800	4,200	600	1,000	1,900	1,900	18,400
	Powder & Cap Magazines		200	-	-	2,200	2,000	300	500	-	1,000	6,300
	Subtotal (Mine Site - Abandonment Phase)		200	5,000	-	6,000	6,200	900	1,500	1,900	2,900	24,700

TABLE 4.3-2 (contd)

ESTIMATED

RECLAMATION COSTS

1979 DOLLARS

PHASE	Area Description	No. of Acres	Concrete and/or Blacktop Removal	Back-filling	Grading	Ripping	Topsoil Addition	Fertil-ization and/or Neutral-ization	Seeding and Tree Planting	Moisture Retention	Maintenance and Monitoring	Total
	MINE ACCESS ROAD											
	Mine to Eccles By-Pass Branch Road and Conveyor Area	10.7	40,000	-	3,500	21,400	23,500	3,200	5,400	-	10,700	107,700
	Eccles By-Pass Branch to Loadout	9.0	-	-	-	18,000	19,800	2,700	4,500	-	9,000	54,000
	Transfer Towers and Conveyors	1.0	65,000	-	-	2,200	2,000	300	500	-	1,000	71,000
	Subtotal (Road - Abandonment Phase)		105,000	-	3,500	41,600	45,300	6,200	10,400	-	20,700	232,700
	LOADOUT SITE	8.7	-	-	12,200	17,400	19,100	2,600	4,400	-	8,700	64,400
	Administration Building		15,000	-	-	-	-	-	-	-	-	15,000
BANDONMENT	Parking Area		17,000	-	-	-	-	-	-	-	-	17,000
	Silos (4)		500,000	-	-	-	-	-	-	-	-	500,000
	Change House		3,000	-	-	-	-	-	-	-	-	3,000
	Railcar Loadout		500	-	-	-	-	-	-	-	-	500
	Sedimentation Pond Backfilling		-	3,400	-	-	-	-	-	-	-	3,400
	Subtotal (Loadout - Abandonment Phase)		535,500	3,400	12,200	17,400	19,100	2,600	4,400	-	8,700	603,300
	Total Abandonment Phase		717,700	109,600	19,300	116,600	129,200	17,400	29,200	6,100	59,100	1,326,300
					+ $56,000 Equipment Removal Costs							
					+$300,000 Steel Frame Building Removal Costs							
	Total Operational & Abandonment Phase		717,700	109,600	19,300	154,000	170,400	23,300	39,100	14,400	78,400	1,682,300
	Contingency (10%)											168,200
	PROJECT TOTAL											1,850,500

The company submitted certificates of public liability insurance as required by 30 CFR 211.10(c)(6)(vii) (Section 507 of SMCRA and 30 CFR 806.14)). The amounts for bodily injury and property damage are in excess of required amounts. However, the company needs to demonstrate that the insuror will notify the regulatory authority if the company fails to renew the insurance. In addition, the company must provide evidence that the policy covers use of explosives and damage to water wells and that the policy will be maintained in full force during the life of the permit, any renewal thereof, and during completion of any reclamation operations. These submittals are required pursuant to 30 CFR 211.10(c)(6)(iv) (Section 507 of SMCRA and 30 CFR 806.14).

D. Revisions to Applicant's Proposal

None

E. Reanalysis of Compliance

None

F. Stipulations

1. Within 1 week after acceptance of Departmental approval of the mine plan, the company must submit:

a. Supporting calculations (per hour cost, man hours for labor and equipment, etc.) for the estimated costs of reclamation already submitted.

JUSTIFICATION: 30 CFR 211.3 (30 CFR 784.13(b)(2))

b. Evidence that adequate bond exists to cover removal and reclamation of surface, subsidence-monitoring measures including continued monitoring for subsidence throughout the life of the mine and the extended liability period.

JUSTIFICATION: 30 CFR 211.3, 211.40 (Section 509 and 515 of SMCRA and 30 CFR 784.20, 805.13)

c. A map showing each area of land within the permit area for which a performance bond will be posted.

JUSTIFICATION: 30 CFR 211.3 (30 CFR 784.23(b)(3))

d. Evidence that insurance requirements of section 806.14(b)(c) are met. These requirements are: Evidence that the insurer will notify the regulatory authority if the company fails to renew the public liability insurance policy. In addition, the company must demonstrate that the policy covers use of explosives and damage to water wells and that the policy will be maintained in full force during the life of the permit, during any removal thereof, and during completion of any reclamation operations.

JUSTIFICATION: 30 CFR 211.10 (c)(6)(vii) (Sections 507 of SMCRA and 30 CFR 806.14))

2. Before any land disturbing activities take place, the company must submit a bond approved by the regulatory authority and payable to the State of Utah and the U.S. Government.

JUSTIFICATION: 30 CFR 211.3 (Section 509 of SMCRA and 30 CFR 800.11)

G. Summary of Compliance

Will comply if proposed stipulations are implemented

H. Proposed Departmental Action

To approve with stipulations

I. Residual Impacts of Proposed Departmental Action

If sufficient bond is posted by the company and adjusted as required by 30 CFR 805.14, the residual impact would be that the land would be reclaimed as proposed in the mining and reclamation plan and approved by the regulatory authority. The process of reclaiming the land would normally be completed by the operator. However, under conditions of bond forfeiture, the regulatory authority would be responsible for the reclamation.

J. Alternatives to Proposed Action

None

Miscellaneous Compliance Analysis

B. Description of Applicant's Proposal

C. Evaluation of Compliance

817.11 Signs and Markers

Applicant agrees to post signs and markers including the following: (1) mine and permit identification; (2) perimeter markers (blue steel fence posts); blasting signs; and (3) topsoil markers. Details that relate to sign and marker posting are discussed by the applicant (Section 3.2.8; 3-58). The applicant has not agreed to use buffer zone markers.

Buffer zones are defined as the 100-year flood plain (See Buffer Zones 817-57). Since the predicted peak runoff resulting from the 100-year, 24-hour rainfall event is approximately 22 cfs (at the mouth of Eccles Creek,) the entire flow should be contained in the stream channel. Therefore, the buffer zone signs are not needed.

Summary: Will comply.

817.79 Protection of Underground Mines within 50 Feet

Not applicable

817.89 Disposal of Non-Coal Wastes

Applicant discusses disposal of non-coal wastes in Section 4.8 (pp. 4-28 through 4-29) of the proposal. Temporary storage facility that will be constructed from reinforced concrete will be located in the vicinity of the mine portal area (see Exhibits 3-33 and 3-8). Permanent waste will be stored at a sanitary land fill owned by the estate of Mr. Gorge Telonis and operated by the town of Scofield, Utah (P. 4-28).

817.131 Cessation of Operation - Temporary

Prior to any temporary cessation of the Skyline mining operations for a period of 30 days or more, or as soon as it is determined that a temporary cessation will extend beyond 30 days, the Applicant will submit to the appropriate regulatory authority a notice of its intent to cease or abandon operations.

The Applicant's notice will state the exact number of surface acres and extent of subsurface strata which had been affected by underground or surface developments in the permit area prior to cessation or abandonment of mining. The cessation notice will also state the extent and kind of surface reclamation completed to date and the backfilling, regrading, revegetation, environmental monitoring, underground opening closure and water treatment activities the Applicant plans to continue during the temporary cessation period.

Summary: Will comply.

817.132 Cessation of Operation - Permanent

Following a decision to permanently cease mining operations at one or all of the Skyline mines, all affected areas will be permanently reclaimed in accordance with the approved permit. Unless approved as suitable for postmining landuse purposes or environmental monitoring, the surface equipment, structures, and other facilities no longer required for mining activity and monitoring will be removed and affected lands reclaimed.

817.81 - 817.88 and 817.91 - 817.93 Coal Processing Wastes

Not applicable because mined coal will not be processed.

D. Revision to Applicant's Proposal - (None)

E. Reevaluation of Applicant's Proposal - (None)

F. Proposed Special Stipulations with Justification - (None)

G. Summary of Compliance

Will comply

H. Proposed Departmental Action

To approve

I. Residential Environmental Impacts of Proposed Departmental Action

Approval of the applicant's proposed actions is expected to result in safer surface site construction, or working environment. Other environmental impacts are negligible.

May 29, 1980

ENVIRONMENTAL ASSESSMENT

Mining and Reclamation Plan for
Skyline Mines
Carbon and Emery Counties, Utah

Proposed By
Coastal States Energy Company
Getty Mineral Resources Company
Federal Coal Leases #UT 020305
UT 044076
UT 0142235
UT 0147570
UT 073120

Prepared by:

Dane Bickley
Bruce Levek
Florence Munter-Schaller
Robert Schueneman
Clare Silvernale
Walter Swain
Carolyn Zarnekee
and the Division of Technical Analysis and Research Staff

U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement
Region V
Denver, Colorado

Finding of No Significant Impact

The environmental assessment preceeding the Finding of No Significant Impact identifies certain environmental impacts that would occur from the 6,400 acre Skyline Mine proposed by the Coastal States Energy Company and the Getty Mineral Resources Company. The USGS regional and site-specific environmental impact statement (EIS) on the Skyline Mine, previously called the McKinnon Mines, analyzed the impacts of this mine, including the socioeconomic impacts to surrounding communities, cultural resources, and wildlife. Other impacts identified by OSM would be appropriately mitigated to prevent harm to the environment by environmental-protection measures specified in the mine plan and by stipulations that have been attached to the proposed plan approval.

Based on the evaluation of impacts in OSM's environmental assessment and in the previous USGS regional and site-specific EIS, we find that no significant impacts to the human environment other than those previously identified and evaluated in these documents would result from this operation. Therefore, an additional EIS is not required, and I am recommending that the subject underground mine be approved with stipulations.

DONALD A. CRANE
Regional Director

June 2, 1980
Date

Environmental Assessment
Proposed Skyline Mines

Proposed Action

The U.S. Office of Surface Mining Reclamation and Enforcement (OSM) is recommending approval with stipulations of a mining and reclamation plan proposed by Coastal States Energy Company, and the Getty Mineral Resources Company (Company) for the Skyline Mines, Carbon and Emery Counties, Utah. The Company proposes to construct and operate an underground coal mining operation (the Skyline Mine) to be located in Northwest Carbon and Emery Counties, Utah, approximately twenty air miles northwest of Price, Utah (figure 1). OSM's recommendation is in accordance with Initial Regulatory Program (30 CFR 211 and 710 et seq.) implementing the Surface Mining Control and Reclamation Act (SMCRA) of 1977 and conditions of the lease.

OSM's proposed action differs from proposals prepared by the Company because the mining and reclamation plan did not comply with all Federal requirements. OSM's proposed action includes stipulations necessary for the mining and reclamation plan to comply with SMCRA and other Federal laws.

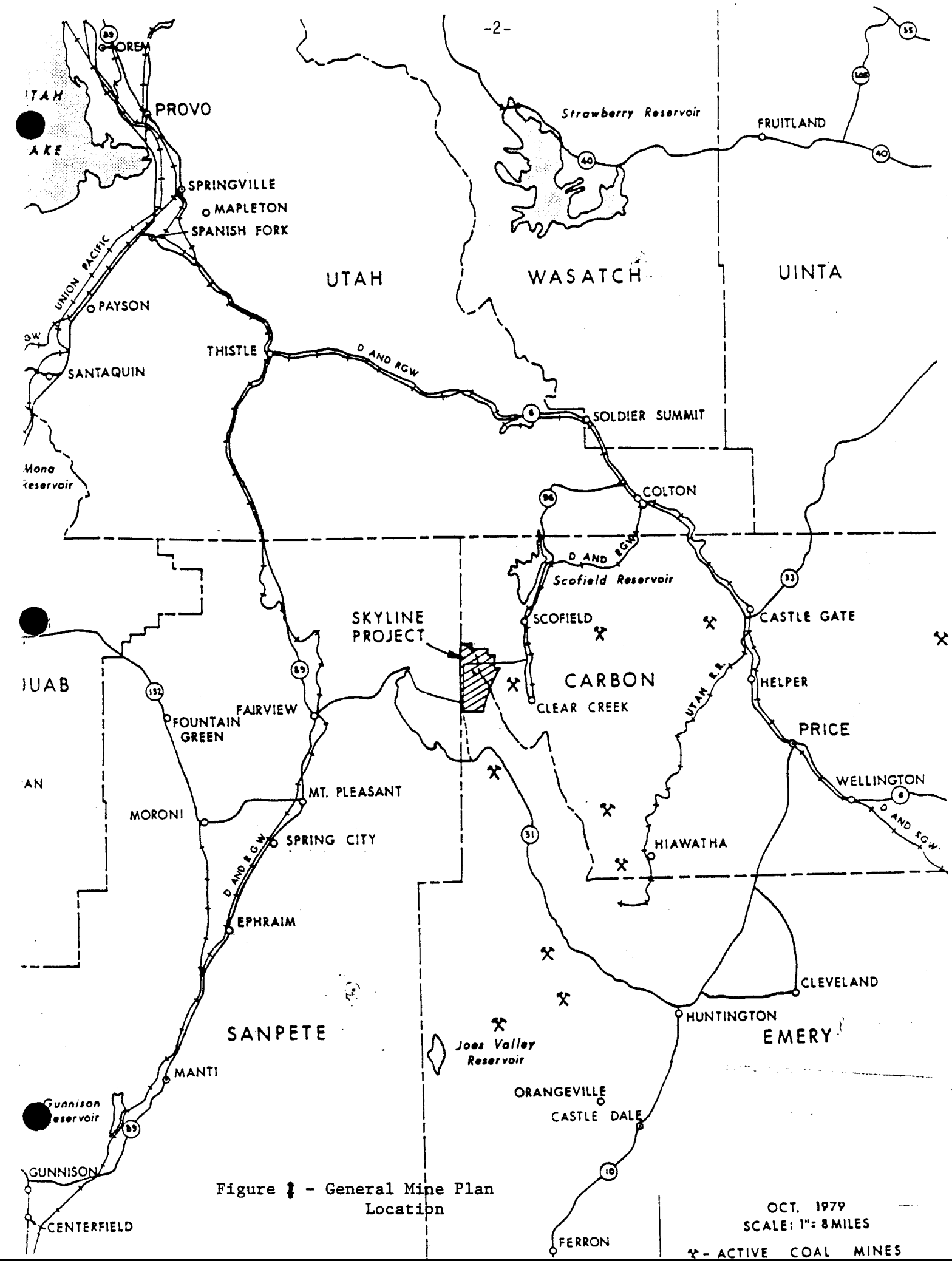

Figure 1 - General Mine Plan Location

Purpose of and Need for Action

The Department of the Interior has received a mining and reclamation plan from the Company for Federal coal lands that proposes to construct and operate an underground coal mining operation. The plan replaces one previously submitted to the U.S. Geological Survey (USGS) under 30 CFR 211. The revised plan has been submitted to OSM for approval pursuant to the requirements of SMCRA and the implementing regulations.

Background

The applicant acquired the properties on which the mining operation is to be developed during 1978. The properties are in an area which has had a history of coal mining. The Skyline property, specifically, had been under investigation for development of its coal resources for several years prior to the applicant's acquisition. Mining and reclamation plans detailing the formerly proposed development, called the McKinnon Mines, had been filed with various governmental agencies by Routt County Development, Ltd., a predecessor in title to the applicant.

The surface facilities and portals to the underground mine are to be constructed approximately three and one-half miles to the southwest of Scofield, Utah and four miles northwest of Clear Creek, Utah. The underground mining operations are proposed to extend over 4,839.00 acres of the 6,400 acre Federal coal leasehold during the projected 35 year life of the mining operation. About 76 acres would be disturbed by surface facilities and portals. The majority of the development would be on lands owned by the United States and administered by the U.S. Forest Service as a part of the Manti-La Sal National Forest. At full production, the Skyline Mining Project will produce approximately five million tons of coal per year and employ 900 persons. The applicant expects the coal to be marketed throughout the western portion of the United States primarily for the generation of electrical power.

The Company plans to construct coal storage and other facilities at the mine portal, an overland conveyor system to carry crushed coal about 2.5 miles to the coal storage and rail loadout facility at the mouth of Eccles Canyon east of the mine plan area, and a truck loading facility at the mine site.

After all the coal is mined, the applicant proposes to return the surface area disturbed to a grazing postmining land use. All surface structures, equipment, and road blacktop in the portal area will be removed. All solid waste generated in the abandonment operation will be collected and removed from the area being reclaimed. The stream will be returned to its approximate premining channel and the disturbed areas will be regraded and recontoured. The ground at the sites will be scarified, topsoiled and revegetated.

ALTERNATIVES (Including the Proposed Action)

Preferred Action (or Alternative 1)

This action is approval with the stipulations necessary to meet the requirements of SMCRA (PL 95-87), the Initiatial Regulatory Program regulations (30 CFR 211 and 710) implementing SMCRA, the conditions of the leases, and all other applicable Federal laws (Endangered Species Act of 1973, National Historic Preservation Act of 1966, Archaeological and Historic Preservation Act of 1974, the Antiquities Act of 1906, the Clean Air Act, the Clean Water Act, etc.) and stipulations which provide further environmental protection. The proposed stipulations require changes in the reclamation plan, as follows:

Air Quality

The Company must conduct an air quality monitoring program to be conducted for at least 12 months after reaching the maximum production rate of the mine.

Backfilling and Grading

The Company will, within three months of acceptance of Departmental approval, submit to the regulatory authority a statement with supporting calculations showing that the terrace-like cuts can be expected to equal or exceed a safety factor of 1.3.

Topsoil

1. The Company must provide depths to which topsoil will be removed.

2. The Company shall provide volumes of topsoil material to be stockpiled from the disturbed areas of portal, loadout, conveyor and road sites.

3. Topsoil and other approved materials shall be distributed in a manner that achieves a uniform, stable and homogeneous growing medium consistent with the post-mining land use, slopes and surface drainage systems.

4. The Company must provide specific soil depths and volumes for redistributed topsoil or other approved materials.

5. The Company must notify the regulatory authority if non-topsoil or other material is intended to be used and will at the time of the notification supply data showing the suitability of said material, substitute, or supplement. This data must be submitted for review within three months of acceptance of Departmental approval.

6. Until Coastal States Energy Company provides to the regulatory authority the following listed information:

- depths to which topsoil will be removed in disturbed areas
- volume of topsoil available for revegetation
- volume of topsoil to be removed from disturbed areas
- depths of redistributed topsoils or appropriate substitutes to be associated with plant species to be used in revegetation program,

the following conditions must be met:

Coastal States Energy Company shall salvage and stockpile all suitable soil material approved by the regulatory authority. The 'A', 'B', and 'C' horizons may be stockpiled together unless the 'C' horizon coarse-fragment content (gravel, cobbles, and stone content summed) exceeds 35% by volume. When the coarse-fragment content exceeds 35% in the 'C' horizon, this material will be separately stockpiled and will be used as the topical overburden cover prior to placement of topsoil during the regrading and topsoiling process. The 'A' and 'B' horizon material removed from above the coarse textured 'C' horizon will be stockpiled separately from the 'A', 'B', 'C' horizon stockpile.

The separate 'A' and 'B' horizon soil material will be used as a short-term stockpile to the extent possible.

Vegetation

1. The Company shall, within three months of acceptance of Departmental approval, submit to the regulatory authority for approval a revised seed mixture reducing the amount of introduced species in the seed mix. Justification of any introduced species must be provided showing these will provide a diverse and effective vegetative cover of the same seasonal variety and are compatible with wildlife and livestock uses. The Company must specify all seed, seedling and willow cutting sources.

2. In order to enhance wildlife habitat (also 30 CFR 817.97) the Company will supply a revised revegetation plan of riparian habitat that will provide a more diverse community than that proposed. Quaking aspen rootstock will be included in revegetation plans for aspen communities. Woody species stocking densities, seedling size, and whether tubling or bare root stock will be used, must be specified. This information will be supplied, with the information above, to the regulatory authority for approval within three months of acceptance of Departmental approval.

3. Prevention of noxious plants on topsoil will be accomplished by hand grubbing unless alternate means are approved by the regulatory authority.

4. The Company will hydroseed or hand broadcast and rake the herbaceous seed mix and then hydromulch on slopes greater than

or equal to 2h:1v. On flatter slopes, mulch will be applied at a rate of 1500-2000 lbs/acre. On critical slopes where netting is required to establish permanent vegetation, a biodegradable netting will be used. Alternate seeding and mulch applications may be used subject to approval by the regulatory authority.

5. The Company may elect to revegetate slopes steeper than 1.5h:1v with or without topsoil. In either case, the applicant will ensure that these slopes will be permanently stabilized and sufficiently revegetated to prevent erosion and maintain slope stability. Revegetation and stabilization of road and conveyor belt slopes will be evaluated at the end of each growing season by estabishing and monitoring randomly located erosion pins and correlating with vegetative cover data. The Company will submit details on this monitoring procedure to the regulatory authority for approval by December 31, 1980. Monitoring data will be submitted to the regulatory authority within four months of collection.

This monitoring will occur on an annual basis until January 1984, and seeding, mulching and stabilization techniques are demonstrated to be effective in controlling erosion and ensuring road and conveyor slope stabilization. If these practices are not controlling erosion and providing slope stabilization, reclamation and/or operation techniques will be modified subject to approval of the regulatory authority.

6. The Company must subject revegetated areas to a clipping study approved by the regulatory authority which simulates herbage removal through grazing, or allow grazing of livestock at proper use levels representative of postmining land use, the last two years of liability.

7. The Company must resubmit vegetative data collected at random points using a method which gives empirical values sufficient to detect a 10% change in vegetative cover. Sample size will be such that a 10% change is detectable with 90% accuracy. These data need only be collected for communities to be disturbed and reference areas which will be used for comparison (aspen, sagebrush, spruce-fir, riparian). If areas are disturbed (i.e. portal riparian areas), then an area located as close to the disturbed areas as possible should be selected as a reference area for success standards. A minimum of the following data will be provided: 1) canopy cover by species and total canopy cover excluding trees, 2) productivity by life form, and 3) density of woody species by life form (trees and shrubs). The Company will provide statistical tests showing similarity between proposed disturbance areas and reference areas. This information will be submitted by December 31, 1980 to the regulatory authority for approval of reference areas.

8. The applicant must submit the acreage and proportion of the total area each vegetation community comprises of the portal loadout area and the conveyor-access road area. This infor-

mation will be submitted with the above information subject to approval by the regulatory authority.

9. The Company must submit a specific plan for evaluating success (diversity cover, productivity, density of woody species), methods for data collection and how revegetation areas will be compared with reference areas. This will be submitted with the above information to the regulatory authority by December 31, 1980. All reclaimed areas (i.e., conveyor slopes) must be evaluated for success.

10. The Company must qualitatively monitor reference areas at least every two years to determine if reference areas have been subject to heavy animal use, subsidence, or other man-induced degradation. If so, an additional reference area must be approved by the regulatory authority.

11. The extended period of liability will begin after the last period of augmented seeding, fertilization, and other mechanical practices. Revegetated areas will be monitored the last two years of liability and compared with reference areas.

12. The extended period of liability will be ten years unless the Company can supply site-specific data justifying a 5-year period.

Hydrology - Ground Water

Coastal States Energy must evaluate the potential impacts of mining into the Valentine and Joes Valley Faults in consultation with the regulatory authority and the Forest Service. A program involving additional wells in and around the fault zones followed by pump tests to determine discharge rates and direction of preferred drawdowns associated with the Valentine and Joes Valley faults should be initiated. Following the initial evaluation of the fault zones, a monitoring scheme to document drawdowns on the Star Point Sandstone should be presented to the regulatory authority. Following approval of the monitoring plan, properly packed and cased wells should be installed. Water levels should be monitored monthly and water quality should be sampled seasonally during the first year and annually thereafter.

Fish and Wildlife

1. The Company must construct eleven underpasses and one overpass along the coal conveyor route.

2. The Company must provide a monitoring plan to assess impacts from the conveyor road on mule deer, elk and moose migration and localized movements.

3. The Company must provide baseline data for big game utilization of Eccles Canyon Creek.

4. The use of persistent pesticides is prohibited unless its use is part of an approved reclamation plan.

5. Forest, range and coal fires, not part of a management plan, must be prevented to the best of the Company's ability, suppressed and controlled.

6. The Company must demonstrate that the re-evaluation plan and seed mixtures were developed with consideration of wildlife forage and cover.

7. The Company must provide a plan to exclude wildlife from ponds containing toxic-forming material.

Subsidence

1. The Company shall, within three months of acceptance of Departmental approval, submit evidence to the regulatory authority of a non-cancellable insurance policy, or equivalent thereof, to cover possible subsidence damages to owners of the Mountain Fuel Supply gas line, or alternatively, the applicant should show reason why such surety is not required pursuant to Sections 784.20(c) and 817.24(c).

2. The Company shall, within three months of acceptance of Departmental approval, provide the regulatory authority with a revised mine plan complying with the buffer zone requirements of 30 CFR 817.126 with respect to the Upper Huntington Creek and to Electric Lake Reservoir. The revisions shall reflect that there will be both (1) no mining under Electric Lake Reservoir or Upper Huntington Creek and, (2) no mining, from which subsidence at a 30-degree (from vertical) angle of draw would influence either the Upper Huntington Creek or the high-water level of Electric Lake Reservoir. The applicant may present a future minor modification to this plan which will designate mining in these areas, subsequent to future scientific data verifying the technical feasiblity of controlling or eliminating subsidence, and subsequent to future compliance with insurance and/or bonding protection of Electric Lake Reservoir complying with 30 CFR 817.124.

Cultural Resources

1. All vehicular traffic, personnel movement, and construction must be confined to locations examined for cultural resource features and the access roads leading into these locations.

2. The Company will submit, within two months of acceptance of Departmental approval of the mine plan, additional information to OSM and the Utah State Historic Preservation Officer (SHPO) on the Abandoned Eccles Canyon Mine.

3. The Company shall ensure that a sample survey for cultural resources is performed in areas of the mine plan that may be affected by subsidence. This survey should concentrate on locating sites that may be especially sensitive to the effects of subsidence. These site types include, but are not limited to: standing wall structures, both historic and prehistoric; rock art; stratified sites, and rock shelters. A minimum of 10% of the area that may be impacted by subsidence shall be surveyed. Areas that have previously been surveyed (excluding drill hole surveys) may be used in this

10% survey. This additional survey may be random, or may concentrate on areas that, in the judgment of a professional archeologist, would be more likely to contain sensitive cultural resources. Methods used to survey the additional areas will be justified in the survey report. This survey will commence within two months of acceptance of Departmental approval of the mine plan and the report will be submitted to the OSM and the SHPO within four months of approval. The report shall be written using the standards outlined in OSM's draft "Proposed Guidance to Applicants." If cultural resources are located that are eligible for nomination to the National Register of Historic Places (36 CFR 60.6) and which may be adversely impacted by subsidence, a plan to mitigate these impacts shall be prepared and submitted to the regulatory authority for approval. Impacts will be mitigated prior to commencement of subsidence-causing activities.

4. If, during the course of mining operations, previously unidentified cultural resources are discovered, the Company shall ensure that the site is not disturbed and shall notify the regulatory authority. The operator shall ensure that the resource is properly evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.6). Should a resource be determined eligible for listing, the operator shall consult with and obtain the approval of the regulatory authority and the Utah SHPO concerning the development and implementation of mitigation measures as appropriate.

5. The Company shall instruct their personnel that it is a violation of Federal and State laws to collect individual artifacts or to otherwise disturb cultural resources. All personnel shall refrain from any such disturbance.

6. No construction activities shall be allowed in the SE 1/4 of the SW 1/4, Section 13, T13S, R6E, Carbon County, until the Utah SHPO concurs with OSM's recommendations as stated in Attachment #1. If the SHPO does not concur that the abandoned Eccles Canyon Mine is not eligible, a Determination of Eligibility will be sought from the Keeper of the Register. If the site is determined eligible, a mitigation proposal must be submitted to the Regulatory Authority and the Utah SHPO for approval. This proposal will be developed and implemented in accordance with the Advisory Council's Guidelines for Making "Adverse Effect" and "No Adverse Effect" Determinations for Archeological Resources in Accordance with 36 CFR Part 800 (attached). All work will be completed at the site, and a preliminary report of such activities accepted by the Regulatory Authority and the Utah SHPO prior to any construction activities in the area.

7. No construction activities shall be allowed in the SE 1/4 of the SE 1/4, Section 17, T13S, R7E, north of the existing road in Eccles Canyon until the Utah SHPO concurs with OSM's recommendations as stated in Attachment #1. If the SHPO does not concur that sites AERC 270U/1 and 270U/2 are not eligible, a Determination of Eligibility will be sought from the Keeper of the Register. If the sites are determined eligible, a qualified archeologist shall

be present during the initial stages of construction north of the road to ensure that the applicant avoids all impact to these sites.

Socioeconomics - Discretionary Stipulations

1. The Company shall conduct a comprehensive study of the social, economic, and community impacts associated with the development of the Skyline Mine. This study shall encompass all impacted communities such as Scofield, Fairview, Mount Pleasant, Spring City, Price, Helper and other Carbon, Sanpete, Emery and Utah County communities. It shall be commenced upon acceptance of Departmental approval of the mining and reclamation plan. This study shall include, but not be limited to, an analysis of the construction and mining work force residential patterns, the community infrastructure associated with the identified work force, housing, transportation, and recreation impacts of the Skyline Mine project. As a result of the comprehensive study, the Company will develop appropriate mitigation measures in consultation with the Counties, Municipalities, Southeast Utah Association of Governments, the Six County Commissioners Organization, and the Regulatory Authority. The study shall include the following subjects:

A. an assessment of the construction and mining work force residential patterns, and if this assessment indicates significant housing shortages in or near Scofield, the Company shall develop a plan to alleviate housing shortages.

B. a survey of its work force to evaluate the need to develop a coordinated transportation program (i.e., buses, vans, etc.) for the construction and permanent work forces.

C. the Company shall submit to the Counties, Municipalities, the Southeast Utah Association of Governments, the Six County Commissioners Organization, and the Regulatory Authority, the results of the comprehensive study and the implementation of measures that have been undertaken by the Company to alleviate the impacts of population and urbanization attributed to the mine. This study shall be done on an annual basis, commencing at the time of Departmental approval and the Company shall submit a written report to the above named entities that evaluates the success of any mitigation measures.

2. The Company shall participate in any organized municipal, multi-municipal, county or regional efforts to assess the impacts of the Skyline Mine and the cumulative impacts of future energy development in the region.

ALTERNATIVE 2

This alternative is approval with only the mandatory stipulations; that is, the stipualtions necessary for the plan to meet the requirements of SMCRA, the appropriate regulations, the leases, and all other Federal laws. These stipulations are listed above in Alternative 1 (excluding the discretionary stipulations).

If this alternative is chosen, the communities impacted by the mine could experience severe strains to public services, housing and their social structure. These impacts could be lessened with the discretionary stipulations (for a discussion of socioeconomic impacts associated with this mine, see the environmental impacts section, "Environmental Impacts of the Proposed Action"). Other impacts associated with this alternative would be the same as those evaluated under Alternative 1.

ALTERNATIVE 3 (Disapproval)

The disapproval alternative could be chosen by the Assistant Secretary, Energy and Minerals if, after review of the environmental analysis, she determines that the proposed action would cause significant adverse impacts. This alternative would also be necessary if the applicant did not accept the stipulations required to comply with SMCRA and other Federal laws. OSM's analysis of the preferred alternative is included in the "Environmental Impacts of the Proposed Action" Section. If the disapproval alternative were selected, the impacts of the preferred alternative would not occur.

ALTERNATIVE 4 (No Action)

The Federal mineral leasing laws and the existing lease agreements require the Secretary of the Interior, or his designee, to respond to applications to conduct operations on valid Federal leases, provided all terms and conditions of the lease have been met. All terms and conditions of the leases have been met to the best of the OSM staff's knowledge.

Affected Environment

The following is a summary of material from OSM's technical analysis (June 1980), the applicants' mine plan (initially submitted in November 1979), U.S. Geological Survey regional and site-specific EIS, "Development of Coal in Central Utah" (June 1979), and the U.S. Forest Service Draft EA Report (May 1980).

The climate of the Skyline Mines area is typical of subalpine areas in this region of Utah. In general, the summer season is short with maximum temperature reading (F°) in the 80's and minimum reading in the 40's. Fall and spring seasons are erratic in nature with snow precipitation occurring as early as September and as late as the first part of June. Winters in this subalpine area are often severe, with recorded temperatures of -30°F or below at times. Major snowfalls occur in the months of January, February and March. Weather monitoring station records near the Scofield Dam have shown winter snowfalls to range between two and eight inches per 24-hour period although daily snowfalls have been recorded in excess of one foot. Snow frequently remains on the ground from November until April in depths varying to five feet. The prevailing wind direction within the general area of the Skyline Mine site is south-southwest. Winds are generally parallel to the canyons except during storm periods. Seasonal wind direction variance is minimal.

At the proposed mine site, average monthly temperatures range from 15°F in January to 60°F in July. Extreme temperatures are about -40°F and 85°F. Average annual perceipitation is 25 to 30 inches, including 8 inches of rainfall from May to September. Potential evapotranspiration is less than 18 inches per year. Snowfalls generally occur during the months of October through May. During this period, snow accumulation averages 4.5 feet. Maximum snow depth to be expected is 9 feet.

There are five potentially mineable coal seams that include the following: McKinnon, Upper O'Connor, Lower O'Connor B, Lower O'Connor A, and Flat Canyon Seam. In the proposed Skyline Mine, the Upper O'Connor, Lower O'Connor B and A seams will be mined, one mine in each seam. Approximately five million tons of coal will be extracted annually from the three underground mines over a 35 year mine life.

The mine plan area is located in the headwaters of the Price and San Rafael Basins which are tributary to the Green River. The streams which compose these watersheds are perennial in nature with the primary source of water derived from snowmelt. The quality of surface water in the mine plan area is of a calcium bicarbonate type. Total dissolved solids (TDS) in the various streams range in concentration from less than 100 mg/l in Huntington Creek during high flow conditions to greater than 500 mg/l in Pleasant Valley Creek during low flow conditions.

There are elements of two ground water systems present in the Skyline Mine permit area. A shallow element, which is discontinuous and very local in extent, provides water to numerous seeps and springs through thin sandstone layers in the Blackhawk Formation. There is also a deep aquifer element which is present in the saturated rocks surrounding

and below the coal. The principal controlling factor affecting the occurrence and availability of ground water in the two systems is the stratigraphy of the areas.

Surface and ground water rights in the general area are primarily for stock watering and irrigation. Stock watering rights are located almost entirely and directly on the streams. Irrigation rights are centered around the town of Scofield and in Flat Canyon (southwest of the permit area). Irrigated lands consist primarily of pasture. Only one spring in the permit area has a filed water right. A flow of 0.022 cfs between July 1 and September 30 is allocated to the U.S. Forest Service.

Spruce-fir and aspen-spruce-fir communities make up 40 percent of the lease area, primarily as south-facing slopes and ridges. This community type is transitional to aspen-grass-forb-elderberry communities which make up 42 percent of the lease area. Sagebrush, fringed sagebrush and sagebrush snowberry community types occupy 14 percent of the lease area primarily on shallow soils. The riparian type which makes up 3 percent of the area is found along the major drainages, river tributaries, spring lines, seep and "perennial" wet channels, downslope from minor springs. This community type includes redtop, silver sagebrush, sedges, grasses and several forbs. Approximately 1 percent of the lease area consists of sandstone ledges which hold serviceberry, aster, ferns and other species. This vegetation supports such big game species as mule deer, elk and moose and the area is considered priority habitat for mule deer and elk. Small game present include cottontail and snowshoe hare. Peregrine falcon (an endangered species) are known to nest within 20 miles of the mine plan area. Ten to 20 bald eagles migrate through the mine plan area and winter from November until freezing occurs (normally January) on Scofield Reservoir north of the mine plan area. Golden eagles have been recorded, but no nests have been reported on the mine plan area. A cuthroat trout fishery is present in both upper Huntington Creek and Eccles Creek which run through the project.

Scofield, 3 miles from the mine site, has a year-round population of about 100. The dominant source of livelihood is employment at the Belina Mine, adjacent to the Skyline Mine site. Approximately 35 of the Belina miners live in Scofield. The infrastructure in the town is not well developed. There is no central sewage system, an inadequate water system, no school or medical facility, and limited commercial facilities.

Scofield and environs is the center of a major recreational area for occasional and extended summer use. Nearby Scofield Reservoir is a popular recreational site which is rapidly approaching overuse.

Helper, Price City, and eastern Carbon County have been the focal points of Utah's coal industry for 80 years. The area has a heterogenous population which has gone through a series of booms and subsequent declines during this period. The most recent decline dated from the early 1950's to 1973, when the current resurgence of mining activity began. Carbon County is experiencing an acute housing shortage (a factor limiting increased population). Mining offers relatively high wages, attracting workers from other, lower paying economic activities. This has caused a shortage of

workers in some sectors. Price is the commerical, medical, educational and administrative center of the region.

Sanpete County will have improved access to the mine site with the construction of an all season road. Communities in the county vary in their infrastructure capabilities to support increased population and urbanization.

A major problem exists in school capacity, there is little excess capacity in the area. Increases of population may create overcrowding in the educational facilities. While the State assists in financing schools, North Sanpete School District will not directly benefit from an increase in its industrial tax base because neither the mine nor its facilities will be located in Sanpete County.

The Sanpete County employment situation is reported to be one in which there is a high degree of underemployment and a pattern of out migration of younger men and women in search of employment opportunities. Because of this, increased employment opportunities are likely to be filled in part by current residents or by relatives of residents who may return to the area if employment is available. The Company's existing mine, near Salina in Sevier County, has drawn from a similar labor pool in both the past and for recent expansion.

Environmental Impacts of the Proposed Action

The following information is condensed from environmental analyses in OSM's technical analysis (May 1980), the Company's mine plan (November 1979), as updated, and USGS's regional and site-specific EIS, Development of Coal Resources in Central Utah, 1979, and the US Forest Service draft EA (May 1980).

Air Quality

Coastal States Energy Company received their PSD permit from EPA on December 19, 1979. They also received their permit from the Utah Bureau of Air Quality on February 13, 1980.

The major sources of fugitive dust at the proposed mine sites are expected to include Eccles Canyon Road, access roads (coal will be hauled through 1984 when the coal conveyor is expected to be completed), ventilation fan areas, topsoil storage piles, and coal handling facilities.

Eccles Canyon road will be paved and water trucks will spray the road and shoulders with water and non-toxic chemical dust suppressants throughout the upgrading process. Upon completion of upgrading and paving, the cut and fill slopes will be stabilized with non-toxic chemicals. In addition, the measures that the Company plans to use to control fugitive dust include the following: restricting speed limits; revegetating disturbed land, working a soil stabilization agent into the upper layer of the road bed and removing any accumulation of spilled material from the roadbed; clearing areas within 100 feet of ventilation fans of vegetation and combustible material; stabilizing cleared areas which expose dust forming debris by compacting and maintaining a stable gravel base; using a non-toxic chemical dust suppressant and revegetation for stabilizing topsoil stockpile areas following final emplacement; fully enclosing conduits for conveyor belts from sampling buildings to the coal storage pile; installing fabric filter bag houses as appropriate; covering overland conveyors; using a telescoping chute to load railroad cars; topping loaded railroad cars with water or non-toxic chemical dust suppressants; spraying temporary coal stockpiles and broad areas around the pile and railroad cars with water and a non-toxic chemical dust suppressant, and; equipping hoppers with water sprays.

The applicant plans to install an air quality and meteorological monitoring program. The program will involve three separate monitoring phases: pre-operational, construction, and operational. The preoperational monitoring program includes continuous meteorological monitoring of the Skyline site area for a 12-month period and 24-hour total suspended particualte (TSP) monitoring every third day for a period of 6 months. Two locations, Boardinghouse Peak and Eccles Canyon, were selected as monitoring stations for the preoperational climatological/air quality study which will be continued throughout the construction phase and operational life of the mine.

The impacts of mining of the proposed site would consist of minor degradation of the local and regional air quality. After roads are paved and treated, federal and state TSP primary and secondary standards are expected to be met at the Eccles Canyon site. Visibility will not be impaired.

Backfilling and Grading

Approval of the applicant's proposed actions would result in an acceptable mine abandonment and reclamation procedure in the year 2015. The Company will remove silos, conveyors, loadout facilities and substantially regrade all site work. The lower portion of Eccles Canyon road and by-pass will be left as permanent features to assure compatibility with final land usage (grazing and wildlife).

Approximately 124.5 million tons of coal will be mined at the Skyline mine during the proposed 35 year mining operation. This represents 58% of the approximately 213 million tons of inplace coal reserves in the mine plan area.

There are five mineable seams - the McKinnon, the Upper O'Connor, the Lower O'Connor 'A', the Lower O'Connor 'B', and the Flat Canyon. Of these the Upper O'Connor, the Lower O'Connor 'B', and the Lower O'Connor'A' will be developed. The McKinnon seam (upper-most coal) is not considered a mineable unit except potentially in a limited area southeast of the lease tract. Extensive rockwork is required to gain access to the potentially mineable McKinnon, and development is not currently economically justifiable. The Company plans to investigate further the mineability of this unit. The Flat Canyon seam (lower most coal) is not currently planned to be developed. Its occurrence is not widespread within the permit area; at best, the thickest portion is just south of the Skyline property. Productive potential of the Flat Canyon is speculative and existing data do not encourage economic development.

In view of mining economics, apparent lack of continuity for mineable portions in two of the seams, and difficulties in developing the uppermost McKinnon seam, the Company's proposed action is reasonable and justifiable.

Hydrology - Surface Water

Three tributaties merge to form Eccles Creek within the 36-acre mine portal site. The Company proposes to divert these streams under the bench facilities through a system of large diameter culverts. Since the mine facilities will be present for 35 years or more, the culverts have been designed to carry the peak runoff from a 100-year, 24-hour precipitation event. Runoff from undistrubed areas upslope of the mine site will be fed into diversion channels.

Sedimentation ponds will be used to remove suspended solids from overland flow across the disturbed areas. Mine water encountered at the working face in the mine will be collected and pumped to impoundments (sumps) located underground. The impoundments will allow solids to settle out. Mechanical equipment will be used to remove grease and oil before the water is used for dust suppression, or pumped out of the mine. Any water pumped out of the mine will be further treated in a portal area sediment pond.

Sanitary sewage will be treated by an extended aeration package plant. All effluent produced at the mine site facility will be reused in the

operations and none will be discharged to Eccles Creek. A containment pond for sewage effluent at the loadout facility will be constructed and disposed of through an on-site leach field.

Surface water will be monitored at five locations in the Huntington Creek drainage upstream from Electric Lake. Seven stations will be located on Eccles Creek and its tributaries in the vicinity of the mine site and two more monitoring points will be on Eccles Creek adjacent to the loadout facilities. Sampling sites on Eccles Creek will be upstream and downstream of the mine site and loadout facilities.

Impacts to surface water quality are expected to be greatest during construction activities at the mine site, on the access road, and at the loadout facilities. Following construction, sediment from disturbed areas at the mine site and loadout facility will be adequately controlled. Point sources of sediment may be the cut/fill slopes of the access road, which can be expected to yield sediment in response to snow melt and precipitation events.

Hydrology - Ground Water

Because of the apparent lack of acid and toxic-forming materials, dilution due to high precipitation, and the rapid runoff caused by low permeability of disturbed surface materials, there appears to be little opportunity for ground water contamination. Little or no underground waste material will be stored at the surface. Water supply for the undergound operations will be from seepage into the mine. Water for surface needs (up to 100,000 gallons/day) will be pumped from a well finished in the Star Point Sandstone Formation.

Water will be treated in the mine by settling of solids in sumps, and removal of oil and grease. Treated water will be stored in tanks from which it will be recycled to the mine for dust control or to a mine portal area sedimentation pond. Surface runoff will be controlled on the surface and discharged to streams.

The impermeable nature of the material overlying the coal seams and its apparent lack of acid and toxic forming minerals indicates that the impact of mining and subsequent subsidence on ground water quality should be negligible.

There is a potential for significant impacts on ground water quantity in the Sand Point Sandstone Formation, a regional aquifer underlying the coal bearing, Blackhawk Formation. Drilling indicates that the Valentine fault, which will be intercepted during mining, interconnects the two formations and is a signicant aquifer zone. The Joes Valley Fault, also in the mine plan area, has not been evaluated as to its hydrologic function and any impacts mining would have on it. Potentially, mining could direct ground water flow from the Star Point Sandstone into the mine, where it would then be pumped to the surface. Coastal States will be required to evaluate the potential impacts of mining on these faults before mining through them will be approved.

Ground water quantity and quality will be monitored at springs, wells and in the mine, in addition to the stream locations. Monitoring will be done seasonally where access permits.

Fish and Wildlife

The Company plans to construct eleven underpasses and one overpass to enable migrating wildlife, (especially mule deer and elk), to cross the coal conveyor system where it intersects major natural drainages.

Speed limits and game crossing signs will be posted in Eccles Canyon to reduce highway kills. To minimize disturbance to the surface and thereby to wildlife habitat all utilities will be located in one corridor. Highway wildlife kills should be reduced as a result of the planned busing of employees to the mine site. The Company has indicated they will coordinate construction activities with the State Department of Wildlife Resources (DWR) to avoid periods of potential high impact. In consultation with DWR, a consideration of plants of benefit to wildlife has been included in the revegetation species list. The important elk and moose habitat in the South Fork will be avoided by not mining in that area. However, approval of the South Fork Bypass road, an alternate transportation route, would impact critical year-round moose habitat and an elk calving ground.

Disturbance of Eccles Canyon is, and will be, considerable; whereas South Fork is relatively undisturbed and could remain a refuge for moose and elk during calving and periods of high human activity.

Culverts up to 1,400 feet long under the surface structure are planned at the portal area to prevent pollution from erosion, sediment and coal into the Eccles Canyon Creek.

Plans call for Eccles Creek to be diverted around the coal handling and loadout facilities to protect the stream fishery. To protect eagles and other large birds, power transmission lines for underground mining and related activities in the permit area will be designed and constructed to comply with the guidelines set forth in "Environmental Criteria for Electric Transmission System" (USDI, USDA (1970)). Power distribution will be designed and constructed in accordance with REA Bulletin 61-10 "Powerline Contact by Eagles and Other Large Birds." The mine access road in Eccles Canyon will follow an existing road, thus minimizing disturbance.

Based on the Company's mitigation proposals and OSM's stipulations, OSM has determined that the adverse impacts to fish and wildlife will occur throughout the life of the mine on 76 acres and some disruption of animal movement patterns may result. Sedimentation into Eccles Creek would also occur from the cut above the conveyor bench and the base of the road during the life of the mine.

Subsidence

The applicant proposes to mine, by underground methods of room-and-pillar and longwall, three seams of coal over most of the 6,400-acre permit area. Depth to mining ranges from 400 to 2,000 feet. The total

thickness of all coal seams to be mined ranges from 5 to approximately 55 feet. The Company predicts that subsidence will range from 0 to 16 feet. Overall lowering of surface, as opposed to local failure, is predicted. Some degree of protection has been provided by the Company for structures which may be materially damaged through subsidence. These include a compensation plan for damage to drainages, roads and the pipeline, limiting extraction to 50 percent under the pipeline, and developing a detailed plan for Electric Lake Reservoir.

If subsidence does induce damage to the pipeline or roads, the applicant proposes to repair damages or compensate the pipeline owner for repairs made, and to compensate for any other damages.

Should subsidence and subsequent pumping from the mine divert water from one watershed to another, the applicant would pump the affected amount of water back to the depleted watershed. Calculations would be based on a hydrologic monitoring program. Pumping would be necessary because all water flowing from the watershed in the permit area is fully allocated to downstream users.

Mining under Upper Huntington Creek and Electric Lake Reservoir will not occur until the Company has developed a revised mining plan based on scientific data verifying the technical feasiblity of controlling or eliminating subsidence or its effects. The Company would also be required to demonstrate adequate insurance and/or bonding protection for Electric Lake Reservoir.

The required scientific data will be collected as part of the subsidence monitoring program proposed by the Company. Monitoring will include color aerial photography as well as surface monumentation and surveys.

Soils

Approximately 76 acres of soils will be disturbed. Soils to be disturbed occur primarily in the Eccles Canyon area. Disturbance will be associated with the portal area, loadout facilities and an extensive 2-1/2 mile conveyor belt system and road from the portal area to the loadout facility. The proposed sedimentation plan and air quality control program should effectively deal with sediment transport and fugitive dust resulting from erosion of these disturbed soils, except the conveyor belt and road cut/fill slopes, which may be point sources of sediment associated with snow melt and precipitation events.

The impacts of mining on the soils within the mine plan area will be primarily physical in the short term. Long term impacts on soils will be on biological activity. Minor soil chemical impacts are anticipated, both short and long term. Soil fertility will be affected over the long term due to chemical-physical-biological changes with time. Problems from excessive sodium concentrations are not anticipated. Phosphorus uptake may be inhibited due to high calcium concentrations in some horizons and calcareous parent materials. These phenomena will adversely affect revegetation success if not anticipated and mitigated at the time of revegetation.

Physical disturbance of the soils will cause both short and long term reduction in potential productivity. This reduction is difficult to assess due to the many variables involved relating to moisture availability, nutrient supply, physio-chemical and biological changes, etc., and the understanding of the Company in working with revegetation and the soil. Fertilizers and other soil amendments can effectively enhance productivity if a thorough analysis is performed on the replaced soil material. Once the soil structure is severely disturbed, mechanical treatments like discing and chisel plowing do little to restore it. These treatments do provide a psuedo-macro-structure that can enhance initial root penetration and moisture movement within the disturbed soil material.

Adequate care and handling by the Company of the topsoil during the salvage and reclamation phases can effectively mitigate most problems associated with mining activity. However, some loss of productivity can be anticipated due to the changes in the natural soil environment that will require several years to re-establish.

The soils are expected to be able to adequately support vegetation for successful reclamation.

Vegetation

Underground mining at the Skyline Mine will cause loss of about 76 acres of rangeland and wildlife habitat as a result of surface disturbance during the mine life and into the reclamation period. Wind and water erosion will result from land disturbance until disturbed areas are temporarily or permanently stabilized. However, because of the small acreage involved and proposed rapid stabilization, these losses will be small.

The Company proposes to restore rangeland, shrubland, and tree vegetation types that will support pre-mining land uses. Effective stabilization of steep slopes is critical. A permanent vegetative cover will be established which should stabilize these slopes, although cover and productivity will probably not equal pre-mining levels. Differences should not significantly affect post-mining land use.

Since a large portion of riparian areas are already disturbed, revegetation of these important habitat areas by a diverse vegetation should result in an equal or better habitat than that which supported premining use.

Subsidence areas may cause adverse effects to revegetation efforts. As it is difficult to predict subsidence impacts, they should be studied throughout the life of the mine to determine mitigation measures.

Even with optimal success, species diversity, composition, and distribution of cover and production within each life form will probably differ from the adjacent, existing vegetation. Several of the dominant species present in the pre-mining disturbed areas (i.e., forb species) will not be included in the seed mixtures due to limited availability of seed. The ultimate presence of the non-seeded species will be based on their competitive ability to reinvade the reclaimed areas. However,

because of the small local areas involved adjacent to natural seed sources, reinvasion should be rapid. Stipulations have been added to minimize problems of competitive species. The difference in reclaimed area species composition should not adversely affect the ability of the reclaimed areas to support post-mining land uses.

No endangered or threatened species were found nor have they been recorded on the mine plan area.

Alluvial Valley Floors

There are no irrigated agricultural activities practiced in the Eccles Creek Valley, the Huntington Creek Valley nor in drainages of similar size in the area. The growing season is too short to justify irrigated agricultural activities. The growing season for the valleys mentioned, according to the State Hydrologic Atlas (Jepsen), is 20 to 40 days.

OSM concludes that due to the short growing season in the vicinity of the proposed Skyline Mine and the total absence of farming practices in the area, the valleys of Huntington Creek and Eccles Creek are not alluvial valley floors.

Cultural Resources

During mining operations, one historic site will be destroyed. If the Utah State Historic Preservation Officer (SHPO) concurs that the site is not eligible, no mitigation measures will be necessary to mitigate adverse impacts. If the site is determined "eligible", a data recovery program will be developed and implemented to mitigate this adverse impact. Even with a well-developed mitigation plan, however, some data will be lost. Furthermore, once the site is destroyed, it can never be re-examined. Thus, there would be a loss of potential data, as well as the physical loss of the site.

Known and unknown cultural resources located in the vicinity may be impacted by mining activities as a result of increased human population in the area. There may be increased vandalism and unauthorized collections associated with recreational activities and other pursuits.

Socioeconomics

If construction of the Skyline Mine is begun in 1980, the construction work force is expected to reach 300 by 1981. It is anticipated that the majority of the construction workers will commute to the Skyline Mine site from communities in Carbon, Emery, Sanpete, and Utah Counties. Coal production is anticipated to begin in 1982 with a projected work force of 231. At maximum production, the Skyline Mine employment is expected to be 900 by 1991. A maximum population increase of approximately 6,000 people is expected to occur in Carbon, Emery and Sanpete Counties.

At the present time, it is expected that the initial (1982) distribution of mine workers will be about as follows:

Price/Helper	50%	(116)	(Carbon County)
Fairview, Mount Pleasant and Spring City	35%	(81)	(Sanpete County)
Scofield	15%	(34)	(Carbon County)

("A Review of Community Infrastructures and Socioeconomic Aspects: Skyline Coal Project," Kaiser Engineers, October, 1979, p. 1-5)

However, there is a proposal to construct a road that would link Utah Highways 96 and 31. The State of Utah has agreed to have Coastal State Energy Company prepay sales and use tax to finance construction of this year-round road. Construction of the road is contingent upon approval by the Forest Service as well as Carbon, Emery and Sanpete Counties and the State. The road would provide direct access to the Sanpete County communities of Fairview (22 miles away), Mount Pleasant (26 miles away), and Spring City (30 miles away). (The Price/Helper area is about 45 miles from the mine site.) If approved, construction of the road is expected to be completd by mid1982. With access to Sanpete County, the distribution of the work force is expected to be:

Price/Helper:	20%
Fairview, Mount Pleasant and Spring City:	55%
Scofield:	25%

(Kaiser Engineers, p. 4-7)

Population increases caused by the Skyline Mine will impact public services in the aforementioned communities. Specifically, as noted in the USGS site-specific EIS, Development of Coal Resources in Central Utah, (July 1979) the town of Scofield (population: about 100) will be heavily impacted and require modernization because of limited services (p. MCIII-6). Scofield's community facilities are presently either deficient or absent and must be upgraded or constructed in order to accommodate any large population increases.

Scofield and the Southeast Utah Association of Governments are presently conducting a comprehensive study of Scofield and the surrounding Pleasant Valley area to assess the existing conditions and develop a growth management plan. Scofield has no central sewage facility and residents are dependent on septic tanks. As a result, the present contamination of the Scofield Reservoir (a Utah recreation area) and the culinary water of the City of Price, may in part be caused by Scofield's inadequate sewage facilities. Scofield's culinary water system is also inadequate. Among the associated problems are leaks in the water system, insufficient water storage, no water rights, and no reliable water source. Scofield has no schools or health care facilities and limited commercial facilities (USGS site-specific EIS, p. MC-III-6). Population increases

in Scofield would require construction of additional housing, improved police and fire protection, and other public services.

With the access road in place, the other potentially heavily impacted communities would be in Sanpete County (Fairview, Mount Pleasant, and Spring City may supply approximately 55% of the Skyline Mine's labor force). These communities have not been experiencing the growth, due to energy development, that Carbon and Emery Counties have been experiencing in the last few years. Therefore, the public services and infrastructures may not be able to accommodate rapid urbanization and population increases resulting from the Skyline Mine.

Fairview, Mount Pleasant and Spring City may be subjected to urbanization pressures that, like Scofield, may require the communities to upgrade existing facilities, constructe new facilities, and provide expanded or new public services. Sanpete County currently has an unemployment rate of 8.7% and a certain degree of underemployment. The return of younger men and women who have been part of an out-migration trend may contribute to the Sanpete County communities' labor pool. If this is the situation, the social disruption may be minimized and a more expedient social integration may occur. However, if there are increases of population, the need to expand community facilities and services will nevertheless be required.

A major problem associated with the development of the Skyline Mines may be the overcrowding of the schools in Sanpete and Carbon Counties. There is presently little excess capacity in the nearby school districts. While the State assists in financing schools, the Sanpete County school districts will not directly benefit from an increase in the tax base because neither the mine nor the facilities will be located in Sanpete County.

Hospitals are located in Mount Pleasant and Price. The North Sanpete Valley is served by the Sanpete Hospital in Mount Pleasant (25 beds). This facility was built in 1949 and a replacement facility is being considered. No expansion is anticipated. The Carbon County Hospital in Price (70 beds) is being replaced by an identically-sized structure which can expand to 100 beds when required. Both areas are served by emergency ambulances. North Sanpete Valley has a sufficient medical base whereas the Carbon Hospital is experiencing a shortage (Kaiser, p. 3-21, 22). No medical facilities are planned in Scofield although Coastal States Energy Company plans to own and operate an ambulance which will be available to the Town of Scofield. According to the Company, a number of employees of the Skyline Mine staff will be trained as emergency medical technicians.

When in full production, the Skyline Mine will generate approximately two loaded unit trains per day. In order to travel from the Skyline Mine loadout facility to the main track of the Denver and Rio Grande Western Railroad, the unit train must cross Utah Highway 96 in the center of Scofield and again (assuming the train travels west) at the intersection of Utah Highway 96 and U.S. Highway 6. Increased rail traffic may be responsible for delayed travel time and loss of life and injury (USGS Regional EIS, p. IV-53, 55). Increased automobile travel on Utah Highway 96, due to the Skyline Mine, may be responsible for a continuing

degradation of that highway (USGS Regional EIS, p. II-85, 88). In addition, increased vehicular traffic may impact recreational use by interfering with users of Scofield Reservoir. Eccles Canyon Road is presently a popular recreational area and may continue to be active with the development of

the mine operation. A deterioration of the recreational and wilderness qualities of this area may occur from overuse of the area (USGS site-specific EIS, p. MC-II-12).

In summary, OSM has determined that the impacts of population increases and expanded urbanization, resulting from the proposed Skyline Mines, could be potentially significant in Carbon and Sanpete Counties. The types of impacts associated with growth and urbanization resulting from construction and operation of the mine have been evaluated by the USGS in the regional and site-specific EIS, Development of Coal Resources in Central Utah. Because of the potential for significant impacts in Carbon County, and if the access road is built in Sanpete County, OSM has added the socio-economic stipulations to the approval of the plan (Alternative 1) to alleviate those impacts.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295

MK

UT 000

October 11, 1979

OCT 1979 RECEIVED REGION VIII

REF: 8AH-A

Mr. Hank Ipsen
Yegge, Hall, and Evans
717 17th Street, Suite 2900
Denver, Colorado 80202

Dear Mr. Ipsen:

We have completed our preliminary review of your application to construct and operate Coastal States Energy Company's Skyline underground coal mine located near Scofield, Utah, pursuant to the U. S. Environmental Protection Agency (EPA) Prevention of Significant Deterioration (PSD) of Air Quality regulations, 40 CFR, Section 52.21 (as amended 43 FR 26388). We are proposing to issue your company a permit. Enclosed is a copy of the public notice which will be published in the Price Sun-Advocate on October 17, 1979.

Our PSD regulations require that opportunity be given for interested persons to testify at a public hearing and that 30 days be allowed for public comments. If there are no requests for a public hearing and public comments are minimal, we expect to issue your permit shortly thereafter.

We have also enclosed a copy of the proposed permit and analysis. The conditions contained in the permit will become effective and enforceable by EPA when the permit is issued. Please notify us if you are not able to accept any term or condition contained in the proposed permit along with the reason or reasons for rejection.

If you have any questions, please contact Mr. David B. Joseph of my staff at (303) 837-3763.

Sincerely yours,

Lou Johnson for

Robert L. Duprey, Director
Air & Hazardous Materials Division

Enclosures

cc: Mr. Alvin E. Rickers, with enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80295

October 11, 1979

REF: 8AH-A

Mr. Norman Pritchard
Carbon County Clerk
Courthouse
Price, Utah 84501

Dear Mr. Pritchard:

The enclosed package relating to the Coastal States Energy Company's proposed Skyline underground coal mine located near Scofield, Utah, is being made available to the public. We request that this material be made available for public inspection in the Carbon County Clerk's Office for 30 days.

The public notice will be published in the Price Sun-Advocate on October 17, 1979.

If you have any questions, please contact Mr. David B. Joseph of my staff at (303) 837-3763.

Sincerely yours,

Lou Johnson for

Robert L. Duprey, Director
Air & Hazardous Materials Division

Enclosures

October 17, 1979

PUBLIC NOTICE

U.S. ENVIRONMENTAL PROTECTION AGENCY

Section 52.21(r), Title 40 of the Code of Federal Regulations (CFR) (as amended 43 FR 26388) regarding the Prevention of Significant Deterioration of Air Quality (PSD), provides that prior to final determination on an application to construct a new source, opportunity be given for public comment and public hearing on the information submitted by the owner or operator and on the analysis underlying the proposed approval or disapproval. The regulation further requires that such information be made available in at least one location in the affected area and that the public be allowed a period of 30 days in which to submit comments.

Notice is hereby given that the U. S. Environmental Protection Agency (EPA), pursuant to the PSD regulation (40 CFR 52.21), proposes to grant conditional approval of a request to construct and operate an underground coal mine near Scofield, Utah. The application has been submitted by the following applicant:

Coastal States Energy Company
Nine Greenway Plaza
Houston, Texas 77046

The applicant has requested permission to construct and operate the 5.4 million tons per year Skyline underground mine.

The EPA analysis and the Coastal States Energy Company application is available for public inspection at the Carbon County Clerk's office in Price, Utah, and at the Denver Regional Office of the U. S. Environmental Protection Agency. Additional information developed by the State of Utah concerning potential air pollution from the proposed Source during the new source review is available from the Bureau of Air Quality, Utah Division of Health, 150 West North Temple Street, Salt Lake City, Utah 84110.

Public comments on this proposed action are invited any time prior to November 16, 1979. EPA is also providing the opportunity for interested citizens to testify at a public hearing. Requests for a public hearing must be in writing and directed to the U. S. Environmental Protection Agency, Region VIII (Attention: Norman A. Huey, Chief, Technical Support Section), Air Programs Branch, (8AH-A), 1860 Lincoln Street, Denver, Colorado 80295. If there is sufficient interest, a public hearing will be scheduled. Requests for a hearing must be received by November 1, 1979.

Please mail all comments and requests for a hearing to the U. S. Environmental Protection Agency, Region VIII, (Attention: Norman Huey, Chief, Technical Support Section) Air Programs Branch (8AH-A), 1860 Lincoln Street, Denver, Colorado 80295.

CONDITIONAL PERMIT TO
COMMENCE CONSTRUCTION AND OPERATE

40 CFR 52.21(i) (43 FR 26388)
Prevention of Significant Deterioration of
Air Quality

COASTAL STATES ENERGY COMPANY
Skyline Mine

I. INTRODUCTION

Coastal States Energy Company (hereinafter "the Applicant"), plans to construct and operate their Skyline underground coal mine (hereinafter "the Source") near Scofield, Utah, in Townships 42 and 43 North, Range 70 West.

On March 8, 1979, the Applicant requested from the Environmental Protection Agency, Region VIII (hereinafter "EPA") permission to construct and operate the above source pursuant to the Prevention of Significant Deterioration (PSD) regulations, 40 CFR Section 52.21, as amended 43 FR 26388. EPA considered the Company's application complete as of March 9, 1979.

EPA issued a public notice in the Price Sun-Advocate on October 17, 1979. The notice indicated proposed approval of an air quality permit for the expansion and requested public comments for 30 days. The analysis and permit application was made available at the Carbon County Clerk's Office for the public to inspect during the 30-day comment period. No comments or requests for a public hearing were received in response to the notice. All information considered by EPA in its review of the Applicant's request is listed in Appendix I.

II. FINDINGS

On the basis of the information listed in Appendix I, EPA has determined that:

(1) The Applicant will meet all of the applicable requirements of the PSD regulations.

III. CONDITIONAL PERMIT TO COMMENCE CONSTRUCTION AND OPERATE

On the basis of the findings set forth in II above, and pursuant to the authority as delegated by the Administrator of 40 CFR 52.21(r)(2) (as amended June 19, 1978, 43 FR 26388), EPA hereby grants approval to the Applicant to construct and operate the source.

This approval is expressly conditioned as follows:

(1) The Company shall notify the Denver Regional Office of the U. S. Environmental Protection Agency (Attention: Mr. Norman A. Huey, Chief, Technical Support Section, 8AH-A) in writing, when construction and operation of the mine commences. Such notification shall be submitted within ten (10) days of the commencement of construction and within (10) days of the commencement of operation.

(2) The Applicant shall construct and operate the source in accordance with the application, all materials submitted pursuant to 40 CFR 52.21 (which are listed in Appendix I), and the terms of this permit approval.

(3) The Skyline Mine shall not process more than 5.4 million tons of coal per year.

(4) The Applicant shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system or coal transfer and loading system processing coal, gases which exhibit twenty (20) percent opacity or greater.

(5) The proposed control technologies and management practices as documented in Appendices I and II are incorporated into this permit by reference.

(6) No condition herein shall excuse the Applicant from complying with the provisions of the Utah State Implementation Plan, 40 CFR, Part 52, Subpart TT, nor of the responsibility for complying with all other applicable federal, state or local regulations.

IV. GENERAL

This permit is issued in reliance upon the accuracy and completeness of the information set forth in the Applicant's application to EPA for permission to construct and operate the Source. The conditions herein become (upon the effective date of this permit) enforceable by EPA pursuant to any remedies it now has, or may in the future have, under the Clean Air Act. Each and every condition of this permit is a material part hereof, and is not severable. This permit is immediately effective, unless you notify this Regional Office, in writing (Attention: Mr. Norman A. Huey, Chief, Technical Support Section, 8AH-A), that the permit or a term or condition thereof is rejected. Such notice should be made within ten (10) days after receipt of the permit and should include the reason or reasons for rejection.

The United States Court of Appeals for the D.C. Circuit has issued a ruling in the case of Alabama Power Co. vs. Douglas M. Costle (78-1006 and consolidated cases) which has significant impact on the EPA prevention of significant deterioration (PSD) program and permits issued thereunder. Although the court has stayed its decision pending resolution of petitions for reconsideration, it is possible that the final decision will require modification of the PSD regulations and could affect permits issued under the existing program. Examples of potential impact areas include the scope of best available control technology (BACT), source applicability, the amount of increment available (baseline definition), and the extent of preconstruction monitoring that a source may be required to perform. The applicant is hereby advised that this permit may be subject to reevaluation as a result of the final court decision and its ultimate effect.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

By: D R A F T
Robert L. Duprey, Director
Air and Hazardous Materials Division

Date: D R A F T

APPENDIX I

(1) Coastal States Energy PSD Application for Skyline Mine Project, dated March 8, 1979.

(2) EPA Contractor PEDCo Letter (Zoller) to EPA (Huey) dated June 1, 1979, with May 25, 1979 PEDCo (Pfetzing) Technical Review as Enclosure.

(3) EPA Technical Memorandum (D. Joseph) dated September 25, 1979.

(4) Public Notice Published in the Price Sun-Advocate on October 17, 1979.

APPENDIX II

Summary of Proposed Control Technologies and Management Practices -- Skyline Mine

Controls proposed by Coastal States and general design characteristics of the facility that tend to lower particulate emissions include:

(1) All mines will be underground.

(2) Except for some truck haulage during initial development of the mine, all coal will be transferred by enclosed conveyor or unit train.

(3) Coal storage except at the train loadout is in silos equipped with fabric filters.

(4) Coal storage at train loadout is in enclosed slot storage equipped with a fabric filter. Exposed slope areas surrounding slot storage will be earthen impoundments.

(5) Loadout from coal storage is by vibrating feeder to a conveyor located below the storage.

(6) Conveyor transfer points will contain a second enclosure within the conveyor cover including flaps on entry and discharge points.

(7) Crushing and screening facilities will be enclosed and vented to fabric filters.

(8) Roadways will be paved as soon as is practicable. While unpaved, water with dust suppressant will be used to control fugitive emissions.

(9) Both before and after paving, employees will be offered the option of bus transportation from surrounding towns. From experience at similar mines, it is expected that up to 95 percent of the employees will use this option. Parking will be available but limited in size.

DATE: September 25, 1979

SUBJECT: PSD Review of Coastal States Energy Skyline Mine Project near Scofield, Utah

FROM: Technical Support Section
8AH-A

TO: Skyline Mine Files

Coastal States Energy Company applied for its PSD permit for the Skyline Mine Project on March 8, 1979. The application was considered complete as of that date and was assigned to PEDCo for technical review. E. Pfetzing's memo of May 25, 1979, summarized the results of PEDCo's review.

PEDCo indicated that uncontrolled emissions were in excess of 250 tons per year and controlled emissions were less than 50 tons per year and 1,000 pounds per day. Therefore, the source required a permit pursuant to 40 CFR 52.21(i), but BACT was not required (40 CFR 52.21(j)). The impact analysis exemption of 40 CFR 52.21(k) is applicable because controlled emissions are less than 50 tons per year. Therefore, 40 CFR 52.21(l), (m), (n), and (p) are not required.

The Company has provided all necessary information pursuant to 40 CFR 52.21(o).

The emissions from the project are low (less than 50 tons per year) and will impact no Class I areas. There are no Class I areas within 50 kilometers of the proposed project. Therefore, the requirements of 40 CFR 52.21(q) do not apply.

Public participation requirements of 40 CFR 52.21(r) will be addressed. A 30-day comment period with opportunity for public hearing will be issued. Copies of the public notice will be sent to all relevant parties.

The Source obligation requirements of Section 40 CFR 52.21(s) will be addressed by permit conditions.

It is recommended that the Coastal States Energy Company receive a permit to construct and operate the Skyline underground mines and coal handling plant near Scofield, Utah.

David B. Joseph
David B. Joseph
Technical Advisor

United States Department of the Interior
FISH AND WILDLIFE SERVICE
AREA OFFICE COLORADO—UTAH
1311 FEDERAL BUILDING
125 SOUTH STATE STREET
SALT LAKE CITY, UTAH 84138

IN REPLY REFER TO:

May 5, 1980

DIVISION OF OIL, GAS & MINING
RECEIVED MAY 8 1980

Mr. Cleon B. Feight, Director
Division of Oil, Gas, and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Attention: Mary Ann Wright
Reclamation Biologist

RE: Utah Fuel Company
Skyline Mine
ACT/007/005
Coal

Dear Mr. Feight:

The following are the Fish and Wildlife comments in regard to the referenced mine plan submission.

The base resource data provided was incomplete. No information or discussion was provided relating to non-game avian species. Although, we do not believe that extensive surveys are required, these species and the potential impact of this proposal must be addressed. The Fish and Wildlife Service is particularly concerned about migratory species of high Federal interest that might occur in the proposed portal area such as pileated and Lewis woodpeckers and Williamson sapsucker. The company should be instructed not to initiate any new disturbance of wooded areas during the nesting season for these species.

We wish to commend the company for the planning effort in keeping all the portal facilities in one area of disturbance.

During the developmental stage of this mine, when coal will be hauled from the portal to the load out facilities at the mouth of Eccles Canyon, there will be an opportunity for increased wildlife-vehicle mortality. This mortality will be monitored during the period of mining activity. If there is a significant amount of mortality the company will be asked to initiate programs to control or eliminate this loss.

Upon examination of the design of the planned conveyor system we noted considerable potential for detrimental impacts upon wildife resources. The design calls for a 12-foot wide clearing of habitat the entire length of the canyon, in some cases it appears to encroach upon the riparian zone. The associated conveyor system would be placed upon the ground with no clearance for the movement of large animals. There are some movement areas provided by the conveyor design which appear to funnel animals through immediately onto the haul road. Warnings to vehicle operators approaching these areas should be established.

We would recommend that the company investigate design modifications where the conveyor system could be located on supporting towers. This type of design causes a disturbance of habitat only for the location of the tower bases. Valley Camp Coal Company proposes to develop this type of conveyor system down this same canyon which will have much less of a detrimental impact on associated wildlife resources.

We reiterate our concerns regarding potential impacts of underground mining upon surface hydrology. We won't delve into detail since our concerns have been voiced in previous correspondence. The loss of small seep, springs, and wet meadow areas as a result of underground mining can have a significant detrimental impact upon wildlife resources. We recommend that the company closely monitor all these areas to determine any losses occurring and need for replacement.

It appears that the opportunity for the provision of enhancement measures for fish and wildlife resources have not been adequately considered in the plan. Exchanges between company representatives and representatives of the Division of Wildlife Resources and U.S. Forest Service may bring to light some enhancement opportunities that the company could incorporate into the plan. For example, if the mining operation should generate a source of underground water of acceptable quality these waters could be added to the Eccles Creek drainage improving the biological productivity of that stream.

Another concept for consideration, if nesting areas for woodpeckers or owls or other migratory bird species of high interest are lost due to construction activities and the development of the mine, there may be an opportunity to provide artificial nesting structures as a replacement.

We noted in the reclamation plan that the solid wastes from abandonment will be removed. No indication is given as to where these wastes materials will be placed. If at all possible these types of materials should be disposed of within the mine or on the portal site. The removal of the wastes to another area would just result in additional habitat disturbance.

This completes our review and comments for the subject mine plan. If we can be of further assitance, please contact us.

Sincerely,

William P. Elliott

for Robert H. Shields
Area Manager

state of utah

DIVISION OF WILDLIFE RESOURCES

DOUGLAS F. DAY
Director

1596 West North Temple/Salt Lake City, Utah 84116/801-533-9333

Reply To SOUTHEASTERN REGIONAL OFFICE
455 West Railroad Avenue, Box 840, Price, Utah 84501
(801) 637-3310

April 1, 1980

Mr. Keith Welch, Environmental Coordinator
Coastal States Energy Company
411 West 7200 South, Suite 200
Midvale, UT 84047

Dear Keith:

The Division has reviewed the "Water Quality Protection Plan" to be utilized during the earth work phase of the construction process of the Skyline Mining Project for purposes of the NPDES permitting procedure. We are especially concerned for the potential of man-caused silts to damage natural reproduction by cutthroat trout in Eccles and Mud Creeks. As you know, cutthroat trout begin spawning activities in early May; and the eggs lie in the redds incubating until mid-July. Enclosed are the Division's comments.

Thank you for an opportunity to review this plan and the company's concern for Utah's wildlife resources.

Sincerely,

Larry J. Wilson, Supervisor
Southeastern Region

LJW:LBD:ah

Enclosure

cc: Darrell Nish
Jack Topham

UT 0003

May 19, 1980

Keith W. Welch
Coastal States Energy Company
411 West 7200 South
Suite 200
Midvale, Utah 84047

Dear Mr. Welch:

This letter is in reply to your March 21, 1980 request for information on threatened and endangered species near Scofield, Utah which could be affected by the Skyline Mines. We have determined that the bald eagle and the black-footed ferret, both federally listed as endangered, may be present in the project vicinity. We know of no species proposed for federal listing in the project area.

Sincerely,

ROBERT H. SHIELDS

Area Manager

RAJSOEPH/lg: 5/19/80

cc: Official file
Reading file
OSM, Denver
Reed C. Christensen
Forest Supervisor
Manti-La Sal National Forest
350 East Main St.
Price, UT 84501

MAY 1980
RECEIVED
USDI-OSM
REGION W

UTAH DIVISION OF WILDLIFE RESOURCES REVIEW COMMENTS AND RECOMMENDATIONS FOR THE WATER QUALITY PROTECTION PLAN AT THE SKYLINE MINING PROJECT

I. General Elements of the Construction Plan

Page 1, Paragraph 1

We are especially concerned that the company plans concurrent site disturbance along with construction of appropriate sedimentation ponds. The two-month period of earth work at the mine site and associated silts prior to development of a siltation pond would jepordize cutthroat trout eggs incubating in the redds along the entire length of the fishery in Eccles Creek. Similarly, the one-half to one-month period of earth work at the loadout site will jepordize cutthroat trout production in the downstream reaches of Eccles Creek and Mud Creek.

It is recommended that initial surface disturbance be restricted to just development of sedimentation ponds and that at three randomized times each day, monitoring in Eccles Creek of turbidity in nephelometric turbidity units (NTU) be maintained until the sedimentation ponds are functional. The increase in turbidity during construction and after pond completion should be limited to no more than 10 NTU above background when background NTU is from 0 to 100. If the background NTU is greater than 100, then maximum allowable increase in NTU cannot exceed 10 percent of background NTU measurement. Monitoring stations should be established at point discharge from the sediment traps and upstream of disturbance sites. Sufficient numbers of sediment traps should be placed in Eccles Creek immediately downstream from each of the two major disturbance areas for temporary control of man-caused siltation. In the interim

of sedimentation pond construction, samples for total suspended solids (TSS) should be taken at 2:00 p.m. and at least once during the work week. If the daily monitoring of turbidity (NTU) shows an unusual increase in sediment load, prompt corrective action should be taken. It is important to note that TSS should not be allowed to increase at a point of discharge from the sediment traps to over 25 milligrams per liter above the TSS upstream from the disturbance area.

Once the sedimentation ponds are functional and the stream diversion completed, the sediment traps should be removed and monitoring of water quality should follow the procedures outlined in the plan along with enclosed recommendations .

Page 2, Paragraph 5 - Adverse Conditions

Earth work should be stopped during rain storms and muddy conditions in order to preclude unnecessary movement of sediments into the stream.

Page 2, Paragraph 6 - Operator Experience

Supervision with an understanding of environmental considerations must be on the site whenever heavy equipment operators are engaged in earth work.

Page 4, Paragraph 1 - Water Sample Schedule

Total suspended solids should not be allowed to increase at the point of discharge from sediment traps or the sediment pond prior to mixing with the stream flow over 25 milligrams per liter above the TSS upstream from the disturbance area.

Page 4, Paragraph 2

During the interim of sedimentation pond construction, monitoring for water quality should include the procedures recommended for Page 1, Paragraph 1 along with monitoring identified on Page 4, Paragraph 1. Additionally, assessment of turbidity (NTU) should be made at one mile intervals along the entire length of Eccles Creek and at three randomized times each day between May 1 and July 15 during the earth work phase of construction.

Page 5

In order to respond to an emergency condition and protect water quality and aquatic resources, adequate materials need to be stored on the site for construction straw dams or sediment traps.

II. Specific Elements of the Mine Site Construction Plan

Page 7, Paragraph 3 - Clearing

This activity should be precluded until sedimentation ponds are functional.

Page 8, Paragraph 2 - Stream Enclosure

Construction of the large culvert system should proceed as soon as possible. However, any earth work or any other work in the stream channels other than work associated with crossing culverts (CPM activity #1-2) should be postponed until after peak runoff when flows are 6 cubic feet per second or less; this will probably occur in early June. Note that sediment traps should be placed immediately below each crossing culvert.

Page 8, Paragraph 3 - Preparation

Preparation of the beds in which the culverts will lie must in all cases preclude disturbance or direct involvement with the stream beyond the points where flows are directed into the culvert or where flows are exited from the culvert.

III. Specific Elements of the Access Route and Conveyor Route Plan

Page 13, Paragraph 1 and 2

Avoidance of crucial-critical habitats can only be accomplished if supervision aware of environmental concerns is on the project site during earth work procedures. Similarily, qualified supervision must be constantly on the site during earth work operations to assess the need and implement sediment control.

Page 13 and 14

All earth work associated with the access route and conveyor route must be accomplished in a manner that will not encroach upon the existing riparian habitat along Eccles Creek. Additionally, precautions must be taken to preclude movement of silts into the stream, especially between the period of May 1 through July 15 when eggs from cutthroat trout are incubating in the redds.

IV. Specific Elements of the Loadout Site Construction Plan

Page 15, Paragraph 2 - Clearing

Only clearing associated with the sediment pond should be allowed until the pond is constructed and functional. This will protect the lower section of Eccles Creek and Mud Creek.

Page 15, Paragraph 6 - Stream Diversion

To date, a completed and detailed description of the permanent stream diversion has not been presented by Coastal States Energy Company. It seems appropriate

that such a completed and detailed description should be part of this plan and presented for purposes of NPDES permitting procedures. Therefore, this plan is severly deficient and unacceptable in the area of a permanent stream diversion (CPM #3-4).

V. Earth Work Phase Reclamation

Page 17

It is recommended that willow be included as plantings along the riffle areas in the permanent diversion zone for additional shade. Also, enhancement of other sections of Eccles Creek could be accomplished by willow plantings.

COTT M. MATHESON
Governor

ORDON E. HARMSTON
Executive Director,
ATURAL RESOURCES

CLEON B. FEIGHT
Director

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

OIL, GAS, AND MINING BOARD

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CONSTANCE K. LUNDBERG
EDWARD T. BECK
E. STEELE McINTYRE

June 12, 1980

Mr. Don Crane
Office of Surface Mining
Region 5
Brooks Towers
1020 Fifteenth St.
Denver, Co. 80202

Re: Skyline Mine
Mine Plan Review
Coastal States Energy Co.
ACT/007/005

Dear Don:

The Division staff has reviewed the Skyline Mine Plan and OSM's draft Technical Analysis and stipulations, and hereby concurs with the above as written as well as one additional stipulation indicated as follows. The principal stipulation covering wildlife protection, which was verbally communicated by Shirley Lindsay of your staff to Mary Ann Wright, Reclamation Biologist on 6-12-80 concerning baseline data gathering and post-construction monitoring of mule deer, elk and moose along the road and conveyor corridor, is likewise given concurrence by this Division.

If any questions arise please contact Tom Suchoski, of my staff. It would be appreciated if OSM would send the Division a copy of the final stipulation and approval package sent to the Secretary.

Sincerely,

James W. Smith
Coordinator, Mined Land Developmen

U-020305

UT0003

United States Department of the Interior

GEOLOGICAL SURVEY

Office of the Area Mining Supervisor
Conservation Division
2040 Administration Building
1745 West 1700 South
Salt Lake City, Utah 84104

April 18, 1980

Memorandum

To: Regional Director, OSM, Denver

From: Area Mining Supervisor

Subject: Coastal States Energy Company, Skyline Coal Mining Project Completeness Review

In your letter dated April 4, 1980, you submitted the latest revisions to the subject mining and reclamation plan. This material was received in this office on April 14, 1980. The additional information has been checked by our mining engineering department and found to meet the requirements of the USGS-CD request for additional information to the original 1979 mine plan submittal.

The plan is now complete with respect to USGS-CD responsibilities to control the underground mining operations. However, when mining operations commence, the company will be required to submit to the Mine Safety and Health Administration (MSHA) a "Ventilation System and Methane and Dust Control Plan" and a "Roof Control Plan." These plans must be suitable to the mining system and conditions. They will be approved by MSHA and be subject to review and possible modification every six months. When these plans are submitted we will consider them an integral part of the overall modifications.

Jackson W. Moffitt

Jackson W. Moffitt

cc: Denver
cc: Coastal States Energy, Salt Lake

APR 1980 RECEIVED USGS REGION V

United States Department of the Interior
GEOLOGICAL SURVEY
BOX 25046 M.S. 609
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

U-020305

UT000

IN REPLY REFER TO:

MAY 2 1980

Memorandum

To: Assistant Secretary, Energy and Minerals

Through: Regional Director, Office of Surface Mining, Denver

From: Director, Geological Survey

Subject: Coastal States Energy Company, Skyline Project, Underground Coal Mining Plan, Utah

The subject plan has been reviewed and analyzed. It complies with the Mineral Leasing Act requirements and with all applicable guidelines and regulations of the Geological Survey.

In our opinion the plan is technically correct and should safely achieve maximum economic recovery of the coal deposits within the plan area. The Conservation Manager recommends approval of the plan.

Conservation Manager, Central Region
For the Director

J. NADOLSKI
UT0003-27
PART D

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Manti-LaSal National Forest
350 East Main Street
Price, Utah 84501

2820

June 19, 1980

Mr. Don Crane
Reclamation and Enforcement
Office of Surface Mining
Brooks Towers, 2nd Floor
1020 - 15th Street
Denver, Colorado 80202

Dear Don:

As per our verbal concurrence of June 18, 1980, attached is the approved Environmental Assessment and our concurrence for the proposed Skyline Mine in Eccles Canyon.

In compliance with Section 522(e)(2) of the Surface Mining Control and Reclamation Act, the Forest Supervisor, as the delegated authority of the Secretary of Agriculture, has determined that the surface operations and impacts incident to the subject underground coal mine are not incompatible with significant recreational, timber, economic, or other resource values within the boundaries of the Manti-LaSal National Forest. Further, that incorporation of the "Management Requirements" contained in this assessment as our conditions of approval or concurrence will provide the necessary mitigation and coordination requirements with the surface resources subject to the authority of the Forest Service.

Sincerely,

Reed C. Christensen

REED C. CHRISTENSEN
Forest Supervisor

Enclosure

cc:
RO
Price RD
Coastal States

FINDING OF NO SIGNIFICANT IMPACT

Coastal States Energy Company and Getty Mineral Resources Company have proposed development of a coal mining operation on a group of Federal coal leases underlying lands managed by the Manti-LaSal National Forest, Price Ranger District. The mine portals and ancillary surface facilities will be constructed in Eccles Canyon immediately within the National Forest boundary. Since construction of the portal facilities will sever and block the existing Eccles Canyon road, Coastal States is required to provide a bypass road to serve the same areas as the existing road. To fulfill this requirement, Coastal States has petitioned the Utah State Legislature to construct a State secondary highway from U-96 to U-31 with funding provided through a prepayment of taxes. The State Legislature has passed the appropriation and a State Highway has been proposed to connect the two existing highways.

An Environmental Assessment has been prepared by the Forest Service to evaluate the proposed Skyline Mines project and to select a preferred corridor for construction of the proposed State Highway/bypass road. Copies of this document are on file and available for public review at the Manti-LaSal National Forest Supervisor's Office at 350 East Main Street, Price, Utah, and the Price Ranger District Office at 10 North Carbon Avenue, Price, Utah.

A determination has been made through the Environmental Assessment process, as mandated by the National Environmental Policy Act of 1969, that development of the Skyline Mines and construction of the proposed State Highway will not create any significant adverse impacts to the quality of the human environment. An Environmental Statement will, therefore, not be required. This determination was based on consideration of a number of factors discussed in detail and documented in the Environmental Assessment. The primary considerations which justify this determination are briefly outlined as follows:

(1) Development of the Skyline Mines subject to the management requirements specified in the Forest Service Preferred Alternative will minimize, mitigate, or rehabilitate all significant environmental impacts resulting from this action.

(2) Although development of the subject coal leases would constitute an irreversible and irretrievable commitment of resources, utilization of approximately 120 million tons of Federal coal reserves will conform to the suggested National Energy Policy.

(3) Coal mining is now and has historically been an integral part of the local social and economic structure.

(4) Development of the Skyline Mines and bypass road is consistent with decisions and guidelines specified in the Land Management Plan, Ferron-Price Planning Unit, Manti-LaSal National Forest and the Final Environmental Statement: Development of Coal Resources in Central Utah.

(5) The Ferron-Price Land Management Plan issues specific direction to maintain and improve access from the Scofield area (State Highway U-96) to Huntington Canyon (State Highway U-31).

The responsible official is Reed C. Christensen, Forest Supervisor, Manti-LaSal National Forest, 350 East Main Street, Price, Utah 84501.

Reed C Christensen
Forest Supervisor

6/19/80
Date

ENVIRONMENTAL ASSESSMENT

Proposed Skyline Mines and Selection of Corridor
for Proposed State Highway from U-96 to U-31

Lead Agency: USDA Forest Service
Manti-LaSal National Forest
350 East Main Street
Price, Utah 84501

Responsible Official: Reed C. Christensen
Forest Supervisor
Manti-LaSal National Forest

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District Ranger
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Manti-LaSal National Forest
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Prepared By Duwain E. McGarry Date 6-19-80
Geologist

Approval Recommended By [illegible] Date 6/19/8[illegible]
District Geologist

Ira W. Hatch Date June 19, 1980
District Ranger

William H. Bailey Date June 19, 1980
Forest Engineer

Approved By Reed C Christensen Date June 19, 1980
Forest Supervisor

PREFACE

On November 20, 1979, the Manti-LaSal National Forest Supervisor's Office and Price Ranger District received copies of a Mine Plan Amendment for the Skyline Mines Project proposed by Coastal States Energy Company. The project known as the "Skyline Mines," is a joint venture by Coastal States Energy Company (hereafter referred to as Coastal States) and Getty Minerals Resources Company, a division of Getty Oil Company. Pursuant to the National Environmental Policy Act of 1969, receipt of this amendment has initiated the need to decide whether or not an Environmental Statement will be required to evaluate the proposed mining operation. According to NEPA and other pertinent laws, regulations and policies, this decision will be made through the Environmental Assessment process.

The primary purpose of this Environmental Assessment is an evaluation of the surface effects of a proposed underground coal mining operation. For reasons discussed in detail in this document, however, selection of a proposed State highway corridor is required in conjunction with the mining proposal. Due to the inherent complexity of assessing two distinct actions, which are linked only by procedural requirements, this Environmental Assessment is presented as a two part document. Part One will assess the proposed coal mining operation and Part Two will assess the proposed highway corridor. Each part is essentially a complete Environmental Assessment and can be evaluated as such. Final approval of the mining operation, however, is contingent upon approval of the highway corridor as discussed in Part Two.

TABLE OF CONTENTS

	Page
Preface	i
List of Figures	v
Part One	1
I. Introduction	1
A. Purpose or Need for Action	1
B. Criteria for Formulation of Alternatives	1
C. Alternative Evaluation Criteria	1
D. Issues, Concerns and Opportunities	3
1. Issues	3
2. Concerns	3
3. Opportunities	6
II. Affected Environment	7
A. Soils	7
B. Hydrology	8
C. Wildlife	9
D. Timber	9
E. Visual Management	9
F. Subsidence	9
G. Cultural Resources	10
H. Threatened and Endangered Species	10
I. Wetlands and Floodplains	11
J. Prime Farm Lands, Range Lands and Forest Lands	11
III. Alternatives	12
A. Alternatives Considered But Not Evaluated	12
B. Alternatives Considered and Evaluated	12
Alternative One	12
1. Description of Alternative	13
2. Location and Access	15
3. Management Requirements	16
Alternative Two	16
1. Description of Alternative	16
2. Location and Access	17
3. Management Requirements	17

TABLE OF CONTENTS (Cont.)

		Page
IV.	Effects of Implementation	21
	Alternative One	21
	A. Hydrology	21
	B. Soils	21
	C. Subsidence	21
	D. Wildlife	21
	E. Range	22
	F. Timber	22
	G. Visual Management	22
	H. Social and Economic	22
	Alternative Two	23
	A. Subsidence, Soils and Hydrology	23
	B. Social and Economic	23
V.	Evaluation of Alternatives	24
IV.	Selection of Preferred Alternative	25
art Two		26
I.	Introduction	26
	A. Purpose or Need for Action	26
	B. Criteria for Formulation of Alternatives	26
	C. Alternative Evaluation Criteria	27
	D. Issues, Concerns and Opportunities	27
II.	Affected Environment	28
	A. Cultural Resources	28
	B. Threatened and Endangered Species	28
	C. Wetlands and Floodplains	28
	D. Prime Range Lands, Farm Lands, and Forest Lands	29
	E. Wildlife	29
III.	Alternatives	30
	A. Alternatives Considered But Not Evaluated	30
	B. Alternatives Considered and Evaluanted	30
	1. Description of Alternative	31
	2. Management Requirements	32

TABLE OF CONTENTS (Cont.)

		Page
IV.	Effects of Implementation	35
	A. Soils	35
	B. Wildlife	35
	C. Timber	35
	D. Recreation	35
V.	Selection of Preferred Alternative	36

Consultation With Others

Finding of No Significant Impact

References

LIST OF FIGURES

		Page
Figure 1:	Location Map of Utah and Wasatch Plateau Coal Field	15a
Figure 2:	Vicinity and Highway System Map for Skyline Mines Project	15b
Figure 3:	Location Map - Skyline Mines Mining Unit	15c
Figure 4:	Local Surface Ownership, Skyline Project Area	15d
Figure 5:	Local Coal Ownership, Skyline Project Area	15e
Figure 6:	Bypass Corridors Considered But Not Evaluated	29a
Figure 7:	Selected Alternative Corridor	29b

PART ONE

Coal Mining Operation

I. INTRODUCTION

A. Purpose or Need for Action

As documented in the Final Environmental Statement: Development of Coal Resources in Central Utah, the conceptual location of an underground coal mine in Eccles Canyon has been approved, unless overwhelming site-specific environmental concerns are identified that would preclude such a development. Coastal States Energy Company's Mine Plan Amendment proposes developing a mine at the same location in Eccles Canyon. Their Mine Plan Amendment has been filed with the U.S. Forest Service and Carbon County officials in Price, Utah, as well as with the other involved Federal, State and local agencies. This Environmental Assessment is necessary for a site-specific evaluation of their mining proposal and any viable alternatives to it.

Development of the Skyline Mines will be under the authority of the following laws: The Mineral Leasing Act of February 25, 1920, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; the Surface Mining Control and Reclamation Act (SMCRA) of 1977; the Multiple Minerals Development Act of August 13, 1954; the Department of Energy Organization Act of August 4, 1977; the National Environmental Policy Act (NEPA) of 1969; the Federal Coal Leasing Amendments Act of 1976, as amended; the Act of October 30, 1978, that further amended the Mineral Leasing Act of 1920, and regulations: Title 43 CFR Part 3041, Part 3500, Part 2800 and Title 30 Part 211, Part 700.

B. Criteria for Formulation of Alternatives

Alternatives will be formulated according to the following general criteria:

1. Any alternatives should be legally sound and in compliance with applicable Federal, State, and local laws and regulations.

2. Any alternatives should be consistent with decisions stated in the Final Environmental Statement: Development of Coal Resources in Central Utah; unless overwhelming site-specific resource management concerns render those decisions impracticable.

3. Any alternatives should conform to the existing right of Coastal States to remove coal from their leased lands.

4. Any alternatives should be environmentally acceptable.

C. Alternative Evaluation Criteria

A Forest Service preferred alternative will be selected from the proposed action or the specified alternatives. As one basis for this selection, the alternatives will be evaluated against the following evaluation criteria:

1. The preferred alternative should be consistent with the Forest Service management objectives, directions, and decisions specified in the Ferron-Price Land Management Plan. The following guidelines are applicable:

a. "Provide for mineral activities within the role of responsibility that is compatible with other resource uses and national and local needs" (Ferron-Price Land Management Plan, p. 22).

b. "Coordinate the development of mineral resources with other resource values" (Ferron-Price Land Management Plan, p. 22).

c. "Provide for coal leasing and development, where appropriate in a logical sequential manner to minimize impacts" (Ferron-Price Land Management Plan, p. 44).

d. "Provide improved access from the Scofield area to Huntington Canyon and coordinate the location and construction of access with resource needs" (Ferron-Price Land Management Plan, p 48).

e. "Maintain Winter Quarters Canyon fishery and minimize degradation of Eccles Canyon off-Forest downstream values" (Ferron-Price Land Management Plan, p. 48).

f. "Manage mineral development, recreation use, and livestock grazing to minimize and/or mitigate impacts to big game winter ranges and aquatic habitats" (Ferron-Price Land Management Plan, p. 46).

g. "Require monitoring of water resources to determine and maintain water quality in conjunction with coal exploration and development" (Ferron-Price Land Management Plan, p. 46).

h. "Coordinate mineral leases and development with high scenic values in Huntington Creek Management Unit, A-5" (Ferron-Price Land Management Plan, p. 61).

2. The preferred alternative should satisfy the following social and economic criteria:

a. It should be socially acceptable and consistent with local and regional economic needs.

b. It should be consistent with stated national energy goals and objectives.

D. Issues, Concerns and Opportunities

1. Issues

Certain public issues will be created by impacts resulting from the proposed action:

a. Several Sanpete Valley communities, particularly Mt. Pleasant, Fairview and Spring City, may experience substantial rapid population growth as a result of the mine development. These communities and community leaders are concerned with the impacts that could result from rapid, unplanned growth; for example, strains on community facilities and services, and possible alterations in the existing community lifestyles.

b. An additional issue is the concern by the Utah Division of Wildlife Resources about the proposed bypass road from U-96 to U-31, along the South Fork route.

2. Concerns

The following environmental and resource management concerns related to the proposed action have been identified:

Hydrology:

a. The Skyline Mines Project should not be located in a 100 year flood plain. If it is so located, mitigating measures should be incorporated in accordance with EO 11988 and FSM 2527.

b. The proposed design for mine site drainage facilities should be based on acceptable flood prediction techniques.

c. The proposed sediment containment basin should be capable of accommodating the expected overland flow from the portal facilities area.

d. The proposed drainage and sedimentation facilities should be adequately designed to accommodate the occasional release of substantial quantities of groundwater intercepted by the mining operation.

e. Mining-induced subsidence should not adversely affect the water resources.

Soils:

a. Proper soil analysis and investigative techniques should be utilized in assessment of the existing soil resource.

b. The proposed topsoil removal, storage, and treatment procedures should be adequate for the protection and conservation of the soil resource over the length of the mining operation.

c. The proposed site reclamation procedures should be adequate for the prevention of soil erosion and the restoration of soil fertility and site productivity.

d. Soils-related problems that may affect site construction (e.g., stability problems and poor or excessive drainage) should be identified and mitigated.

e. Any effects of mining-induced subsidence on the soil resources should be properly monitored and, if possible, mitigated.

Geology:

a. The proposed plan for monitoring and assessing the effects of mining-induced subsidence should be adequate and should conform to the proposed Forest subsidence monitoring plan.

b. Mining should be conducted in a fashion that will prevent, minimize or mitigate subsidence-caused damages to the overlying surface developments.

Wildlife:

a. Damages to the existing deer and elk habitat resulting from the proposed action should be mitigated, minimized, or rehabilitated.

b. The values of the affected habitats should be properly classified for complete assessment of the impacts to the various species.

c. The drainage and runoff facilities should be designed to prevent degradation of the aquatic habitat.

d. The proposed reclamation procedures should provide adequate browse and riparian vegetation for the appropriate wildlife habitat use of the reclaimed mine site.

Range:

a. Precautionary measures to restrict livestock on adjacent areas from entering the mine site and haul road should be included in the site design.

b. The proposed reclamation measures should be adequate to restore the site to productive grazing use after mining is completed.

Timber and Fire:

a. Proper fire prevention measures should be utilized and suppression equipment should be available during construction and actual operation of the mine facilities.

Visual Management:

a. The proposed action should not significantly impair or degrade the visual quality in the project area.

b. The proposed action should be consistent with visual quality objectives. Reclamation of the area should restore the site to a condition aesthetically compatible with the surrounding area.

Engineering and Transportation:

a. The proposed mine portal and ancillary surface facilities should be properly designed according to sound engineering principles.

b. The proposed portal access road, which will be used as a temporary coal haulage road, and site bypass road should be properly designed according to existing surface and subsurface conditions, to accommodate the anticipated traffic volumes and loads.

c. Access from Highway 96 to Highway 31 should be maintained once the Forest Development Road in Eccles Canyon is blocked by mine development activities.

d. Any site bypass road constructed or otherwise developed should be adequate to accommodate the anticipated traffic increase resulting from the proposed action.

3. Opportunities

The proposed action, if properly conducted, will provide the following resource management opportunities:

a. The Skyline Project will provide the opportunity to permit development of some 120 million tons of Federal, low-sulfur, bituminous coal. This is in accordance with the suggested National Energy Policy to increase utilization of U.S. coal resources and, thereby, reduce dependence upon imported petroleum.

b. It will provide the opportunity, upon reclamation, to reestablish previously disturbed riparian vegetation at the mine site in Eccles Canyon.

c. It will provide the opportunity, during reclamation, to clean up and restore the existing disturbed area at the mine site to a productive state suitable for wildlife habitat and grazing.

II. AFFECTED ENVIRONMENT

General descriptions of the affected environment in the Skyline Project area are presented in a number of Federal documents including the following: Final Environmental Statement: Development of Coal Resources in Central Utah; Land Management Plan, Ferron-Price Planning Unit, Manti-LaSal National Forest; and several Environmental Assessment Reports for coal exploration drilling projects within the Skyline Mines' lease area. Copies of these documents are available for review at the Manti-LaSal National Forest Supervisor's Office, 350 East Main Street, Price, Utah, and at the Price Ranger District Office, 10 North Carbon Avenue, Price, Utah.

A site-specific description of the affected environment is presented in Coastal States' Mine Plan Amendment. Evaluations by a Forest Service interdisciplinary team indicate that, with a few exceptions, Coastal States' proposal accurately and adequately describes the affected environment. The following subsections of this Environmental Assessment provide the information necessary to supplement or revise the inadequate portions of Coastal States' environmental descriptions.

A. Soils

The soil resources in the project area are not adequately or accurately described in the Mine Plan Amendment. The following information, from the Forest Soil Scientist's report, provides a general description of the soil resources that will be affected by the Skyline Mines project.

The soils have formed primarily from sandstone and shale parent materials in mountainous topography with about 25 to 30 inches of annual precipitation. General observations indicate that most of the soils near the proposed mine site have good topsoil development with subsoils that are typically high in rock fragments as a result of formation on stony colluvial deposits and fractured bedrock. Surface textures are commonly sandy loam or loam, and subsoils are sandy loam to clay loam. Suitable topsoil for salvage and use in reclamation ranges from 8 to 20 inches in thickness.

About eight acres at the mine site have been disturbed by previous mining activities. This disturbed land consists of a mixture of soil and geologic materials (sandstone, shale, and waste coal). It is questionable whether any soil can be saved from this area.

The natural vegetation on most of the areas to be influenced by the Skyline Mine project offers surface protection against soil erosion, however, if the cover were removed, the soil would be highly susceptible to erosion, largely due to the steepness of the slopes.

B. Hydrology

Portions of Coastal States' hydrologic analysis and report were not in agreement with the I.D. Team hydrologists' analysis. The following information, from the Forest Service hydrologist's report, is presented to clarify and supplement the description of the affected hydrologic environment presented in the Mine Plan Amendment:

1. Emphasis within the report is placed upon the hypothesis that the Blackhawk Formation is virtually impermeable and that the local faults do not transmit large quantities of water. It is probable, however, that while encounters with groundwater will be infrequent, they will occur in substantial volume several times during the life of the mine. During the mine's first years, before adequate underground storage is available, active discharge from the portals may be required.

   The evidence for making the assumption that some substantial quantities of groundwater will be encountered is as follows:

   a. The Belina No. 4 Mine encountered one localized water source that initially flowed an estimated one thousand gallons per minute. A rough estimate of the quantity of water discharged showed 31 acre-feet over a one week period (Volume A-1, p. 77-78).

   b. On the South Fork of Eccles, along the Connelville Fault, water quality changes are attributed to the existence of a beaver dam. However, both bicarbonate ion and magnesium show definite increases in transported load (Vol. A-1, Figure 24). This would not occur solely as the result of beaver activity and seems to indicate a new water source. Springs, as indicated in the report, are the most likely.

   c. On page 73, Volume A-1, the O'Connor Fault is seen acting as a conveyance structure through fractured sandstone.

   d. On pages 82 and 83, Volume A-1, an observation well (W35-1) discharged 110 gallons/minute. On page 82, this discharge was associated with a high angle fault. "The fracture has connected the sandstone lenses of the Blackhawk Formation with the Star Point Sandstone, thereby significantly increasing the water yield characteristics of the rock..."

C. Wildlife

Coastal States' Mine Plan, as revised April, 1980, adequately describes the existing wildlife habitat in the Skyline Project area.

D. Timber

Coastal States estimates that approximately 200,000 board feet of conifer timber and 93,000 board feet of aspen will be affected by construction of the mine site and facilities both on and off the Forest. The volume and cost of affected merchantable timber owned by the Forest Service will be appraised prior to construction.

E. Visual Management

An evaluation of the visual quality is necessary to establish a visual management objective. Both of these determinations are necessary to assess the impacts to the visual resources resulting from the project.

The Forest Service visual management system provides a method for analyzing and classifying the aesthetic importance of any visual landscape. The process consists of (1) a variety class determination, (2) a sensitivity level which includes a seen area inventory, and (3) a product which is expressed as a visual quality objective. In this case: (1) The portal site area is considered Class B scenery; (2) It is assumed that a future highway will connect U-96 and U-31 and will be located in the bypass road corridor. The portal site is considered seen in middleground and is of Sensitivity Level I; and (3) In combining the Variety Class B and the Sensitivity Level I (middleground viewed), the product is a "Partial Retention" visual quality objective.

When managed to the partial retention visual quality objective, management activities remain subordinate to the characteristic landscape. Form, line, color, and texture, which are found frequently or not at all in the characteristic landscape, may be introduced, but should remain subordinate to the visual strength of the characteristic landscape. The mine site can be developed and rehabilitated to meet a partial retention visual quality objective.

F. Subsidence

Subsidence can be expected to affect most of the overlying surface resources. At the present time, it is not possible to predict the extent or severity of any subsidence-related surficial impacts. A subsidence-hydrologic monitoring program will be implemented to identify and assess these impacts and to establish baseline data

for future predictive efforts. The subsidence-hydrologic monitoring program described in Coastal States Mine Plan conforms to the basic current Forest Service guidelines for subsidence and hydrologic monitoring. Future revisions in the monitoring program may be necessary however, as knowledge of the effects of subsidence is acquired during the early monitoring period. The surface effects of mining-induced subsidence, and variations in the hydrologic regime, will be reviewed by the Forest Service on a regular basis, as necessary, to determine the need for additional or improved monitoring.

An additional function of the subsidence-hydrologic monitoring and assessment program will be to determine, through reviews as needed, the need for immediate or long-term corrective measures to mitigate subsidence-related hydrologic alterations or other damages to the surface resources. If it is determined that any significant damages or adverse effects cannot be mitigated by normal corrective actions, adjustment of the mining operation may be necessary to reduce or eliminate these effects.

G. Cultural Resources

The proposed portal site in Eccles Canyon was covered by archeological surveys conducted July 23, 1979, August 10, 1979, and September 18, 1979; no cultural resources were found. Based on the archeological reports, the Forest Archeologist has determined that the proposed portal development will have no effect on cultural resources due to the lack of these resources in the project area. Copies of A.E.R.C.'s survey reports are on file and available for review at the Manti-LaSal National Forest Supervisor's Office and the Price Ranger District Office.

Numerous archeological surveys have been conducted over the entire Skyline Mines' lease area in conjunction with coal exploration projects. Archeological-Environmental Research Corporation (A.E.R.C.) conducted these surveys under contract to Coastal States and Routt County Development Company. A.E.R.C. has been granted approval to conduct archeological investigations on Forest lands through a Region Four blanket permit.

H. Threatened and Endangered Species

Wildlife and Range Science Specialists of the Price Ranger District and Forest Supervisor's Office have determined that no threatened or endangered plant and/or animal species inhabit the proposed mine location. No known habitat suitable to support any presently listed threatened or endangered species will be affected by construction of the mine site. One proposed endangered forb species, Hymenoxys helenioides, has been found in surrounding areas. Suitable habitat for this species may exist in some aspen sites at the mine location.

I. Wetlands and Floodplains

Wetlands and floodplains have been evaluated for the proposed Skyline Mines' location. Development of the mines and surface facilities will not conflict with management guidelines for these areas as required by EO 11988 and FSM 2527.

J. Prime Range Lands, Farm Lands and Forest Lands

Prime range lands, farm lands and Forest lands have been evaluated for the Skyline Mines' portal area. Any developments in this area will not conflict with guidelines for management of these lands.

III. ALTERNATIVES

A. Alternatives Considered but not Evaluated

1. Alternate Mine Locations

Alternate mine locations were considered but not further evaluated because they are not viable according to the alternative formulation criteria. The Central Utah Coal Environmental Statement (Site-Specific Analysis, McKinnon No. 1 and 2 Mines) evaluated six possible mine locations for developing these leases and approved, in concept, the Eccles Canyon site. No overwhelming site-specific concerns have been identified that would justify rejection of this site, therefore, selection of other mine sites as alternatives would conflict with the alternative formulation criteria specified in section I B of this assessment.

2. No Action Alternative

Consideration of the "No Action" alternative is required by CEQ Regulations as specified in the Federal Register, November 29, 1979. The no action alternative, in this case, would be refusal to approve development of the subject coal leases. This alternative was not further evaluated because it is in conflict with the specified alternative formulation criteria. The legality of this alternative is questionable; it does not conform to the existing rights of coal development on valid Federal leases; and it is not consistent with directives stated in the Ferron-Price Land Management Plan.

B. Alternatives Considered and Evaluated

The following alternatives are considered viable according to the alternative formulation criteria. Accordingly, these alternatives will be evaluated in detail in this document.

Alternative One

The first alternative is development of the Skyline Mines in Eccles Canyon as proposed by Coastal States. The Mine Plan Amendment describes the proposed Skyline Mines in detail. A brief description of the proposed action, summarized from the Mine Plan Amendment, is presented in this section.

1. Description of Alternative

The action proposed by Coastal States Energy Company is formally titled "Amendment to the Mining and Reclamation Plans for the Proposed McKinnon No. 1 and No. 2 Mines and Revised Mining Permit Application." This amendment constitutes a proposal and permit application by Coastal States Energy Company to develop and operate three mines to extract coal from their leasehold in Carbon and Emery Counties, Utah.

The current amendment was submitted as a revision and update of the proposal and permit application formerly filed for this leasehold by Routt County Development Company. Routt County's proposed mining operation was evaluated in the Central Utah Coal Environmental Statement.

Coastal States, through its wholly-owned subsidiary Utah Fuel Company, will provide the management, personnel, and technical expertise for the development and operation of the Skyline Mines. Construction of the mine site and other facilities may be conducted by outside contracting firms. Under this proposal, Utah Fuel Company intends to extract coal from Federal coal leases No.'s U-0142235, U-0147570, U-073120, U-020305, and U-044076, plus a small Carbon County coal lease. Coastal States acquired these properties in 1978 from Routt County Development Company, a subsidiary of Energy Fuels Corporation.

Operations conducted within the National Forest in conjunction with this project will include construction of three coal mines and ancillary surface facilities. Two separate mine portal systems will be constructed to mine three coal seams, requiring a total of eleven portals. Since they will occupy a common mine site, the Skyline Mines can be treated as a single entity for the purposes of this report.

Surface facilities at the mine site will include a change house and shop complex, storage silo, sedimentation pond, and various other structures or facilities necessary for the extraction, processing, storage and transportation of coal. Additional facilities, constructed off-Forest, will include a conveyor system, temporary coal haulage road, and coal storage and load-out facilities. Coal will be truck-hauled to the load-out and storage facilities at the mouth of Eccles Canyon until the conveyor is completed sometime in 1984. The structures and facilities are discussed in detail in Volumes 1 and 2 of the Mine Plan Amendment and in various sections of the Appendix to the Mine Plan Amendment. Preliminary facilities specifications, sketches, plans, and cross-sections are included in these sections.

Construction of the portal area and associated facilities will begin in late spring of 1980, or as soon thereafter as the necessary approvals and permits are granted. Coal production is scheduled to begin from the No. 1 and No. 3 mines in January, 1982, and from the No. 2 mine in early 1987. At full production capacity, coal extraction is estimated to reach approximately five million tons per year. The mine life is estimated at 33 years at full production.

Construction of the mine portals and related facilities in Eccles Canyon will disturb approximately 34 acres of National Forest land. A total of 4,839 acres of the approximately 6,400 acre lease tract will be undermined throughout the life of the mine. Subsidence-related surface disturbance will occur on Forest land overlying the undermined areas. The extent or severity of this disturbance is not known at the present time.

Total coal reserves within the lease tract are estimated at approximately 294 million tons. Over 90 percent of these are classified as proven reserves based on one-half mile spaced control points. Mineable reserves are estimated at 212.9 million tons and total recoverable coal at 124.5 million tons. Limitations on extraction of the coal reserves will result from various factors, including thickness and continuity of the coal seams; thickness of interburden; and pillars and barriers left for fire protection; roof support and protection of surface developments. Mineable coal is considered to occur in only three seams within the leasehold. The current reserve estimates for these seams are as follows:

Seam	Mineable Reserves	To Be Mined
Upper O'Connor	67.16 MMT	37.67 MMT
Lower O'Connor B	63.51 MMT	36.78 MMT
Lower O'Connor A	82.18 MMT	50.05 MMT
Totals	212.85 MMT	124.50 MMT

It is recognized that future technology may increase the recoverability of the specified coal reserves, and may even allow mining of seams that are presently considered non-mineable. Detailed data on the coal reserves, reserve calculations and production rates are presented in Volume 2, Section 3, of the Mine Plan Amendment and in Appendix Volumes A-1, A-2 and A-3.

A final portion of the Mine Plan Amendment discusses the proposed reclamation of the area upon completion of the mining operations. Reclamation of the mine site is intended to restore the area to wildlife habitat and grazing use following the cessation of mining. A variety of reclamation measures are proposed, including abandonment and removal of the mine entries and other openings and associated structures; regrading the mine site to conform to the surrounding terrain and, when possible, to the approximate original contours; application of stockpiled topsoil and revegetation with appropriate plant species. Some cut-slopes in the portal area will be revegetated as construction is completed to prevent erosion and maintain stability throughout the life of the mine. Detailed plans for mine site reclamation are presented in Volume 3 of the Mine Plan Amendment. Preliminary sketches and cross-sections of the proposed site reclamation are presented in several of the Appendix volumes.

2. Location and Access

The Skyline Project area is located on the Wasatch Plateau in Carbon and Emery Counties, Utah, approximately twenty-two miles northwest of Price and three and a half miles southwest of Scofield. Surface facilities for the mining operation will be constructed in Eccles Canyon, with the main portal facilities located in Section 13, T 12 S., R. 6 E., immediately within the Manti-LaSal National Forest boundary. Six leases covering approximately 6,400 acres of the surrounding area are included in Coastal States' mining unit. This area is roughly outlined by the South Fork of Eccles canyon and the National Forest boundary on the east, Upper Huntington Canyon on the west, Winter Quarters Canyon on the north, and James Canyon on the south. The entire lease area is located in T. 13 S., R. 6 E., SLM. Legal descriptions of the coal leases are provided in Volume 1 of the Mine Plan Amendment, pages 1.12 through 1.14. Location maps of the Skyline Project and the surrounding area are presented in Figures 1 through 5 of this report.

Most of the Skyline Mines' lease area is located within Unit A-1, the Trough Springs Management Unit, of the Ferron-Price Planning Unit. A small portion of the lease area, along its western margin, is within Management Unit A-5, the Huntington Creek Management Unit. The 1979 Ferron-Price Land Management Plan describes these Management Units and presents directives and guidelines for resource management within each unit.

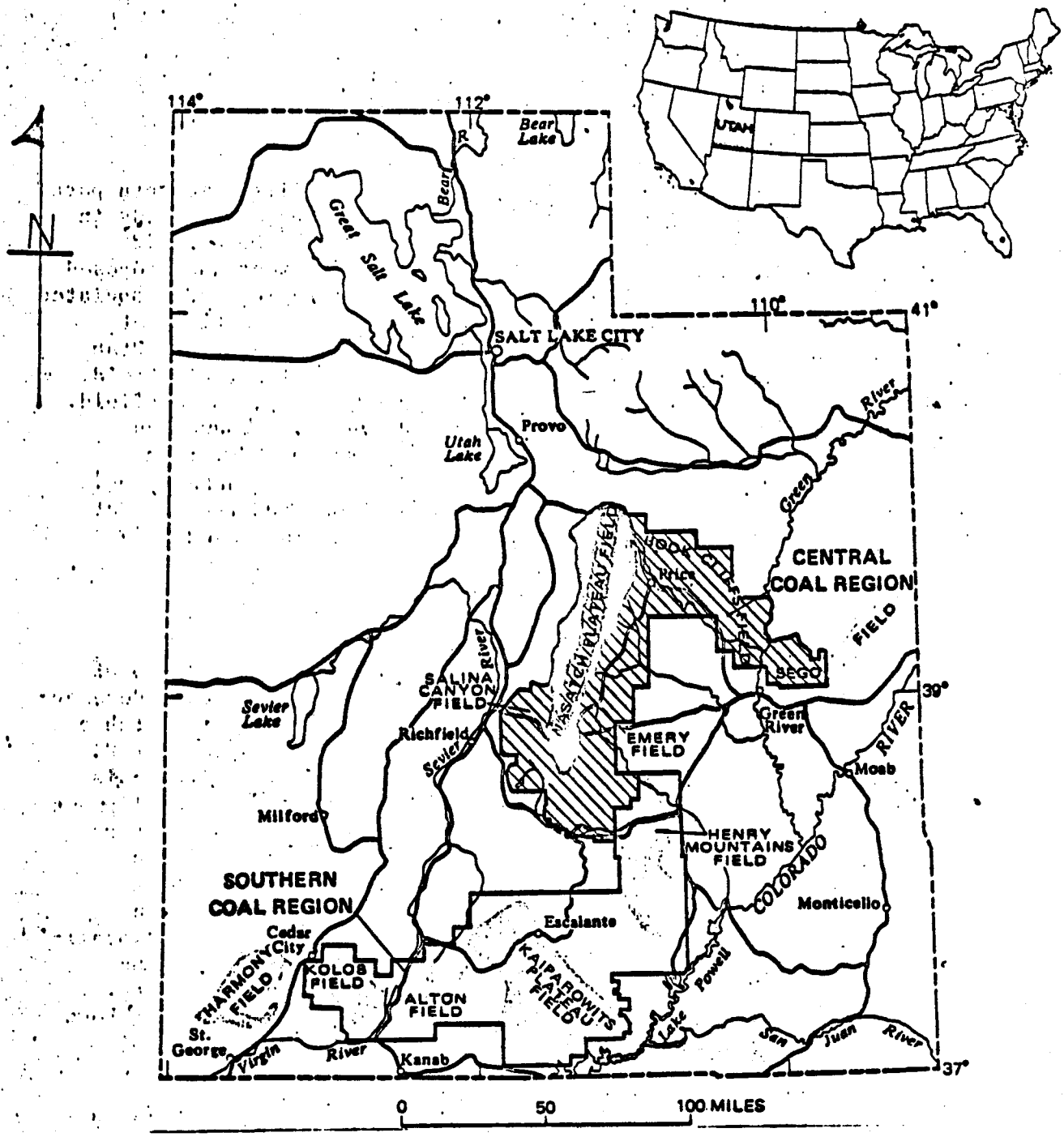


FIGURE 1: Location Map of Utah and Wasatch Plateau Coal Field (Modified from Central Utah

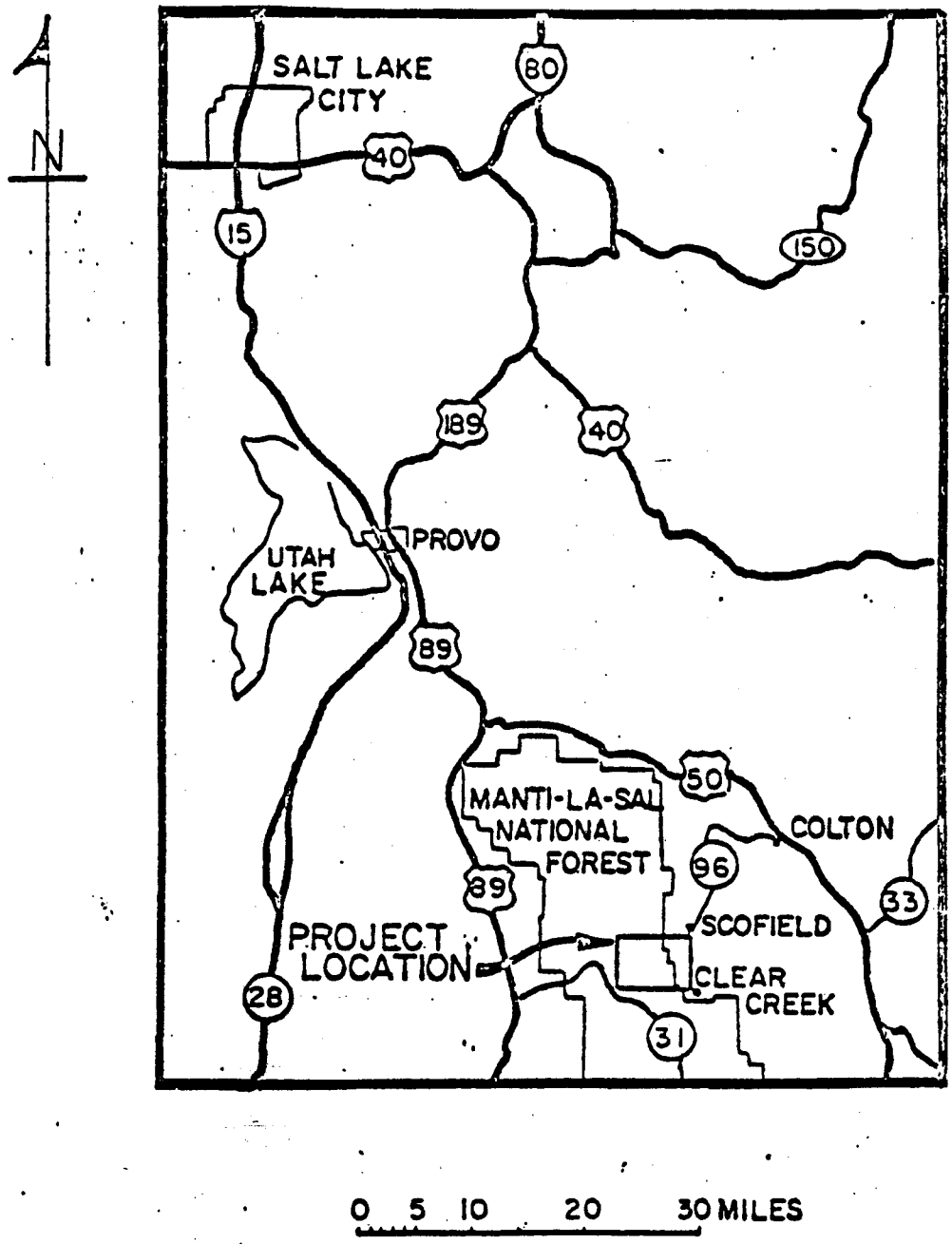


FIGURE 2: Vicinity and Highway System Map for Skyline Mines Project

(Modified from Coastal States' Mine Plan Amendment)

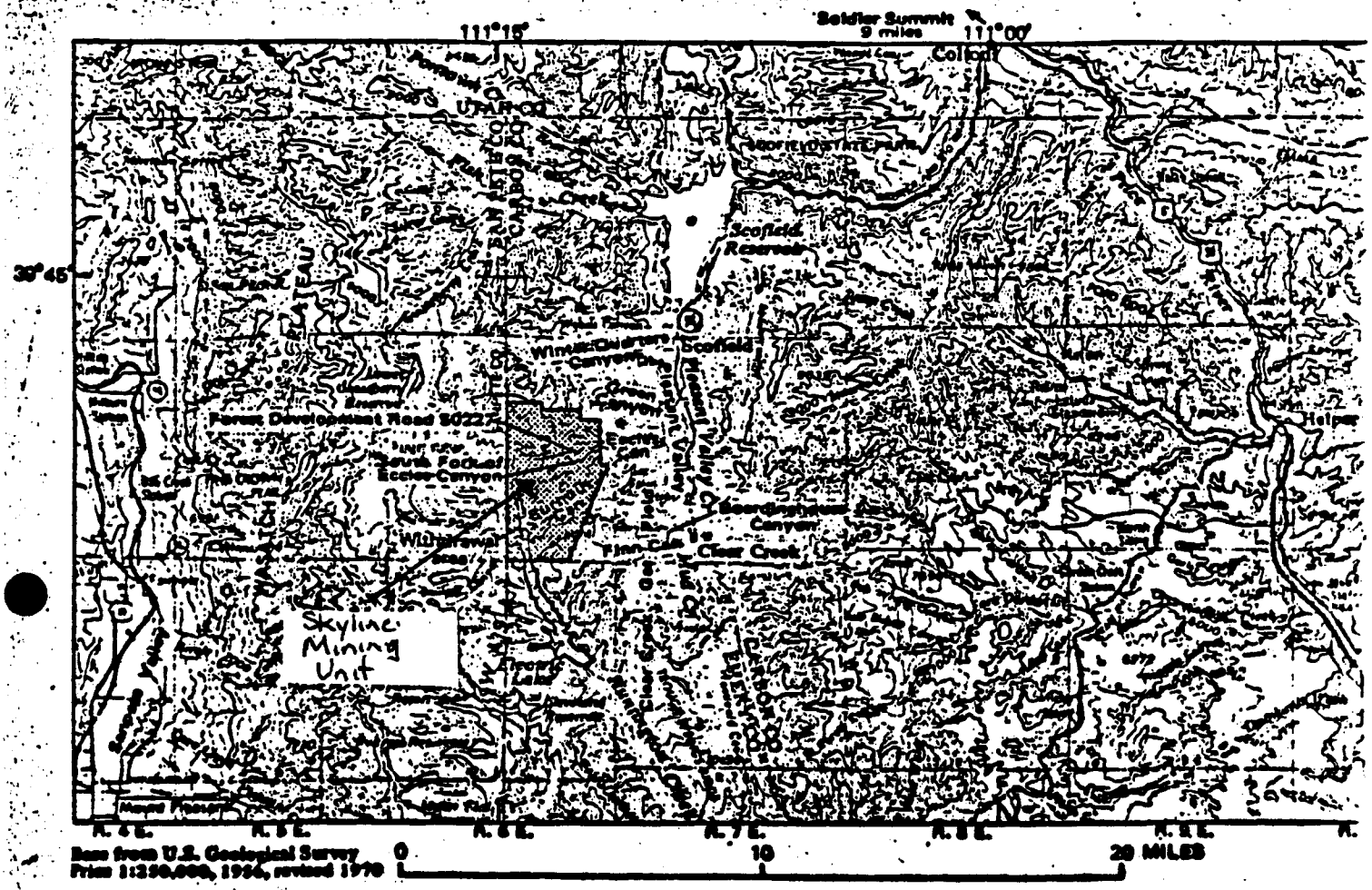


FIGURE 3: Location Map of Skyline Mining Unit (Modified from Central Utah Coal E.S.)

N

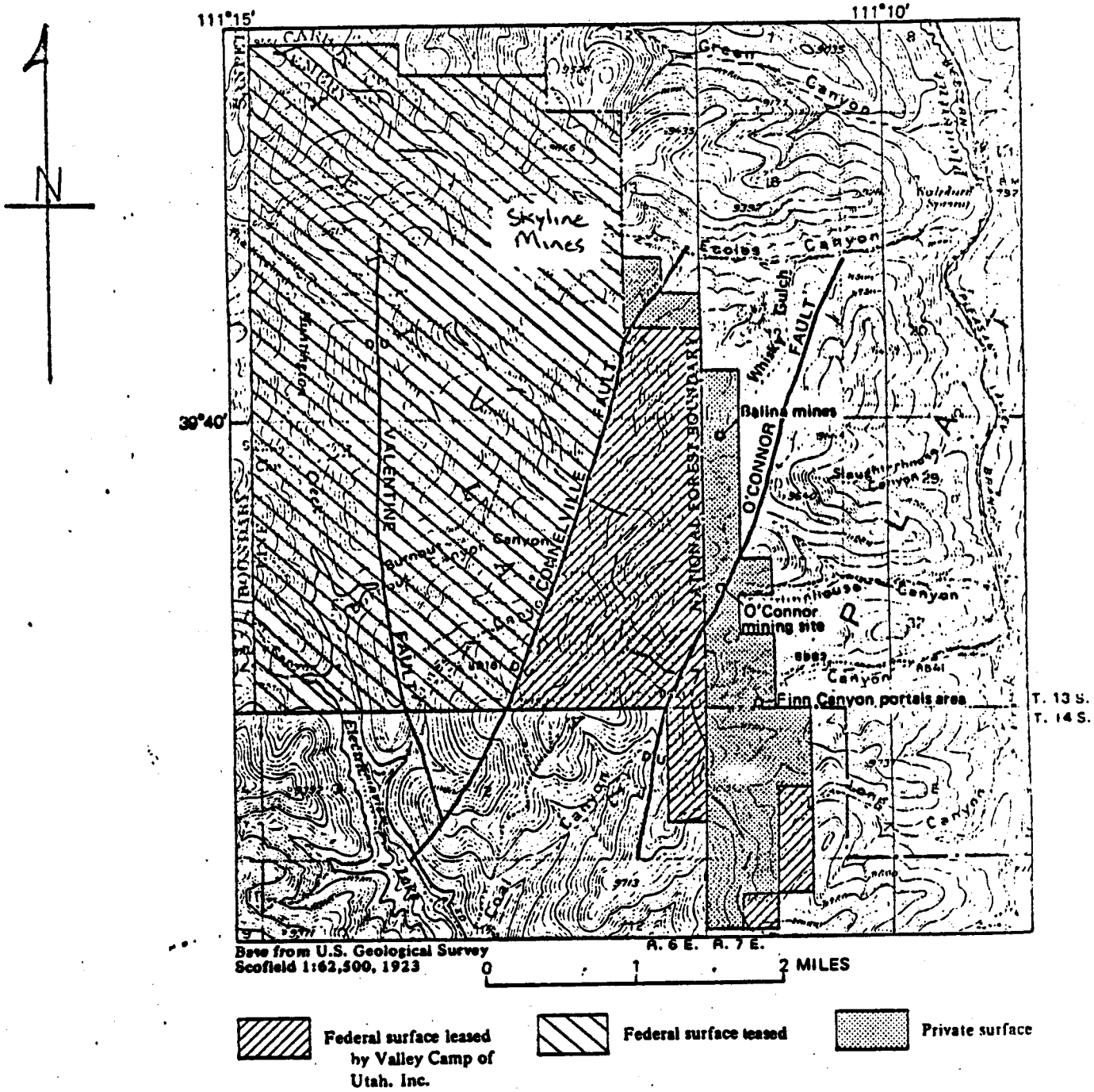
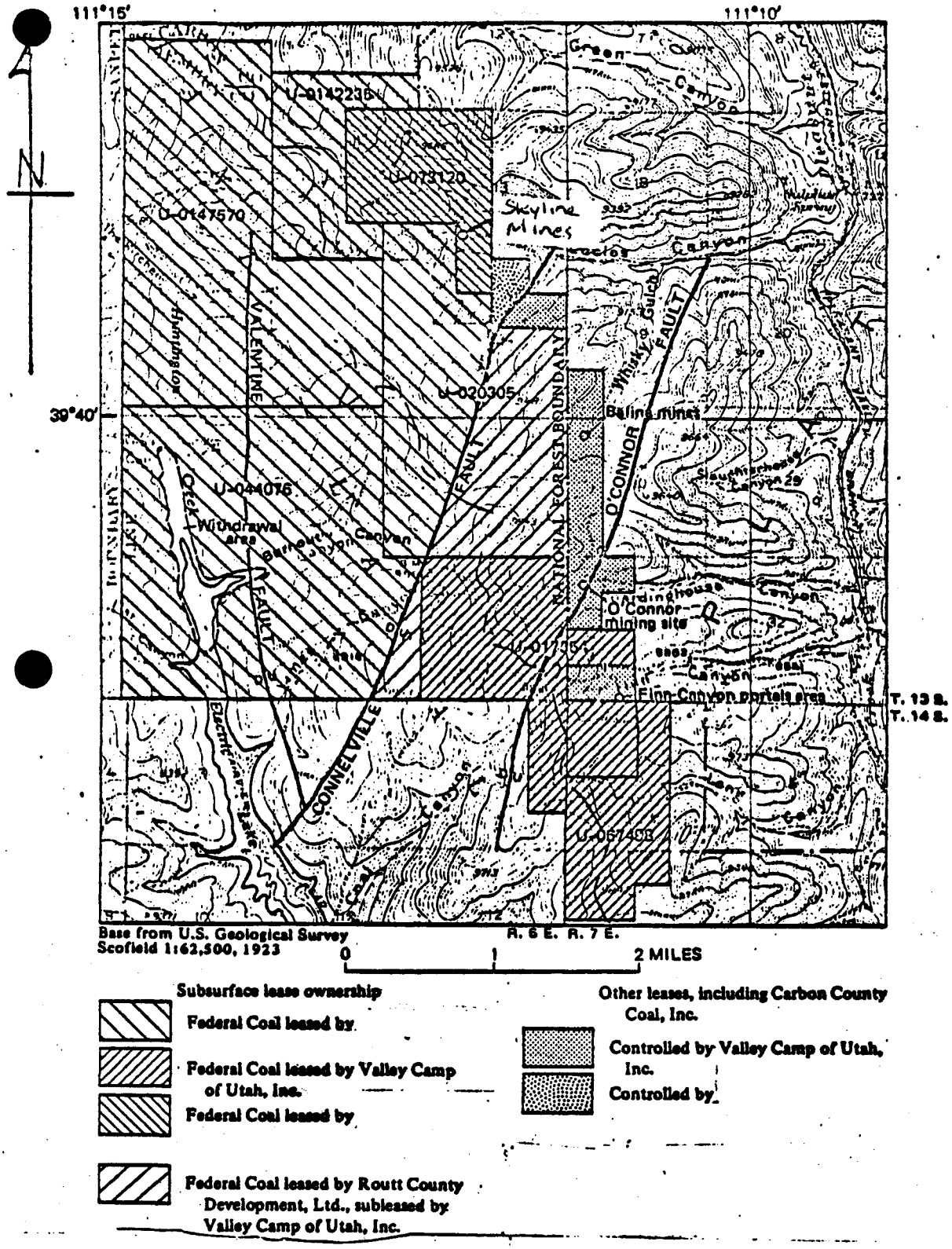


FIGURE 4: Local Surface Ownership, Skyline Mine Project Area

(Modified from Central Utah Coal E.S.)



Base from U.S. Geological Survey
Scofield 1:62,500, 1923

Subsurface lease ownership

- Federal Coal leased by
- Federal Coal leased by Valley Camp of Utah, Inc.
- Federal Coal leased by
- Federal Coal leased by Routt County Development, Ltd., subleased by Valley Camp of Utah, Inc.

Other leases, including Carbon County Coal, Inc.

- Controlled by Valley Camp of Utah, Inc.
- Controlled by

FIGURE 5: Local Coal Ownership, Skyline Mine Project Area

Two existing routes provide the primary access to the lease tract and mine site. Utah State Highway 96 provides access to the area from U.S. Highway 6, which connects to Price and southeastern Utah and to the Utah Valley west of the area. Access to the site from Highway 96 is provided by an unpaved County and Forest Development Road in Eccles Canyon.

The second primary route of access is Utah State Highway 31, which connects Huntington and the Price area with the Sanpete Valley. The Skyline Mine site can be reached from Highway 31 along unpaved County and Forest Development Roads through Flat Canyon and Upper Huntington Canyon.

A permanent paved road connecting Highway 31 and Highway 96 is proposed for future construction. Coastal States has applied for "prepayment of taxes" funding for construction of this road through their lease tract. At the present time (March, 1980), the Utah State Legislature has appropriated funds for this project and the Utah Department of Transportation and U.S. Forest Service are studying possible routes.

3. Management Requirements

Coastal States Mine Plan specifies a number of measures designed to assess and mitigate or minimize impacts to the surface environment resulting from the proposed operation. Alternative One would permit development of the project as proposed by Coastal States; therefore, only those environmental mitigation measures included in their proposal would be required. No additional surface management requirements or mitigation measures would be implemented under this alternative.

Alternative Two

Development of the Skyline Mines' Project subject to specified management requirements in addition to those proposed in Coastal States' Mine Plan is the only other alternative that satisfies the alternative formulation criteria. This alternative will also be further evaluated in this document.

1. Description of Alternative

Alternative two is essentially similar to alternative one. It would permit development of the subject coal leases according to the plans generally described in Coastal States Mine Plan. The

same general mining and surface facilities would be constructed. Certain modifications in the development and operation of the project, plus additional mitigation measures would be required as prerequisites to approval of the project. The necessary modifications and mitigation requirements are described in this section of the Environmental Assessment.

2. Location and Access

The location of the project and the various routes of access are the same as those described in Alternative One.

3. Management Requirements

a. All the proposed operational and construction specifications, and all environmental mitigations not superseded by management requirements issued in this section will become mandatory for approval of the project.

b. Construction of the Skyline Mine facilities will permanently sever and block the Eccles Canyon Road. Coastal States will, consequently, be required to establish a permanent bypass road providing access to the same areas served by the existing road. This requirement is discussed in Part Two of this Environmental Assessment.

c. Improved soils data will have to be obtained for areas disturbed by construction of the project prior to and during construction. These needs for improvement have been discussed with representatives of Coastal States.

d. In order to insure adequate reclamation and minimize long-term adverse impacts to the soil, Coastal States will be required to conform to the soil protection and storage provisions of the Surface Mining Control and Reclamation Act of 1977. Sections 515 (b), (5) and (6), of this Act specify the appropriate topsoil protection measures and Sections 515 (b), (22), (23) and (24), specify the general spoil disposal requirements.

e. At the time of reclamation of the mine site, the stockpiled topsoil must be adequately treated to restore its original fertility. Thorough soil analyses must be conducted to determine what measures, if any, are necessary.

f. Mining operations must be designed to prevent, minimize or mitigate damages to the proposed bypass road, and other surface facilities, resulting from subsidence. If it is determined that any significant adverse effects cannot be mitigated by normal corrective actions, adjustments of the mining operations may be necessary to correct or eliminate these effects.

g. As directed by the Forest Service, Coastal States will be required to assume responsibility for repair or replacement of surface facilities on Forest land that are damaged by mining-induced subsidence. This responsibility will also include mitigation of damages or adverse effects to other surface resources on Forest land, if such damages or effects are the results of subsidence.

h. Coastal States will be required to implement their subsidence and hydrologic monitoring program as directed by the Forest Service. Future revisions may also be required to obtain more refined data and to more accurately ascertain specific impacts to the surface resources.

i. Reclamation planting and seeding should reestablish riparian, browse, and other vegetation appropriate for domestic livestock grazing and wildlife habitat uses. Conifer and aspen seedlings should be planted in appropriate areas; willow should be planted along stream channels; and the following mixture of grasses and forbs should be seeded to reestablish ground cover:

Smooth Brome	37%	Meadow Foxtail	11%
Orchard Grass	15%	Alfalfa	4%
Intermediate Wheatgrass	10%	Yellow Sweetclover	4%
Crested Wheatgrass	5%	Showy Goldeneye	4%
Timothy	6%	Chickpea Milkvetch	4%

j. A wire fence may be required to be erected and maintained around the perimeter of the portal area if it is determined to be necessary to protect grazing stock and wildlife. Additional ventilation shafts and other structures must be similarly fenced, covered, or otherwise protected.

k. As a minimum, the mine site sedment pond must be adequately designed to contain the runoff from a 10 year, 24 hour storm event without overflow from the emergency spillway. Furthermore, the sediment pond should safely pass the runoff from a 100 year, 24 hour storm. These requirements are detailed in the Office of Surface Mining regulations.

l. No toxic or acidic materials produced or used in the mining operation should be permitted to come into contact with any surface waters.

m. All timber removed during construction of the portal area will be sold to Coastal States or their subcontractors prior to its removal. A timber cruise and appraisal will be conducted by Forest Service personnel to determine the volume of timber and cost of the settlement sale.

n. A valid State burning permit will be required for all burning to dispose of vegetation and other debris from clearing the mine site and related facilities.

o. All construction equipment, trucks, and power tools used for site clearing and construction must be equipped with Forest Service approved spark arrestors.

p. While the mine is in operation, the partial retention visual quality objective should be maintained. Where possible, facilities, shapes, sizes, amounts, etc., should be subordinate to the characteristic surrounding landscape when viewed in middleground from the bypass road corridor. Colors of the structures and facilities should compliment earth tones.

q. Post mining reclamation procedures necessary to meet visual quality objectives include the following:

(1) To allow the mine site to revegetate, a temporary fence should be installed.

(2) In order to create a natural appearance, tree and shrub plantings should not terminate on the toe of a slope. Linkages should run short of the toe in some areas and should extend slightly into the canyon bottoms in other areas. Sagebrush and grasses should be reestablished. Trees and shrubs should be planted.

(3) Rocks, originally designated as wind barriers, should be placed at the bottom of large solid rock cuts in an informal way and should be covered with soil and planted.

(4) All finished sideslopes should conform as nearly as possible to the surrounding terrain and should be 2:1 or flatter, except in solid rock cuts or if the existing angle of repose is more vertical. All slopes should be topsoiled, planted, and transitioned from one to the other at such a scale, that the break point is not visually evident and seems

to be a natural occurrence. Retaining walls should be left in place, covered with fill material, topsoiled and planted. The transition zones dividing the canyon bottom benches should be "V" shaped to reflect the natural canyon bottom form.

(5) Structural removal should include concealment or removal of structures containing obtrusive form, line, color or texture.

(6) Area cleanup should include alteration, concealment or removal (as directed by the Forest Service) of construction and mine debris.

r. It is recognized that land management policies and disturbed land reclamation technology can, and probably will, change over the life of the Skyline Mines Project. In view of this, reclamation of the mine site will be required to satisfy the standards current at the time of reclamation and will be conducted using the best available technology.

s. The disturbance of large quantities of rock during the construction of the portal area could uncover significant paleontological specimends. Periodic examination of the mine site by a qualified paleontologist must be made during construction to ensure the preservation of significant paleontological specimens.

V. EFFECTS OF IMPLEMENTATION

Alternative One

Coastal States' Mine Plan Amendment fully describes the effects of implementation of Alternative One (i.e., the proposed action). Most of the environmental effects will either be mitigated throughout the course of the project or rehabilitated upon its completion. The following effects, however, are either not adequately mitigated or they cannot be mitigated and will remain upon completion of the project as described in Alternative One.

A. Hydrology

1. The mine site sediment pond is designed to contain the runoff from a 10 year, 24 hour storm and to safely pass a 100 year, 24 hour storm. If a larger storm event occurred, the sedimentation facility could overflow and create possible damage to the hydrologic and aquatic resources through erosion, siltation, and chemical contamination.

2. Mining and mining-induced subsidence may result in some changes in the subsurface and surface hydrologic regime.

B. Soils

1. The soils information furnished in Coastal States' Mine Plan Amendment does not adequately describe the soil resources. Without the proper background information, unanticipated impacts to the soils could result from implementation of the proposed action. Topsoil from disturbed areas may be improperly handled, stored and treated. This could result in long-term degradation of the soils which could inhibit productivity at the time of reclamation.

2. Some unknown amount of soil may be lost due to the effects of subsidence.

C. Subsidence

Subsidence can be expected to affect most of the other surface resources. Predictions of these effects are not currently possible.

D. Wildlife

1. The proposed action will create an increase in the traffic using the Eccles Canyon road. As a result, the probability of wildlife road-kills will increase.

2. Human disturbance and occupation of the project area will increase as a result of the proposed action. This will create increased negative impacts to wildlife habitat and sanctuary areas on the mine site and adjacent areas.

E. Range

1. No provisions are made to restrict livestock, or wildlife, from entering the mine area. Without such a restriction, stock and wildlife may be endangered and employee safety may be jeopardized.

F. Timber

1. No fire prevention or suppression measures are included for the construction phase of the proposed action. Without such measures, the probability for the ignition and spread of man-caused fires will be increased.

G. Visual Management

1. Implementation of the reclamation measures specified in the proposed action will result in unnatural-appearing stream channels, vegetation patterns, and topographic features. These conditions will not meet the visual quality objective for the project area.

H. Social and Economic

1. The proposed Skyline Project should add 800 positions to the job market. These 800 positions translate to about 3,600 people added to community population. Coastal States' Table 2.13-2 on page 2-76 shows the estimated distribution of the labor force to residential areas (communities). The following table distributes the total population on the same basis:

	Population		
Area	Current	1982	1985
Price - Helper	20,000	21,800	20,720
Fairview, Mt. Pleasant, and Spring City	4,500	5,760	6,460
Scofield	160	700	1,060

The communities of Fairview, Mt. Pleasant, and Spring City will have significant growth. Social officials are concerned about the growth without an accompanying industrial tax base to support community services. (Note, funds are available for community development, but not for operation and maintenance.) If they rely on residential taxation for support, the residential taxation would be high and would discourage community growth.

The growth predicted for Scofield will probably not occur unless the company or private developers put up funds for community development. The sewer and water systems are inadequate. Additional water rights would have to be secured for the community. Furthermore, there is a substantial portion of the population who oppose this magnitude of growth and as land holders could constrain development.

2. Alternative One will provide an opportunity to utilize some 120 million tons of Federal, low-sulfur, bituminous coal. This will support the suggested national energy objectives to increase utilization of domestic coal and reduce dependence on imported petroleum.

Alternative Two

Alternative Two is, essentially, the proposed action subject to a number of additional mitigations and modifications. Implementation of this alternative can mitigate or rehabilitate almost all of the unmitigated or residual effects resulting from implementation of Alternative One (see section IV, A). Only the following environmental effects would remain upon completion of the project as described in Alternative Two.

A. Subsidence, Soils, and Hydrology

1. Subsidence occurring during and following the mining operations may create some impacts to the soil and hydrologic resources of the Skyline lease area. Due to the effects of subsidence, a small amount of soil may be disturbed or lost and changes may occur in the groundwater system. The loss or movement of surface springs due to the dislocation of aquifers could create impacts to streams and vegetation. As discussed in section II, B, of this document, any effects to the hydrologic regime are expected to be minor.

B. Social and Economic

The social and economic impacts resulting from implementation of Alternative Two will be the same as those resulting from implementation of Alternative One (see section IV, H).

V. EVALUATION OF ALTERNATIVES

The first and second alternatives are evaluated against the specified evaluation criteria and rated as (1) Excellent - E; (2) Satisfacotry - S; and (3) Unsatisfactory - U. These results are easily expressed in tabular form as follows:

Evaluation Criteria	Alternative One	Alternative Two
A. Consistency with directions and guidelines in Ferron-Price Land Management Plan, as specified in Section I, C, pages 1-2 of this document.		
A-1	S	E
A-2	S	S
A-3	S	S
A-4	E	E
A-5	S	S
A-6	S	S
A-7	S	S
A-8	S	S
B. Consistency with social and economic criteria specified in Section I, C, page 2 of this document.		
B-1	S	S
B-2	E	E

Alternative Two receives the most favorable rating when evaluated against the specified evaluation criteria. This alternative satisfies seven of the ten specified criteria and exceeds the remaining three. In comparison, Alternative One satisfies eight and exceeds only two of the ten evaluation criteria.

VI. SELECTION OF PREFERRED ALTERNATIVE

As discussed in section V of this assessment, Alternative One and Alternative Two both meet or exceed the specified evaluation criteria. Either alternative would, therefore, be acceptable if selected solely on the basis of these criteria. An assessment of the effects of implementation of these alternatives, however, indicates that the additional management requirements necessary in Alternative Two can mitigate or rehabilitate most of the environmental effects resulting from Alternative One (see section IV). As a result of the additional required environmental mitigation measures, Alternative Two will create only minimal residual effects to the surface environment. Alternative Two is, therefore, selected as the Forest Service preferred alternative.

PART TWO

Bypass Road Corridor

I. INTRODUCTION

A. Purpose or Need for Action

As documented in the Central Utah Coal Regional Environmental Statement, the development of a coal mine portal in the main Eccles Canyon requires the selection of a new road corridor and construction of a bypass road in the corridor. This part of the Environmental Assessment evaluates potential road corridors.

Because of the opening of the Skyline Mine in Eccles Canyon, an alternate route for traffic will be needed. Coastal States Energy Company approached the State legislators to obtain funds from prepaid taxes to construct a State secondary highway from the Sanpete area to the Scofield mine area. The legislation has passed and the Governor signed the required legislation. The three counties involved (Emery, Sanpete and Carbon) have entered into a tri-county agreement, with Sanpete the lead county. Sanpete County has requested that the Department of Transportation design the road and contract the required construction.

The proposed bypass road should provide for 163 (1980) vehicles per day without any mine traffic. With mine traffic considered, the traffic volume should increase to 275 vehicles per day in 1985. After Coastal States Energy Company's Skyline Mine develops full operation, the total traffic volume on a bypass connecting the Sanpete Valley with Pleasant Valley is projected to be at least 358 vehicles per day.

The I.D. Team's assessment of the potential corridors from Huntington Canyon to Pleasant Valley is described herein.

B. Criteria for Formulation of Alternatives

The alternative road corridors considered in this section have been formulated according to the following specified formulation criteria. These criteria are based primarily on minimum engineering standards for the type of facility proposed (i.e., a State secondary highway).

1. A road corridor should be acceptable for a State secondary highway. The road design standards are based on a review of traffic volumes, type of vehicle use, and the distribution of traffic. The selected alignment requirements for curves and grades were based on the topography encountered on the route corridor selected (see listing in section III, B, 2 c, of this Environmental Assessment).

2. The maximum sustained road grade within the corridor should not exceed eight percent.

3. The road corridor should avoid long sections with steep side slopes.

4. The road corridor should avoid massive, unstable land forms that cannot be corrected with current technology.

5. The road corridor should avoid multiple switchbacks.

6. The road corridor should avoid impacts to sensitive riparian zones that cannot be mitigated with current technology.

C. Alternative Evaluation Criteria

Alternative evaluation criteria were formulated and are documented for review. They are not presented here because only the one alternative meets the formulation criteria and an evaluation of this alternative does not add to the decision process. These criteria are available for review at the Forest Supervisor's Office, 350 East Main Street, Price, Utah.

D. Issues, Concerns, and Opportunities

Issues, concerns, and opportunities have been identified, and have been used to evaluate the impacts of the corridor which met alternative formulation criteria. The evaluation is on file at the Forest Supervisor's Office, but is not presented here because it does not add to or detract from the decision process.

AFFECTED ENVIRONMENT

A general description of the environment is in the following documents; Ferron-Price Land Management Plan, and the Development of Coal in Central Utah E.I.S. Further discussion of the affected environment was not deemed necessary at this point. Certain environmental features must be discussed, however, to satisfy current Federal regulations.

Reports furnished by I.D. Team members supplied additional environmental data pertinent to the road corridor. Copies of their reports and comments are available at the Manti-LaSal National Forest Supervisor's Office or at the Price Ranger District.

A. Cultural Resources

The lower portion of the road corridor was surveyed by Archeological-Environmental Research Corp. (A.E.R.C.) on September 18, 1979. No sites of archeological or historical significance were found along this portion of the corridor. The section of the corridor from its junction with the existing Eccles Canyon road to the Upper Huntington Canyon road, has not been surveyed. A detailed archeological survey must be conducted along the remaining section of the corridor after the final right-of-way is determined. A paleontological survey must also be made along the corridor and periodic inspections for significant paleontological specimens should be conducted during road construction.

B. Threatened and Endangered Species

Wildlife and Range Science specialists at the Price Ranger District and Forest Supervisor's Office have determined that no threatened or endangered plant and animal species inhabit the proposed road corridor. No known habitat suitable to support any presently listed threatened or endangered species will be affected. One proposed endangered forb species, Hymenoxys helenioides, has been found in surrounding areas. Suitable habitat for this species may exist in some aspen sites along the proposed corridor.

C. Wetlands and Floodplains

Wetlands and floodplains have been evaluated for the proposed State Highway corridor. Development of the highway within this corridor will not conflict with management guidelines for these areas, as required by EO 11988 and FSM 2527.

D. Prime Range Lands, Farm Lands, and Forest Lands

Prime range lands, farm lands and Forest lands have been evaluated for the proposed road corridor. Construction of a State highway facility within this corridor will not conflict with management guidelines for these lands.

E. Wildlife

Construction of the proposed State Highway along any of the proposed corridors will create impacts to wildlife habitat. The Utah Division of Wildlife Resources has expressed concern about these impacts. In response to their concerns, Division of Wildlife Resources has furnished the Forest Service the following prioritization of the proposed highway corridors, based on wildlife impacts:

1. Route in Eccles Canyon that would bypass to the north of the mine facilities and generally continuing along the existing travel corridor.

2. Either route in Green Canyon, then south on Winter Quarters Ridge to existing travel corridor.

3. Slaughterhouse or Boardinghouse Canyon routes, then down Burnout Canyon to existing travel corridor.

4. Route in Eccles Canyon that would bypass through South Fork, the mine facilities, and generally continuing along the existing travel corridor.

5. Either route in Winter Quarters Canyon, then south on Winter Quarters Ridge to existing travel corridor.

6. Either route in Winter Quarters Canyon, then northwest to Gooseberry Reservoir, then south to Highway 31.

I. ALTERNATIVES

A. Alternatives Considered But Not Evaluated

Seven corridors were identified and considered as alternative locations for the proposed highway facility (see Figure 6). Six of the seven alternatives are not viable because they do not meet the specified alternative formulation criteria. These alternatives are not further evaluated. This section lists these six corridors and briefly states the reasons they did not satisfy the formulation criteria. More detailed studies of these corridors are on file at the Forest Supervisor's Office and the Price Ranger District Office.

1. Boardinghouse Canyon to Flat Canyon - Sustained grades approaching 20 percent would be necessary to construct this route.

2. Slaughterhouse Canyon to Flat Canyon - Sustained grades approaching 20 percent would be necessary to construct this route.

3. Eccles South Fork to Flat Canyon - This route would traverse the massive, unstable land forms in the upper reaches of the South Fork of Eccles Canyon.

4. Winter Quarters to Upper Huntington Canyon - This corridor would encounter long sections of steep slopes and would cross massive, unstable land forms. In addition, this corridor would create impacts to sensitive riparian zones.

5. North Slope of Main Eccles Canyon - Construction of this route would require multiple switchbacks, one above the other, with excessive grades across steep side slopes. It would also require sustained excessive grades and crossing long sections of steep side slopes.

6. Green Canyon to Flat Canyon - This route would traverse long sections of steep side slopes.

B. Alternatives Considered and Evaluated

Only the proposed South Fork - Main Eccles Canyon alternative satisfied the alternative formulation criteria. This road corridor is further evaluated in this section. The corridor location is shown in Figure 7.

1. Description of Alternative

The South Eccles - Main Eccles Canyon route begins at the confluence of the South Fork and Main Eccles Canyon. It follows the South Fork of Eccles Canyon southwest to the confluence of three side drainages. The route then turns and climbs to the ridge between the South Fork and Main Eccles Canyons in a northeast direction. The route turns on the ridge between the two canyons and staying in Main Eccles Canyon, contours around to cross the two drainages of the southwesterly leg of Main Eccles Creek. The route begins to climb in a northeasterly direction to the area of the existing switchback in the northeast corner of Section 23. The corridor turns on this ridge, using the area disturbed by the existing switchback, and follows the existing road to the saddle. The road corridor then drops down the west side, using Kitchen Canyon and a small drainage immediately to the north. This section of the road corridor drops at a grade less than the existing road but uses the same basic corridor. The total corridor length from the South Fork Junction in Eccles Canyon to the connection with the Huntington-Fairview Highway 31 is 14.0 miles. New construction will be required for 2.4 miles and very heavy reconstruction for 3.5 miles. Medium reconstruction in Upper Huntington Canyon for 3.1 miles will be needed. Light reconstruction in Flat Canyon for 5.1 miles will be needed. Right-of-way acquisition on approximately 1.0 miles of the route will be needed.

2. Management Requirements

a. Access will be required to accommodate travel between State Highway 96 and State Highway 31. Access around the proposed mine site must be provided before the existing Eccles Canyon road can be blocked by construction of mine facilities.

Alternatives for accomplishing this action are:

(1) Coastal States Mining Company shall pursue temporary acquisition of use and maintenance responsibilities along the existing road in Boardinghouse Canyon. Documented permission will be furnished to the Forest Service.

(2) Maintain traffic on the existing Eccles Canyon roadway, with minor modification as approved by the Forest Service, until a suitable route is constructed on the approved location.

(3) Construct a temporary bypass road along the approved State route location.

b. All merchantable timber subject to removal along the final selected right-of-way will be appraised and disposed of according to approved Forest Service administrative procedures.

c. The bypass road must be constructed to meet the following minimum criteria:

ECCLES CANYON BYPASS ROAD DESIGN STANDARDS

Feature	Standard	Exceptions
Design Speed	30 MPH	
Operating Speed	25-35 MPH	
Horizontal Curvature	300 Foot Radius Min.	100 Foot Radius Min. (2 exceptions)
Superelevation	4%	2% (Use reverse crown)
Minimum Stopping Sight Distance	200 Feet	
Lane Width	10 Feet	
Shoulder Width	4 Feet	6 Feet Inside (Tracking width on less than 300 foot radius)
Minimum Passing Sight Distance	1,100 Feet	
Grade	8% Maximum	4% (On switchbacks)
ROW Width	132 Feet	
Surface Type	Medium	
Bridge Loading	H-20	
Ditch Width	4 Feet on 4:1	
Ditch Depth	1 Foot Below Hinge Point at Subgrade	
Slope Rounding	5 Feet Beyond Catch Point 10 Feet Downhill on Cut Slopes	
Cut Slopes	(1) 0' - 5' - 4:1 (2) 5' - 10' - 2:1 (3) Over 10' - 1:1 N. Exposures 1:1½ S. Exposures (4) Daylight 10:1 (5) Variable Cut Slope in Transitions	
Fill Slopes	(1) 0' - 5' - 3:1 (2) 5' - 10' - 2:1 Over 10' - 1½:1	

Feature	Standard	Exceptions
Retaining Structures		
(a) Cut Slopes	(1) On unstable slopes. (2) As applicable when cut slope distance exceeds 50 feet.	
(b) Fill Slope	(1) On unstable slopes. (2) As applicable when fill slope distance exceeds 50 feet. (3) To avoid riparian zone.	
Clearing	(1) Top of slope rounding. (2) Toe of fill.	
Revegetation	(1) Mulch, seed and fertilize on slopes steeper than 1½:1. (2) Topsoil, mulch, seed and fertilize on slopes 2:1 or flatter.	Additional measures may be necessary at some locations; these will be determined by field examinations.
Topsoil	All topsoil will be conserved. Excess will be stockpiled in areas that are accessible to future use.	
Drainage	(1) Pipe to toe of fill. (2) Outlet treatment and/or energy dissapator. (3) Huntington and Eccles Creeks crossings to be treated for fish passage. (4) Design of culvert inlets to be approved by the Forest Service.	
Earthwork	Balance Sections	
Guardrail	(1) Retaining structures on fill side. (2) Unusual hazards as approved. (3) Weathering steel type.	
Delineators	(1) At location where driver may be confused about direction. (2) Bridges and hazards.	
Timber	Dependent on volume and value of timber involved.	
Gravel Sources	Two possible sources have been tentatively identified which could be in the Flagstaff Limestone Formation. If verified by geotechnical investigation, a development and reclamation plan must be submitted and approved.	

Feature	Standard	Exceptions
ADT	400-750 Vehicles/Day	
DHV	100-200 Vehicles/Hour	

d. An additional Environmental Assessment will be required during the coming field season to select and evaluate specific road geometry within the selected corridor. Additional or revised management requirements and design standards may be imposed at that time.

IV. EFFECTS OF IMPLEMENTATION

Implementation of Alternative One will result in construction of a permanent, paved highway connecting Utah State Highways 96 and 31. As a permanent feature, this highway will create a number of environmental effects that will not be mitigated or rehabilitated. The following information is presented to document these effects. Since only Alternative One satisfies the alternative formulation criteria, an evaluation of these effects is not required in the decision-making process.

A. Soils

1. Construction of the proposed highway will permanently remove topsoil from an indeterminate area within the road corridor. As a result, vegetative productivity will be permanently eliminated in this area. The total affected acreage will be dependent upon the final alignment and right-of-way selected.

B. Wildlife

1. Construction of the proposed highway, under Alternative One, will result in some negative impacts to wildlife habitat values along the corridor. The exact nature and area extent of these impacts will be contingent upon the final location of the right-of-way.

2. Portions of an important solitude area and calving and fawning ground will be impacted by the encroachment of human activities resulting from implementation of this alternative.

C. Timber

1. Under Alternative One, an undetermined amount of merchantable and nonmerchantable timber will be removed within the road corridor. The final volume will be determined following selection of the alignment and right-of-way.

D. Recreation

1. Implementation of Alternative One will create improved recreational access in the areas served by Highways 96 and 31, primarily Electric Lake and Scofield Reservoir. Recreation use of these areas will increase as a result of this alternative.

V. SELECTION OF PREFERRED ALTERNATIVE

Alternative One, the South Eccles - Main Eccles to Flat Canyon route, has been selected as the Forest Service preferred alternative. This selection is the direct result of no other alternatives meeting the alternative formulation criteria. Figure 7 shows the location of the preferred road corridor. Exact location within the corridor is dependent upon further evaluation of the various resources.

CONSULTATION WITH OTHERS

The following specialists, groups, or agencies have provided direct consultation in preparation of this Environmental Assessment. Copies of their reports and formal comments are on file and available for review at the Price Ranger District Office, 10 North Carbon Avenue, Price, Utah.

A. Forest Service Interdisciplinary Teams

1. Bypass Road Team Members

William H. Boley, Forest Engineer
Dwain E. McGarry, Geologist
Lee Foster, Forest Planner
Brent B. Barney, Preconstruction Engineer
Ted V. Fitzgerald, Construction Engineer
Fred Thompson, Forest Geologist
Donnel J. Ward, Wildlife Biologist
Mike D. Repasky, Transportation Planner
James E. Duncan, Civil Engineer

2. Skyline Coal Mines I.D. Team

Dwain E. McGarry, Geologist
Brent B. Barney, Preconstruction Engineer
Ted V. Fitzgerald, Construction Engineer
Lee Foster, Forest Planner
Donnel J. Ward, Wildlife Biologist
Christopher Knopp, Hydrologist
James Jensen, Landscape Architect
Daniel M. Larsen, Forest Soil Scientist

B. Other Forest Service Staff

Ira W. Hatch, Price District Ranger
Walter E. Nowak, Price District Geologist
Ronald Dickemore, Price Range Conservationist
Gary E. Say, Price District Forester
Steve Spencer, Price District Range Conservationist

C. Outside Agencies

Utah Division of Wildlife Resources

D. Coastal States Energy Company

Certain employees and contractors of Coastal States provided consultation in addition to their formal reports included in the Mine Plan Amendment and subsequent revisions to it.

REFERENCES

1. Coastal States Energy Company and Getty Mineral Resources Company, 1979-1980, "Amendment to the Mining and Reclamation Plans for the Proposed McKinnon No. 1 and No. 2 Mines and Revised Mining Permit Application."

2. U.S.D.A., Forest Service, 1979, "Land Management Plan, Ferron-Price Planning Unit, Manti-LaSal National Forest."

3. _____, 1979, "Final Environmental Statement: Ferron-Price Planning Unit, Manti-LaSal National Forest."

4. U.S.D.I., U.S. Geological Survey, 1979, "Final Environmental Statement: Development of Coal Resources in Central Utah."

UT 0003
SKYLINE

Statistical Summary Table, BLM Wilderness Inventory Results as of Apr. 4, 1980

State	Public lands subject to wilderness inventory	Acres dropped from inventory	Acres still under inventory: Inventory decision not yet announced	Acres still under inventory: Proposed intensive inventory decision announced: Lacking wilderness characteristics	Acres still under inventory: Proposed intensive inventory decision announced: With wilderness characteristics	Acres identified as wilderness study areas
1 Contiguous Western States:						
Arizona	12,596,000	7,209,000	4,870,000	0	0	517,000
California	16,585,000	10,118,000	97,000	28,000	4,000	6,338,000
Colorado	7,996,000	6,690,000	0	491,000	765,000	50,000
Idaho	11,949,000	8,983,000	266,000	1,076,000	804,000	820,000
Montana	8,140,000	5,979,000	0	1,378,000	534,000	249,000
Nevada	49,118,000	33,077,000	17,000	11,319,000	3,079,000	1,626,000
New Mexico	12,847,000	10,466,000	14,000	1,327,000	872,000	148,000
North Dakota	68,000	68,000	0	0	0	0
Oklahoma	7,000	7,000	0	0	0	0
Oregon	[1] 13,965,000	7,584,000	0	4,192,000	1,750,000	439,000
South Dakota	277,000	272,000	0	5,000	0	0
Utah	22,076,000	16,707,000	0	3,190,000	1,752,000	427,000
Washington	310,000	296,000	0	14,000	15	0
Wyoming	17,793,000	16,678,000	0	562,000	497,000	56,000
Totals	[1] 173,727,000	124,154,000	5,264,00	23,582,000	10,067,000	10,670,000

State [2]	Public lands subject to wilderness inventory	Acres dropped from inventory	Acres still under inventory	Acres identified as wilderness study areas
2 Eastern States:				
Minnesota	[3] 45,000	44,000	1,000	0

[1] Total acreage reduced by 27,000 acres due to recalculation of O&C lands exempt from wilderness review.
[2] Other Eastern States will be listed as inventory decisions are announced.
[3] Includes an esemated 2,000 acres of unsurveyed islands.

[FR Doc. 80-11016 Filed 4-10-80; 8:45 am]

BILLING CODE 4310-84-M

[illegible]nal Park Service

[illegible]ctured Rocks National Lakeshore Advisory Commission; Meeting

Notice is hereby given in accordance with the Federal Advisory Committee Act, Pub. L. 92-463, 86 Stat. 770, as amended by Pub. L. 94-409, 90 Stat. 1247, that a meeting of the Pictured Rocks National Lakeshore Advisory Commission will be held on Monday, April 28, 1980, at 2 p.m., e.d.t., at the Munising Community Center, Munising, Michigan.

The Commission was established by Pub. L. 89-668, 80 Stat. 922, 16 U.S.C. 460-s, to meet and consult with the Secretary of the Interior on matters related to the administration and development of the Pictured Rocks National Lakeshore.

The members of the Commission are as follows:

Mr. Glenn C. Gregg (Chairman)
Mr. James Mueller
Mr. James Becker
Mr. Leo R. Gariepy
Mr. Lawrence L. Lemanski

Matters to be discussed at this meeting include:

1. Introduce new Commission members and review meeting decorum rules.

2. General update on winter activities at Pictured Rocks National Lakeshore, including staffing reports.

3. Review of the construction program at Munising Falls and the general development program for the Lakeshore.

4. Review of the revised alternatives for the Lakeshore General Management Plan.

5. Briefing by the Alger County Task Force on its activities.

The meeting will be open to the public. Any member of the public may file with the Commission prior to the meeting a written statement concerning the matters to be discussed. Persons wishing further information concerning the meeting, or who wish to submit written statements, may contact Donald F. Gillespie, Superintendent, Pictured Rocks National Lakeshore, P.O. Box 40, Munising, Michigan 49862, telephone 906-387-2607.

Minutes of the meeting will be available for public inspection four weeks after the meeting at the Pictured Rocks National Lakeshore Headquarters at Sand Point, four miles east of Munising, Michigan.

Dated: April 2, 1980.

J. L. Dunning,

Regional Director, Midwest Region.

[FR Doc. 80-10833 Filed 4-10-80; 8:45 am]

BILLING CODE 4310-70-M

Office of Surface Mining Reclamation and Enforcement

[Federal Leases Nos. U-020305, U-044076, U-0142235, U-0147570, and U-073120]

Availability for Public Review of a Coal Mining and Reclamation Plan for an Underground Coal Mine Proposed by Coastal States Energy Co. and Getty Oil Corp. for the Skyline Mine, Emery County, Utah

AGENCY: Office of Surface Mining, Reclamation and Enforcement, Department of the Interior.

ACTION: Availability for Public Review of Coal Mining and Reclamation Plan for an Underground Coal Mine

SUMMARY: Pursuant to § 211.5 of Title 30 and § 1500.2 of Title 40, Code of Federal Regulations, notice is hereby given that the Office of Surface Mining (OSM) has received an application from Coastal States Energy Company and Getty Oil Corporation to mine Federal coal at the Skyline Mine. A brief description of the location follows:

Location of Lands To Be Affected

Applicant: Coastal States Energy Company and Getty Oil Corporation
Mine Name: Skyline Mine
State: Utah
County: Emery
Section, Township, Range: Sections 10, 12, 13; 14, 15, 22, 23, 24, 25, 26, 27; 34, 35 of T.13S, R.6E, SLM.
Office of Surface Mining Reference Number: UT-0003

The mine is a new mine operating on non-Federal and Federal coal lands located about four miles southwest of Scofield, Utah.

The proposed plan into the Federal coal lease area involves multiseam underground mining of Federal coal mostly overlain by Federal surface administered by the U.S. Forest Service for 30 years at a production rate of approximately 5 million tons per year at full production. Coal will be conveyed to a train load-out facility at the mouth of Eccles Canyon. The Federal coal lease area is 6,400 acres.

The mining and reclamation plan has been determined to be sufficiently complete to issue this notice to inform the public of the availability of the plan for review. The Office of Surface Mining will prepare a technical analysis (TA) to determine whether the proposed plan meets the requirements of SMCARA and an environmental assessment (EA) which will evaluate the impacts of actions the Department of the Interior may take on the plan. During the analytical review, it is possible that OSM will request additional information

from the Company. Any further information obtained would also be available for public review.

No action on the plan will be taken by the Regional Director for a period of 30 days after publication of this Notice of Availability in the Federal Register. Prior to making a final decision on this proposed modification, the Office of Surface Mining will issue a Notice of Pending Decision pursuant to Section 211.5(c)(2) of Title 30, Code of Federal Regulations.

This plan is available for public review at the Office of Surface Mining, Region V, Brooks Towers, 1020 15th Street, Denver, Colorado, 80202, and at the Division of Oil, Gas and Mining, Department of Natural Resources, 1588 West North Temple, Salt Lake City, Utah, 84116. Comments on the proposed mine plan application may be addressed to the Regional Director, Office of Surface Mining, at the above Denver address.

FOR FURTHER INFORMATION CONTACT: Dr. Thomas R. Schultz or John Hardaway, Office of Surface Mining, Brooks Towers, 1020 15th Street, Denver, Colorado, 80202.

Donald A. Crane,

Regional Director.

[FR Doc. 80-10941 Filed 4-10-80; 8:45 am]

BILLING CODE 4310-05-M

[Federal Leases Nos. W-313668, W-0311810, and W-0312311]

Correction of the Announcement of a Public Meeting Related to the Surface Coal Mine Proposed by Kerr-McGee Coal Corp., for the East Gillette Mine, Campbell County, Wyo.

AGENCY: Office of Surface Mining Reclamation and Enforcement, Department of the Interior.

ACTION: Notice of correction.

SUMMARY: On March 27, 1980 in the Federal Register, the Office of Surface Mining and Reclamation published a notice to hold a public meeting in Gillette, Wyoming on a Coal Mining and Reclamation Plan proposed by the Kerr-McGee Corp. for the East Gillette Mine. A correction should be made to that public notice. The third major change to the proposed mining and reclamation plan should have the "not" removed from between "would" and "be mined," and should read:

Although lease W-311810 includes all of secs. 5 and 6, only W½ of sec. 6 would be mined instead of the west half of sec. 5 and all of sec. 6. Consequently Garner Lake Road would not have to be relocated.

FOR FURTHER INFORMATION CONTACT: Floyd L. Johnson or John E. Hardaway, Office of Surface Mining, Region V, Brooks Towers, 1020 15th Street, Denver, Colorado 80202 (303) 837-5656.

Donald A. Crane,

Regional Director.

[FR Doc. 80-10942 Filed 4-10-80; 8:45 am]

BILLING CODE 4310-05-M

Water and Power Resources Service

Exchange Water Service Contracts From Buffalo Bill Reservoir; Availability of the Proposed Contracts for Public Review and Comment

The Department of the Interior, through the Water and Power Resources Service, has completed the negotiations for the form of contracts with the Northfork Valley Ditch Company, L. B. and M. E. Bridges, and Carl, Rosetta, and Earl Sauerwein, all of Cody, Wyoming. The three contracts are for exchange water service from Buffalo Bill Reservior, the principal storage feature of the Service's Shoshone Project. The proposed contract form was prepared pursuant to the Reclamation Project Act of 1939 (53 Stat. 1187).

Buffalo Bill Dam and Reservoir were constructed as a storage feature of the Shoshone Project on the Shoshone River near Cody, Wyoming, for the purpose of impounding water for irrigation, power generation, flood control, and other beneficial uses. Approximately 15,000 acre-feet of water are annually surplus to present needs of existing Shoshone Project users and planned needs for the irrigation of the 19,200 acre Polecat Bench area.

The proposed water service is intended to supplement the existing water rights of the contractors, all of whom are irrigators on the North Fork of the Shoshone River. During periods of drought or low flows, the contracts would allow releases to be made from the reservoir to satisfy prior water rights downstream of the reservoir, thus averting a shutdown of the contractors' diversions by the State of Wyoming.

The contracts are for a maximum of 1,000 acre-feet annually for the Northfork Valley Ditch Company (855 acres), 100 acre-feet annually for L. B. and M. E. Bridges (48.5 acres), an 200 acre-feet annually for Carl, Rosetta, and Earl Sauerwein (272.5 acres). The water service charge under the proposed contracts is $1.60 per acre-foot, to be paid whether or not water is actually delivered under the contracts. These rates are subject to adjustment at 5-year intervals throughout the 20-year term of the contracts.

The proposed contracts will be available for public review and written comment for 30 days following the date of this notice. The Commissioner of Water and Power Resources will review comments submitted and based on the number, source, and nature of the comments will decide whether to hold a public hearing. All written correspondence concerning the proposed contracts shall be made available to the general public pursuant to the terms and procedures of the Freedom of Information Act (80 Stat. 383), as amended.

For further information and copies of the proposed contract forms, please contact Gary Anderson, Agricultural Economist, Division of Water and Land, Water and Power Resources Service, P.O. Box 2553, Billings, Montana 59103, telephone (406) 657-6424.

Dated: April 4, 1980.

David R. Schuster,

Acting Assistant Commissioner of Water and Power Resources.

[FR Doc. 80-10822 Filed 4-10-80; 8:45 am]

BILLING CODE 4310-09-M

INTERSTATE COMMERCE COMMISSION

Long- and Short-Haul Application for Relief (Formerly Fourth Section Application)

April 8, 1980.

This application for long-and-short-haul relief has been filed with the I.C.C.

Protests are due at the I.C.C. on or before April 28, 1980.

No. 43811, Southwestern Freight Bureau, Agent No. B-60, on petroleum and petroleum products from stations in Arkansas, Kansas, Louisiana, Missouri, New Mexico, Oklahoma and Texas to stations in Colorado, Utah, Wyoming and Farmington, NM, in Supplement 106 to Southwestern Freight Bureau, Agent's Tariff ICC SWFB 4690, effective May 3, 1980. Grounds for relief—need for additional revenue to cover costs.

By the Commission.

Agatha L. Mergenovich,

Secretary.

[FR Doc. 80-10953 Filed 4-10-80; 8:45 am]

BILLING CODE 7035-01-M

Transportation of Government Traffic; Special Certificate Letter Notice(s)

The following letter notices request participation in a Special Certificate of Public Convenience and Necessity for the Transportation of general commodities, (except classes A and B explosives, radioactive materials, etiologic agents, shipments of secret

Notice of Pending decision pursuant to § 211.5(c)(2) of Title 30, Code of Federal Regulations.

This plan is available for public review at the Office of Surface Mining, Region V, Brooks Towers, 1020 15th Street, Denver, Colorado and at the Department of Natural Resources, State of Colorado, 23 Centennial Building, 1313 Sherman Street, Denver, Colorado 80203. Comments on the proposed mine plan application may be addressed to the Regional Director, Office of Surface Mining, at the above address.

FOR FURTHER INFORMATION CONTACT: Diane Bickley or John Hardaway, Office of Surface Mining, Brooks Towers, 1020 15th Street, Denver, Colorado 80202.

R. H. Hagen,

Acting Regional Director.

[FR Doc. 80-16677 Filed 5-30-80; 8:45 am]

BILLING CODE 4310-05-M

[Federal Coal Lease No. W-49644 and a Portion of Federal Coal Lease No. W-3397]

Availability for Public Review of a Coal Mining and Reclamation Plan for a Surface Coal Mine Proposed by Carter Mining Co. for the Caballo Mine, Campbell County, Wyo.

May 20, 1980.

AGENCY: Office of Surface Mining Reclamation and Enforcement, Department of the Interior.

ACTION: Availability of proposed coal mining and reclamation plan for public review.

SUMMARY: Pursuant to § 211.5 of Title 30 and § 1500.2 of Title 40, Code of Federal Regulations, notice is hereby given that the Office of Surface Mining has received an application from Carter Mining Company to mine Federal coal at the Caballo Mine. A brief description of the location follows:

Location of Lands to be Affected

Applicant: The Carter Mining Company.
Mine Name: Caballo Mine.
State: Wyoming.
Township, Range, Section:

Township, Range, Section	Acres
T. 50 N., R. 72 W., 6th PM, Campbell County, Wyoming	
Section 7: All	640
Section 18: Lots 1, 2, 3, 4, NE/4, E/2W/2	480
T. 49 N., R. 71 W., 6th PM, Campbell County, Wyoming	
Section 4: SE/4SE/4	40
Section 9: S/2SW/4, SW/4SE/4	120
Section 10: SE/4SW/4, S/2SE/4	120
Section 11: All	640
Section 12: All	640
Section 13: N/2, N/2S/2	480
Section 14: N/2, N/2S/2, SW/4SW/4	520
Section 15: E/2, E/2NW/4, Pt. E/2SW/4	465
Section 17: E/2E/2	160
Section 20: NE/4NE/4	40
Section 21: SE/4NW/4, E/2SW/4, SE/4, S/2NE/4	360
Section 22: S/2, S/2NW/4, Pt. NE/4NW/4, Pt. NE/4	510
Section 23: NW/4NW/4, Pt. SW/4NW/4, Pt. NW/4SW/4, S/2SW/4, SW/4SE/4	207
Section 26: NW/4, E/2NE/4, SE/4NE/4, N/2S/2	440
Section 27: N/2, N/2S/2	480
Section 28: NE/4, N/2SE/4, E/2NW/4, NE/4SW/4	360
Total Acres	6,702

Office of Surface Mining Reference No. WY 0013

The Caballo Mine is an existing mine located approximately 17 miles southeast of Gillette, Wyoming. Mining operations are currently conducted on 3,338 acres of State and fee coal land, under Wyoming State Permit No. 433. Mining began in late 1978 and the coal production has been approximately 8 million tons per year.

Carter Mining Company has proposed a continuous mining pit operation from the present mining operation on privately-owned coal to state leased coal through a section of Federally leased coal (from 1982–2016). The proposed plan involves mining Federally leased coal which is overlain by private surface (owned by Carter Mining Company). This leased land consists of approximately 6,702 acres of which 2,960 acres would be mined and 255 acres would be used for a railroad loop and plant facilities. Coal production from this Federal acreage would be about 11.5 million tons annually.

With the addition of the Federally leased land, the total mine plan area would be 10,040 acres (fee, State, and Federal land). Of this total area, 6,600 acres would be disturbed or affected by mine operations, and a total of 463 million tons of coal would be extracted over 44 years. Coal would be shipped out via unit trains.

Existing facilities at the mine site that would be utilized for the expansion of operations are two silos, a railroad loop and spurs, a warehouse, and an office. The proposed plan includes construction of two additional silos, a reservoir and a diversion system.

The mining and reclamation plan has been determined to be sufficiently complete and this notice is issued to inform the public of the availability of the plan for review. The Office of Surface Mining will prepare a technical analysis (TA) to determine whether the proposed plan meets the requirements of SMCRA and an environmental assessment (EA) which will evaluate the impacts of actions the Department of the Interior may take on the plan. During the analytical review, it is possible that OSM will request additional information from the company. Any further information obtained would also be available for public review.

No action with respect to approval of the plan shall be taken by the Regional Director for a period of 30 days after publication of this Notice of Availability in the Federal Register, on or before July 2, 1980. Prior to making a final decision on this plan, the Office of Surface Mining will issue a Notice of Pending decision pursuant to § 211.5(c)(2) of Title 30, Code of Federal Regulations.

This plan is available for public review at the Office of Surface Mining, Region V, Brooks Towers, 1020 15th Street, Denver, Colorado and at the Department of Environmental Quality (DEQ), State of Wyoming, 401 19th St., Cheyenne, Wyoming. Comments on the proposed mine plan application may be addressed to the Regional Director, Office of Surface Mining, at the above address.

FOR FURTHER INFORMATION CONTACT: Mark Humphrey or John Hardaway, Office of Surface Mining, Brooks Towers, 1020 15th Street, Denver, Colorado 80202.

Donald A. Crane,

Regional Director.

[FR Doc. 80-16678 Filed 5-30-80; 8:45 am]

BILLING CODE 4310-05-M

[Federal Lease Nos. U-020305, U-044076, U-0142235, U-0147570, U-073120]

Coastal States Energy Co. and Getty Oil Corp., Skyline Mine, Carbon and Emery Counties, Utah; Pending Decision To Approve Coal Mining and Reclamation Plan

AGENCY: Office of Surface Mining Reclamation and Enforcement, Department of the Interior.

ACTION: Notice of pending decision to approve underground coal mining and reclamation plan with stipulations.

SUMMARY: Pursuant to Section 1506.6 of Title 40 and § 211.5 of Title 30, Code of Federal Regulations, notice is hereby given that the Region V Office of Surface Mining Reclamation and Enforcement (OSM) has completed a technical and environmental review of Coastal States Energy Company and Getty Oil Corporation's Skyline mining and reclamation plan and has recommended to the Department that the plan be approved with stipulations. Notice of availability of Coastal States Energy Company and Getty Oil Corporation's application was published in the Federal Register on April 11, 1980, 45 FR No. 72, p. 24927.

Location of Lands To Be Affected by Mining

Applicant: Coastal States Energy Company and Getty Oil Corporation.

Mine name: Skyline.

State: Utah.

Counties: Carbon and Emery.

Township, range, section: T. 13 S., R. 6 E., Sections 10, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35.

Office of Surface Mining Reference No. Ut-0003.

The proposed mine is located approximately 22 miles northwest of Price, Utah and approximately four miles southwest of Scofield, Utah. The proposed plan involves multiseam, underground mining of Federal coal almost entirely overlain by Federally owned surface (Manti La Sal National Forest) which is administered by the U.S. Forest Service. The Federal coal lease area is 6,400 acres of which 76 acres of surface would be disturbed by mining. Approximately five million tons/year would be mined for 30 years. Coal would be conveyed to a train load-out facility at the mouth of Eccles Canyon for transportation to coal markets.

The U.S. Geological Survey evaluated impacts that could occur from the proposed Skyline Mine (formally the McKinnon Mines Nos. 1 and 2) in its final regional and site specific environmental impact statement (EIS), *Development of Coal Resources in Central Utah* (1979). Based on a revised mining and reclamation plan submitted to OSM to fulfill the requirements of the Surface Mining Control and Reclamation Act of 1977, OSM has prepared a technical analysis and environmental assessment. From its analyses, OSM has determined that no significant impacts would occur that have not already been evaluated in the *Development of Coal Resources in Central Utah* EIS.

The purpose of this notice is to inform the public that based on OSM staff analysis of the mining and reclamation plan and the reviews of other State and Federal agencies, the Regional Director, Region V, OSM, is recommending approval with stipulations of Coastal States Energy Company and Getty Oil Corporation's mining and reclamation plan for the Skyline Mine. Any person having an interest that may be adversely affected by the recommended approval may request, in writing, a public meeting on the proposed decision.

Recent amendments to 30 CFR 701.11 and 741.11 postpone the effective date for implementation of the Permanent Regulatory Program for Federal lands until the date of approval of a State program or until implementation of a Federal program for a State (See 44 FR 77440—47, December 31, 1979). Departmental action on Coastal States Energy Company and Getty Oil Corporation's mining and reclamation plan at this time would not relieve the applicant of the obligation to file a new permit application not later than 2 months after the effective date of the Utah State program approval or an equivalent Federal program for that State. Upon receipt of that application, OSM will review the application pursuant to 30 CFR Chapter VII.

The Secretary's decision will be based on the recommendation of OSM, the U.S. Forest Service, the U.S. Geological Survey, the Utah Division of Oil, Gas, and Mining, and any public comments received on or before June 23, 1980.

DATES: All requests for a public meeting must be made on or before June 22, 1980. No decision on the plan will be made by the Assistant Secretary, Energy and Minerals, prior to the expiration of the 20-day period.

ADDRESSES: The technical analysis, environmental assessment, and proposed stipulations are available on request from the Office of Surface Mining, Region V. Any comments on the proposed approval should be submitted to the Regional Director, Region V, Office of Surface Mining, Brooks Towers, 1020 Fifteenth Street, Denver, Colorado 80202.

FOR FURTHER INFORMATION CONTACT: John Nadolski or John Hardaway Office of Surface Mining, Region V, Brooks Towers, 1020 Fifteenth Street, Denver, Colorado 80202.

Paul L. Reeves,

Deputy Director.

[FR Doc. 80-16850 Filed 5-30-80; 8:45 am]

BILLING CODE 4310-05-M

INTERSTATE COMMERCE COMMISSION

[Ex Parte No. MC-64 General Temporary Order No. 21]

Decision

Decided: May 20, 1980.

There is an emergency resulting from the eruption of Mount St. Helens affecting a number of the Nation's carriers in the Pacific Northwest which are unable to transport property and passengers.

There exists an immediate and urgent need for carrier service to supplement temporarily the transportation facilities of the Nation for the movement of property and passengers to and from the Pacific Northwest. For purposes of this decision, Pacific Northwest is defined as the States of Washington, Oregon, Idaho, Montana and Wyoming.

To meet this need the Commission will provide a more flexible method for the processing of applications for temporary authority to render the required motor service.

It is ordered:

Pursuant to 49 U.S.C. 10928, all persons who shall apply to any regional operations director, assistant regional operations director, district supervisor, or their designees, of the Commission's Office of Consumer Protection are granted temporary authority to transport property or passengers in interstate or foreign commerce, by motor vehicle for a period of not more than 30 days to the extent and scope that any of the above designated officials certify that there is an immediate and urgent need for service.

Special procedures to expedite the filing and processing of these applications will be used.

This grant of temporary authority is conditioned upon compliance with applicable requirements concerning tariff and schedule publications, evidence of security for the protection of the public, and designation of agents for service of process, and further conditioned upon such tariffs and schedules quoting rates, fares, and charges no lower than those of existing rail, water, or motor carriers in the territory in which the operations are to be authorized.

Service performed under temporary authority granted pursuant to this order shall in no way constitute evidence or a showing warranting future issuance of a certificate of public convenience and necessity or permit, as provided in 49 U.S.C. 10922 and 49 U.S.C. 10923.

Temporary authority granted pursuant to this order shall expire as of the first midnight after the issuance of an order by this Commission revoking General Temporary Order No. 21, except as to property or passengers, the transportation of which began prior to that time.

This order shall become effective May 20, 1980.

Notice of this order shall be given to motor carriers, rail carriers, other parties of interest, and to the general public by depositing a copy thereof in the Office of the Secretary of the