



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

File ACT/007/006  
 Copy to Wayne  
 & Sally  
 Jim

APR 21 1981

APR 24 1981

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

DIVISION OF  
 OIL, GAS & MINING

Dear Jim:

My staff has completed an analysis of Plateau Mining Company's response to our October 2, 1980 Apparent Completeness Review (ACR) for the Star Point Mines. Plateau's response was hand delivered on February 20, 1981. The draft of this ACR was sent to your office on March 3. Later on April 1, members of my staff met with your staff to further discuss the review.

Based upon this review, it is apparent that several of the sections are complete; however, we are awaiting the results of field studies to complete the information requirements for the soils, vegetation, and fish and wildlife sections. In addition, other sections (i.e., cultural resources) are still deficient. My staff has made comments in regard to both the technical deficiencies as well as the methods proposed by Plateau to obtain additional information. These comments are attached to this letter. Those items noted with a dot "o" are summaries from the initial deficiency letter. All other paragraphs are outstanding deficiencies.

I am proposing delaying calling the plan "complete" until these comments are addressed. I suggest that our staffs could meet with Plateau in the very near future in order to discuss our mutual concerns.

By separate letter to your office dated March 23, 1981, Plateau requested separate and speedy action on the new waste disposal site (Part 13.2.6 of the mine and reclamation plan). Although not specifically requested by you, my engineering staff has taken the liberty of performing a separate analysis on the new waste disposal site. Major deficiencies encountered during that analysis as well as comments from the Bureau of Land Management are attached.

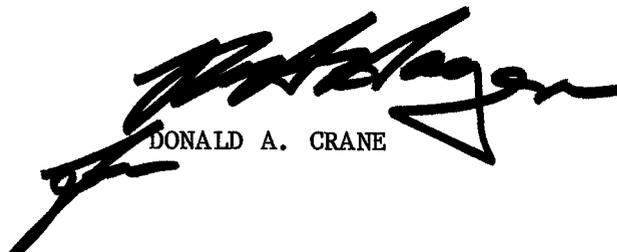
On page 2-30 (Part 2.6.2), Plateau requested a permit term of 20 years. It is my opinion that the information submitted provides no evidence that the longer term is specifically required for the proposed questions and that additional information would be required. My staff has requested comments from our Washington office regarding this proposal. When I receive a response, I will forward it on to you.

-2-

Comments from the Manti LaSal National Forest have not been received to date but will be forwarded to you upon their receipt. Comments from the U.S. Geological Survey have been included in this letter.

If you have any questions in regard to the review of this review, please contact John Nadolski (303/837-3773) of my staff.

Sincerely,



DONALD A. CRANE

Attachments

cc: Moffitt, USGS, SLC (with Attachments)  
Christensen, FS, Price (with Attachments)  
Berggren, BLM, Price (with Attachments)

#### 783.14 Geology Description

Logs of holes drilled during the exploration programs should be provided.

Logs of drill holes have not been included, but a statement is made (p. 6-12) that these logs have been provided to the U.S. Geological Survey. The applicant should provide the logs to the regulatory agency.

1. Several areas that indicate minable thicknesses of coal are not shown as being mined. Plans to mine these areas or the reasons for not mining these areas should be included as part of the plan. The areas of concern are listed below:

- a. Plate 3-4C, Hiawatha seam, northern part of Federal lease U-13097 and the southwestern corner of Federal lease SL-031286.
- b. Plate 3-4B, Middle seam, southwest corner of Federal lease SL-031286.

2. Interburden isopach map(s) are not required; however, if the company has or is planning interburden isopachs for the Plateau mines, it is requested that they be furnished. This type of information is required to document areas of coal of minable thickness which can or cannot be recovered, and also the interburden isopachs are useful in predicting subsidence.

#### 783.19 Vegetation Information

The following information is designed to be given to the applicant at a meeting to discuss the study design:

1. The applicant is proposing to use one, 100-m transect with random plot placement along the transect to represent the reference and validation sites. At a minimum, plot placement along each transect should be randomized both along the transect and on either side of the transect. Also, it is not necessary to have both a reference and a validation site, if the two sites are close to the affected area. The validation site may be used as the reference area, if it will not be disturbed.

2. The sampling adequacy formula presented in the mine plan, the similarity index, is inappropriate. The correct formula is: minimum sample number =  $[(\text{the applicable } t \text{ or } z \text{ value})^2 \times (\text{the variance, } s^2, \text{ of the parameter (e.g. cover) in question})] \div (\text{the mean, } X, \text{ of the parameter } \times \text{ the difference to be detected, } d)$  or  $n_{\min} = (t^2 s^2) / (dX)^2$ . The t value will be 1.64 for grasslands and 1.28 for shrublands and for woody plant densities; the d value is 0.1. Shrubbylands may be defined as those communities where relative shrub cover exceeds 30%.

3. Quantitative vegetation data should be collected only for those plant communities that have been previously disturbed by mining activities or that have been proposed for disturbance.

4. The Daubenmire cover classes being used are too broad and would either over- or underestimate vegetative cover in an unpredictable manner. The following cover class intervals are acceptable if a cover class approach is approved by the State regulatory authority: 0-1, 1-3, 3-5, 5-10, 10-15, 15-25, 25-35, 35-45, 45-55, 55-65, 65-75, 75-85, 85-95, and 95-100.

5. Double sampling procedures would be acceptable if a regression equation, by life form (at a minimum) is developed and submitted to the regulatory authority with the vegetation data. Along with this regression equation, information on the clipped and estimated sample sizes and the regression coefficient for each equation should be presented. (Shrub heights and diameters may also be integrated into the regression equation.)

6. An estimate of total plant cover (herbaceous and shrub components combined vs. bare ground vs. litter) should also be obtained during the sampling period; tree canopy cover may be excluded from this total cover estimate. Unlike cover by species, total cover has a maximum value of 100% for vegetation, litter, and bare ground combined; overlapping vegetation layers are not considered in the total cover estimate.

7. Shrub production and density data are also necessary and methods for the collection of this data should be presented.

8. Both cover and production data are being collected by species. However, this is unnecessary, as only one of these parameters needs to be evaluated by species; the other parameters can be done by mycobiological loss (i.e., annual and perennial grasses, forbs, half-shrubs, and shrubs).

9. The applicant should relate the revegetation success standards to be developed to the proposed post-mining land uses. The standards to be used to evaluate the plant communities required to meet the proposed post-mining land uses should be specifically addressed. For example, if the pinyon pine-juniper woodland will not be reestablished during reclamation, what success criteria will be used to evaluate the plant communities that will replace this woodland? If the woodland community is to be reestablished, how will cover, production, and woody plant density from a 10-year old stand be compared to a mature reference area stand?

#### 703.20 Fish and Wildlife Resources Information

o The applicant did not conduct a baseline fish and wildlife study.

A brief field study was apparently conducted in November 1980 (exact date was not specified). The mammal species observed are listed in Table 10-5, and estimated population densities for some small mammal species are given in Table 10-9. The method of determining estimated densities is not given, and the sampling methods are not clear. How did the applicant take trapping results from a linear method and transform these into animals per unit area?

Regarding the transects, traps and pellet group plots established, the operator should also provide exact numbers per habitat type, locations, and survey frequency. These are necessary to determine the reliability of the data collected. Furthermore, the operator states that additional studies are scheduled for 1981 but does not outline when the different species will be sampled.

o The applicant should obtain site-specific wildlife data, particularly for big game migration.

Data on wildlife use of the area is apparently taken from UDWR files without specific references. No explanation is given as to collection methods. Further studies are planned for 1981.

o There should be some site-specific description of the stream resources, including a statement that a stream is or is not a fishery.

The text makes reference to the fishery of Tie Fork Creek but does not describe species present. A brief summary of those species is necessary to determine the quality of the fishery potentially affected.

#### 783.21 Soil Resources Information

o Provide a soils map and soils identification for all surfaces to be affected.

At present, the plan lacks most soil data. However, the applicant states that the information will be submitted in 1981. Until that time, an assessment cannot be made. The following are suggestions that should be discussed with the applicant.

#### 8.4 Prime Farmland Investigations and Determinations

--Applicant should request letter from soil conservation service to verify no prime farmland exists.

### 8.5 Soils, Physical and Chemical Properties of Soils, and Results of Analysis, Tests and Trials

--Applicant states that "A soils interpretation record, or SCS form 5" will be included because of the rating for topsoil included on the form. It is suggested that the rating for soil reconstruction material for drastically disturbed lands be used. These criteria can be found in the National Soils Handbook, Part II, Section 403.6(a).

### 8.10 Effects of Mining Operations on Topsoils, Nutrients, and Soil Amendments

--The applicant states "additional acreage may be disturbed in the future." These areas should also be covered by the soil survey.

#### 783.24 Maps: General Requirements

- o (h) Public and private roads must be clearly identified.

The access road to the mine is a public road and should be identified as such including any point at which it becomes a private road, if it does. Other roads and right-of-ways which are public should also be identified.

#### 784.13 Reclamation Plan: General Requirements

- o (8) The reclamation plan should describe all reclamation activities in detail and provide supporting cost estimates or exhibits and supporting calculations (such as number of acres; number of bank cubic yards and/or cubic yards to be moved plus cost per acre and/or type of equipment; and cost of seedbed preparation, seed, mulch, and irrigation).

A detailed estimate of the cost of the reclamation is submitted in Table 3-11; however, cost for all work is insufficient for the regulatory authority to verify. The applicant must submit cost estimates to be in the form of quantity of units (cubic yards, tons) and unit cost.

- o (b)(3) A comprehensive plan for backfilling, stabilization, compaction, and grading should be included.

Maps showing post-mining topography are presented in the text (p. 4-20); however, a narrative should be included stating how backfill will be compacted and to what degree.

- o Provide a revegetation plan including a schedule, species, amount, methods, etc., and the measures to be used to determine success.

A reclamation plan is provided (pp. 3-116 through 3-127); however, more information, as listed below, is needed. These deficiencies may be discussed with the applicant in the previously mentioned meeting.

The applicant should relate the seed mixtures to be used during reclamation to the post-mining land use (rangeland and wildlife) and justify the inclusion of any introduced species in the seed mixtures in accordance with UMC 817.112.

The applicant should specify the topsoil scarification procedures and the rates and timing of mulching to be used. The term "steep slope" needs to be defined and the seeding and mulching methods to be used on these slopes should be specified.

The applicant should specify the type of data (e.g., cover, etc.) to be collected and the methods to be used in data collection during the pre-bond release monitoring of the revegetated areas.

In order to allow use of the reference areas for establishing success standards (e.g., fencing or monitoring), the applicant should propose a detailed reference area management plan that will ensure proper management of these areas over the life of the mine.

#### 784.16 Reclamation Plan: Ponds, Impoundments, Banks, Dams and Embankment

There are several discrepancies between narrative (pp. 7-66 through 7-86) describing the sedimentation ponds and the design details (Plates 7-9 through 7-14). For example, the heights of the dams listed in Table 7-15 is inconsistent with the scale drawings. The scale cross section drawings appear to be in error in regard to the size of the risers as compared to the height of the dam. Also, the design details refer to plates 7-36 and 7-37 for details on anti-seep collars and man-hole entries. These plates are not in the mining and reclamation plan. The plates should be checked to make sure that the drawings are correct. All information referred to in the mining and reclamation plan should be provided.

#### 784.21 Fish and Wildlife Plan

o The fish and wildlife plan should make firm commitments and address the permit area specifically. There should be a statement by the applicant describing how it will utilize impact control measures, management techniques and monitoring methods to protect fish and wildlife habitat. Riparian areas should be specifically identified and located.

Since the operator has proposed habitat manipulation to offset the loss of deer wintering grounds, we suggest that the operator consult the appropriate agencies to determine possible techniques. Then the operator can submit a detailed plan describing the enhancement and the number and location of the areas to be enhanced.

## Cultural Resources

### Summary of Major Deficiencies

1) Comparing Figure 28 and Plate 2-2, the following areas that are shown for possible future development have not been surveyed for cultural resources:

T.15S., R.8E.

W 1/2 of the SW 1/4 - Sec. 2

W 1/2 of the SE 1/4 - Sec. 11

NE 1/4 of the NW 1/4 of the NE 1/4. S 1/2 of the NW 1/4 of the NE 1/4, and SW 1/4 of the NE 1/4 - Sec. 15

NE 1/4 of the SE 1/4 - Sec. 13

NW 1/4 of the NW 1/4 of the NW 1/4 - Sec. 16

T. 15S., R. 9E.

NW 1/4 of the SW 1/4 and E 1/2 of the SE 1/4 of the NE 1/4 - Sec. 18

SW 1/4 of the NW 1/4 - Sec. 16

These areas must be surveyed before any development can take place there. Maps showing the exact locations of the development must be submitted; there may not be any impact to the areas not surveyed. The mine plan states that sites will be impacted by construction of the unit train route. Which sites are these?

2) Copies of the 1978 access road survey and the powerline transmission route should be provided.

3) A complete description of each site is needed. These descriptions should include the specific results of the artifact analysis, relating to temporal placement and site function. Site forms, maps and discernible photographs should also be provided. Site size (dimensions and/or m<sup>2</sup>) and information provided in the site forms.

4) Since the town of Wattis is inside the mine plan area, a comprehensive discussion of the history, remains of structures, and significance is necessary. The historical cultural resources located by this survey should be related to this discussion.

5) Discussions of site eligibility and significance are confusing and inconsistent. Sites that have the potential to yield scientific information, both on a site specific basis and on a regional scale, are considered eligible for nomination to the National Register of Historic Places pursuant to criterion (d) in 36 CFR 60.6. Under this criterion the sites do not warrant in-place preservation; in fact, they realize their significance only when the data is collected, analyzed and the information disseminated. Use of the

Cultural Resource Rating System (CRRS) seems to confuse rather than help this issue. BLM no longer uses the system, and OSM recommends its use be discontinued. Unless information to the contrary can be presented, OSM considers the S2 and S3 sites to have potential to yield information important in history and prehistory, and to therefore be eligible for nomination to the National Register. Any information that clarifies the conclusions regarding sites S2 and S3 should be submitted immediately.

6) If eligible sites will be impacted by construction of mine facilities, a plan to mitigate the impact will be necessary. This plan should be prepared in accordance with the Advisory Council on Historic Preservation Guidelines for Making "Adverse Effect" and "No Adverse Effect" Determinations for Archaeological Resource in Accordance with 36 CFR Part 800.

7) OSM believes that intensive sample surveys are still necessary in areas that may be impacted by the effects of subsidence. This belief is based on information presented in this mine plan, other survey reports, and in Central Utah Coal Fields, by H.H. Doelling, 1972. Contrary to information in the mine plan, prehistoric sites other than lithic scatters have been located at other mines. A rock shelter and a petroglyph site have been recorded, and these types of sites may be susceptible to impacts caused by subsidence. Furthermore, historic sites with structures should be considered in a sample survey of this kind. They may occur in areas that would be conducive to prehistoric sites. Abandoned coal mines are known in the vicinity of the Star Point Mine; there may be additional unknown cultural resources associated with this activity. As more data is collected, sample surveys may become unnecessary. Utilizing low-level aerial photography is a technique that could replace much of the actual ground survey. At this time, however, an additional sample survey of approximately 10% of the area that may be impacted by subsidence will be needed.

8) The Forest Service permit number and expiration date should be supplied, along with any Forest Service comments on the survey report.

9) A statement of ground visibility and vegetative cover, as it relates to the potential for unknown sites, must be provided.

10) The stated research goals need to be related to the resources located by the survey.

11) A statement that the National Register of Historic Places was checked, and the results of that check.

12) The names of the personnel who performed the survey are needed.

The above deficiencies will need correction before the mine plan is considered complete, and then OSM can begin consultation with the State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act of 1966 and 36 CFR 800. Items 6 and 7, however, can be completed after we have taken action on the mine plan.

#### Refuse Pile

The geotechnic analysis for the expanded refuse pile is sufficient provided the stipulations as outlined by Dames and Moore are maintained. The geotechnic analysis will not be satisfactory if the height of the dump is higher than 150' or if the dump becomes saturated with water. A program of monitoring these conditions, including using piezometer tubes, should be submitted. The method of compaction and the degree of compaction should be submitted.

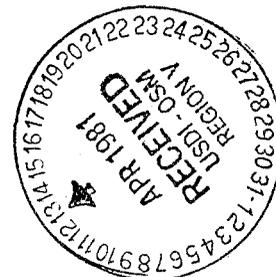
Applicant should, in conjunction with stability of refuse pile, also furnish geotechnic data of bearing strength and stability of foundation soil of refuse. Compaction should be in two-foot lifts to satisfy regulations and not ten feet as specified by Dames and Moore.



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Moab District  
Price River Resource Area  
P. O. Drawer AB  
Price, Utah 84501

April 7, 1981



Mr. Steve Rigby  
Chief Engineer  
Plateau Mining Company  
P. O. Box PMC  
Price, Utah 84501

Dear Mr. Rigby:

We have reviewed your mining and reclamation plan dealing with the proposed coal processing waste pile. Several questions were raised about the proposal which must be resolved before we can issue a right-of-way.

The proposal calls for slopes of 1.75H:1V or flatter for the waste piles with a static safety factor of 1.50 or greater. This corresponds to a slope equivalent of 57 percent. When soil is placed on slopes having this steep of gradient, the potential for slope failure is extremely high. Methods are available such as terracing to break the length of run thus reducing chances for slope failure; however, your plan does not address them.

Preliminary soils data indicate that between 2 and 10 inches of topsoil is available in the proposal area. Plans call for removing this material, storing it and redistributing it when reclamation begins. Regulations found in 30 CFR 817.85 require a minimum of 4 feet of the best available nontoxic noncombustible material be placed on the waste pile, unless a variance is given.

If a variance is given it must be proven that the waste material is conducive to plant growth. Further studies must be completed to determine the physical and chemical nature of this material.

Tests to determine the available nitrogen (N), potassium (K), phosphorous (P) and trace elements including iron, manganese, zinc, copper, chlorine, cobalt, molybdenum and boron should be made. Other tests that should be made are tests to determine the sodium absorption ratio (SAR) exchangeable sodium percentage (ESP) and the electrical conductivity (ECe).

Before we can approve your right-of-way we must be reasonably assured that the site can be reclaimed. The proposal as submitted does not give us this assurance.

Please submit the test results for the waste material (chemical and physical), and any other backup data that would support your analysis as to the slope stability.

These are only recommendations. The Utah Division of Oil, Gas and Mining and Office of Surface Mining have been given the authority to approve mining and reclamation plans. However, before a project takes place on public land our concurrence must be given.

If you have any questions, please feel free to call.

Sincerely yours,

/s/ Leon E. Berggren

Leon E. Berggren  
Area Manager

cc:

Utah Division of Oil, Gas and Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

Office of Surface Mining  
Reclamation and Enforcement  
Brooks Towers  
1020 15th Street  
Denver, Colorado 80202



# United States Department of the Interior

## GEOLOGICAL SURVEY

Office of the District Mining Supervisor  
Conservation Division  
2040 Administration Building  
1745 West 1700 South  
Salt Lake City, Utah 84104

March 20, 1981

### Memorandum

To: Regional Director, OSM, Denver  
From: District Mining Supervisor, USGS-CD  
Salt Lake City  
Subject: Plateau Mining Company, Star Point Mines,  
Carbon County, Utah, Mining and Reclamation  
Plan

The subject plan consisting of five volumes and transmitted with your letter dated March 2, 1981, was received in this office on March 9, 1981. This plan is a permanent program submission (OSM) and has been reviewed for completeness relative to USGS-CD responsibilities under Federal regulations 30 CFR 211.10 (c) dated May 17, 1976, as amended August 22, 1978, and pursuant to the cooperative agreement between our offices. The following are our comments:

1. Several areas that indicate minable thicknesses of coal are not shown as being mined. Plans to mine these areas or the reasons for not mining these areas should be included as part of the plan. The areas of concern are listed below:
  - a. Plate 3-4C, Hiawatha seam, northern part of Federal lease U-13097 and the southwestern corner of Federal lease SL-031286.
  - b. Plate 3-4B, Middle seam, southwest corner of Federal lease, SL-031286.
2. Final abandonment of mine openings and for underground works will require an onsite inspection with the GS and a formal submission of a sealing procedure to the GS for approval.
3. Interburden isopach map(s) are not required by 30 CFR 211.10 (c) dated May 17, 1976, as amended August 22, 1978; however, if the company has or is planning interburden isopachs for the Plateau mines it is requested that copies be furnished the USGS-CD. This type of information is required to document areas of coal of minable thickness which can or cannot be recovered.

Except for the above we have determined the submission to be complete and technically adequate for our administration of the associated Federal coal leases.

Since the submission is essentially complete the GS will agree that the permit application can be processed and that the additional information required can be required as a stipulation in the approval of the lease.

*Jackson W. Moffitt*

Jackson W. Moffitt

cc: Denver  
Plateau Mining Co.  
Mine Plan File