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

JIM

SEP 09 1981

OFFICE OF THE REGIONAL DIRECTOR

SEP 4 1981

RECEIVED

DIVISION OF
OIL, GAS & MINING

Mr. James W. Smith, Jr.
Coordinator of Mined Land Development
Division of Oil, Gas and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Dear Jim:

Enclosed are the apparent completeness reviews (ACR) completed by OSM for six Utah mines: ~~Soldier Creek~~, ~~Sunnyside~~, ~~Geneva~~, ~~Gordon Creek No. 2~~, ~~King No. 6~~, and ~~Huntington Canyon #4~~. Pertinent comments from other concerned Federal agencies have also been provided when available. When additional comments from other agencies are received they will be reviewed and the important issues will be forwarded. Separate transmittals are provided for each ACR.

To facilitate the coordination of this review process, we would like to propose a joint meeting between the technical project officers of OSM and the Division of Oil, Gas and Mining (DOGM) following the State's review of these applications. The meeting could be held in Salt Lake City during mid-September if this would be convenient for your staff.

Please contact Carolyn Zarnekee at (303) 837-5656 if you have any questions or comments on these reviews, or on the proposed meeting with DOGM.

Sincerely,

DONALD A. CRANE

Attachments



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Reclamation and Enforcement
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DENVER, COLORADO 80202

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letter

JIM

SEP 4 1981

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Mr. James W. Smith, Jr.
Coordinator of Mined Land Development
Division of Oil, Gas and Mining
1588 West North Temple
Salt Lake City, Utah 84116

Dear Jim:

My staff has performed an apparent completeness review on ARCO Coal Company's Huntington Canyon #4 mining and reclamation plan. Based upon OSM's staff review (see Attachment I), I find the mining and reclamation plan to be incomplete and technically deficient. The information on hydrology, vegetation, and coal waste removal lacks considerable detail. (Collection of the wildlife baseline data is being conducted during the spring and summer seasons of 1981 and will be evaluated upon submission, approximately in September 1981.)

Comments by the U.S. Forest Service are incorporated within the ACR. The recommendations of the U.S. Geological Survey are provided in Attachment II.

If you have questions or comments on this review, please contact Carolyn Zarnekee at (303) 837-5656.

Sincerely,

DONALD A. CRANE

Attachment

ARCO Coal Company
Huntington Canyon #4 Mine
Apparent Completeness Review

The following review of the mine and reclamation plan of Huntington Canyon #4 mine incorporates the comments from the completed review by the U.S. Forest Service.

Ground Water

783.15 The application refers to the Vaughn Hansen Report for a description of the ground water flow. This report is missing; it is needed to adequately assess regional hydrologic impacts.

The application does not provide evidence for the assumption that the Starpoint Sandstone is the only significant regional aquifer.

The application lacks the results of monitoring springs and seeps at the head of Little Bear Canyon and lacks the locations of springs and seeps between Upper and Lower Little Bear Spring. It should designate the location of the monitoring sites, when the study was initiated, and provide the tabulated data.

783.17 The application lacks a description of the quality and quantity of an alternate water supply, including a description of the shares of water owned by Beaver Creek Coal Company in Huntington Canyon.

Surface Water

784.16(a) The application lacks specific designs and calculations for sedimentation ponds and diversion ditches.

The application lacks a description of the recharge area for all springs and seeps, or an explanation of the local and regional recharge areas involved.

The application does not explain whether the four springs in Vol. 2 Chapter 7, Fig. 7-2 are from the same aquifer or different hydrologic regimes.

Air Quality

783.18 The application lacks evidence to substantiate that neither the Utah Department of Air Quality nor the Environmental Protection Agency require air quality monitoring at the site (p. 3-45).

The application lacks evidence of any air quality emission permits or applications.

The application lacks meteorological data recorded from the monitoring stations at Wild Horse Ridge, Valley Floor, and Meetinghouse Ridge. A map is needed showing the location of these monitoring stations in relation to the mine area.

Vegetation

783.19 The application lacks the following baseline vegetation information:

1. Reference areas.

A reference area of at least 5 acres in the pinyon-juniper community is needed to provide revegetation success criteria. The reference area should be sampled for cover (by species) and shrub and tree density. Production can be represented either from sampling or from Soil Conservation Service range site information for the specific range sites concerned. An estimate of range conditions based on production is needed. No sample adequacy is required for production sampling, since statistical comparisons are not needed. Sample adequacy for cover and shrub density should be computed using a minimum of two-tailed t value for 80% confidence (shrub-dominated communities) and a .2 d value. Species diversity should be evaluated using a Shannon-Weiner index.

2. Sample Adequacy

Sample adequacy for cover and shrub density is missing for the pinyon-juniper reference area. Cover sample adequacy and cover values for all strata beneath the tree strata should be combined and sampling adequacy determined, or sampling adequacy can be computed on each strata separately. In this case all shrub and herbaceous cover strata must be represented in terms of sample adequacy. Shrub cover and herbaceous cover were presented separately in the mine plan.

3. Cover Sampling

The mine plan states on page 9.8 that the cover for the ground layer stratum was sampled by the method outlined by Daubenmire (1959). An estimation of actual vegetative cover is required, rather than a cover class system represented by such large classes. Cover collected using the Daubenmire method has an accuracy which is no greater than the intervals between the midpoints of each cover class, and can provide a grossly inaccurate estimation of the samples' mean and variance. Interspacing between leaves and branches within the perimeter of the canopy area of each plant should be considered when collecting cover data, so that cover is not overestimated.

It is recommended the regulatory authority review the proposed methods of data collection prior to conducting additional sampling at the mine site to resolve any problems with the proposed methods.

817.111-117 Revegetation Plan

The application lacks a complete revegetation plan in the following areas:

1. Seeding

The seeding rate by specie for both permanent and temporary seed mixtures should be shown as pure live seed (Weight per acre). The post-mine land use does not justify using introduced species. The purpose of utilizing introduced species for livestock and wildlife (817.112) or for some other land use must be explained, since introduced species are bred for their competitiveness and may prevent the establishment of shrubs and other species. Plans to encourage diversity and prevent a monoculture community should be discussed.

Specify the methods to be used during seeding and discuss whether the seed will be covered by topsoil following hydroseeding. Covering of the seed by mulch may be inadequate to prevent dessication, unless climatic conditions during the germination period are exceptionally moist.

The mine plan states on page 3-62 that "at the present time the same seed mix is proposed for permanent revegetation as that listed for the temporary seed mix." However, the temporary seed mix does not contain any woody plant species, and would not provide the structure of a diverse vegetative community compared to that which existed on the undisturbed mine site. The applicant lacks a seed mixture which meets the shrub density requirement and provides adequate cover and forage for the post-mining land uses of wildlife and livestock in the reclaimed areas following disturbance.

2. Mulches

Specify exactly when a mulch will be applied. Hydromulching should not be simultaneous with hydroseeding since mulch and the seed do not ever contact the mineral surface.

Designate the areas where the mulch is expected to be applied and explain the need for 20 pounds per acre in some areas and 13 pounds per acre in others.

3. Revegetation Potential

The application lacks a discussion of methods to be used to prevent erosion and loss of seeding. The mine plan describes in Vol. 1 Chapter 3 that areas with rills or gullies deeper than 9 inches will be regraded. This is a description of excessive erosion. A groundcover of 65 percent is necessary to stop erosion. The reclamation plan should be specific about ensuring that excessive erosion does not occur.

The application lacks a discussion explaining how the riparian zone in the lower tributaries of Mill Fork will be repaired. All surface disturbance has been located within a riparian area previously covered by a sparse pinyon-juniper woodland vegetation type.

The application lacks evidence supporting the feasibility of meeting revegetation success standards using the methods proposed. Such evidence would be examples of successful revegetation on the mine site or in the coal region where similar methods were used.

The application states "Proper management practice will be developed in consultation with the U.S. Forest Service and S.C.S." The application needs to state when this consultation is scheduled.

Surface Water

784.14 The applicant needs to clarify the identification of surface water quality and to provide a classification of the uses of the receiving waters.

784.16 The application lacks a survey of potential impacts to surface structures, surface flow, and the hydrologic balance from subsidence.

Fish and Wildlife

OSM has approved postponing presentation of the final fish and wildlife report until September 1981. The spring and summer data will be reviewed from the September report. The following analysis is only a review of data submitted on March 23, 1981.

783.10 The application lacks a map delineating the deer winter range in relation to mine developments. Results of the raptor survey should be illustrated on a similar map.

817.97(a) The application lacks a discussion of the methods used in the small mammal and passerine surveys. The length of the transects and number per habitat type should be described.

817.97(b) The application lacks a discussion of the company's method for handling any observations of threatened and endangered species. A commitment to promptly report any threatened and endangered species to the regulatory authority is needed.

According to the U.S. Forest Service, the application is incorrect in stating in Vol. 3, page 40 that "Habitat loss...of Mill Fork Canyon is controlled...to insure that the stream channel and adjacent riparian vegetaton will remain free from disturbance.."

Prime Farmland

783.27 The application lacks a letter from the Soil Conservation Service confirming that no prime farmland is present within the proposed permit area.

Subsidence

784.20 The application lacks a survey of structures and renewable resource lands within the proposed permit and adjacent areas, and an assessment by the applicant of whether subsidence, if it occurred, could cause material damage or diminution of reasonably foreseeable use of structures or renewable resource lands. The assessment must be accompanied by supporting methodology used to make the assessment.

-- Discuss the effects of subsidence on the surface resources that will simply change local ground-water migration and discharge location as mentioned in the mine plan in Vol. 1 Chapter 1 page 4.

-- Discuss if two faults (Vol. 1 page 6) with displacements of less than 50 ft. transmit water.

-- Discuss the recharge time for perched water tables that are breached and the duration of subsidence fractures until the original ground-water system is reestablished.

Soils

783.21 The application lacks a description of the coal waste removal plan, including methods of removing wastes from the disturbed and fill areas and the final location where coal wastes would be deposited.

The application lacks a description of the parameters to be included in the soil tests of the soil amendments.

-- Provide a detailed analysis of the soil from the disturbed landfull to determine if it is adequate for topsoil usage.

The application lacks a discussion of the depths of the topsoil to be redistributed over the disturbed sites.

The application lacks an assessment of soil productivity during favorable, normal, and unfavorable years for various sites.

The application needs to show a commitment that for any future surface disturbance the topsoil will be stockpiled.

817.21 The application lacks a soils map that clearly identifies all sample sites. Two sample site locations--17 and 18--are marked but the mapping unit they were taken from is unclear. Sample sites 1 and 2 are not identified on the soils map.

817.22 The applicant lacks a discussion of the methods to be used to remove topsoil and vegetation prior to stripping.

The application lacks a map showing the locations of the topsoil stockpiles.

817.22(e)(1)

The application lacks a description of methods to be used in removing the coal waste from the disturbed landfill and a plan for disposal of the coal waste.

817.22(i) The application lacks a description of the parameters to be tested in evaluating the materials used for final reclamation and the need for soil amendments.

817.22 The application lacks a description of the methods to be used in removing sand applied to surface roads for traction during snowy conditions.

817.24 The application needs to provide either a description of the approximate depth of topsoil or a volume estimate of the amount of topsoil to be redistributed over the disturbed site.

Bonding

806.14 The application lacks a statement that the insurance policy will be renewed for life of the mine permit. The existing insurance is in effect only until January 8, 1984.

Roads

817-151-817.154

The applicant needs to have all drawings certified by a registered professional engineer.

817.152(a)(1,2,3)

The application lacks a description of the profile and grades of the haul road and access road (3-2a). The scale, dimensional cross sections and plan need to be submitted.

817.152(c)(1)

The application lacks the design data and calculation for sizing the culverts described in drawing 3-1.

817.152(d)(9)

The application lacks a description of the safety factor for embankments.

Geology

817.152(d)

The application lacks evidence that slope stability will be 1:2.

Cultural Resources

1. The application should reference the author and principal investigator in the submission text. Additionally, if the submission is not the original archeological survey report the compiler of the mine plan submission should be referenced and the original report supplied.
2. The application lacks documentation of a Forest Service permit.
3. The application lacks a map of the areas surveyed reflecting surface disturbance areas and potential subsidence zones.
4. Depending upon the coverage of the survey (see item 3) as well as other factors the Office of Surface Mining in conjunction with the Utah State Historic Preservation Officer (SHPO) may request a sample survey for cultural resources in areas that may be potentially affected by subsidence.
5. The application should address ground visibility, exposures, erosional process and so on that might affect the locatability of cultural resources.

Socioeconomics

While the following is not required for inclusion in the mining and reclamation plan, the information listed would aid in preparing an environmental assessment in compliance with the National Environmental Policy Act.

1. Exact number of new employees associated with proposed mine plan, for construction and operation, by year, for the life of the mine.
2. Any information available concerning the place of residence of existing employees.
3. Any actual or planned company assistance provided to local communities for housing, parks, road construction, etc.
4. Any data the company can provide concerning tax revenues contributed to the local communities.

Pursuant to the cooperative agreement between the Office of Surface Mining and the U.S. Geological Survey (USGS), the Huntington Canyon No. 4 Mining and Reclamation Plan was reviewed for completeness and conformance with the 30 CFR 211.10 regulations. The following deficiencies were identified by the U.S. Geological Survey:

1. The plan does not include all of the information required by the USGS regulations 30 CFR 211.10(c). The submittal should be supplemented with an approved USGS mine plan that is updated to conform with this submittal or provide the parts that are missing to comply with 30 CFR 211.10(c) dated May 17, 1976. If the latter method is selected a cross reference index must be provided that designates the sections and pages or maps which contain the 30 CFR 211.10(c) requirements. The cross reference index should follow the format of the 211 regulations listing in numerical order the pertinent regulations related to USGS responsibilities for coal resource recovery.

2. With either option (supplement with updated 211 mine plan or amend by furnishing missing information, including cross reference index), the company should furnish all agencies involved in the permitting process with the appropriate number of copies.

The attached Appendix provides a list of pertinent 30 CFR 211 regulations and requirements that should be included in the mine plan submittal. The 211 regulations address the requirements for a completed underground mining and reclamation plan (30 CFR 211 regulations dated May 17, 1976, as amended August 22, 1978). (Only the parts pertinent to USGS Conservation Division responsibilities are listed.)

211.10(c)1
211.10(c)2
211.10(c)(6)(i)
211.10(c)(6)(ii)
211.10(c)(iv)
211.10(c)(v)
211.10(c)(vii)
211.10(c)(viii)
211.10(c)(x)
211.10(c)(6)(xi)
211.10(c)(6)(xii)
211.10(c)(6)(xiv)
211.10(c)(6)(xv)
211.10(c)(7)(i)
211.10(c)(7)(ii)
211.10(c)(7)(iii)
211.10(c)(7)(iv)
211.10(c)(7)(v)
211.10(c)(7)(vi)
211.10(c)(8)