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United States Department of the Interior  
OFFICE OF SURFACE MINING  
Reclamation and Enforcement  
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File ACT/007/009  
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#2  
DEC 15 1982

December 9, 1982

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

Dear Mr. Smith:

My staff has reviewed your office's Draft Technical Analysis of the Sage Point-Dugout Canyon mining and reclamation plan application, and our comments are enclosed.

Since Sunedco is presently preparing what may become a considerable number of changes to the application, I recommend that they be given a date beyond which time changes to the application will no longer be accepted. (This would presumably be at the time you begin work on the Final Technical Analysis.) OSM cannot prepare a decision package based on a technical analysis which is, in turn, based on a changing application. Once OSM begins work on the Environmental Assessment and decision document, no changes can be considered until after the applicant has a permit to modify. If there are any questions please contact me or Shirley Lindsay, Project Leader.

Sincerely,

*Richard E. Dawes*

*as act* Allen D. Klein,  
Administrator  
Western Technical Center

Enclosure

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DIVISION OF  
OIL GAS & MINING

OSM Review of Draft Technical Analysis

Sage Point-Dugout Canyon Mine

Sunoco Energy Development Company

General Comments on TA

The various sections should include a description of the existing environment before describing the applicant's proposal. Obviously this discussion could be quite brief in some sections, but would need to include considerable detail in others. For instance, both the subsidence and hydrology sections of the TA should include a description of the affected area geology. And, of course, the hydrology sections should include a description of the existing ground water and surface water systems and their inter-relationships. These descriptions are needed to enable reviewers to assess the degree to which the applicant's proposed action and the regulatory authority's analysis are appropriate in terms of existing conditions. (This section, and the Applicant's Proposal section, should be well documented with citations from the mine plan or other sources utilized.)

In addition, the Evaluation of Compliance section should include a discussion of the degree to which the applicant's proposed action would be in compliance with the State program. Where such compliance appears to be lacking, this section should describe the problem and state what remedy is needed. In some instances this evaluation has been made, at least partially, in the Applicant's Proposal section. There is no objection to this practice, but the Evaluation of Compliance section is the proper place to present a full discussion of this important aspect of mine plan review. Then the next section, Stipulations, would follow logically--the basis and justification having been developed in the Compliance section.

Introduction

The references to Eureka Energy Corporation should be changed to Sunoco Energy Development Company (Sunedco). The Introduction should discuss the change in ownership from Eureka to Sunedco in mid-mine plan review. Emphasis should be on these two areas:

- 1) What is the present status of the application itself? That is, is the regulatory authority reviewing the application as originally found complete under the assumption that Sunedco will adapt the entire Eureka application as it existed at the time of purchase by Sunedco? Have certain sections been changed by means of new submissions for Sunedco? If so, have these sections been reviewed as part of the Technical analysis?

Are you expecting certain sections still to be changed by Sunedco? If so, will these changes be submitted prior to permit approval, or after approval? If prior to permit approval, how will changes be scheduled into Technical Analysis preparation?

- 2) Because change of ownership has occurred subsequent to the finding of completeness, it is important to re-check the status of coal leases, surface ownership, etc. A copy of our Mine Plan Information form is enclosed; this should be filled out as this information is being re-confirmed.

Sunedco should re-submit maps in the "II Legal, Financial, Compliance" section to show Sunedco's ownership. Map D03-0004 (Surface Ownership) shows Milton Thayne as a surface owner in Sections 12, 13, 19, and 24, but he is not listed as such in the Text. Page I-17 A(1) lists the State of Utah as a coal owner, but Map D03-0005 (Coal Ownership) shows only Eureka and USA as coal owners.

The total permit acreage was not indicated in the TA and mine plan. This should be provided. The only acreage figure given was for the total surface disturbance (446 acres, Table II-E.1 after page I-41 of MRP). There is a discrepancy in the TA (page 1, paragraph 2; page 5 paragraph 1) on the disturbed acreage total which should also be resolved.

The permit term is listed as 40 years in the MRP (page I-41). Shouldn't this be revised to show a 5-year permit application and a 40-year mine plan application?

#### UMC 817.13-.15 Casing and Sealing of Exposed Underground Openings

Stipulation 4-30-82-TNT is not clear. The first sentence appears to be an explanation of the need for the stipulation; this is very desirable information, but it should be part of the Evaluation of Compliance discussion. The stipulation should be quite specific as to what action is required, and when this action must be accomplished. For instance, this stipulation could be written, "Within 30 days of acceptance of Departmental approval of the mining and reclamation plan, the permittee shall submit a description, for regulatory authority approval, of the method to be used for sealing water wells."

#### 817.21-25 Topsoil

Have certain topsoils been found unsuitable for seed bed material? If so, how many acres are involved?

With regard to the requested variance from requirement to salvage topsoil at the Fish Creek and Dugout Canyon durable rock fills--if the soil is found to be unsuitable and no suitable soil is available, you may wish to consider utilization of sediment pond cleanings (if appropriate analyses for potentially toxic elemental concentrations indicate suitability as a plant growth medium). In any case, this variance section would probably be best handled under the Applicant's Proposal and Compliance sections, concluding with a stipulation.

Stipulation 4-30-82-EH, part 1, might be made clearer by specifying what you would consider proper justification for not removing topsoil.

Although the TA states that stockpiled topsoil will be protected from compaction and contamination, it appears this would be difficult to ensure where soil mapping unit No. IEE2B will be stockpiled below the land fill under the coal preparation plant (page II-218). How will excessive compaction be avoided at this location? Will not biologic values of the topsoil be largely lost over time in anaerobic conditions? (If so, this is an impact which should be discussed in the TA). If the plastic sheet protecting topsoil from land fill tears, there may be contamination of the topsoil via leachate from overlying materials. Has the applicant provided a chemical analysis of this overlying material?

#### Ground Water

1. The ground water portion of the MRP text is confusing and contains what appear to be contradictions. For example, Figure IV-B.2 (page 74) shows re-charge occurring at the overburden/coal outcrop; however, flow direction arrows suggest the outcrop is an area of discharge. The text/maps should be reviewed and the description of the ground water system clarified.
2. The MRP text states on pages II-75 and 78 that insufficient data precludes determining the rate or direction of water movement in the bedrock formation. These statements are not consistent with maps included in the permit application which show additional existing wells/drill holes in the permit and surrounding areas. The applicant should utilize and include all available data in the application. If sufficient data does exist, the applicant should submit a potentiometric map of the permit and adjacent areas; and based on Sunedco's understanding of the ground water system, a prediction of the probable hydrologic consequences (on and off site) resulting from mining.

Sunedco should submit all available information on the wells identified on the hydrology plates including method of well completion, stratigraphy, water levels, etc.

3. The "Groundwater Use" section (MRP, Page II-75) states "no development of the groundwater in either the perched aquifer or the regional aquifer exists". An inventory of wells, the owner's name, and water use in the surrounding affected area, should be provided, or a statement included indicating that no such wells exist within the affected area.
4. The use of a three foot core to determine the porosity and permeability is questionable given the complexity of the overburden stratigraphy. The use of pump/slug tests is suggested to accurately define the hydrologic characteristics of the overburden/coal. Use of this data will yield a more accurate prediction of the probable hydrologic consequences resulting from mining.

5. The 10 springs identified on MRP Page II-72A(3) should be monitored on a monthly basis if possible rather than 3 times a year (when flowing). This is necessary because of the potential effects of subsidence on the spring system (the concept that fractures will heal themselves is speculative and has not been demonstrated). Any additional springs originating in the "regional aquifer", and located down gradient from the permit area should be added to the list of monitored springs.

Sunedco should commit to replacing any water source impacted by mining operations.

#### Fish and Wildlife

It seems appropriate to include critical mule deer winter range in the TA's discussion of special habitats. Subjects that might be included in this context are:

- 1) loss of critical winter range by mining activities (how many acres?),
- 2) interference with deer movements by the on-ground conveyor belt,
- 3) road kills,
- 4) poaching and other disturbances to animals, especially during the winter.

The mitigation practices listed between MRP pages II-407 and II-413 A(2) are a mixture of "will be's" and "might be's". Unless the applicant provides a list of practices which will definitely be followed during mining and reclamation, only those elements which have been committed to should be addressed in the TA. (Note: The applicant must, however, address all the elements of UMC 817.97, and this should be covered in the TA.) Of particular concern is Section 4.1.2.7 Construction of Conveyor System. Page II-413A states that the majority of the conveyor route will give 12 feet or more of clearance from the ground. Page II-413A(2) states that the conveyor will be constructed according to "sound cost effective engineering. After construction is completed, a post-construction monitoring study would ensue to document the minimum height deer will use in crossing the conveyor belt and how the deer adjust their movements to the newly constructed belt."

The issue of free passage for large mammals in critical winter range is too vital to be left as described by these rather indefinite statements. The amount of clearance from ground to conveyor has potential to affect the degree of impact to game animals moving within and through the permit area; accordingly the applicant should address this issue much more specifically. At a minimum the number of passages per mile, with minimum clearance, and their proximity to mapped permanent deer trails should be detailed.

The TA should provide details regarding the TA statement that "high value habitats will be restored or even enhanced beyond their premining condition. What revegetation species will be used, and where planted?"

Regarding Stipulation 4-30-82-SL, the referenced BLM letter offers several choices; these should be discussed with the applicant so that his preferred responses can be incorporated into the MRP and TA. (Raptor protection should be discussed in the TA. What are the species of concern? What will the impacts be? How will the requirements of the BLM letter be mitigated?) Is there any reason to give the applicant 5 years to respond to the second part of this stipulation?

OSM wrote to the USFWS Endangered Species Office (Salt Lake City) in late November, requesting a list of potentially affected T & E species. We will submit a section on T & E species to be included in the Final TA.

#### Revegetation

- 1) Since the Regulatory Authority must make a determination that reclamation can be feasibly accomplished (786.19b), this should be discussed in the TA. Information pertaining to probable success of revegetation efforts may be available from nearby mines where ongoing reclamation is occurring under similar conditions.
- 2) The applicant has proposed to use the canopy cover of the deciduous streambank community reference area as the revegetation success standard for the "deciduous streambank community to be affected". Since the canopy cover is primarily composed of mature trees, this will be difficult to achieve during the (responsibility) period of reclamation. A suggested alternative would be to use the tree density and herbaceous cover information collected for the area to be affected as the revegetation success standard. This approach would be similar to the "baseline data" method as outlined in UDOGM vegetation information guidelines.
- 3) Is there any reason to wait five years for action on Stipulation 4-30-82?

#### Subsidence

Stipulation 4-30-82-TNT. Within what time frame must the applicant provide this letter? (If Sunedco has this letter now, a copy could be included in the MRP, rendering this stipulation unnecessary).

Part 2 of this stipulation should be clarified by telling the applicant how often these subsidence plans must be provided.

#### Bonding

When the bond is reviewed in 1983, the Division should determine the percent increase in cost due to inflation for this year, and add that cost increase to the new bond amount.

#### Air Quality

The TA should briefly describe the climatic data provided, a summary of the air pollution control plan, a summary of the monitoring plan, results of any modeling that may have been done, and when the State and/or Federal permits were issued. The TA should state how the plan complies, and if it doesn't, what is needed to bring the plan into compliance (stipulations)?

### Backfilling and Grading

The TA addresses this subject very lightly in the Topsoil section. Backfilling and grading surface areas disturbed by mining is an important part of reclamation and should be more thoroughly addressed (in a separate section) in the TA. The questions the applicant has raised concerning elimination of highwalls to conform with SMCRA's objective of restoring to AOC needs to be addressed in the TA (See page I-292, Portal Areas).

### Socioeconomic

Sunedco is in the process of developing a socioeconomic impact assessment in accordance with Utah S. B. No. 170, Section 63-51-10. OSM expects to receive this assessment within 3-4 weeks. As stated in OSM's 8/18/82 letter to the company (attached), OSM will evaluate and document the assessment findings and mitigation agreement in the EA and final approval document.

### Cultural Resources

#### A. Description of Existing Environment 783.12(b)

Three cultural resources investigations have been performed for the Eureka Energy Company. Dale Berge (1976) outlined the potential for locating cultural resource sites. AERC (1980) performed an intensive inventory of 3,428 acres plus 30 linear miles of corridor right-of-way. During this survey 33 sites were located within the permit area. And in 1981, AERC performed an historic site evaluation.

Nine historic sites, 23 prehistoric and one prehistoric/historic sites were located. Of the 23 prehistoric sites five were temporary camps, fifteen were lithic scatters, two were petroglyph-pictograph sites, one rockshelter and one storage site. A number of isolated finds were also located. Sites were found in the greatest densities along the creeks and tributaries within the project area. Additionally there appeared to be a clustering or concentration of sites which were located within the Pinyon-Juniper ecozone of the lower foothills. Soldier Creek appears to have served as a main avenue of movement both prehistorically and historically.

The Post Archaic/Fremont is best represented culturally, however, there was some evidence of earlier Archaic and later Shoshonean occupations.

## B. Description of Applicants Proposal 781.17

Cultural resource surveys were conducted by Archaeological Environmental Research Corporation (AREC) in all areas that are proposed to receive direct surface disturbance and a sample survey of areas that may be impacted by subsidence has also been conducted.

The eligibility criteria (36 CFR 60.6) has been applied to the thirty-three sites. OSM believes that 13 of these sites are eligible for listing on the National Register of Historic Places. However, only 8 of these sites will be directly or indirectly impacted by mining activities. Recommendations for site eligibility and for a "No Adverse Effect Determination" pursuant to 35 CFR 800 have been sent to the Utah State Historic Preservation Officer. If he concurs with OSM's recommendations there will be "No Adverse Effect" by OSM's approval of the mine plan to any site listed or eligible for listing on the National Register of Historic Places. To prevent impact to the eight sites that may be directly or indirectly impacted OSM has proposed stipulations requiring the applicant to submit a data recovery or mitigation plan (see Section F Proposed Special Stipulations )

## C Evaluation of Compliance

### 1. Applicants Compliance

Cultural resource surveys were conducted on all areas of the mine plan that are proposed for surface disturbing activities. An adequate sample survey to locate sites that may be impacted by subsidence has also been conducted.

The applicant has not yet provided a site specific mitigation plan or data recovery proposal that would eliminate the adverse impacts to the eight eligible sites that will be impacted. However, the applicant has provided sufficient 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 (NHPA).

### 2. OSM Compliance

OSM has complied with the procedures required by section 106 of NHPA by evaluating the eligibility of the thirty-three located cultural resources and making a recommendation, based on data provided by the applicant of "No Adverse Effect" to the Utah SHPO. If the Utah SHPO concurs with OSM's recommendations then the Section 106 compliance process will be completed.

## D. Revisions to Applicants 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 operator shall submit to the regulatory authority and the SHPO for review and approval, a site specific mitigation plan for sites 42 Cb172, 173, 196, 135, 185, 188, 186 and 202. When approved, the operator shall implement the mitigation specified in the mitigation proposal. A draft report of the data recovery shall be submitted for review and approval to the regulatory authority and the SHPO no later than 4 months after completion of the data recovery. A final report shall be submitted within 4 months after receiving the comments and recommendations of the regulatory authority and the SHPO which incorporates these comments and recommendations.

Justification: In accordance with the PMOA and to minimize or prevent adverse impacts to significant cultural resource sites.

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 3 historic sites and 5 prehistoric sites will be impacted. Mitigation measures in the form of a data recovery plan will be necessary to mitigate adverse impacts. Even with a well-developed mitigation plan, however, some data will be lost. Furthermore, once the sites are destroyed they can never be re-examined. Thus, there would be a loss of potential data, as well as the physical loss of the sites.

Known and unknown cultural resources located in the vicinity may be impacted by mining activities as a result of increased population 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.