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PLATEAU MINING COMPANY

A Subsidiary of Getty Mineral Resources Company

P.O. Drawer PMC Price, Utah 84501-0904

Telephone (801) 637-2875

JIM

OCT 0 8 1981

October 2, 1981

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

RECEIVED

DIVISION OF
OIL, GAS & MINING

Re: Modification of Mine Plan Extension
Starpoint No. 2 Mine
ACT 007/006
Carbon County, Utah

Dear Mr. Smith:

By letter dated July 10, 1981, the U.S. Geological Survey gave approval to Plateau Mining Company to mine north and south and thence westerly from the existing workings in the "Green Box" area of the Starpoint No. 2 Mine (Wattis Seam). Plateau commenced mining north September 14, 1981.

The machine being used in this section is the one which will continue north and thence easterly to the break out in Seeley Canyon. With this same machine, we would like to establish our next two (2) production sections (2N-2W and panel Q on the enclosed map) while advancing northward. This would involve driving four (4) entries to a depth of 300 feet (3 crosscuts) westward from the Main North entries on the south side of the projected fault (see map) and three (3) entries to a depth of 300 feet eastward from the Main North entries on the north side of the projected fault. Once this is done the machine would continue to advance northward. Both of these panels are situated such that maximum recovery of the resource is insured, and both are in accordance with our submitted MRP.

Starting these two panels while proceeding northward will enable us to bring them into production in the future with a minimum amount of lost time. An additional benefit which would be derived from being able to start panel 2N-2W is that it would enable us to keep up production while doing the rock and support work which will be necessary in order to proceed past the fault which we expect to encounter (see map). Based on current production rates we

expect to encounter the fault in mid-October (15th to 20th). We anticipate commencing production in 2N-2W on November 1, 1981 and in panel Q on January 1, 1982.

On September 21, 1981, Steve Rigby and I met with Jackson Moffitt, Boyd McKean, and Gordon Whitney of the U.S.G.S. to discuss this proposal and ask for their approval as a minor modification of the approved plan. Mr. Moffitt, Mr. McKean, and Mr. Whitney concurred with the proposal but felt that it constituted more than a minor modification and, hence, required approval from the Division. Plateau Mining Company is, therefore, now requesting the Division's approval of the proposal as outlined above.

Since the anticipated fault is so close at hand, your immediate response to this request would be greatly appreciated.

Seven copies of the map indicating this proposal are enclosed for your use in expediting this request.

Sincerely,

PLATEAU MINING COMPANY

William E. Snyder

William E. Snyder
General Superintendent

Enclosure

cc: Donald A. Crane, O.S.M. w/attachment
Reed Christensen, U.S.F.S. w/attachment
Jackson W. Moffitt, U.S.G.S.w/attachment
Floyd J. Tucker, P.M.C. w/attachments
Steve Rigby,P.M.C. w/attachments
John Rosner, P.M.C. w/attachments

WES/jlf

Plateau Mining Company has requested that the regulatory authority approve certain sections of the MRP, prior to the final approval of the entire application. In response to this request and considering the underlying conditions warranting the review priority of these sections, the Division has reviewed the following areas separately under the permanent performance standards as minor modifications to an existing interim plan.

1. Coal Refuse Waste Pile Extension

2. Seeley Canyon Breakout Location Change

Conditional approval of these particular sections of the permit application has been granted by the Division. Copies of the approval letters with stipulations are attached. Reclamation bonding for these areas is included in the bonding section of the MRP. All other areas as outlined in the MRP for the next five years should be approved and conditioned upon Plateau Mining Company's acceptance of the attached stipulations and submission of the reclamation bond to the regulatory authority.

Attached is a copy of the joint DOGM/OSM Technical Analysis with stipulations and a brief Findings Document for your review and response.

I trust this information will enable OSM to make their final Environmental Assessment (EA) for the decision document to be forwarded to Washington, D. C.

If you have any questions or are in need of additional information, please contact myself or Wayne Hedberg of my staff.

Sincerely,

JAMES W. SMITH, JR.
COORDINATOR OF MINED
LAND DEVELOPMENT

cc: Floyd Tucker, Plateau

JWS/DWH/btm

FINDINGS DOCUMENT

GETTY MINERALS RESOURCES CORPORATION
PLATEAU MINING COMPANY
STARPOINT NO. 1 AND 2 MINES
CARBON AND EMERY COUNTIES, UTAH

Revision of Application for Mining and Reclamation Plan

1. The plan and the permit application are accurate and complete and all requirements of the Surface Mining Control and Reclamation Act, the approved Utah State Program and the Federal Lands Program, including the Mineral Leasing Act, have been complied with.

2. The applicant has demonstrated that underground coal mining and reclamation operations, as required by the Act, the approved State Program and the Federal Lands Program, can be feasibly accomplished under the mining and reclamation operations plan contained in the application.

3. The assessment of the probable cumulative impacts of all anticipated coal mining in the general area on the hydrologic balance has been made by the Office of Surface Mining and the Utah Division of Oil, Gas and Mining (see Cumulative Hydrologic Impact Section, attached to Findings Document).

4. The proposed permit area is not included within or on:

A. an area designated unsuitable for underground coal mining activities; or

B. an area under study or designation as unsuitable for underground coal mining activities in an administrative proceeding begun under UMC 764, 30 CFR 765, or 769; or

C. any lands subject to the probhibitions or limitations of UMC 761.11(a), (f) or (g); or

D. within 100 feet of the outside right-of-way line of any public road, except as provided for in UMC 761.12(d); or

D. within 300 feet from any occupied dwelling, except as provided for in UMC 761.11(e) and 761.12(e).

5. The proposed operations will not adversely affect any publicly-owned parks or places included in the National Register of Historic Places, except as provided for in UMC 761.11(c) (see Cultural Resources Section of TA, 30 CFR 779.12).

6. For those proposed operations involving the underground mining of coal where the private mineral estate to be mined has been severed from the private surface estate, the applicant has submitted to the Division the documentation required under UMC 782.15(b) (see Appendix 2B-Vol. 1 of MRP).

7. The applicant has submitted the proof required by Section UMC 786.17(c)(1) requiring "on the ground" compliance and resolution of all outstanding violations prior to the issuance of a permit.

8. The applicant has submitted proof that all reclamation fees required by Subchapter R of this Chapter have been paid.

9. The applicant does not control and has not controlled mining operations with a demonstrated pattern of willful violations of the Act of such nature, duration and with such resulting irreparable damage to the environment as to indicate an intent not to comply with the provisions of the Act.

10. Underground coal mining activities to be performed under the permit will not be consistent with other such operations anticipated to be performed in areas adjacent to the proposed permit area (see Land-Use Section of the TA).

11. The applicant must submit the performance bond and other equivalent guarantee required under Subchapter J and the regulatory program, prior to the issuance of the permit. The bond would be payable to both the United States and the State of Utah in the amount outlined in the Reclamation Section, Tables 3-11, 3-12, Vol. 1 of MRP.

12. The applicant has, with respect to both prime farmland and alluvial valley floors, obtained either a negative determination or satisfied the requirements of 30 CFR 785.17 and 785.19 (see Topsoil Section of TA and Alluvial Valley Floor Section of TA).

13. The proposed postmining land-use of the permit area has been approved by the Division in accordance with the requirements of UMC 817.133 (see Land-Use Section of the TA).

14. The Division and OSM have made all specific approvals required under the Act, Subchapter K of this Chapter and the Federal Lands Program.

15. The Division and OSM has found that the activities will not affect the continued existence of endangered or threatened species or result in the destruction or adverse modification of their critical habitats (see Revegetation and Fish and Wildlife sections of the TA).

16. All procedures for public participation required by the Act, and approved Utah State Program, the Federal Lands Program and Council on Environmental Quality regulations (40 CFR Part 1500 et seq.) have been complied with (741.21[a][2][ii]).

In addition to submission of the required reclamation bond, prior to the permit taking effect, the applicant must forward a letter to the regulatory authority stating its acceptance of the stipulations in the permit.

Cumulative Hydrologic Impacts--Wasatch Coal Field

Ground-Water Quantity

Geology is the principal factor controlling the occurrence and the availability of ground water. Typical underground coal mining operations in the Wasatch Coal Field only encounter substantial amounts of water as a result of mining through faults (see Ground Water section of TA). These faults range in length and severity from short faults with little displacement to fault zones (e.g., Joes Valley Fault Zone, Pleasant Valley Fault Zone) (see Figure 1.)

Very little is known about the movement of water along these faults or fault zones. That is to say, it is unknown whether these faults act to store the water, whether these faults act to convey the water, or whether these faults act to inhibit transfer of ground water from one zone to the next. It is also unknown whether these faults contribute to the surface water system.

There are several documented cases of mining through these faults. In some cases, continous substantial amounts of water were encountered (e.g., U. S. Fuels' mining through Bear Canyon Fault). Other cases indicate a short-lived and relatively minor flow of water (e.g., Wilberg and Deer Creek mines). In some adjacent mines that are separated by large faults, one mine will be dry while the adjacent mine will produce water (e.g., Des-Bee-Dove Mines vs. Wilberg and Deer Creek Mines and Gordon Creek No. 2 Mine vs. Gordon Creek Nos. 3 and 6 Mines).

It is anticipated that mining through the same fault or fault zone by different mining operations will have a cumulative impact on the ground-water system. This impact will be a decrease in the quantity of water; however, it is unknown as to the magnitude and duration of this impact.

Ground-Water Quality

To date, no mines in the Wasatch Coal Field have identified any toxic-forming or acid-forming materials in their operations. Therefore, no substantial deterioration of ground-water quality (either individually or cumulatively) is expected. Ground-water monitoring has not provided enough long-term information to confirm this.

Surface Water Quantity

Surface water quantity is slightly decreased because all disturbed water is based through a sedimentation pond before leaving the disturbed area. Detaining water in a sedimentation pond results in a partial loss of water due to evaporation. The amount of disturbed drainage is very small compared to nondetained, undisturbed water; therefore, effect on surface water quantity (either individually or cumulatively) is very minor.

Surface Water Quality

There is no cumulative impact expected on the surface water quality. Areas of impact on surface water quality possibly include: higher total dissolved solids due to partial evaporation of runoff in sedimentation ponds and a higher total suspended solids due to uncontrolled erosion.

STIPULATIONS

UMC 784.23 Operation Plan: Maps and Plans

The applicant must submit a map delineating the projected five-year underground mining plan for all three seams (Wattis, Middle and Hiawatha). The map should distinguish the total permitted area for the five-year permit term by leases. The total amount of surface disturbances, present and projected for the five-year term, should also be delineated.

30 CFR 779.12(b) Cultural Resources: General Requirements

If, during the course of mining activities, previously unidentified cultural resources are discovered, the applicant shall ensure that the site is not disturbed and shall cease land disturbing activities in the vicinity, 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 in consultation with the regulatory authority and the SHPO, the operator shall confer with and obtain the approval of the regulatory authority and the Utah SHPO concerning the development and implementation of mitigation measures as appropriate.

The applicant shall undertake no surface disturbance in the areas listed below until (1) cultural resource inventory (inventories) of the areas is completed; (2) OSM receives an acceptable cultural resource inventory report for the area(s); (3) the Utah SHPO concurs with National Register eligibility assessments made for any cultural resources recorded within these areas; and, (4) if cultural resources recorded within these areas are determined to be eligibile for nomination to the NRHP, no surface disturbance will occur until: (A) an acceptable mitigation plan conforming with the requirements of the Advisory Council's Guidelines for Making "Adverse Effect" and "No Adverse Effect" Determinations for Archaeological Resources in Accordance with 36 CFR 800 is submitted for review and approval to OSM and the Utah SHPO; and (b) mitigation of adverse effects to cultural resources in this area is complete and the mitigation report has been accepted by OSM and the Utah SHPO. This stipulation applies to the following areas:

T. 15 S., R. 8 E.

W1/2 of the SE1/4, Section 12
W1/2 of the SE1/4, Section 11
NE1/4 of the NW1/4 of the NE1/4, S1/2 of the SW1/4 of the NE1/4 and SW1/4 of the NE1/4, Section 15
NE1/4 of the SE1/4, Section 13
NW1/4 of the NW1/4 of the NW1/4, Section 16

T. 15 S., R. 9 E.

NW1/4 of the SW1/4, and E1/2 of the SE1/4 of the NE1/4, Section 18
SW1/4 of the NW1/4, Section 16

The applicant will submit a brief site specific eligibility recommendation and evaluation of impacts for each of the sites in the mine plan area. The Utah SHPO has offered to help with these statements, if needed. In conjunction with the Utah SHPO, OSM may request that a sample survey for cultural resource areas be conducted for areas potentially affected by subsidence.

UMC 817.21 Topsoil: General Requirements

Data on the SAR and soluble Na must be provided for the refuse disposal area.

Soluble Ca, Mg and Na data should be reported in meq/l rather than ppm.

UMC 817.24 Topsoil: Redistribution

The applicant needs to provide topsoil redistribution methods for each area of disturbance which assure successful revegetation.

UMC 817.46 Hydrologic Balance: Sedimentation Ponds

Provide a description of measures to be taken to bring pond Nos. 1, 3, 5 and 8 into compliance with Section 817.46(m) regarding embankment slopes or variances obtained from regulatory agencies. Any embankment slope not meeting these design requirements must demonstrate and be certified by a qualified registered professional engineer that the embankments are designed and constructed to insure a minimum 1.5 static safety factor. If this is not provided for, then further justification of the embankments stability or designs for reconstruction to meet the design specifications of UMC 817.46 would be necessary. A response to this condition must be submitted within six months of receipt of this approval.

Provide specifications regarding quality of embankment fill material per the requirements of Section 817.46(n) and (o).

UMC 817.52 Hydrologic Balance: Surface and Ground-Water Monitoring

The undetermined extent of possible water resource depletion associated with anticipated mining into the graben/fault zone (to the northwest) will necessitate a commitment from Plateau Mining Company to monitor quantity, duration and location of ground water encountered in the underground mining activities at the Starpoint Mines (with particular emphasis in the region of the graben/fault zone).

Should substantial adverse impacts become imminent, PMC will be held responsible to provide appropriate mitigation measures to those affected individuals according to the plans outlined in the mining and reclamation plan.

All underground development waste will be disposed of in accordance with the coal processing waste. Applicant will comply with this section provided compliance with the requirements of 817.81-.83, 817.90-.93 are implemented.

UMC 817.82 Coal Processing Waste Banks: Site Inspection

If any inspection of the coal processing waste pile discloses that a potential hazard exists, the applicant shall immediately inform the Division of the finding and of the emergency procedures formulated for public protection and remedial action.

UMC 817.86-.87 Coal Processing Waste: Burning

The applicant shall submit a plan for the control of fires in the coal processing waste disposal pile. In the event that routine monitoring and inspection reveals ignition to be imminent (hot spots), material in that area will be excavated, removed to a predesignated place and spread out to extinguish and prevent further heating.

Any burned coal processing waste removed from a disposal area shall be approved by the Division.

UMC 817.89 Disposal of Non-Coal Wastes

The applicant refers to noncoal waste (trash) areas as shown on Plate 3-1, they are apparently not identified on maps. The applicant shall describe the location and size of noncoal waste disposal areas.

Pursuant to UMC 817.89, final noncoal waste disposal sites shall be constructed with appropriate water barriers on the bottom and sides of the designated site. Wastes shall be routinely compacted and covered to prevent combustion and wind-born waste.

At no time shall any solid waste material be deposited at refuse embankments or impoundment sites, nor shall any solid waste disposal excavation be placed within eight feet of any coal outcrop or coal storage area.

UMC 817.97 Protection of Fish and Wildlife

The applicant must agree to control and suppress range, forest and coal fires and avoid the use of persistent pesticides unless approved by the regulatory authority.

The applicant must address the issue of edge effect in the revegetation plan. Although different seed mixes are discussed for north and south slopes, there is no mention of shrub or tree groupings to benefit wildlife. A comprehensive plan should be submitted within 12 months, or at least 30 days before any planting is done whichever comes first.

UMC 817.103 Backfilling and Grading

The applicant will backfill and cover coal seams exposed as a result of his operation with at least four feet of noncombustible material.

UMC 817.111-.117 Revegetation: General Requirements

Within 12 months, the applicant will submit to the regulatory authority for approval, the seed mixtures which will be used for temporary topsoil stockpile stabilization and permanent revegetation. Inclusion of introduced species must be justified as per UMC 817.112.

Within 12 months, the applicant will submit to the regulatory authority for approval, the density and composition of woody plant species and the locations (i.e., slope, aspect) to be planted on disturbed areas. If the applicant wishes to propose alternative standard(s) to the reference area woody plant density levels this should also be provided.

The applicant will submit a copy of vegetation monitoring data collected on revegetated areas to the regulatory authority by December 1 of each year.

UMC 816.133 Postmining Land-Use

If livestock grazing is to occur on revegetated areas or corresponding reference areas during the ninth or tenth year of the liability period, the applicant will submit to the regulatory authority for approval, a grazing management plan, one year prior to initiation of grazing.

With regard to the final reclamation of the Lion Deck Portal Access Road, the regulatory authority requires total reclamation at termination of operations. The applicant may present a postmining land-use for continued use of the road at the termination of mining operations encompassing all applicable landowner requests consents and responsibilities which may be approvable by the regulatory authority at that time.

TECHNICAL ASSESSMENT FOR STARPOINT MINES

Note: Unless otherwise stated, all tables and figures referred to in this TA are referenced from the mine plan.

NAME OF COMPANY SUBMITTING THE PERMIT APPLICATION: Plateau Mining Company, a subsidiary of Getty Minerals Resources Company.

NAME OF THE MINING OPERATION: Starpoint Mines

TYPE OF APPLICATION: The application was submitted in order to maintain production and includes plans for a major expansion.

TYPE OF MINE: Underground

TYPE OF OPERATION: Underground, room and pillar and longwall.

LOCATION OF THE MINE: Carbon and Emery counties, Utah, approximately 12 miles from Price. Major drainages are Corner Canyon and Huntington Canyon.

BRIEF HISTORY OF THE APPLICATION: The application was submitted to the Office of Surface Mining and the Utah Division of Oil, Gas and Mining on February 20, 1981. A completeness review was presented to the applicant on April 21, 1981. Revisions to the mine plan were submitted on May 15, 1981 and July 29, 1981. The Mining and Reclamation Plan (MRP) was determined complete by the regulatory authority on September 24, 1981.

BRIEF DESCRIPTION OF THE PERMIT AREA: The 5,200 acres permit area is located on the east face of the Wasatch Plateau in central Utah. Vegetation of lower elevations is shrubland and desert scrub, while higher elevations support mixed conifer communities. A large number of economically important wildlife species are present. Mines have existed on the permit area since 1917. Mining will take place in three seams and will generally proceed north and west from portals on the east side of the permit area.

PROJECTED ANNUAL PRODUCTION RATE: 2,000,000 tons per year. If an adjacent tract is acquired, a rate of 4,000,000 tons per year is anticipated.

30 CFR 779.12(b) CULTURAL RESOURCES INFORMATION:

A. DESCRIPTION OF EXISTING ENVIRONMENT

Two cultural resource inventory reports have been prepared for the Plateau Mining Company Starpoint Mine area. In 1978, the Archaeological-Environmental Research Corporation (AERC) conducted a combination of intensive inventory and intuitive sample inventory in portions of the S1/2 S1/2 Section 9, T. 15 S., R. 8 E. The investigation consisted of intensive inventory of a 100-foot approximate road alignment supplemented by spot-checks of flat benches, overhangs and possible cache areas in surrounding sandstone ledges. No cultural resources were recorded during this examination (Weder and Hauch 1978).

In 1980, intensive inventory of the NW1/4 SE1/4 Section 14, T. 15 S., R. 7 E., and NW1/4 NW1/4 Section 7, T. 15 S., R. 8 E., and portions of Section 2, 10, 11 and 15, T. 15 S., R. 8 E., was conducted by AERC. A total area of 1,300 acres was examined and ten sites (two aboriginal/prehistoric; eight Euroamerican/historic) and nine isolated finds (all aboriginal) were recorded. Historic Euroamerican sites include a camp, a corral, a foundation, a trash midden, a dugout, a prospect and two houses. None of the historic sites are analyzed in terms of precise ages or associations. Both aboriginal sites consist of lithic scatters of unknown cultural or temporal affiliations. Isolated finds consit of seven projectile points or point fragments, a scraper and a flake. Two isolated projectile points, a McKean Complex specimen and a Desert side-notched point, are believed to represent Middle Archaic and Shoshonean areal utilization between 5,000-2,500 years BP and from apprxomately 800 years BP through historic times, respectively.

None of the isolated finds recorded during the 1980 investigation are considered eligible for nomination to the National Register of Historic Places (NRHP). Site significance is assessed in terms of the BLM Cultural Resource Rating System: seven sites are accorded S-2 status (containing important scientific or educational data but not worthy of preservation in situ), two sites are accorded S-3 status (sites whose main worth is their potential for contributing data in regard to solving larger problems) and one site is accorded S-4 status (little or no potential for information retrieval). The applicant further states that none of the ten sites are eligible for nomination to the NRHP. On the basis of the classification system and the site forms, OSM questioned this assessment in that S-2 and S-3 sites do have potential for yielding information important to the study of History and Prehistory and are, therefore, eligible for nomination to the NRHP under criterion (d) of 36 CFR 60.6.

On a field inspection conducted by the Utah SHPO's office, to clarify the eligibility problem, none of the sites including the historic remains were found to the criteria for nomination to the National Register.

Included in the above-mentioned survey report for the Starpoint Mine is documentation of the environmental setting, general history and known cultural resources of the region, which will provide the framework for determining the eligibility of the cultural resources recorded within the area of potential environmental impact.

B. DESCRIPTION OF APPLICANT'S PROPOSAL (779.12[b])

The cultural resource inventories conducted for Plateau Mining by AERC in 1978 and 1980 include all areas for which disturbance is currently proposed. However, OSM's ACR cited a number of deficiencies in the cultural resource documentation. Specifically, OSM expressed concern regarding whether or not all anticipated impact areas had been examined, the nature and location of currently proposed impact to the recorded sites, deficiencies in data submitted for recorded sites, the accuracy of site significance assessments,

the adequacy of survey in potential subsidence areas, and several relatively minor omissions of information required in inventory reports submitted to OSM. The applicant's response and communication with the SHPO, for the most part, has supplied the information necessary to satisfy the cited deficiencies. Stipulations are being proposed (Section F) to correct the remaining problems following acceptance of departmental approval of the Mine Plan.

The applicant's 1980 report (included in the Mine Plan) states that, in regard to potential subsidence areas, previous research has shown that only lithic scatters and isolated artifacts, neither of which are seriously affected by subsidence, are likely to be located in upland areas in this region. The mine plan states that certain portions of the potential subsidence areas are to be examined during 1981. The results of any such investigations have not been transmitted to OSM. Upon receipt and review of the subsidence study, OSM, in conjunction with the Utah SHPO, may request further work.

The applicant states that the ten sites recorded to date in the area of potential environmental impact will be subject to only indirect impact in the form of vandalism. However, the location of the proposed unit train has not been finalized so direct impacts in this area cannot be addressed at present.

For clarification of the records and associated compliance activities; formal eligibility and impact statements for all the located sites within the Starpoint Mine Plan will need to be prepared and submitted. The Utah SHPO office will help the applicant in preparation of these statements if requested. Once OSM has received the statements they will forward a request for concurrence with a recommendation of noneligibility to the Utah State Historic Preservation Officer.

C. EVALUATION OF COMPLIANCE

1. Applicant's Compliance

The applicant has caused to be conducted a cultural resource survey of approximately 1,300 acres of the area of potential environmental impact, including impact areas as currently proposed. OSM has conducted an Apparent Completeness Review of the Starpoint Mine Plan cultural resource documentation and has cited a number of deficiencies in the report regarding thoroughness of intensive and sample survey and site recordation, location of proposed impact areas, inadequacy of assessments of site eligibility for nomination to the NRHP and omissions in the inventory report of information required by OSM to complete Federal compliance. The applicant has corrected most of the deficiencies.

To be in compliance, the applicant must submit an addendum to the current documentation correcting the deficiencies identified by this TA. In addition, if any sites identified within the area of potential environmental impact are (1) determined eligibile for nomination to the NRHP; and (2) threatened with

direct or indirect impact as a result of departmental approval, an impact mitigation plan, designed in accordance with the Advisory Council on Historic Preservation's Guidelines for Making "Adverse Effect" and "No Adverse Effect" Determinations for Archaeological Resources in Accordance with 36 CFR 800 must be submitted to OSM. The applicant must also adhere to the stipulations listed in Section F.

2. OSM Compliance

OSM is not presently in compliance with Section 106 of the National Historic Preservation Act of 1966, Executive Order 11593 or 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 Porgram" (PMOA) due to discrepancy in recommendations of eligibility for nomination to the NRHP of the recorded sites in the Star Lake Mine Plan. This problem is currently being worked out with interactive discussion between the applicant, Utah SHPO and OSM.

OSM will make recommendations of eligibility and will request concurrence with these recommendations from the Utah SHPO when eligibility assessment for all sites have been completed by the applicant. When comments on site eligibility are received from the Utah SHPO, they will be forwarded to the Keeper of the National Register with OSM's recommendations and a request for a Ten-Day Determination of Eligibility as provided for under 36 CFR 63.6.

If any sites within the permit area are recommended as eligible for nomination to the NRHP, OSM will seek a determination of "No Adverse Effect," in consultation with the Utah SHPO and pursuant to 36 CFR 800 and the PMOA, upon receipt of an adequate mitigation proposal (Section F) from the applicant. Consultation will continue pursuant to 36 CFR 63 and 36 CFR 800, if the Utah SHPO or the Keeper of the National Register does not concur with OSM's recommendations. This would cause further delays in completing the 106 compliance procedures.

OSM will be in compliance with all applicable cultural resources legislation and regulations when comments and concurrence are received from the Utah SHPO and the Keeper of the National Register and are documented in a letter to the Advisory Council on Historic Preservation as specified in the procedures of the PMOA. Until that time, OSM is not in compliance with Section 106 of the National Historic Preservation Act of 1966. Although these procedures should be completed prior to taking any federal action, OSM has proposed stipulations (Section F) to protect all cultural resources until Section 106 compliance procedures can be completed.

D. REVISIONS TO APPLICANT'S PROPOSAL

If the Mine Plan is approved, the applicant will submit: (1) an addendum to "Chapter 5. Historical and Cultural Resources" correcting the remaining deficiencies in the documentation as cited in the TA; and, (2) if any sites

within the area of potential environmental impact are recommended as eligible for nomination to the National Register, an acceptable mitigation plan which will allow OSM to seek Determinations of No Adverse Effect. These requirements are further elaborated upon in Section F, "Proposed Special Stipulations."

E. RE-EVALUATION OF COMPLIANCE

If the Utah SHPO or the Keeper of the National Register does not concur with OSM's recommendations, a re-evaluation of the procedures will be necessary. The re-evaluation will follow the procedures outlined in 36 CFR 63, 36 CFR 800 and the PMOA.

F. PROPOSED SPECIAL STIPULATIONS

If, during the course of mining activities, previously unidentified cultural resources are discovered, the applicant shall ensure that the site is not disturbed and shall cease land disturbing activities in the vicinity, 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 in consultation with the regulatory authority and the SHPO, the operator shall confer with and obtain the approval of the regulatory authority and the Utah SHPO concerning the development and implementation of mitigation measures as appropriate.

The applicant shall undertake no surface disturbance in the areas listed below until (1) cultural resource inventory (inventories) of the areas is completed; (2) OSM receives an acceptable cultural resource inventory report for the area(s); (3) the Utah SHPO concurs with National Register eligibility assessments made for any cultural resources recorded within these areas; and, (4) if cultural resources recorded within these areas are determined to be eligible for nomination to the NRHP, no surface disturbance will occur until: (A) an acceptable mitigation plan conforming with the requirements of the Advisory Council's Guidelines for Making "Adverse Effect" and "No Adverse Effect" Determinations for Archaeological Resources in Accordance with 36 CFR 800 is submitted for review and approval to OSM and the Utah SHPO; and, (B) mitigation of adverse effects to cultural resources in this area is complete and the mitigation report has been accepted by OSM and the Utah SHPO. This stipulation applies to the following areas:

T. 15 S., R. 8 E.
- W1/2 of the SE1/4, Section 12
- W1/2 of the SE1/4, Section 11
- NE1/4 of the NW1/4 of the NE1/4, S1/2 of the NW1/4 of the NE1/4, and SW1/4 of the NE1/4, Section 15
- NE1/4 of the SE1/4, Section 13
- NW1/4 of the NW1/4 of the NW1/4, Section 16

T. 15 S., R. 9 E.
- NW1/4 of the SW1/4, and E1/2 of the SE1/4 of the NE1/4, Section 18
- SW1/4 of the NW1/4, Section 16

Justification: Pursuant to the above-referenced "Guidelines" and Part II, Section D of the PMOA.

The applicant will submit a brief site specific eligibility recommendation and evaluation of impacts for each of the sites in the mine plan area. The Utah SHPO has offered to help with these statements if needed. In conjunction with the Utah SHPO, OSM may request that a sample survey for cultural resources be conducted in areas potentially affected by subsidence.

G. SUMMARY OF COMPLIANCE

The applicant will be in compliance with OSM regulations if all stipulations in Section F are adhered to. OSM will begin the compliance process by submission of final eligibility assessments to the Utah SHPO for review and concurrence, and by enforcing compliance with Proposed Special Stipulations (Section F).

OSM is not presently in compliance with the PMOA since the SHPO has not been formally consulted regarding concurrence with eligibility recommendations. OSM will be in compliance when eligibility assessments for sites located within the area of potential environmental impact are complete and review and concurrence by the Utah SHPO has been obtained, and when an adequate mitigation plan, if necessary, has been approved by OSM and the Utah SHPO and is documented in a letter to the Advisory Council on Historic Preservation.

H. PROPOSED DEPARTMENTAL ACTION

The Secretary could approve with proposed special stipulations, which would provide protective measures for cultural resources until completion of the Section 106 compliance process.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Ten recorded historic and prehistoric sites may be directly or indirectly affected by the proposed departmental approval of the Mine Plan. None of the sites appear to be eligible, however, additional information is required before final eligibility recommendations can be made. In addition, such sites as the town of Wattis, Wattis Junction, Wattis Siding and the Utah Railway also need to be evaluated in terms of eligibility for nomination to the NRHP. Therefore, mining operations are currently considered to threaten up to 13 historic resources which may be of significance to the history of the area. Since a sample inventory to project the potential effects of subsidence upon sensitive sites has apparently not yet been conducted, it is possible that an unknown number of additional significant sites will be adversely affected. Although a mitigation program will be implemented to minimize adverse effects to any eligible sites within the area of potential environmental impact, there will be some data loss nonetheless. No data recovery program currently used can be expected to recover 100 percent of the information a cultural resource may contain.

The cultural resources that are not considered eligible at this time may contain information that would be recoverable at some point in the future. These sites may be disturbed or destroyed with no possibility for future data recovery. There would be the physical loss of sites, as well as the loss of potential information. The nine isolated finds recorded during the 1980 inventory of the Starpoint Mine potential impact area are considered ineligible for nomination to the NRHP and, therefore, mining operations are currently considered to entail No Adverse Effect to these resources. Since the artifacts have been collected and since locational and environmental data have presumably been recorded for these resources, minimal, if any, loss of data from these items is expected to result from disturbance of their original locations.

Unknown sites with potential information may also be destroyed by mining activities or as a result of increased cultural activity in the vicinity. Adverse impacts to unknown cultural resources through vandalism and unauthorized collection can be anticipated in the region due to probable increases in the number of persons in the immediate vicinity of the mine.

An anticipated beneficial impact from implementation of the data recovery program, if one is considered necessary, would be the addition of information to the existing data base regarding prehistoric and historic lifeways in the Price, Utah, area. The data collected from any mitigation measures and disseminated in the final report should add to the technical data base, as well as provide a clearer picture of the area's cultural history.

J. RESOURCE ALTERNATIVES TO PROPOSED ACTION

One alternative would be not to mine and thus, no cultural resources would be directly impacted. Another alternative would be to avoid all cultural resources during mining operations. Because in-place preservation of the known cultural resources does not seem warranted (based upon National Register criteria), neither of these alternatives are at present considered prudent or feasible.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO PROPOSED ACTION

The beneficial impacts of data recovery through impact mitigation, if it is considered necessary, would not be realized if mining activities are prohibited or if avoidance of all known cultural sites is enforced. Disapproval or avoidance cannot eliminate data loss through unauthorized disturbance or vandalism, nor can it slow on-going natural processes such as erosion, weathering and decay. Since approval of the Mine Plan with stipulations will allow for any necessary data recovery prior to additional site disturbance by cultural or natural agents, it is considered to be the alternative that will entail the minimum adverse impact and maximum beneficial impact to cultural sites.

817.11 SIGNS AND MARKERS

A. DESCRIPTION OF EXISTING ENVIRONMENT

Signs used on the property are constructed of suitable material, employ uniform and standard designs and conform to local ordinances and codes. The gate at the main entrance is posted with a sign containing the company name, address, telephone number and identification number.

At times when surface blasting becomes necessary, "Blasting Area" signs will be posted on access roads and on public roads with 100 feet. The blasting area will also be conspicuously flagged in the vicinity of the blast. Access from public road will be posted with "Warning, Explosives in Use" with appropriate warning "All Clear" signals given.

Topsoil stockpiles are marked with "Topsoil" signs.

Access roads are posted with speed, direction and necessary traffic information signs.

B. REVISIONS TO APPLICANT'S PROPOSAL

No revisions to applicant's proposal are given. The signs as described above will be maintained during the conduct of all activities to which they pertain.

C. RE-EVALUATION OF COMPLIANCE

Not applicable.

D. PROPOSED SPECIAL STIPULATION WITH JUSTIFICATION

If surface blasting becomes necessary, appropriate signs and signals in accordance with 30 CFR 817.11 will be posted.

E. SUMMARY OF COMPLIANCE

Will comply if proposed stipulation is implemented.

F. PROPOSED DEPARTMENTAL ACTION

Approval of signs and markers.

G. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Approval of proposed actions and carry on with necessary blasting operations.

H. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

None.

I. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

None.

817.13-.15 CASING AND SEALING OF EXPOSED UNDERGROUND OPENINGS

A. DESCRIPTION OF EXISTING ENVIRONMENT

Three mine portals exist on the MPA, two entering the Wattis seam and one the Hiawatha. One surface breakout exists for ventilation in Mud Water Canyon and two are planned for Seeley Canyon. Drill hole locations are shown on plates 2-1 and 6-6A, B and C.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant proposes to seal all mine openings, drill holes and wells (p. 3-110 through 3-111). Upon abandonment of drilling operations, all drill holes will be cemented from the bottom to within three feet of the collar and a monument will be placed over each hole. Upon mine abandonment ventilation shafts will be filled from bottom to collar with noncombustible material. Seals will be installed in all entries as mining is completed. The seals will be located at least 25 feet inside the entry and will be constructed of concrete blocks with a total thickness of 16 inches. An illustration of proposed portal seals is shown on p. 3-20. Where possible, the entry will be filled with noncombustible material graded to conform with natural contours and revegetated.

C. EVALUATION OF COMPLIANCE

When the above plans are completed, the applicant will comply with Section 817.13 through 817.15.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not Applicable.

F. PROPOSED SPECIAL STIPULATIONS WITH JUSTIFICATION

None.

G. SUMMARY OF COMPLIANCE

Will comply.

H. PROPOSED DEPARTMENTAL ACTION

Approve the applicant's proposal for casing and sealing of exposed underground openings.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Approval of the applicant's proposal will allow protection from safety hazards and from potential environmental damage.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

Because the applicant's proposal will allow protection from potential damage, no logical alternatives exist.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

Not applicable.

817.21 TOPSOIL PROTECTION

A. DESCRIPTION OF EXISTING ENVIRONMENT

The permit area consists of 5,200 acres, with 125 acres presently disturbed and an additional 75 acres proposed to be disturbed by surface activities. Soil parent materials are sandstones interbedded with carbonaceous shale and coal seams. The mine is located near the northeast central edge of the Wasatch Plateau and topography is steep and deeply dissected. Elevations range from 7,000 to 10,000 feet.

On-site inventories were conducted to determine existing status of soils. Soils materials range from deep to very deep. Calcareous, high in course fragments and located on steep slopes. Families range from coarse-loamy to fine-loamy to loamy-skeletal. Soil temperatures range from frigid to cyric and moisture regimes are udic and ustic. The vegetation consists of sagebrush and grass, but is also sparsely interspersed with mountain mahogany and serviceberry.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant has conducted an on-site soil inventory to determine existing status of soils. Information provided consists of soil profile descriptions from the area and a description of methods to be used for protecting and reclaiming topsoil. Soils maps have been prepared for the three areas studied in the mine plan including the processing waste pile, extension of Seeley Canyon Breakout and Gentry Ridge Breakout. Soil pedons are described and sampled from the three areas of study. Map unit descriptions for each soil unit are provided. Information on physical and chemical properties of the soils are provided.

The necessary information to assess soil suitablity for reclamation has been provided. No topsoil substitutes are presently proposed by the applicant.

Calculations for volumes of suitable soils material are provided.

Removal procedures are discussed in Section 8.7. The applicant proposed to prepare a site-specific soil removal and storage plan. The general outline of procedures is as follows:

a. Existing vegetation will be removed and topsoil collected prior to excavation.

b. Only A and B horizon material will be removed and stockpiled for later distribution.

c. Rubber tired scrapers, bulldozer, front-end loaders and dump trucks will be used to salvage topsoil.

d. Both short- and long-term topsoil stockpiles will be used.

e. Topsoil stockpiles will be protected from disturbance. Short-term piles will be sprayed with water or temporarily vegetated. Long-term piles will be vegetated.

Redistribution procedures are general in nature. Prior to redistribution, regraded land will be scarified. Steep slopes will be ripped to create a rough topography to retard soil erosion and promote vegetation establishment. Topsoil will be redistributed and allowed to settle. Topsoil thickness will be determined by the proposed use. A seedbed will be prepared and Plateau will use necessary measures to ensure stability and prevent erosion.

Soil fertilization needs are determined from the soil survey. Soil analyses will include micronutrients, K, Ca, Mg, P, N, pH, salinity and texture.

Topsoil stockpiles will be protected by revegetation. Access will be controlled. Only stable areas out of drainages will be used to locate the stockpiles. Stockpiles will have signs identifying them.

The applicant has addressed areas of disturbance and provided fugitive dust calculations.

C. EVALUATION OF COMPLIANCE OF PROPOSAL

Information on the sodium absorption ratio (SAR) and soluble sodium (Na) was lacking for all soil samples discussed. At a minimum, these parameters should be evaluated for the refuse disposal area. Soluble Ca,

Mg and Na data results should be reported in meq/l rather than ppm. The applicant has proposed to segregate A and B horizon materail from C horizon material since "C horizon material . . . is not sufficiently capable of supporting diverse vegetation."

The applicant has provided a detailed, time specific redistribution schedule.

The applicant is not in compliance with this section until these areas are addressed.

817.22 Topsoil Removal

a. The applicant has proposed to remove topsoil at the start of any construction phase. Existing vegetation will be removed prior to topsoil collection.

b. The applicant has stated that A and B horizon material will be salvaged. Volumes of suitable materials have been derived for the refuse disposal area.

c. Depth of topsoil removal will be dependent upon the amount of A and B horizon material. The 1981 Plateau field investigation has provided information concerning the various depth of the soil horizons.

d. The chemical and physical properties of each soil type are provided in Table 1, Supplement No. 2, 1981, Section 5. The applicant has stated the C horizon material will not be removed since it will not sifficiently support diverse vegetation.

e. No topsoil substitutes have been proposed at this time. The applicant states the section is "not applicable."

The applicant is in compliance with this section.

817.23 Topsoil Storage

b.(1) Applicant has stated that topsoil will be stored within the permit boundary as it is being stored now and will be protected from disturbance and unnecessary compaction.

Short-term stockpiles will be used for areas that will be immediately reclaimed. An effort will be made to utilize the soil as soon as possible to get maximum benefit from incorporated seeds and roots.

Long-term stockpiles will be used for final reclamation of the abandoned areas and cover for the coal refuse pile.

Short-term stockpiles will be sprayed with water or temporarily vegetated to retard erosion. Long-term stockpiles will be placed in stable areas away from active operations, the surface will be left in a roughened condition and vegetated with quick-growing plants. The seeding will be performed during the next planting season. The stockpiles will have signs identifying their use and establishment of various weeds will be prevented.

Summary: The applicant has outlined its plans for storage and protection of soil resources. Topsoil locations are provided on plate 3-1. The applicant is in compliance with the section at this time.

817.24 OVERBURDEN SCARIFICATION/TOPSOIL REDISTRIBUTION

a. Applicant states that prior to topsoil redistribution, regraded land will be scarified by a ripper-equipped tractor to reduce compaction. Steep slopes which will remain after cessation of mining will receive special ripping to create "ledges, crevices, pockets and screes. This will allow better soil retention and vegetation establishment."

b. Topsoil will be redistributed within a suitable time period prior to seeding. The topsoil will be allowed to settle and attain equilibrium with its environment. Applicant proposed to spread a "uniform thickness consistent with the reclamation plan." Compaction will be reduced by the use of spring-toothed harrows or by discing as may be appropriate for each area. If determined to be necessary, mulching would be used to minimize erosion.

A brief outline for redistributing and protecting soil resources is provided by the applicant. The applicant has demonstrated its methods of redistribution, erosion control methods for flat areas and steep slopes, mulching techniques and drainage controls.

The depth of redistributed topsoil for each area of disturbance needs to be addressed.

Summary: Overall, the applicant has developed a comprehensive plan dealing with this section. The applicant needs to provide detailed figures for the depth of topsoil redistribution on each area of disturbance to be in compliance with this section.

817.25 SOIL TESTING AMENDMENTS

The needed amendments will be determined before the final cover is seeded.

Applicant is in compliance with this section.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-ANALYSIS OF COMPLIANCE

None applicable.

F. PROPOSED SPECIAL STIPULATIONS AND JUSTIFICATIONS

Applicant needs to supply soil chemical data on the SAR and soluble Na. Data on soluble Na, Ca and Mg must be submitted in meq/l.

The applicant needs to provide topsoil redistribution methods for each area of disturbance which assure successful revegetation.

G. SUMMARY OF COMPLIANCE

The applicant will comply if the proposed stipulations are met.

H. PROPOSED DEPARTMENTAL ACTION

To approve the topsoil protection plan with the special stipulation discussed above.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

The proposed action will impact approximately 200 acres on the 5,200 acre permit area. This is not a major impact, especially considering the fact that 125 acres of that total are presently disturbed and have been for years. The lands on which the mine is loacted are in the public domain. Therefore, the responsibility for preserving recreational value, reducing soil erosion, promoting timber production, managing wildlife and recovering any energy resource is with the managing agency. These considerations are based on preserving the soil resource, which is limited in this rugged terrain. The soils are of varying textures, depths, coarse fragment content and generally located on steep to very steep slopes. The overriding force in this environment is geologic erosion making it difficult to establish vegetation and maintain it. The effect of runoff from both snowmelt and precipitation can be extensive even on areas undisturbed by man. Thus, exposing soils by removing vegetation and cutting into steep slopes produces serious erosion and sedimentation potential. Replacement of soil on and revegetation of steep slopes may not be possible. Soil genesis will be interrupted by salvage operations, textures will be mixed and coarse fragments content increased. Unstable slopes may be created where they do not now exist due to road building and construction of the track bed for the proposed unit train. Soil erosion impacts the visual resource and the production of both timber and wildlife.

In summary, some unavoidable loss of the soil resource is foreseen. Every effort must be made to reduce this loss and promote stabilization of revegetation of the disturbed areas where feasible.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

Several statements in the mine plan show a lack of attention. For example, the statement about ripping steep slopes appears both physically impossible and counter-productive. Steep slopes must be stablized not subject to unnecessary disturbance leading to more erosion. Sidecase slopes below roads should not be disturbed any further unless it is part of an effort to reduce the angle during final reclamation. However, such steep slopes are part of the landscape in the mine area and such an effort to reduce does not seem necessary. An effective mulching technique to vegetate these steep slopes as they are would be much more effective and help them blend in with the dominant landscape.

The need to recover a federal resource not mineable by any other method dictates the need of surface facilities for the extension of underground mining. Disturbance of some additional acreage to allow Plateau Mining Company to recover the resource as part of the existing operation seems the only logical alternative at this time. Other alternatives would not allow recovery of the resource at all or would necessitate establishing new portals and surface facilities beyond those already proposed.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

None.

817.41 HYDROLOGIC BALANCE: SURFACE WATER

A. DESCRIPTION OF THE EXISTING ENVIRONMENT

The Plateau Mining Company Starpoint Mines are located in Carbon County and Emery County, Utah. The company controls 5,200 acres in these two counties.

The mine plan area is located near the headwaters of the Price and San Rafael river basins. The Carbon-Emery County line marks the watershed divide. Approximately 3,900 acres drain north to the Price River through Mud Water and Corner canyons (tributaries to Gordon Creek) and through Serviceberry and Miller creeks (tributaries to the Price River). Runoff from the remaining acres west of the drainage divide flow through Huntington Creek to the San Rafael River. Mud Water Canyon, Corner Canyon, Miller Creek and Huntington Creek support perennial flows.

Annual precipitation for the mine plan area averages 22 inches. Snowmelt is the primary source of stream flow for perennial streams in the area. Summer precipitation generally yields very little runoff. Peak 25-year and 50-year flows for four of the streams in the mine plan area are given in Table 1. Peak flows were estimated by use of empirical formulas based upon channel geometry characteristics (p. 7-34).

Table 1

Peak 25-Year and 50-Year Flows (cfs)

Stream	Q_{25}	Q_{50}
Corner Canyon	183	198
Mud Water Canyon	107	115
Miller Creek	54	58
Tie Fork Canyon	127	137

The applicant states that, in general, water quality in the headwaters of the Price and San Rafael rivers is excellent. Water quality, however, deteriorates in a downstream direction as total dissolved solids increase significantly due to contact with shale formations and irrigation return flows. Mundorff (1972) reports that Price River and tributary headwaters have a TDS concentration of less than 400 mg/l while downstream, 22 miles upstream from the Green River, the weighted average of dissolved solids has been between 2,000 and 4,000 mg/l. Seasonal variation associated with perennial streamflow in the mine plan area is identified in Figure 7-9.

There are 39 surface water rights on and adjacent to the mine plan area. With the exception of the United States Fuel Company right for 3.3 cfs on Miller Creek, all the surface rights are for stockwatering (Tables 7-8 and 7-9). The application states that: "There is presently a pending water right application . . . to appropriate 1.0 ft^3/min of water in Carbon County from the mine workings" (p. 3-72).

B. DESCRIPTION OF APPLICANT'S PROPOSAL

General

The applicant proposed to control runoff from disturbed areas by means of diversion ditches, culverts and sedimentation ponds. Runoff from all disturbed areas will be routed through sediment control ponds. Effects of the mining operation on the surface water system will be analyzed by the surface water monitoring plan.

Diversion Ditches

Fourteen diversion ditches will be provided to divert runoff from disturbed areas into the sedimentation ponds or to divert runoff from undisturbed areas past the sedimentation ponds. Culverts have been sized to pass peak flow requirements for associated diversion ditches.

Sedimentation Ponds

Seven small sedimentation ponds will be provided to control sediment from surface drainage of disturbed areas. The ponds were designed to contain an accumulated sediment storage volume form a three-year period. In

addition to the sedimentation ponds, small sediment traps are located throughout the property. However, the sedimentation ponds have been designed to contain runoff without regard to the sediment traps (p. 7-66).

Surface Water Monitoring

The application states that "An on-going hydrologic monitoring program will be conducted at each of the stations shown on Plate 7-16" (p. 7-89). Plate 7-16 indicates seven monitoring stations in or near the mine plan area. Samples will be collected quarterly from these stations. Samples will be anlayzed for parameters identified in Tables 7-3 and 7-4.

Site Reclamation

After disturbed areas are stablized and runoff is comparable to premining conditions, the site drainage system will be removed. Drainage system areas will be backfilled and revegetated. Ponds will be drained, backfilled and revegetated. Natural drainage patterns will be reestablished.

C. EVALUATION OF COMPLIANCE OF PROPOSED PLAN

817.42 WATER QUALITY STANDARDS AND EFFLUENT LIMITATIONS

Runoff from all disturbed areas will be passed through sediment ponds (pp. 3-82, 7-89). Sedimentation control facilities will be maintained as long as they are required to meet effluent limitations of applicable federal or state laws for runoff or drainage (p. 3-21).

Starpoint Mines has applied for and received (October 7, 1980) an NPDES permit. It was signed October 3, 1980, and a copy is included in the application. It appears that there are no limitations for total manganese in the NPDES permit and no provisions for monitoring manganese from the sediment pond discharges. Due to the cooperative agreement with the Environmental Protection Agency (EPA) and the latest EPA regulations governing water monitoring requirements for alkaline coal mines, the NPDES requirements override this apparent deficiency.

817.43 DIVERSIONS AND CONVEYANCE OF OVERLAND FLOW, SHALLOW GROUND WATER FLOW AND EPHEMERAL STREAMS

All diversion ditches are temporary and will be removed and reclaimed after all disturbed areas are stablized. The diversion ditches which divert runoff from disturbed areas to sediment ponds have been designed for 25-year, 24-hour runoff events. Those ditches diverting runoff from undisturbed areas around disturbed areas are designed for 10-year, 24-hour runoff event, with the exception of ditches 9 and 14 which are designed for the 50-year, 24-hour storm (p. 7-61). Diversion ditch locations and alignment are displayed on Plate 7-8.

Storm rainfall depths for selected durations and return periods were taken from the Precipitation Frequency Atlas of the West, NOAA Atlas 2, Volume VI-Utah (p. 7-35).

Peak flows from contributing areas as a result of various precipitation events were estimated using the dimensionless hydrograph method (Figure 7-4) developed by the U. S. Soil Conservation Service. Hydrologic calculations for peak flows are given in Table 7-10.

Diversion ditches were designed with a trapezoidal cross section. Depth of flow was computed for each ditch at maximum and minimum slopes (Table 7-12). Peak flows were calculated using the design for emergency spillways (National Engineering Handbook, Section 4, Chapter 21). This method incorporates a routing routine which is not directly applicable to diversion ditches, however, peak discharges were compared to the results derived from the rational method and were found to be acceptable.

A maximum permissible velocity of 5.0 fps (p. 7-61) is acceptable engineering practice for unlined channels (Haan & Barfield, p. 132). those channel segments with velocities greater than 5.0 fps will be riprapped (p. 7-62). Freeboard for all channels is 0.5 feet which surpasses the OSM freeborad requirements of 0.3 feet.

In addition to the diversion ditches, culverts and downspouts are provided for conveyance of overland flow. Six downspouts are designed to divert drainage into or around proposed sedimentation ponds. Culverts were sized for peak flow requirements for their associated diversion ditches.

817.44 STREAM CHANNEL DIVERSIONS

There will be no stream channel diversion in the permit area. No changes to the natural drainage patterns are anticipated (p. 3-72).

817.45 SEDIMENT CONTROL MEASURES

Runoff from disturbed areas will pass through sediment control ponds and any discharge from these ponds will be monitored per the requirements of the NPDES permit. Small surface disturbances associated with a fan and additional breakouts in Mud Water Canyon will be controlled with straw berms covered by soil.

817.46 Sedimentation Ponds

Seven small sedimentation ponds will be provided to detain runoff from the mine plan area. Small ponds were used so they could be located close to disturbed areas and in order to avoid the costs of more rigorous requirements for larger dams and reservoirs. Pond locations and drainage areas are displayed on Plate 7-8.

In addition to the sedimentation ponds, small sediment trap basins are located in the mine plan area. Sedimentation ponds, however, were designed without regard to the influence of the sediment traps (p. 7-66). Thus, the sedimentation pond design should tend to be conservative in terms of controlling runoff.

Sediment Storage Volume

Sediment storage volumes for the seven ponds were estimated by use of the Universal Soil Loss Equation. The acres of disturbed and undisturbed area in the contributing watershed along with the factors for the soil loss equations are given in Tables 7-13. Soil loss volumes for disturbed and undisturbed areas in each watershed were calculated separately and added together to obtain the total estimated sediment load for a three-year period.

It is not clear, from Table 7-13, how the calculated values for the topographic factor (LS) were obtained. Using Equation 7-12, as given on page 7-41, with given values for S and L and appropriate values for m, it was not possible to calculate identical values for LS. However, the regulatory authority has determined that the LS values given in Table 7-13 have been verified to be acceptable.

Detention Time

Sufficient capacity is provided in each of the seven ponds to store the runoff from the 10-year, 24-hour storm (in addition to sediment storage and dead pool storage volumes). A comparison of the runoff volumes in Table 7-14 with storage volumes in Table 7-15 indicates that adequate storage volume will be provided.

The applicant proposed to detain stormwater runoff for a period of 14 days before releasing through the dewatering device in each pond (p. 7-81). This surpasses the regulation requirement of a theoretical 24-hour detention time.

Dewatering

Each of the seven sedimentation ponds will be provided with a dewatering device. The dewatering device will be placed above the level of the sediment storage pool. The applicant will detain storm runoff for 14 days which will allow sufficient time to meet effluent limitations.

Short Circuiting

Short circuiting does not appear to be a problem in the design of the sedimentation ponds. However, the locations of inflow channels are not given for Ponds 3, 6 and 7 on Plates 7-11, 7-14 and 7-15, respectively. The 14-day detention time design for each pond should alleviate any potential short circuiting question.

Effluent Limitations

Any discharge from sediment control facilities will be monitored in accordance with the NPDES permit requirements. The permit contains discharge limitations and monitoring requirements for total suspended solids, total iron, alkalinity-acidity, total dissolved solids, oil and grease and pH. (Permit No. UT-0023736.)

Emergency Spillway

For all seven sedimentation ponds, the emergency spillway elevations are set above the required total storage level. Total storage consists of sediment, dead pool and runoff storage. Elevations for total storage were obtained from Figures 7-11 through 7-17. Emergency spillway elevations were obtained from Plates 7-9 through 7-15.

Sediment Removal

Sediment will be removed when it fills 60 percent of the sediment design volume in the ponds (p. 7-86).

Principal and Emergency Spillway

For the seven ponds, the proposed principal and emergency spillway system will consist of a corrugated metal riser and conduit with an anti-vortex device and trash rack. The emergency spillways are designed to pass the 25-year, 24-hour storm (p. 7-76).

Embankment Elevation

The minimum elevations of pond embankments will be at least 1.0 feet above the water elevation when the emergency spillway is flowing at design depth.

Embankment Construction

For each pond, required total embankment height includes a five percent allowance for settling. The top width of all embankments meets the (H + 35)/5 requirement (Table 7-15).

For ponds 2, 4, 6 and 7, the embankment slopes meet the regulation requirements. However, for Ponds 1, 5 and 8, the downstream embankment slopes are 1v:1.35h which is steeper than the 1v:2h limitation. For Pond No. 3, embankment slopes are not given on Plate 7-11, however, it appears that the downstream slope is approximately 1v:1.3h which is steeper than the requirements. Thus, Ponds 1, 3, 5 and 8 do not meet the embankment slope requirements.

No specifications were found regarding organic matter in the embankment foundation or the quality of fill material. The plan specifies fill material to be placed in six- to eight-inch lifts over the length of the fill and be machine compacted except immediately around conduits where hand compaction is required.

20 Acre-Feet Capacity

All sedimentation ponds in this mine plan have less than 20 acre-feet of storage capacity and an embankment height of less than 20 feet.

Embankment Stabilization

Riprap will be placed on the upstream pond embankment of each pond to a width of five feet on both sides of the spillway and dewatering device up the full height of the embankment (p. 7-82). The application also states that all disturbed areas in and near the ponds will be seeded to establish a vegetative cover (p. 7-86).

Sedimentation Pond Removal

After disturbed areas are stablized and runoff is comparable to premining conditions, the site drainage system will be removed. Ponds will be drained, backfilled and revegetated. Natural drainage patterns will be reestablished (p. 3-113).

817.47 DISCHARGE STRUCTURES

Riprap will be placed in the inlet channels and below the outlet of each pond to dissipate energy and reduce erosion (p. 7-82). Plate 7-8 indicates riprap will be provided at the outlet of downspouts and culverts on steep slopes.

817.48 ACID-FORMING AND TOXIC-FORMING MATERIALS

This mine produces no acid-forming or toxic-forming materials (p. 3-55).

817.49 PERMANENT AND TEMPORARY IMPOUNDMENTS

There will be no permanent impoundments. Temporary impoundments meet the criteria estalished in Section 817.46(e-u).

817.50 UNDERGROUND MINE ENTRY AND ACCESS DISCHARGES

All large diameter openings will be sealed as part of the reclamation activities. The seals will be designed so that mine drainage, if any, will not enter surface water bodies. The mine entry seals will be made of solid concrete blocks and will then be backfilled with noncombustible material, graded and seeded.

Present mine portals are designed to insure that water will not be discharged from the mine.

817.52(b) SURFACE WATER MONITORING

The application states that "An on-going hydrologic monitoring program will be conducted at each of the stations shown on Plate 7-16" (p. 7-89). Plate 7-16 indicates seven monitoring stations in or near the mine plan area.

Samples will be collected quarterly from each station. The third quarter sample, collected during low flow conditions, will be analyzed for 36 water quality parameters while the other quarterly samples will be tested for 20 parameters, identified in Tables 3-6 and 3-7.

Surface water monitoring will continue for the life of the operation and during the postmining period until the reclamation work is approved by the regulatory authority.

817.54 WATER RIGHTS AND REPLACEMENT

There is presently a pending water right application to appropriate 1.0 cubic foot per minute from the mine workings. The application was approved in 1972, with an extension currently being sought (p. 3-72).

There are 39 surface water rights on an adjacent area to the mine plan area. With the exception of the United States Fuel Company right for 3.3 cfs on Miller Creek, all surface rights are for stockwatering.

The application states that Plateau Mining Company will provide an alternative water supply in the event the mining operation should affect water supplies in the Gentry Mountain area. Several alternative sources of supply are identified on p. 3-77.

817.55 DISCHARGE OF WATER INTO AN UNDERGROUND MINE

There will be no discharges of water into an underground mine.

817.56 POSTMINING REHABILITATION OF SEDIMENTATION PONDS, DIVERSIONS, IMPOUNDMENTS AND TREATMENT FACILITIES

There will be no permanent impoundments. Complete site restoration is proposed for drainage systems and impoundments (see comments under 817.46).

817.57 STREAM BUFFER ZONES

There are no perennial streams or streams having a biological community within 100 feet of a disturbed area.

D. REVISION TO APPLICANT'S PROPOSAL

None.

E. REANALYSIS OF COMPLIANCE

None.

F. PROPOSED SPECIAL STIPULATIONS AND JUSTIFICATION

Provide a description of measures to be taken to bring pond Nos. 1, 3, 5 and 8 into compliance with Section 817.46(m) regarding embankment slopes or variances obtained from the regulatory agencies. Any embankment slope not meeting these design requirements must demonstrate and be certified by a qualified registered professional engineer that the embankments are designed and constructed to insure a minimum 1.5 static safety factor. If this is not provided, then designs for reconstruction to meet the design specifications of UMC 817.46 would be necessary.

Provide specifications regarding the quality of embankment fill material pursuant to the requirements of UMC 817.46(n) and (o).

G. SUMMARY OF COMPLIANCE

If the proposed stipulations are implemented or variances accepted, this section on surface water hydrology will be in compliance.

H. PROPOSED DEPARTMENTAL ACTION

To approve, with stipulations, the applicant's plan to restore surface drainages and protect water quality in the permit area of Starpoint Mines.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTIONS

The applicant suggests that since ground water will be intercepted and brought to the surface, the TDS content will not increase as it would without the mine being there. The result is an improvement in the overall water quality in the region (p. 3-76).

It is not expected that there will be sufficient mine water requiring discharging to surface streams during the life of this permit. If discharge to the surface is required, it will be in accordance with NPDES permit standards.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

None.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

None.

GROUND-WATER HYDROLOGY

A. DESCRIPTION OF THE EXISTING ENVIRONMENT

Geology

All of the formations exposed on or adjacent to the mine plan area are Cretaceous members of the Mesa Verde group, with the exception of the North Horn Formation, which is Tertiary, the stratigraphy and lithology of the units, in ascending order, are (See Figure 6-2): the Starpoint Sandstone--a massive, medium-grained sandstone ranging in thickness from 400 to 600 feet; the Blackhawk Formation--an interbedded sandstone, siltstone, shale and coal formation approximately 1,000 feet thick; the Castlegate Sandstone--a massive, medium-to-coarse-grained sandstone; the Price River Formation--a medium-to-coarse-grained sandstone with shale lenses; and the North Horn Formation--an interbedded sandstone, variegated shales and cream colored limestone.

The Plateau mine plan area is located in the north central part of the Wasatch Plateau Coal Field. The dip of the strata is generally toward the south, ranging from one to three degrees over the mine plan area. Plateau Mining Company is presently mining three seams in the lower 150 feet of the Blackhawk Formation, the Wattis Seam, the Third Seam and the Hiawatha Seam (see Figure 6-2).

The occurrence of ground water in the region of the Starpoint is predominantly controlled by the geology. Ground water in the region exists under water table, artesian and perched conditions. Water table conditions exist primarily in shallow alluvial deposits along larger perennial streams (i.e., Price River, Huntington Creek and Cottonwood Creek) and in the relatively flat-lying sedimentary rocks. Although some of the sandstone in the area serves as principle water bearing strata, their ability to yield water is largely controlled by the existence of the relatively impermeable interbedded shale layers.

Ground water occurs in all the geologic units in the area, but none of the units are saturated everywhere. Rocks commonly are drained within short lateal distances from the walls of deeply incised canyons (USGS, unpublished). This condition is most common in the North Horn Formation.

The North Horn Formation plays an important role in the ground-water regime due to the heterogeneous lithology. The shales in this formation have a large influence on the occurrence of the springs and seeps in the mine plan area. A majority of the springs issue from south facing slopes, often at a sandstone-shale interface considerably above the adjacent stream. Apparently, 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).

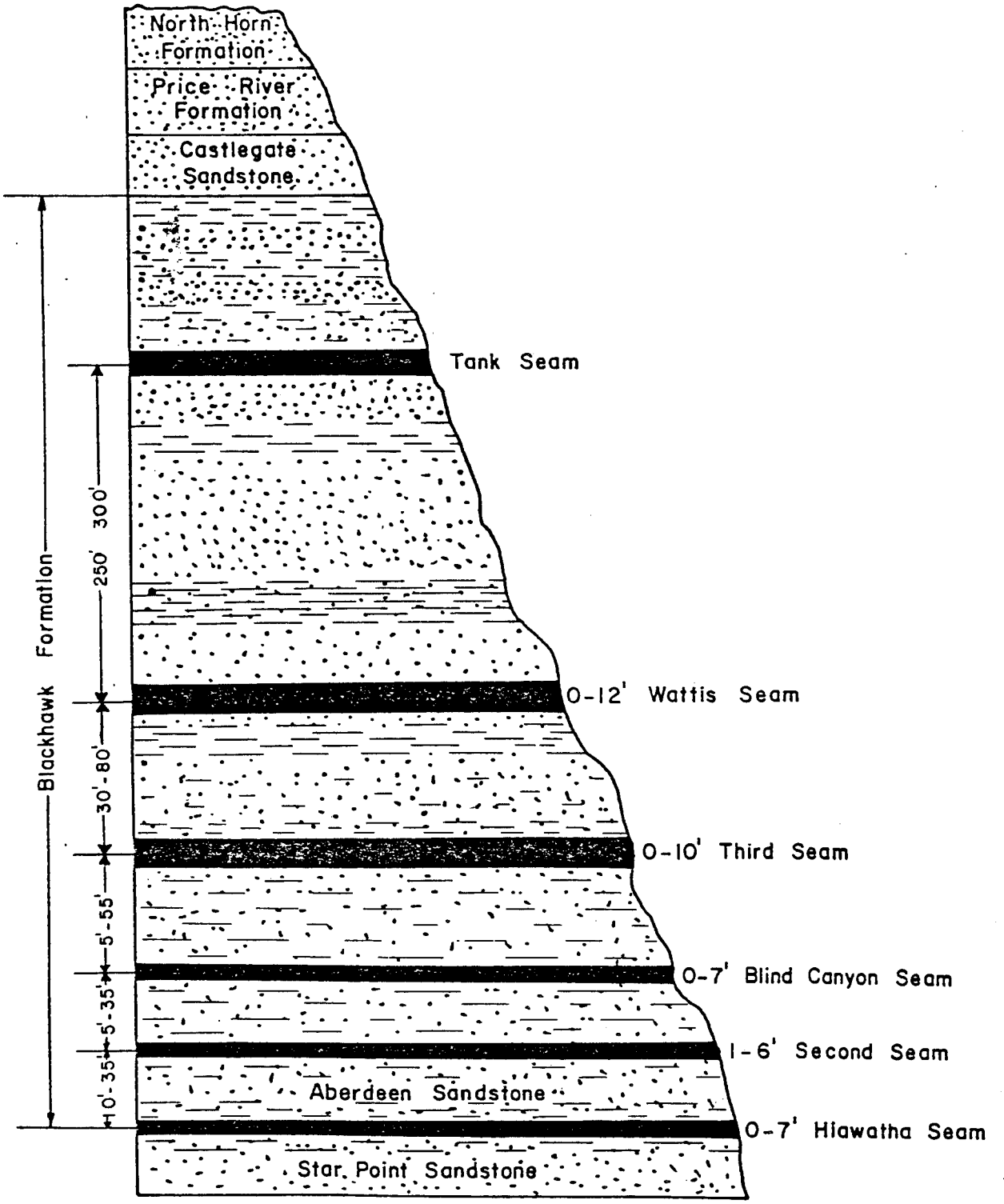

FIGURE 6-2. Generalized Columnar Section of the Plateau Mine Lease Area

Source: Rosner, J. F. (1979)

Five springs were identified by the U. S. Forest Service on the north facing slope of the mine plan area. These springs have been identified by Plateau Mining Company (p. 2, Section 3, Supplement No. 2) as being located at the contact point between the Starpoint sandstone and the underlying mancos shale. No springs have been located on the mine plan area itself issuing from the Blackhawk or from the overlying Castlegate sandstone. All identified springs within the mine plan area are in the Price River and North Horn Formations at or above the 9,300 foot elevation.

Data from coal exploratory holes, springs and underground mines indicate that an extensive aquifer exists in the Starpoint sandstone and, in some areas, the aquifer extends into the lower coal bearing part of the Blackhawk Formation (USGS, unpublished report), herein referred to as the Starpoint-Blackhawk aquifer.

Recharge to the Price River and North Horn Formation is mostly, if not all, derived from snow (USGS, unpublished report). Recharge to the Starpoint-Blackhawk aquifer is in large part from percolation of water from overlying formations, mainly along faults and fractures.

Some water may enter or leave the study area by subsurface flow. Numerous north-south faults occur over the mine plan area. A major north-south fault is in the bottom of Gentry Hollow. Another major north-south fault is in the bottom of Wild Cattle Hollow.

Ground Water Characteristics

Due to the discontinuous nature of the ground water, monitoring wells were not installed at the minesite. Past experience in the region has shown that very limited information can be obtained from utilizing monitoring wells and this type of approach is not cost-effective. Therefore, discussions on the ground-water characteristics are based on information collected from springs, seeps, local wells, mine dewatering and U. S. Geological Survey studies.

Wells in the immediate area of the Starpoint mine generally yield less than 10 gpm. The specific yield from these wells is generally on the order of 0.2 to 0.7 percent, and the hydraulic conductivities are very low. The estimated volume of recoverable water in the area averages less than 600 acre-ft/mi^2 in the upper 100 feet of saturated rock (p. 7-15). However, wells penetrating highly fractured sandstone result in enhanced yields, specific yields and hydraulic conductivities.

All identified springs within the plan area are in the Price River or North Horn formations at or above an elevation of 9,300 feet. Of the 34 springs that were measures, four had flows between 5 and 15 gallons per minute (gpm). All of the other spings were flowing less than five gpm, with most flowing between one and two gpm (p. 7-22).

Normally flow of water from the active working face will not exceed 10 gallons per minute. The flow normally dries up 500 feet behind an activie working face. During the summer of 1980, a roof leaker was encountered with an initial flow of about 150 gpm. In early December, another gusher flowing about 100 gpm was encountered about 1,200 feet to the west. Both of these gushers are located in SW1/4 of Section 7. The 150 gpm gusher was down to approximately 20 gpm in December 1980, and the 100 gpm gusher was down to 10 gpm by the end of January 1981 (p. 9, Section 3, Supplement No. 2). Currently, less than 100 gpm is being made within the Starpoint Mine from all sources.

South of the Starpoint Mines is the U. S. Fuels Company King Mines. The King Mines intercept the Bear Canyon Fault at the bottom of Gentry Hollow. Records indicate that about 140 gpm continuously entered the mine along the Bear Canyon Fault during May 9 to October 11, 1979 (USGS, unpublished report). Maximum initial flow encountered was 500 gpm (p. 13, Section 13, Supplement No. 2). The Gentry Hollow stream (perennial along the lower section of the stream) lies directly overhead along the edge of the graben.

Ground-Water Quality

The ground-water quality of the mine plan area was primarily determined from springs and seeps. In addition, samples were collected from seepage within the Plateau Mine to determine the water quality of the Blackhawk Formation in which the coal-bearing zones are located. The samples were analyzed for bicarbonate, calcium, chloride, magnesium, potassium, sodium, sulfate and total dissolved solids.

In general, the ground-water constituents for the springs were mostly calcium bicarbonate with some calcium and magnesium sulfates. Total dissolved solids concentrations vary from 200 to 370 mg/l, averaging approximately 285 mg/l (p. 7-11, Hydrology Section, Vol. III) (see Figure 7-3). The total concentration of dissolved solids concentration in ground water in the mine plan area would tend to increase as the contact time of the water with the shale layers of both the North Horn and upper Price River formations increases. Shales tend to contain an abundance of soluble minerals and to allow more surface contact to water flowing through them than would be expected in coarse-textured rocks. Water that percolates into the soil mantle appears to move only a relatively short distance before it encounters a nearly impermeable layer of shale or siltstone and then flows downdip on top of the rather impermeable layer.

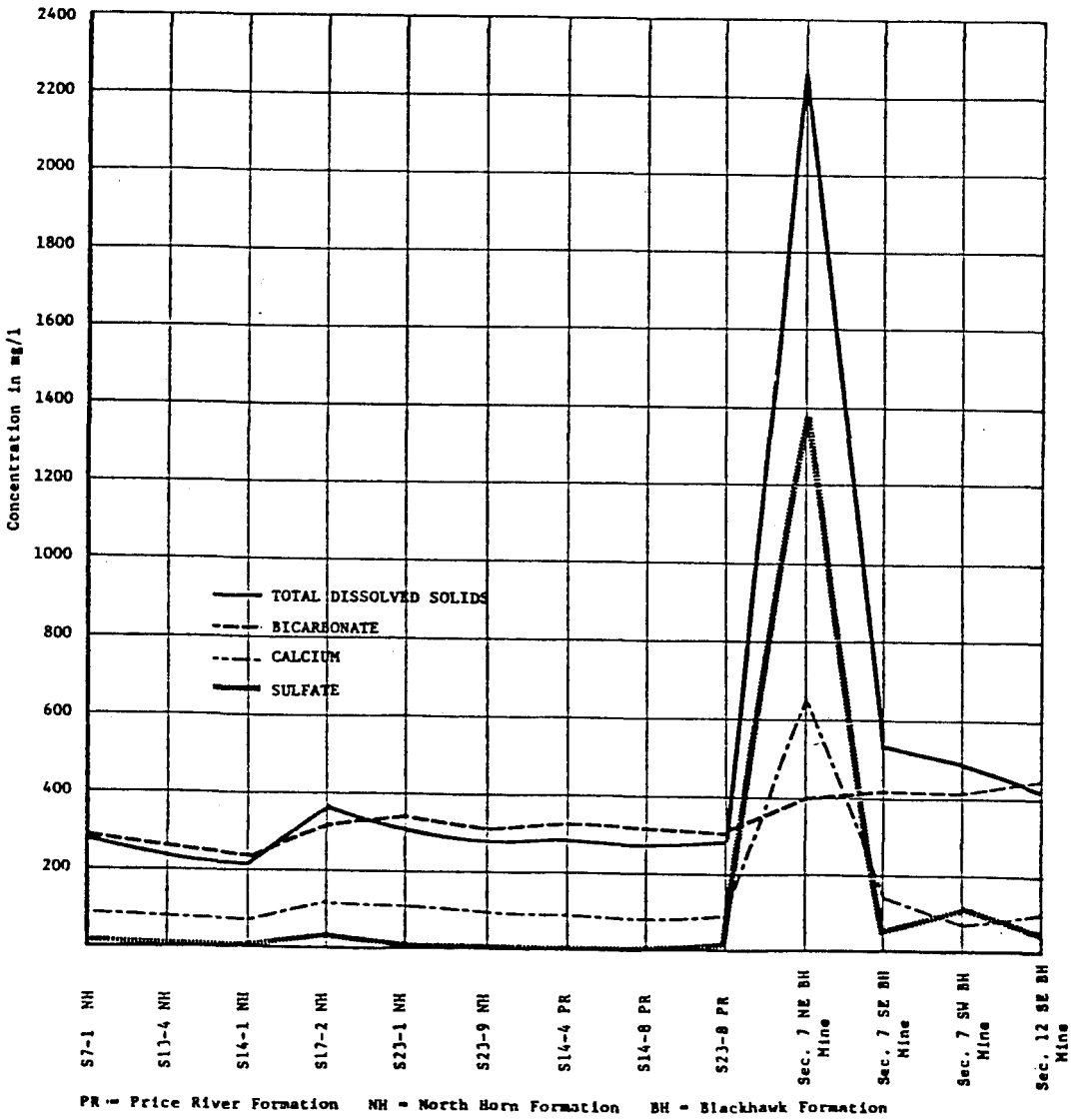

FIGURE 7-3. Comparison of Water Quality Data Collected From Springs and Mine Within Separate Geologic Formations in the Plateau Mine Plan Area

B.,
C. DESCRIPTION OF APPLICANT'S PROPOSAL AND EVALUATION OF COMPLIANCE

817.48 HYDROLOGIC BALANCE: ACID-FORMING AND TOXIC-FORMING MATERIALS

The mined coal is transported from the mine via conveyor to the processing plant near Wattis. After the coal has been processed, the coal and coaly waste are individually stockpiled near this location. Piezometers are going to be installed in the stockpiles to monitor the degree of saturation.

Acid-forming or toxic-forming materials have not been identified on the site. This observation is supported by the low sulfur content of the coal in the area (MRP 6.5.5.2). No acid-forming or toxic-forming materials have been identified in the water quality and core analysis performed by Plateau Mining (Table 6-9 and 6-10 and Appendix 6A). Furthermore, the stockpiles are located in an area which is stratigraphically removed from the primary ground-water system.

The applicant complies with 816.48.

817.50 HYDROLOGIC BALANCE: UNDERGROUND MINE ENTRY AND ACCESS DISCHARGE

As previously discussed, the Plateau Mine currently intercepts ground water in the form of small roof leaks (approximately five gpm) and tension cracks (flows up to 150 gpm). This water is used for dust suppression and fire protection within the mine, for bathhouse water in the portal area, and for preparation plant use. All water not used for these purposes has been stored in reservoirs within the mine. A National Pollution Discharge Elimination System (NPDES) permit No. UT-0023736 maintained for discharge into Mud Water Canyon. If at some future time, the mine produces more water than can be utilized within the mine or outside the mine by the surface facilities, water may either be discharged into Mud Water Canyon in connection with the aforementioned NPDES permit or into some other drainage after proper approvals are obtained.

It has been shown that the ground water brought to the surface has a lower dissolved solids content than would have existed if the water were to continue its downward movement through shale layers, dissolving increased amounts of salt with distance (p. 7-28). This is also evident in the strong calcium bicarbonate type of water and low concentration of dissolved solids encountered during the mining operation. In addition, acid drainage problems should not be a problem due to the high alkalinity and low acidity concentrations.

Pursuant to the request for discharge from Mud Water Canyon, NPDES No. UT-0023736/0001, Plateau Mining Company provided the Environmental Protection Agency with a representative mine water sample. This sample showed low concentrations of pollutants and a pH of 8.3 (EPA records).

Provided the water produced in the mine is treated to prevent the discharge of suspended solids, oil, grease, etc., the applicant is in compliance.

817.52 HYDROLOGIC BALANCE: SURFACE AND GROUND WATER MONITORING

A. Ground-Water Monitoring

An on-going ground-water monitoring program will be conducted at each of the stations shown on Plate 7-6 (see Hydrologic Section, Vol. III). In addition, data will be collected from within the mine.

As stated previously, the quality of water issuing from springs and seeps is representative of ground water within the North Horn and Price River formations. Ground-water usage in the area is almost entirely from springs; therefore, the monitoring of springs on the site takes on added importance in the effor to monitor impacts from mining activities.

Water quality samples will be collected quarterly, when accessible, from the springs noted on Plate 7-6 and from seepage near the working face within the mines. Each of the water quality samples collected during the low-flowing third quarter will be analyzed as outlined by the comprehensive list in Table 7-3, p. 7-31, Vol. III. All other quarterly samples will be analyzed as outlined by the abbreviated list in Table 7-4, p. 7-31, Vol. III, with the exception of suspended solids. Data collected at springs will give a measure of the impact from mining on the ground-water system at its primary point of use. Measurements taken from the mine will give an indication of quality impacts on the deep ground-water system.

Table 2 is presented to clarify background conditions and future impacts. Because of the high chemical quality of waters in the Plateau mine plan area, as determined by the baseline study, suspended solids have been included in the abbreviated schedule as the single most important impact indicator for surface waters. Phenol and phosphate are included because of the high background concentrations found previously. Total dissolved solids, specific conductance, temperature and the major cations and anions are included as indexes of major change. Total iron, total manganese and pH determinations are required by OSM regulations.

In addition to the above outlined monitoring program, a National Pollution Discharge Elimination System (NPDES) discharge permit has been acquired for mine water discharge as necessary. Monitoring of all discharges will be conducted in accordance with this permit.

As required, ground-water quality data collected from the mine plan area will be submitted to the Utah Division of Oil, Gas and Mining. Such reports will normally be submitted within 60 days of the end of each quarter, depending on the speed of laboratory analyses. Plateau Mining Company has committed to provide an annual summary of the water monitoring results to comply with the regulatory guidelines.

The regulatory authority has asked Plateau Mining Company in previous completeness reviews to justify the reason for the absence of ground-water monitoring above Federal Coal Lease U-13097 (southeast portion of mine plan area). Plateau has responded (p. 10, Section 3, Supplement No. 2) that monitoring of springs in that area will be initiated a minimum of one year prior to mining.

Federal Coal Lease U-13097 is located in a fault zone, bordered by a graben on the east and a fault on the west. The throw of the western fault in the area of Wild Cattle Hollow has been estimated to be on the order of 400 to 500 feet. While drill hole information is insufficient to completely delineate the graben or its displacement, Plateau estimates that the throw on the eastern border of the graben approaches 180 feet while the displacement on the western border of the graben is of the magnitude of 250 feet (p. 6-19). Plateau proposes to mine through the graben from lease SL-031286 in order to gain access to lease U-13097 (Plate 3-4A). Mining through the graben is proposed for 1990 (Plate 3-4A). If right-of-entry into the Castle Valley Ridge Lease is obtained by Plateau, access to lease U-13097 may be modified. (Entry may be obtained north of the proposed rock tunnel. It is anticipated that displacement along the fault is less to the north.)

The graben is associated with the Bear Canyon Fault which has been mined through by U. S. Fuels Company at the King Mines (directly south of the Starpoint Mines). U. S. Fuels encountered concentrated water as they approached the fault. The maximum initial flow encountered was 500 gpm (p. 7-21). Records from the mine indicate that about 140 pgm continuously entered the mine along the Bear Canyon Fault during May 9 to October 11, 1979 (USGS, unpublished report). The peak discharges were generally during the spring.

Plateau was asked to address the impact of mining through this graben in the completeness review. In response, Plateau suggests that flow from Gentry Hollow Creek serves as an overlying source of water than percolates down into the mine (pp. 7, 13 and 14, Section 3, Supplement No. 2). It is unknown at this time whether the Bear Canyon Fault recharges the Gentry Hollow Creek (Gentry Hollow Creek is perennial only in the lower reaches) or whether Gentry Hollow Creek recharges the Bear Canyon Fault. Either way, the mine dewatering of the aquifer and the associated lowering of head in the Starpoint-Blackhawk aquifer will induce additional downward leakage from overlying zones. The increase leakage will be balanced by changes in recharge, discharge and/or storage in the aquifer and in the overlying zones, including Gentry Hollow Creek.

Quantification of the impacts on Gentry Hollow Creek is needed. The present water monitoring program provides quarterly samples (when accessible). Large scale impacts on Gentry Hollow Creek will be measured by this program. Impacts on springs will be quantified by future monitoring. However, Plateau should quantify the amount of ground water encountered by mining through the graben.

817.53 HYDROLOGIC BALANCE: TRANSFER OF WELLS

There are no references in the mine plan regarding the transferral of an exploratory well for present or future use as a water well.

817.54 HYDROLOGIC BALANCE: WATER RIGHTS AND REPLACEMENT

The mine plan states that "an alternate water supply will be provided to replace any water source disrupted, degraded or diminished by the mining operation. Although the mining operation is unlikely to affect the spring water supplies in the existing mine plan area, the Plateau Mining Company will provide this alternate supply if needed. Several alternatives exist as to the source of this alternate supply:

1. Water from springs held by Plateau Mining Company could be piped to the affected site.

2. Water rights could be traded or transferred for springs held by Plateau.

3. A well could be drilled at the affected site to provide an alternate supply. Means of pumping must be provided in this alternative, as artesian conditions do not exist.

4. Water produced in the mine could be piped to the affected site.

In the event that mining adversely affects a water source, the Plateau Mining Company will select an alternative after all possibilities of each site-specific circumstance have been evaluated and in conjunction with the proper regulatory authorities.

The applicant will comply with this section.

817.55 HYDROLOGIC BALANCE: DISCHARGE OF WATER INTO AN UNDERGROUND MINE

There are no plans included in the applicant's proposal to discharge water into an underground mine.

D. REVISIONS TO APPLICANTS PROPOSAL

None.

E. REANALYSIS OF COMPLIANCE

Not applicable.

F. NECESSARY STIPULATIONS AND JUSTIFICATIONS

The undetermined extent of possible water resource depletion associated with anticipated mining into the graben/fault zone will necessitate a commitment from Plateau Mining Company to monitor quantity, duration and location of ground water encountered in the underground mining activities at the Starpoint Mines (with particular emphasis in the region of the graben/fault zone). Should substantial adverse impacts become imminent, PMC will be held responsible to provide appropriate mitigation measures to those affected individuals according to the plans outlined in the mining and reclamation plan.

G. SUMMARY OF COMPLIANCE

If proposed stipulation is implemented, the ground water portion of this mine plan will comply.

H. PROPOSED DEPARTMENTAL ACTION

To approve the ground water section with a stipulation to monitor ground water encountered in underground mining.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Mining in the area will have a variable impact on the ground-water system, depending upon whether the water-bearing strata is of a perched or continuous nature and the extent of subsidence. Where subsidence is not extensive and where the water-bearing strata is perched, mine dewatering will probably not induce much effect. Surface springs issuing from perched zones will not be greatly affected (if at all).

If the water-bearing strata is continuous or if subsidence fracturing is extensive, then mine dewatering of the Starpoint-Blackhawk aquifer will induce additional downward leakage from overlying zones. The increase downward leakage will be balanced by charges in recharge (more recharge to the Starpoint-Blackhawk aquifer), discharge (less discharge to springs or Gentry Hollow Creek) and/or water in storage.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

Prohibiting mining through the graben was considered but is not suggested. Impact due to opening a portal or shaft to mine Federal Coal Lease U-13097 would be larger than the project impacts on water quantity.

817.59 COAL RECOVERY

A. DESCRIPTION OF EXISTING ENVIRONMENT

The Plateau Mining Company controls 5,200 acres in Carbon and Emery counties, Utah. Mining has been conducted on this site since 1917 and mineable coal is estimated to remain in three seams; Wattis (top seam), Third (middle seam) and Hiawatha (bottom seam). In addition to projected mineable coal, recoverable coal remains in already mined areas. The Hiawatha seam portal (refer to as Portal 1) and the original Wattis portal (Portal 2), are used primarily to recover coal from previously worked areas; the Lion Deck Portal which is also in the Wattis seam, traverses old mine workings to develop virgin coal reserves in Federal Leases U-031286 and U-13097.

The projected mineable tonnage is 72,170,000 tons, of which 34,000,000 in place are from the Wattis seams 21,430,000 tons from Third seam and 16,740,000 tons from Hiawatha seam.

Mining recovery of the above reserves is projected to be 68 percent of the total in-place raw coal tonnage, of which 80 percent will be recovered in the cleaning plant. (MRP 1.1, 3.4.1, 3.4.3.2.2)

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The mine uses the Room and Pillar-Advance/Retreat mining method. About eight such sections are projected for operation at 2,000,000 tons/year. This system (Room and Pillar) with continuous mining machines was the only logical choice for recovering the coal in the old workings and for driving development openings into the virgin areas. A longwall mining system is projected to be applied in the future. However, longwall and, in most cases, shortwall methods are not amenable to the types of situations encountered in the initial development. Longwall will be used wherever possible to decrease manpower, improve safety, increase production and recover the maximum percentage of the reserves. As far as equipment used in the Room and Pillar sections, continuous miners were selected over conventional loading and cutting machines because: (1) the coal cuts rather easily; and (2) manpower is saved. In cases where longwall is installed, continous miners will drive development openings and mine rooms (with full pillar recovery) in those areas unsuitable for longwall installation.

The mine plan consists of entries on 80 foot centers, 20 foot wide crosscuts with 60 foot X 60 foot pillars. Current projections indicate that panels will be 2,000 to 2,500 feet long.

Longwall work will be accomplished pn 500 to 600 foot faces. (MRP 3.4.1.3, 3.4.1.4, 3.4.1.5)

C. EVALUATION OF COMPLIANCE

The proposed mining methods (Room and Pillar and Longwall Sections) and sequence, seem to adequately complement each other in the overall coal recovery program. Use of longwall panels will result in small areas of unmined coal in the vicinity of outcrops or odd-shaped corners which this system cannot reach because of the regular, rectangular shape of the panel. Such areas will be recovered by use of continuous miners using Room and Pillar.

In conjunction with proposed subsidence monitoring and control plan, environmental integrity will be maintained (30 CFR 817.59).

A roof control plan, as required by 30 CFR 75.200, is provided in Appendix 3B of the report, and has been approved by MSHA.

No USGS analysis of coal recovery has been brought to the reviewer's attention.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. REANALYSIS OF COMPLIANCE

Not applicable.

F. PROPOSED SPECIAL STIPULATION WITH JUSTIFICATION

The proposed Room and Pillar system will be used in areas of unmined coal in the vicinity of outcrops or odd-shaped corners which the longwall mining method cannot reach because of regular, rectangular shape of the panel. The longwall work will be accomplished in 500 to 600 foot faces advancing maximum distance. This procedures will maximize coal recovery.

G. SUMMARY OF COMPLIANCE

Will comply if proposed methods and stipulation are implemented.

H. PROPOSED DEPARTMENTAL ACTION

Approval of the proposed method of coal extraction using longwall mining in selected areas to maximize coal recovery.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Removal of coal deposits from proposed areas.

J. RESOURCE ALTERNATIVE TO THE PROPOSED ACTION

The alternative to the proposed action is to prevent mining of reserves obtainable with longwall mining, resulting in the loss of valuable resource. Proper enforcement and compliance with the permit will eliminate adverse effects of this work and, therefore, do not warrant the alternative action.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVE TO THE PROPOSED ACTION

The alternative action would not appreciably reduce impacts to the site environment in terms of magnitude or duration.

817.61-.68 EXPLOSIVES

A. DESCRIPTION OF APPLICANT'S PROPOSAL

This is an underground mine using continuous mining or longwall machines, which eliminates the need for blasting. Excavation requiring blasting, such as rock slopes and shafts, will be shot in accordance with existing Federal and State laws (3.4.6.3.4).

Work on the surface, such as site preparation which requires blasting, will be done in accordance with applicable Federal and State regulations for surface work under Plateau's existing permit. The permit number is not given, however, MSHA has granted permission to use nonpermissible shot firing units for First West Rock slope in the letter from the District Manager dated July 14, 1980 (p. 3B-84).

Explosives are stored in the area shown on Plate 3-1 in a magazine constructed to conform with Treasury Department and MSHA regulations. This area satisfies requirements of the above agencies relative to its distance from travelled roads and buildings.

In compliance with regulations, the explosive magazine is not located near powerlines, fuel tanks, storage areas or other possible sources of fire. According to Plate 3-1, computed distances show the magazine is 1,400 feet northwest of a 500 gallon diesel tank, 1,840 feet west of transmission lines and 4,160 feet southwest of more diesel and gasoline storage tanks.

Construction material for the magazine is of a noncombustible type, covered with a fire resistant material. The structure's interior is built with nonsparking materials for walls and floors. The structure is equipped with screened ventilation openings near the floor and ceiling. The structure is bullet resistant and posted "Danger" signs will not strike the magazine structure. The magazine is equipped with two security locks designed to prevent intrusion when the buildings are unattended by mine security personnel (3.4.6.3.4).

B. EVALUATION OF COMPLIANCE

No immediate surface blasting is planned. However, excavation requiring blasting, such as rock slopes and shafts, will be shot in accordance with existing Federal and State laws (MRP 3.4.6.3.4).

This section is in compliance.

C. REVISIONS TO APPLICANT'S PROPOSAL

None.

D. REANALYSIS OF COMPLIANCE

Not applicable.

E. PROPOSED SPECIAL STIPULATIONS AND JUSTIFICATION

None.

F. SUMMARY OF COMPLIANCE

The operator will comply except for Plateau's existing blasting permit number not given in report.

G. PROPOSED DEPARTMENTAL ACTION

Approval of the proposed mining method of coal extraction.

H. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Removal of coal deposits from proposed areas.

I. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

No alternatives are considered.

J. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

No alternatives are considered.

817.71-.74 DISPOSAL OF UNDERGROUND DEVELOPMENT WASTE AND COAL PROCESSING WASTE BANKS

A. DESCRIPTION OF EXISTING ENVIRONMENT

Approximately 20 percent of the extracted coal at the Starpoint Mines is processing waste. At the present production rate of 1.2 mtpy, 240,000 tons of waste are produced per year. Projected production during the

permit period is 2.0 mtpy, based on a total reserve of 40 million tons. At this rate, 400,000 tons of waste would be produced each year. If Plateau acquires rights to additional adjacent reserves, the total resource would be 80 million tons and the projected maximum production rate would be 4.0 mtpy and 800,000 tons of waste would be produced yearly.

At present, coal waste is stored in a waste pile east of the washing plant (Figure 5, Section 13.2.6). This pile has a capacity of 3,352,400 cubic yards of storage, of which 689,360 cubic yards have been filled (Section 13.2.6, p. 21). At a maximum production rate of 2.0 mtpy for 1982 to 1985 the present waste pile would be filled to approximately 75 percent of its capacity by the end of 1985, and completely filled by the end of the eighth year.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant plans to expand the waste pile in three phases, starting with completion of the existing waste pile (Phase I), construction of a second pile located southwest of the current pile (Phase II), and a third pile (Phase III) which would ultimately connect the Phase I and Phase II piles. Based upon the requirement that the waste must be compacted such that its density is 90 percent of the maximum dry density the unit weight for compacted processing waste is 75 pounds per cubic foot. Therefore, based on a total reserve of 40 million tons, required waste capacity is 7,901,235 culbic yards. Based on a total reserve of 80 million tons, a capacity of 15,800,000 cubic yards would be required. Phases I, II and III would provide storage for 11,959,200 cubic yards, leaving 3,840,800 cubic yards of excess waste. Therefore, the proposed Phase I, II and III waste piles would be adequate for the reserves being permitted at this time. The appliant has studied the feasibility of additional storage; however, because only the 40 million ton reserve is being permitted at this time, only the Phase I, II and III waste storage plans are considered in this TA.

Construction Sequence and Procedures: Assuming a 40 million ton reserve Phase I would be filled within the eighth year, Phase II would be constructed and filled by the 12th year and Phase III would be constructed last and would be utilized to the end of the mine life. Construction procedures will be the same for all phases. Topsoil will be removed and stockpiled prior to construction. No ground-water sources or natural surface drainages pass through the waste pile area; therefore, a subdrainage system is not required. Waste piles will be constructed such that slide slopes will be no steeper than 1.75 h:1.0 v. With these side slopes and assuming (1) the gradation of future refuse will be similar to that in the existing pile; and (2) the pile will remain a nonwater retention system, the safety factor will be in excess of 1.5. Waste will be spread and compacted, in horizontal lifts not to exceed two feet, using a caterpillar tractor and end dump trucks. Waste will be compacted to a density of 75 pounds per cubic foot to prevent spontaneous combustion and provide the required strength for stability. Maximum height of waste piles will not exceed 150 feet.

Runoff Control Plan: Runoff from the coal waste piles will be controlled by the use of diversion ditches and sedimentation ponds (Figure 2, Appendix B, Section 13.2.6). The runoff control plan contained in this section is described in Section 7 (Hydrology) and part 817.41 Hydrologic Balance: Surface Waste of this TA.

Reclamation Plan: The applicant will strip topsoil from the Phase II and III waste areas for redistribution n the final graded Phase I area. Excess topsoil will be stockpiled for use in the Phase II and III waste piles. Approximately 10 inches of topsoil will be redistributed over the Phase I, II and III areas. Stockpiles will be revegetated with a temporary mix to prevent wind and water erosion. The applicant states that seed mixes for revegetation will be proposed following completion of vegetation surveys. To protect and enhance wildlife resources, the applicant proposes speed limited below 30 mph on waste haul road and planting of palatable species away from the coal waste site.

Inspection: Construction inspections will be conducted quarterly by a qualified registered engineer. Inspections will consider slope, compaction, height of fill, removal and storage of topsoil and stockpile revegetation. The inspection will also insure that waste piles remain nonwater retention systems by use of existing and proposed piezometers (Figure 9, Section 13.2.6). Copies of inspection findings will be kept on file at the mine.

Burning/Fires: In the event that routine monitoring and inspection reveals ignition to be imminent (hot spots), material in that area will be excavated, removed to a safe place and spread out to stop further heating.

C. EVALUATION OF COMPLIANCE WITH STIPULATIONS

817.71-.74 All underground development waste will be disposed of in accordance with the coal processing waste. Applicant will comply with this section provided compliance with the requirements of 817.81-.83, .90-.93 are implemented.

817.81 When proposed stipulations are implemented, the applicant will comply with the general requirements.

817.82 If any inspection of the coal processing waste pile discloses that a potential hazard exists, the applicant shall immediately inform the Division of the finding and of the emergency procedures formulated for public protection and remedial action.

817.83 Suspended regulation, revisions to be proposed. Applicant is diverting drainage around the waste pile and has commited to piezometer installation and appropriate monitoring.

817.85 Applicant will comply with this section.

817.86-.87 Applicant shall submit a plan for control of fires in the waste disposal piles.

Any burned coal processing waste removed from a disposal area shall be approved by the Division.

817.91-.93 Does not apply.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not applicable.

F. SPECIAL STIPULATIONS WITH JUSTIFICATION

In order to insure adequate runoff control, the applicant must implement the stipulations developed in part 817.41 Surface Water of this TA.

In order to insure adequate revegetation and protection and enhancement of wildlife resources the applicant must implement the stipulations developed in Part 817.111-.116 Revegetation of this TA.

The applicant must submit a plan for control of fires in the waste disposal piles.

G. SUMMARY OF COMPLIANCE

Will comply if the proposed stipulations are implemented.

H. PROPOSED DEPARTMENTAL ACTION

Approval with stipulations.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Because surface disposal of waste coal is the only practical method in this situation, forage and vegetation productivity of the waste storage areas will be necessarily lost for the life of the mine. However, approval of the applicant's plan with stipulations will provide for return of these areas to productive use and for protection of other resources.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

No feasible waste storage method other than surface storage is known for this situation. The applicant's plan, with the proposed stipulations will provide protection of other resources and allow for utilization of the leased Federal coal.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

Not applicable.

817.95 AIR RESOURCES PROTECTION

A. DESCRIPTION OF EXISTING ENVIRONMENT

Climatological data for the area of the mine are available from Hiawatha, five miles southeast and about 500 feet lower than Starpoint.

The lower level winds in the region are controlled by the local terrain. In the area of the mine, the winds are most likely west-southwesterly (night, down canyon flow or up canyon) due to the channeling effects that dominate the flows within the canyon. The average spped is estimated to be about nine mph.

The annual average temperature is 45°F at Hiawatha and an average monthly mean of 23°F in January and 69°F in July. At Hiawatha, the annual precipitation is 13 inches. With a range of normal monthly precipitation of 0.73 to 1.92 inches. The Hydrologic Atlas of Utah shows an annual precipitation of 22 inches; about 16 inches of this occurs as snow from October to April. Rainfall from May to September accounts for the other six inches. Evaporation is estimated to be about 40 inches.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

1. Monitoring Program

Although precipitation, wind direction and windspeed will be monitored at the mine, no air quality monitoring program is proposed.

2. Fugitive Dust Control

Fugitive dust control measures have been planned for the major sources at the mine: topsoil removal and storage pile; access roads and coal handling facilities. The following control methods will be implemented at the mine:

- Water spray program during operation involving topsoil removal and stockpiling.
- Application of water sprays and nontoxic dust suppressants during construction of new roads.
- Stabilization of cut and fill slopes along new roads when established and revegetation at the earliest seasonal opportunity.
- Restriction of vehicular traffic on access roads to only authorized personnel and maximum vehicle speed of 30 mph.

- Periodic retreatment of moderately used roads, i.e., used daily, with water and/or nontoxic dust suppressants.
- Paving of the road from the Lion Deck portal to the coal washing plant.
- Application of a soil stabilizing agent to the upper layer of the road bed on frequently used access roads; periodic (as needed) application of water spray or dust suppressants.
- Conveyors from portals to intermediate stockpiles and overland conveyors are covered; transfer points in coal crusher area have water sprays; conveyor discharge heights will be minimized.
- Primary crushers enclosed and contain water sprays.
- Periodic application of water spary and/or nontoxic dust suppressant on the coal storage pile.
- A new refuse disposal site will be selected in an area where there is a natural wind break; refuse will be compacted and sprayed with nontoxic dust suppressant.
- Design railroad loadout to control fugitive dust; telescoping chute used to load railroad cars; water and/or nontoxic dust suppressant may be applied to the top of loaded railroad cars as necessary.
- Revegetation of topsoil storage areas and refuse disposal piles.

C. EVALUATION OF COMPLIANCE OF PROPOSAL

Climatological information is adequate.

Fugitive dust control measures for the mine area are specified and will reduce fugitive dust emissions at the minesite.

Since this is an underground mine, all emissions are estimated to be only about 165 tons per year, no monitoring plan is needed.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

None.

F. PROPOSED SPECIAL STIPULATIONS WITH JUSTIFICATION

None.

G. SUMMARY OF COMPLIANCE

This section is in compliance.

H. PROPOSED DEPARTMENTAL ACTION

To approve the air resources section as controlling and minimizing air pollution.

I. ENVIRONMENTAL IMPACTS OF THE PROPOSED DEPARTMENTAL ACTION

The approval of the plan could result in some occasional short-term, local impacts in the immediate vicinity of the mine and railroad loadout facility. It is not expected that the TSP concentrations will exceed the State or Federal air quality standards.

Also, the gaseous pollutants such as CO and NO/NO_x would be increased in the immediate vicinity of the roads and to a very minor degree in the area. These impacts would exist for the life of the hauling with the worst impacts occurring during the early morning because of surface inversions.

817.97 PROTECTION OF FISH AND WILDLIFE

A. DESCRIPTION OF EXISTING ENVIRONMENT

The mine plan area is located in Carbon and Emery counties, Utah. Considerable variation in elevation results in a number of diverse habitats for wildlife. Six major habitats are found: pinyon-juniper, salt desert shrub, sagebrush, mixed conifer-aspen, mixed brush-grass and mixed desert shrub.

Elk, mule deer, mountain lion, bobcat, black bear, cottontail, snowshoe hare, several furbearers, chukar, mourning dove, probably blue and ruffed grouse are economically important species occurring on the mine plan area. Elk occur in summer in the higher elevation portions of the area and migrate to lower areas in winter, primarily to the west of the area. Mule deer follow a similar pattern, but appear to winter primarily east of the mine plan area.

No endangered species have been observed on the mine plan area. A small population of bald eagles winter at Scofield Reservoir, north of the mine plan area. Although peregrine falcons occur in this part of Utah, none were observed during raptor surveys conducted on the site. Surveys did reveal the presence of a golden eagle nest approximately 1 1/4 mile north of the Seeley Canyon Breakout area. The presence of blackfooted ferrets is considered unlikely because field inspections by the U. S. Fish and Wildlife Service revealed insufficient numbers of and habitat for white-tailed prairie dogs.

Elk migration is generally away from the proposed surface facilities but there is some deer movement through the area. There are no riparian areas on the site and the only wetlands are sedimentation ponds created for the mine operations. (Potential raptor habitat on cliffs and in all proposed disturbed areas was surveyed during November 1980, and June and July 1981, by the Utah Division of Wildlife Resources and by a private consultant.)

B. DESCRIPTION OF APPLICANT'S PROPOSAL

1. a. The applicant proposes to minimize adverse impacts through several approaches. These include design of the overland conveyor to allow large animal passage, timing of construction to avoid sensitive periods, prompt revegetation with appropriate species for wildlife use and enhancement of adjacent areas to compensate for disturbance.

   b. The applicant will keep surface disturbance to a minimum, limit nonessential operations during critical wintering, nesting and fawning periods and educate employees to avoid harrassment of wildlife. Furthermore, the applicant will cooperate with the Utah Division of Wildlife Resources in a management program to offset loss of mule deer wintering range. Although impacts are unlikely, Tie Fork Creek will be monitored for two years to establish baseline conditions and record any changes.

2. Electric power lines in the area vary in age and the supporting poles consist of several different designs.

3. Roads are already constructed and the applicant has agreed to consult with the Utah Division of Wildlife Resources to cover, buffer or fence any hazard to prevent damage to wildlife.

4. Riparian habitats will not be affected by the applicant's proposal. Disturbed mule deer winter range will be partially offset through enhancement of nearby areas. Final reclamation will include suitable food and cover plants for wildlife.

5. The applicant has agreed to use the seed mix proposed by the Utah Division of Wildlife Resources to benefit wildlife. Details about plant groupings to optimize edge effect are not discussed.

C. EVALUATION OF COMPLIANCE OF PROPOSAL

By implementing the program outlined, the applicant will minimize adverse impacts through biological timing, minimizing surface disturbance and coordinating with the Utah Division of Wildlife Resources for enhancement and reclamation efforts.

Surveys for eagles and peregrine falcons have been conducted. Field inspection by the U. S. Fish and Wildlife Service indicate that blackfooted ferret occurrence is unlikely due to insufficient numbers of prey.

Due to the fact that some of the transmission lines are over 50 years old, some of the designs are considered unsafe. However, the applicant has surveyed the lines and has agreed to modify poles posing a threat to large birds.

The applicant has a plan to consult and coordinate with the Utah Division of Wildlife Resources to buffer, fence or otherwise minimize any hazard to wildlife. Roads are already located and in use.

The only high value habitat to be disturbed is mule deer winter range and the applicant has plans to restore the area with appropriate vegetation for mule deer use.

There is not commitment to avoid the use of persistent pesticides or to prevent forest and range fires.

The revegetation plan includes the seed mix proposed by the Utah Division of Wildlife Resources. Details on plant groupings to optimize edge effect are not provided.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-ANALYSIS OF COMPLIANCE

Not applicable.

F. PROPOSED STIPULATIONS WITH JUSTIFICATION

The applicant must agree to control and suppress range, forest and coal fires and avoid the use of persistent pesticides unless approved by the regulatory authority.

The applicant must address the issue of edge effect in the revegetation plan. Although different seed mixes are discussed for north and south slopes, there is no mention of shrub or tree groupings to benefit wildlife.

A comprehensive plan should be submitted within 12 months, or at least 30 days before any planting is done, whichever comes first.

G. SUMMARY OF COMPLIANCE

If the stipulations are accepted, compliance will be achieved.

H. PROPOSED DEPARTMENTAL ACTION

Approve the plan with stipulations.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Short-term impacts will include temporary loss of surface vegetation around the Seeley Canyon breakout, approximately 40 acres, and the ventilation shaft, one acre., The actual disturbance will be scheduled to avoid the sensitive reproductive periods for elk, mule deer and raptors. After construction, the surrounding surface will be promptly revegetated with plant species suitable for wildlife food and cover. The change in plant communities may improve food availability for wildlife species adapted to early successional stages. The temporary displacement of wildlife will affect the surrounding population but the impact cannot be considered significant.

Long-term impacts will result from expansion of the refuse pile, construction of the loadout facilities and operation of the unit train, conveyor and access roads. Since these facilities will be necessary throughout the lift of the mine, the habitat lost will force those species into surrounding suitable habitat. Surrounding areas are expected to be at carrying capacity and displaced individuals will be at a disadvantage in securing a territory and food. This disadvantage may result in stress and eventual loss of displaced indivduals. Due to the relatively small acreage affected and since much of it will be near areas already disturbed, the impacts should not be significant. Furthermore, the proposed enhancement program may provide improved food availability for deer and elk, thus, off-setting some of their habitat loss.

The planned expansion of operations and increase in production will mean a higher level of human activities and disturbance. Since the mine has been in operation for many years, the resident wildlife population has probably adjusted some movements and behavior to accommodate these operations. However, the proposed expansion may require further adjustments and increases in traffic may result in more vehicle-animal collisions. The applicant has agreed to work with the Utah Division of Wildlife Resources to minimize such impacts and enhancement areas may draw some species away from disturbed area.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

1. No action. The relatively minor impacts of the proposal make this alternative unreasonable.

2. Alternate sites for waste disposal piles could be selected.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

1. No action alternative--not applicable.

2. Alternative disposal sites would impact different species of wildlife. Selection of certain sites may have less impact on mule deer winter range but would have more impact on other species. Since the Phase I-IV sites are all near existing disturbance and the applicant has proposed an enhancement program to off-set some loss of habitat, impacts of various sites will not differ significantly.

UMC 817.99 SLIDES AND OTHER DAMAGE

A. DESCRIPTION OF EXISTING ENVIRONMENT

The applicant has provided no information on slide damage in the MPA. From the reviewer's personal knowledge of the area, small, naturally occurring slides are fairly common and small slides are often associated with abandoned roads in the area.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant has not addressed this section.*

c. EVALUATION OF COMPLIANCE

The applicant is not in compliance with this section.*

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not applicable.

F. PROPOSED SPECIAL STIPULATION WITH JUSTIFICATION

1. At any time a slide occurs which may have a potential adverse effect of public property, health, safety or the environment the applicant shall notify the regulatory authority by the fastest available means and comply with any remedial measures required by the regulatory authority. This stipulation will bring the applicant into compliance with this section and provide the means for protection from or mitigation of slide damage.*

G. SUMMARY OF COMPLIANCE

Will comply is proposed stipulation is implemented.

H. PROPOSED DEPARTMENTAL ACTION

Approval with one stipulation.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Implementation of the proposed Departmental action will allow for prompt reporting of actual or potential damage and provides for remedial action.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

Because all facilities and roads are designed in accordance with accepted engineering practice and because it is in the applicant's economic interest to prevent slides there are no effective alternatives to the proposed action.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

Not applicable.

UMC 817.100 CONTEMPORANEOUS RECLAMATION

A. DESCRIPTION OF EXISTING ENVIRONMENT

Several areas on the Starpoint Mines MPA have been used for coal production activities in the past and are now abandoned (Plates 3-6A through 3-6E). In addition, several areas are now being used for production.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant states (Section 3.6.2, p. 3-105) that "Interim reclamation (during operations) is occurring in areas that are no longer needed or that require short-term stabilization." Areas where support facilities are located and other areas necessary for use during production will be reclaimed at the time of current reclamation efforts and areas that will be reclaimed following cessation of operations.

C. EVALUATION OF COMPLIANCE

The applicant has planned to reclaim disturbed lands as soon as practicable following the end of their usefullness for coal production and will therefore comply with this section.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not applicable.

F. PROPOSED SPECIAL STIPULATIONS WITH JUSTIFICATION

1. The applicant must perform reclamation activities covered by this section in accordance with the stipulations of Section 817.111 through 817.117, Revegetation, in order to comply with revegetation requirements.*

G. SUMMARY OF COMPLIANCE

Will comply is proposed stipulation is implemented.

H. PROPOSED DEPARTMENTAL ACTION

Approval with one stipulation.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Implementation of the proposed Departmental Action will insure timely reclamation of areas no longer used for coal production in accordance with sound revegetation practices. This action will provide for the rapid return of the land to vegetation and forage production.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

There are no alternatives available which would provide for more rapid or successful reclamation and revegetation.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

Not applicable.

UMC 817.101 BACKFILLING AND GRADING

A. DESCRIPTION OF EXISTING ENVIRONMENT

The Starpoint Mines MPA is located on the eastern face of the Wasatch Plateau in central Utah. Mine facilities are located at an elevation of approximately 8,570 feet. The site is at the base of an erosional escarpment immediately west of Castle Valley. Coal outcrops appear in the canyon walls and along the cliffs of the eastern Wasatch Plateau.

Strata generally dip southerly at one to three degrees. Rock types at the site are late Crefaceous in age and consist of gray sandstone interbedded with carbonaceous shale and coal seams. The three coal seams to be mined occur within the Blackhawk formation of the Mesoverde group. A general columnar section of the MPA is shown in Section 6.4 (p. 6-7) of the MRP.

Surface facilities consist of three portals, one surface breakout in Mud Water Canyon for ventilation, crushing and washing plants, a waste coal pile and various mine buildings such as warehouses and offices. Surface facilities are shown on Plates 3-1 and 2-2.

B. Description of Applicant's Proposal

Mining will be conducted simultaneously on three seams using room and pillar methods with continuous miner or longwall equipment (see 817.59, Coal Recovery). Because this is an underground mine only those areas disturbed for surface facilities will be recontoured and reclaimed. Backfilling and grading plans are described in Section 3.6.4. Planned final contours are shown on Plates 3-6A through 3-6E. The reclamation timetable, Table 3-10(p. 3-123) gives times for all facility removal and regrading.

C. EVALUATION OF COMPLIANCE

817.101 The applicant has committed to the restoration of surface sites, including returning the area to approximate original contours. Soils on backfilled areas will be compacted to insure stabilization. The applicant is in compliance with this section.

817.102 The applicant is committed to the reduction of all highwalls to achieve a static safety factor of 1.3 (Plate 3.6D). The use of terraces is not anticipated. The applicant is in compliance with this section.

817.103 The applicant states that no acid-forming or toxic materials are produced by the mine (p. 3-55). The applicant is committed to filling the sealed portals with non-combustible materials. However, the extent to which coal seams will remain exposed in portal areas is unclear. The applicant is not in compliance with this section.

817.106 The applicant states that no streams pass through the areas to be reclaimed, and that site drainage systems will be backfilled and graded. The applicant will use mulching, burlap covers and water bars to control erosion on reclaimed areas, particulary roads. The applicant is in compliance with this section.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not applicable.

F. PROPOSED SPECIAL STIPULATIONS WITH JUSTIFICATION

817.103 The applicant will backfill and cover coal seams exposed as a result of his operations with at least four feet of non-combustible material.

G. SUMMARY OF COMPLIANCE

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

H. PROPOSED DEPARTMENTAL ACTION

Approval with one stipulation.

I. ENVIRONMENTAL IMPACT OF PROPOSED DEPARTMENTAL ACTION

This action will draw return of the area to approximate original contours, following the plans of the applicant after necessary disturbance for the recovery of leased coal.

J. RESOURCE ALTERNATIVES TO THE PROPOSED DEPARTMENTAL ACTION

None.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES

Not applicable.

UMC 816.111-117 REVEGETATION

A. DESCRIPTION OF EXISTING ENVIRONMENT

Approximately 125 acres on the permit area have been disturbed by previous mining activities (p. 3-62). During June and July 1981, the applicant conducted vegetation inventories adjacent to previously disturbed areas and/or where future disturbance is to occur, except near breakout. These include the waste pile, the unit train loadout, the south portal and the breakout areas. A description of the vegetation communities sampled, follows:

Waste Pile

Mountain Brush Community. The mountain brush community consists of a small finger-like ridge just west of the sagebrush flat and two stands further to the west on steep and eroded slopes. Dominant plants are serviceberry (*Amelanchier utahensis*), mountain mahoganey (*Cercocarpus montanus*), and snowberry (*Symphoricarpos orephilus*). Sagebrush is also an important component of this community. The substrate on which the mountain brush grows has little useable topsoil, and the ridge area especially is profuse with large boulders.

Mixed Sagebrush, Grass, Mountain Brush Community. The mixed sagebrush, grass, mountain brush community is the largest vegetative type in the expansion area. The dominant plants are Artemisia tridentata, which forms a low growth on the steep and eroded slopes, and Elymus salinus, a coarse bunch-grass growing in thick clumps. Mountain mahogony and serviceberry sporadically intrude upon the sagebrush-grassland, particulary on eroded slopes whose soils belong to the Doney series. A more well developed sagebrush and grass community exists on the deep alluvial soils belonging to the Harvey series which fill the area between two ridges.

Sagebrush Community. The sagebrush community exists in a flat immediately to the west of the current waste pile. Well developed plants of Artemisia tridentata are dominant in the vegetative type. A belt of robust sagebrush runs east-west through the middle of the flat where a sandstone bedrock at a depth of 30 inches allows for greater water accumulation. Very few species other than sagebrush occur in the area.

The following communities were delineated and described by the applicant within and adjacent to the "unit train", "south portal" and "breakout" areas.

Pinyon-Juniper Community. This community inhabits the ridges and draws of the Wattis portion of the lease area and intrudes upon the sagebrush flats. Construction of the Unit Train facility may have impact upon portions of this community. Pinus edulis is encountered most in this type, with scattered Juniperus osteosperma occuring sporadically throughout the stands. There are some occurrences of serviceberry and elderberry, black sagebrush and big sagebrush. Understory forb and grass species account for less than three percent of the total cover and are essentially nonexistent.

Sagebrush Community. This community exists in open areas on finely textured soils in the Wattis portion of the lease area. Total cover is less than forty percent, with Artemisia tridentata as the dominant species. Very few other species were encountered in the community and actual bare ground is the major component.

Douglas Fir Community. The steep north-facing slopes of the south portal reclamation area are inhabited by a Douglas fir forest. The community also exists in the Seeley Canyon breakout area. Dominant species are Pseudotsuga mensiesii, Amelanchier utahensis, and Prunus virginiana. In the south portal reclamation area, the community is a mosaic of several stages ranging from relatively young stands to stands of almost climax maturity. The Seeley Canyon area almost entirely consists of a mature climax forest. Herbaceous understory species account for one percent or less of the total cover.

Grassland Community. Scattered in intermittent patches between the stands of Douglas fir forest in the south portal reclamation area are grassland communities. Elymus salinus is the dominant species accompanied by a host of forb species, the most notable of which are Astragalus coltonii and Achillea millefolium. A grassland community also exists in the Gentry Ridge break out area. Poa pratensis is the dominant species at over 20 percent. Other species frequently encountered are Achillea millefolium and Taraxacum officinale.

Sagebrush-Rabbitbrush-Grass Community. This community occurs in the Gentry Ridge breakout area. Lathyrus lanzwertii is the most frequently observed species. Artemisia tridentata, Chrysothamnu viscidiflorus, Achillea millefolium, Taraxacum officinale, and Ribes cereum are other important components of the community.

Grass-Sagebrush Community. This community type is found in both the Gentry Ridge and Seeley Canyon break out areas. The dominant species is Elymus salinus, which accounts for over 30 percent of the total cover. Artemisia frigida, Artemisia tridentata, and Tetradymia glabrata are other important community components.

Aspen Community. This community exists in the Seeley Canyon breakout area. Herbaceous understory species cover approximately 63 percent and include Lupinus sericeus, Rosa woodsii, Symphoricarpos orephilus and Agropyron trachycaulum. Aspen occurs in dense clumps. The trees are relatively uniform in diameter and height.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

In addition, approximately 93 acres are tentatively proposed to be disturbed as follows: (p. 3-62)

Refuse pile extension (south)	15 acres
Unit train loadout	33 acres
New refuse piles (north)	40 acres
Potential shafts and break outs	5 acres

The applicant proposes to reclaim all disturbed areas with the exception of 2.3 miles of access road, should Carbon County wish to maintain it for access to the county T.V. structures (p. 3-63).

The applicant proposes to seed disturbed areas during the first appropriate season following grading and topsoil redistribution. Seed will be distributed using a drill on gentle slopes and flat areas and a cyclone spreader or hydroseeder on steeper slopes.

Straw mulch will be used on all but the steeper slopes where hydromulch and/or matting will be used. Different seed mixes will be used for the southern, sunny exposures and for the northern, shaded exposures. Irrigation is not proposed unless the planting year is very dry and then may be considered as an aid to seedling survival.

The applicant says that it will inspect the revegetated areas for 5 years. Any area which does not have 80% of the original cover will be investigated. Any area having 80% of the original cover will no longer be monitored.

Each community was sampled for cover, by species, and woody plant densities. The applicant proposes to use "reference areas" for assessing revegetation success. Vegetation cover and production data will be compared between the reference and revegetated areas using a T-test. The revegetated areas will be weighted according to relative acreage of each community before comparison to reference area data (p. 9-17).

C. EVALUATION OF COMPLIANCE OF PROPOSAL

The applicant has provided possible seed mixtures to be used for revegetation, however, no committment is made to using these. No seed mixture is indicated for use in stabilization of topsoil stockpile. No committment is made as to the density or composition of shrub and tree species to be planted.

D. PROPOSED SPECIAL STIPULATIONS

Within 12 months, the applicant will submit to the regulatory authority for approval, the seed mixtures which will be used for temporary topsoil stockpile stabilization and permanent revegetation. Inclusion of introduced species must be justified as per UMC 816.112.

Within 12 months, the applicant will submit to the regulatory authority, for approval, the density and compaction of woody plant species and the locations (i.e., slope, aspect) to be planted on disturbed areas. If the applicant wishes to propose an alternative standard(s) to reference area woody plant density levels, this should also be provided.

The applicant will submit a copy of vegetation monitoring data collected on revegetated areas to the regulatory authority by December 1 of each year.

E. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

More than half of the disturbance which is planned for the Star Point Mines has already occurred. If the mines are permitted for only the current permit area the action would have no further effect on the vegetation or wildlife habitat of the area. If the mine plan area is permitted, the mines' operation would affect another 75 acres. This is a relatively small disturbance whose effects would be minimized by implementation of the reclamation plan and attached stipulations.

F. RESOURCE ALTERNATIVE TO THE PROPOSED ACTION

There are no reasonable alternatives to the proposed action.

UMC 817.133 POSTMINING LAND-USE

A. DESCRIPTION OF EXISTING ENVIRONMENT

The permit area is currently used for cattle grazing, wildlife habitat, forestry, recreation and mining. These uses fit the Carbon County zoning ordinance uses for the area. Coal mining has occurred in the permit area since 1917 under four different operations with only a three year break. From 1917-July 1980 approximately 17,750,000 tons of coal were removed using room and pillar mining. There have been "no significant" new surface disturbances due to mining activities since 1917. The coal being mined is in the lower 400 feet of the Blackhawk Formation of the Mesa Verde Group. Coal has been removed from three seams: the Wattis, Third and Hiawatha.

A single oil and gas exploration hole was sunk on the permit area. This hole proved to be dry. No other minerals have been explored for or mined within the permit area.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant proposes to remove all of the surface facilities and equipment (except on access road), seal openings and backfill ponds. Drainages will be returned to patterns which are similar to the original drainage patterns. Final contours will be suitable for grazing and wildlife habitat. Ripping and scarification will be practiced. Perennial woody species will be emphasized.

C. EVALUATION OF COMPLIANCE OF PROPOSAL

It is not clear as to how the disturbed areas will be managed during the bond liability period with respect to livestock grazing. It is critical that reference areas and their corresponding revegetated areas are managed similarly during the last 2 years of the liability period.

D. PROPOSED SPECIAL STIPULATION

If livestock grazing is to occur on revegetated or corresponding reference areas during the 9th or 10th year of the liability period, the applicant will submit to the regulatory authority, for approval, a grazing management plan, one year prior to initiation of grazing.

E. SUMMARY OF COMPLIANCE

If the proposed stipulations are implemented, this section will be in compliance.

F. PROPOSED DEPARTMENTAL ACTION

Approval with stipulation.

G. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Approval of the mine plan will have minimal impact on land use since the mines being permitted have been in operation for several years. If the total mine plan area is permitted as many as 75 acres of grazing land may be lost. This would be a temporary loss, however, as the land will be returned to grazing after mining ceases.

H. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

There are no reasonable alternatives to the proposed action.

UMC 817.97 PROTECTION OF FISH AND WILDLIFE

A. DESCRIPTION OF EXISTING ENVIRONMENT

The mine plan area is located in Carbon and Emery Counties, Utah. Considerable variation in elevation results in a number of diverse habitats for wildlife. Six major habitats are found: pinyon-juniper, salt desert shrub, sagebrush, mixed conifer-aspen, mixed brush-grass and mixed desert shrub.

Elk, mule deer, mountain lion, bobcat, black bear, cottontail, snowshoe hare, several furbearers, chukar, morning dove, probably blue and ruffed grouse are economically important species occurring on the mine plan area. Elk occur in summer in the higher elevation protions of the area, and migrate to lower areas in winter, primarily to the west of the area. Mule deer follow a similar pattern, but appear to winter primarily east of the mine area.

No endangered species have been observed on the mine plan area. A small population of bald eagles winters at Scofield Reservoir, north of the mine plan area. Although peregrine falcons occur in this part of Utah, none were observed during raptor surveys conducted on the site. Surveys did reveal the presence of a golden eagle nest approximately 1 1/4 mile north of the Seeley Canyon breakout area. The presence of blackfooted ferrets is considered unlikely because field inspections by the U.S. Fish and Wildlife Service revealed insufficient numbers of habitat for white-tailed prairie dogs.

Elk migration is generally away from the proposed surface facilities but there is some deer movement through the area. There are no riparian areas on the site and the only wetlands are sedimentation ponds created for the mine operations. Potential raptor habitat in cliffs was surveyed during two separate periods.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant proposes to minimize adverse impacts through several approaches. These include design of the overland conveyor to allow large minimal passage, timing of construction to avoid sensitive periods, prompt revegetation with appropriate species for wildlife use and enhancement of adjacent areas to compensate for disturbance.

The applicant will keep surface disturbance to a minimum, limit non-essential operations during critical wintering periods and educate employees to avoid harrassment of wildlife. Furthermore, the applicant will cooperate with the Utah Division of Wildlife Resources in a management program to offset loss of mule deer wintering range. Although impacts are unlikely, Tie Fork Creek will be monitored for two years to establish baseline conditions and record any changes.

Electric powerlines in the area vary in age and the supporting poles consist of several different designs.

Roads are already constructed and the applicant has agreed to consult with the Utah Division of Wildlife Resources to cover, buffer or fence any hazard to prevent damage to wildlife.

Riparian habitats will not be affected by the applicant's proposal. Disturbed mule deer winter range will be partially offset through enhancement of nearby areas. Final reclamation will include suitable food and cover plants for wildlife.

The applicant has agreed to use the seed mix proposed by the Utah Division of Wildlife Resources to benefit wildlife. Details about plant groupings to optimize edge effect are not discussed.

C. EVALUATION OF COMPLIANCE OF PROPOSAL

By implementing the program outlined, the applicant will minimize adverse impacts through biological timing, minimizing surface disturbance and coordinating with the Utah Division of Wildlife Resources for enhancement and reclamation efforts.

Surveys for eagles and peregrine falcons have been conducted. Field inspections by the U.S. Fish and Wildlife Service indicate that blackfooted ferret occurrence is unlikely due to insufficient numbers of prey.

Due to the extreme age of some of the transmission lines, over 50 years, some of the designs are considered unsafe. However, the applicant has surveyed the lines and has agreed to modify poles posing a threat to large birds.

The applicant has a plan to consult and coordinate with the Utah Division of Wildlife Resources to buffer, fence or otherwise minimize any hazard to wildlife. Roads are already located and in use.

The only high value habitat to be disturbed is mule deer winter range and the applicant has plans to restore the area with appropriate vegetation for mule deer use.

There is no commitment to avoid the use of persistent pesticides or to prevent forest and range fires.

The revegetation plan includes the seed mix proposed by the Utah Division of Wildlife Resources. Details on plant groupings to optimize edge effect are not provided.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. REANALYSIS OF COMPLIANCE

Not applicable.

F. PROPOSED STIPULATIONS WITH JUSTIFICATION

The applicant must agree to control and suppress range, forest and coal fires and avoid the use of persistent pesticides unless approved by the regulatory authority.

The applicant must address the issue of edge effect in the revegetation plan. Although different seed mixes are discussed for north and south slopes, there is not mention of shrub or tree groups to benefit wildlife.

G. SUMMARY OF COMPLIANCE

If the stipulations are accepted, compliance will be achieved.

H. PROPOSED DEPARTMENTAL ACTION

Approve the plan with stipulations.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Short-term impacts will include temporary loss of surface vegetation around the Seeley Canyon breakout, approximately 40 acres, and the ventilation shaft, one acre. The actual disturbance will be scheduled to avoid the sensitive reproductive periods for elk and mule deer. After construction, the surrounding surface will be promptly revegetated with plant species suitable for wildlife food and cover. The change in plant

communities may improve food availability for wildlife species adapted to early successional stages. The temporary displacement of wildlife will affect the surrounding population but the impact cannot be considered significant.

Long-term impacts will result from expansion of the refuse pile, construction of the loadout facilties and operation of the unit train conveyor and access roads. Since these facilities will be necessary throughout the life of the mine, the habitat lost will force those species into surrounding suitable habitat. Surrounding areas are expected to be at a disadvantage in securing a territory and food. This disadvantage may result in stress and eventual loss of displaced individuals. Due to the relatively small acreage affected and since much of it will be near areas already disturbed the impacts should not be significant. Furthermore, the proposed enhancement program may provide improved food availability for deer and elk, thus, off-setting some of their habitat loss.

The planned expansion of operations and increase in production will mean a higher level of human activities and disturbance. Since the mine has been in operation for many years, the resident wildlife population has probably adjusted some movements and behavior to accommodate these operations. However, the proposed expansion may require further adjustments and increases in traffic may result in more vehicle-animal collisions. The applicant has agreed to work with the Utah Division of Wildlife Resources to minimize such impacts and enhancement areas may draw some species away from disturbed areas.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

No action. The relatively minor impacts of the proposal make this alternative unreasonable.

Alternate sites for waste disposal piles could be selected.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

No action alternative--not applicable.

Alternative disposal sites would impact different species of wildlife. Selection of certain sites may have less impact on mule deer winter range but would have more impact on other species. Since the Phase I-IV sites are all near existing disturbance and the applicant has proposed an enhancement program to off-set some loss of habitat, impacts of various sites will not differ significantly.

817.121-.126 SUBSIDENCE

A. DESCRIPTION OF EXISTING ENVIRONMENT

The Plateau Mining Company uses the Room and Pillar mining method. A longwall mining method will be implemented pertaining to approval of proposed actions. Maximum coal extraction which includes retreat pillar recovery, could result in surface subsidence over a long period of time. Subsidence has occurred in old workings on the eastern part of the permit area where pillars have been pulled. Observed subsidence typically consists of linear cracks, sometimes showing orthogonal patterns corresponding to the orientation of drifts and crosscuts. Severe forms of subsidence are likely to occur near outcrops.

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The mine uses the Room and Pillar-Advance/Retreat mining method. Continuous miners are used predominantly in developing openings, mine rooms and pillar recovery. The mine plan consists of employing 20' wide opening and 60' X 60' or 80' X 80' and 100' X 100' pillars. Panels are between 2,000 feet and 2,500 feet long. Overburden depths have reached up to 1,200 feet. A longwall mining method is projected to be applied in the future. This will be accomplished on 500-600 foot faces with panels in excess of 3,000 feet in length. One hundred foot wide barrier pillars are planned along seam outcrops and 200 foot wide pillars along both sides of permanent entry systems. The expected percentage recovery is 68 percent from the three seams with about 80 percent of the recovered tonnage estimated as saleable coal.

C. EVALUATION OF COMPLIANCE

A detailed description of mining methods and possible effect on surface subsidence is adequately covered in the report (3.4.1, 12.3.1.2-12.4.4.2). The degree of controlled subsidence is identified and anticipated effects of subsidence are adequately covered. A presubsidence survey to assess potential damage to identified surface structures is in compliance.

In cases where subsidence occurs, affected structures will be moved or protected against structural failure (T.V. tower and power line).

Surface structures including fences and roads, can be repaired if damage is incurred. Flow from springs can be diverted or conveyed over any developing cracks that might disrupt the flow. Measures to mitigate the effect of damage for subsidence are covered adequately.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. REANALYSIS OF COMPLIANCE

Not applicable.

F. PROPOSED STIPULATION WITH JUSTIFICATION

None.

G. SUMMARY OF COMPLIANCE

The mining company will comply fully with both the monitoring plan, as proposed by Manti-LaSal National Forest and the regulations as stated in 30 CFR 784.20 (3.5.8.1, 3.5.8.2).

H. PROPOSED DEPARTMENTAL ACTION

Approval of the proposed method of coal extraction using longwall mining in selected areas to maximize coal recovery.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Removal of coal deposits from proposed areas.

UMC 817.150 ROADS/TRANSPORTATION

A. DESCRIPTION OF EXISTING ENVIRONMENT

There are Class I roads in existence at the surface facilities. Aproximately two miles of access roads will be rehabilitated upon completion of mining; 2.3 miles of all-weather roads may remain after mining to service Carbon County's T.V. structure. Public roads are used in the permit area. Access to these roads is, however, limited and controlled by the mine operator, since the roads mainly service mine facilities. The Utah Railroad presently operates the spur track to the permit area.

As part of overall coal transportation, the company operates a 6,300 foot overland conveyor belt system (Plate 3-1).

B. DESCRIPTION OF APPLICANT'S PROPOSAL

Any asphalt or treated surfaces (roads) will be removed prior to reclamation. Approximately two miles of access roads will be rehabilitated upon completion of mining. Various roads and sites in the area (Plates 3-6A through E) have already been relcaimed and the bonds reduced. The Utah Railroad will reclaim its operating spur in accordance with regulations upon cessation of operation (3.3.12, 3.3.15).

Access roads are posted with "Authorized Personnel Only," speed and road information signs upon entrance to the property; use of these roads is restricted to authorized personnel (Plate 3-1).

Some alterations or additional to existing roads (mine access road to the Lion Portal Deck for example) is anticipated. The proposed new road construction guidelines would be:

1. Access

   To gain a foot hold on the hillside, it is necessary to pioneer a cut with a bulldozer. The pioneer cut provides an avenue for transportation of the cut material to the fill areas and also provides a work deck for other construction equipment. Material from this initial excavation is side-cast to increase bench width or is used to fill small depressions.

2. Road Width

   The required road width, 40 feet, is attained by continual removal of material. This material is moved to those areas where fill is needed in an effort to minimize the amount of cut and maximize the road's safety by constructing as straight a road as possible. Downward movement of fill material is controlled by keyways, i.e., tram road and natural sandstone ledges.

3. Grade

   The final grade of the finished road will be 10 percent. This grade will permit easy access to the mine for both men and material and will comply with regulations designed to reduce the velocity of runoff water thereby minimizing suspended solids that might enter the hydrologic regime.

3. Berm

   Along the outside edge of the road a berm will be built according to MSHA regulations. The berm will be approximately two feet in height.

5. Drainage

   The road will be bounded on the outslope by the berm and along the inside by the highwall. A ditch will be constructed running parallel to the road against the highwall with the road sloping gently inward, away from the outslope. In addition, the road will be hard surfaced.

C. EVALUATION OF COMPLIANCE

The information given on roads, i.e., road construction and rehabilitation is adequate and it complies with regulations 30 CFR 817.151 and 30 CFR 817.153. The maps included with the report give adequate information.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not applicable.

F. PROPOSED SPECIAL STIPULATIONS WITH JUSTIFICATION

Any additional roads built on the facility will be Class I and will comply with the above regulations.

G. SUMMARY OF COMPLIANCE

Will comply if proposed stipulation is implemented.

H. PROPOSED DEPARTMENTAL ACTION

To approve applicant's proposed plan.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Build new or modify existing roads. This will make it possible to increase annual tonnage from 150,000 tons to 500,000 tons, as proposed, without introducing any coal handling or transportation inefficiencies.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

No alternatives are considered.

K. ENVIRONMENTAL IMPACTS TO ALTERNATIVES TO PROPOSED ACTION

None.

UMC 817.181 SUPPORT FACILITIES AND UTILITY INSTALLATIONS

A. DESCRIPTION OF EXISTING ENVIRONMENT

The Starpoint Mines have existed for many years. Therefore, surface facilities are already in place and operating in the loadout, Lion Deck Portal, Starpoint Mine Portals 1 and 2 and Mud Water Canyon Portal areas. The applicant states that all structures are in compliance with Subchapter K. Section 817 of the OSM regulations and have been inspected and approved for compliance by Utah DOGM and OSM personnel (p. 3-16). These structures include:

Lion Deck Portal area

mine portal
120 x 60 foot, 350 man bathhouse
office (with various small office buildings and warehouses)
46,000 V transmission line
46,000/13,200/4,160 V transformer
55 foot diameter, 200 foot deep hole
42 inch X 800 foot underground belt conveyor
42 inch X 4,400 foot covered, overland conveyor

Starpoint Mine Portal Areas 1 and 2

power lines
substations
mine portals
ventilating fans
explosives magazine (1,000 foot north of Portal 2)

Loadout Area

42 inch X 1,400 foot conveyor to washing plant
washing plant
conveyor to loadout station
loadout station
power lines
two substations
40 X 80 foot offices
100 X 40 foot shops
40 X 60 foot bathhouse
oil and gas storage
underground water reservoir

Mud Water Canyon Portal

ventilating fan
substation

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant does not propose to modify or reconstruct any of the facilities which currently exist.

The applicant does propose to construct a unit train loadout adjacent to the permit area, refuse disposal site extension, Seeley Canyon breakout and Gentry Mountain emergency escape and intake air shaft. The applicant has provided no plans for the construction of most of these facilities in the current permit application.

The applicant feels that the mining operations will not affect any oil, gas or water wells or any surface or subsurface man-made features within the permit area.

C. EVALUATION OF COMPLIANCE

The proposed sites for some facilities (i.e., unit train, refuse pile extension) are on lands for which the applicant has no access rights (Plate 2-1). These areas cannot be permitted with this application.

No information is provided on the designs or definite locations of the Gentry Mountain shaft area. These plans must be provided.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not applicable.

F. NECESSARY STIPULATIONS WITH JUSTIFICATION

The applicant must provide designs and definite location information for the Gentry Mountain shaft and unit train loadout in order for a determination to be made of the possible effects of the construction on fish, wildlife, other environmental values and streamflow or runoff outside the permit area (817.181). These plans will be assessed and approved separately from this permit approval at a future date.

G. SUMMARY OF COMPLIANCE

This section will comply.

H. PROPOSED DEPARTMENTAL ACTION

Approval of this section of the mine plan.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENT ACTION

The impacts of departmental approval will be minimal since the mine and most of its support facilities have been in existence for some time. The stipulations allow for the new structures to be evaluated by the department and approved separately at a future date.

J. RESOURCE ALTERNATIVE TO THE PROPOSED ACTION

There is no alternative which is logically or financially justifiable.

K. ENVIRONMENTAL IMPACTS OF ALTERNATIVE TO PROPOSED ACTION

Not applicable.

UMC 822 ALLUVIAL VALLEY FLOOR DETERMINATION

A. DESCRIPTION OF EXISTING ENVIRONMENT

The Starpoint Mines are located on the eastern edge of the Wasatch Plateau. The Plateau edge is a steep cliff with a maximum relief of approximately 1,000 feet. Slopes within the mine plan area vary from more than 65 degrees east of Starpoint to less than two degrees on Gentry Ridge.

Coal outcrops appear in the canyon walls and along cliffs. Rock types at the site are late Cretaceous in age and are generally composed of gray sandstone of fine to medium grain, interbedded with subordinate gray carbonaceous shale and coal seams.

Five perennial streams drain the Starpoint mine plan area. Mud Water Canyon and Corner Canyon (tributaries to Gordon Creek of the Price River Basin) Miller Creek (tributary to the Price River) and Gentry Hollow Creek and Wild Cattle Hollow Creek (tributaries to Tie Fork Creek which flows into Huntington Creek, a tributary to the San Rafael River).

Alluvial deposits were located in Huntington Canyon and Woodward Canyon. The alluvial deposits in Woodward Canyon cover 60-70 acres (p. 7-91). Woodward Canyon and Huntington Canyon are a minimum length of 1.7 and 2.2 miles, respectively, from the present lease boundary.

County Zoning ordinances classify the permit area as a recreation, forestry and mining zone to be used for recreation, forestry, grazing, wildlife and mining purposes (p. 4-1).

B. DESCRIPTION OF APPLICANT'S PROPOSAL

The applicant suggests that there will be no effect on the alluvial deposits in either Woodward Canyon or Huntington Canyon because of their remoteness from the underground mining operations. (Present surface disturbance [permit area] is a minimum of 4.7 miles from either Woodward Canyon or Huntington Canyon). Ground water flow in the mine plan area follows the dip to the southwest, away from Woodward Canyon (p. 7-91).

No alluvial deposits or farming operations have been identified in Mud Water Canyon, Corner Canyon, Upper Miller Creek, Gentry Hollow or Wild Cattle Hollow.

C. EVALUATION OF COMPLIANCE

No streams in or adjacent to the permit area meet the qualifications for alluvial valley floors. The nearest probable alluvial valley floors are in Woodward Canyon and the mouth of Huntington Creek. Present mining operations will not impact Woodward Canyon and will not significantly impact Huntington Creek. therfore, the applicant is in compliance with this section.

D. REVISIONS TO APPLICANT'S PROPOSAL

None.

E. RE-EVALUATION OF COMPLIANCE

Not applicable.

F. PROPOSED SPECIAL STIPULATION WITH JUSTIFICATION

None.

G. SUMMARY OF COMPLIANCE

The regulatory authority makes a determination of no alluvial valley floors on Mud Water Canyon, Corner Canyon, Upper Miller Creek, Gentry Hollow and Wild Cattle Hollow. The present mining operation will not have an impact on the alluvial deposits in Woodward Canyon and will not have a significant impact on Huntington Creek.

H. PROPOSED DEPARTMENTAL ACTION

To approve the mining and reclamation plan.

I. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

Woodward Canyon will not be impacted with the proposed mining operation; however, if the applicant obtains rights to and mines the Castle Valley Ridge Tract, impacts on Woodward Canyon will have to be re-evaluated.

J. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

None.

K. ENVIRONMENTAL IMPACTS OF PROPOSED ALTERNATIVES

Not applicable.

UMC 823.1-823.15 OPERATIONS ON PRIME FARMLANDS

A. DESCRIPTION OF EXISTING ENVIRONMENT

The proposed permit area is located some 15 air miles southwest of Price, Utah, in Carbon County. The terrain is very rugged and elevations range from 7,000 to 10,000 feet. The climate is that of a short growing season with approximately 13 inches of precipitation per year.

The slopes in the area range from above 10 percent in the drainage bottom where the mine surface facilities are located to 100 percent or better on the canyon walls above.

Vegetation is pinyon-juniper and sagebrush on rolling terrain within the mine permit area. Steep slopes are vegetated with mountain shrub communities and some Douglas fir on north aspects.

Existing and historical land-use includes grazing, recreation, forestry and mining. The applicant states (Section 8.4) that there is no evidence of any croplands in or adjacent to the permit area at any time in the past.

There is a preliminary and undocumented soil survey included in the MRP for the Wattis Canyon area. None of the map units include any prime farmlands. The balance of the permit area has not yet been surveyed.

B. DESCRIPTION OF THE APPLIANT'S PROPOSAL

The applicant states that an investigation has been conducted on the mine permit area and that no prime farmlands are present. A negative determination has been requested from the Soil Conservation Service.

C. EVALUATION OF COMPLIANCE

The permit application is in compliance with 783.27 and a negative determination has been requested from Soil Conservation Service.

D. REVISION OF APPLICANT'S PROPOSAL

None.

E. REANALYSIS OF COMPLIANCE

None.

F. NECESSARY STIPULATIONS AND JUSTIFICATIONS

None.

G. PROPOSED DEPARTMENTAL ACTION

To approve the proposed action.

H. ENVIRONMENTAL IMPACTS OF PROPOSED DEPARTMENTAL ACTION

No environmental impacts to prime farmland are seen to exist from the applicant's proposal.

I. RESOURCE ALTERNATIVES TO THE PROPOSED ACTION

No alternatives to the proposed action are necessary.

J. ENVIRONMENTAL IMPACTS OF ALTERNATIVES TO THE PROPOSED ACTION

None.

BONDING

A. DESCRIPTION OF EXISTING ENVIRONMENT

The Starpoint Mines have been mined for coal since 1917 with only a three year break. The leases held under the current permit include enough coal to continue mining through 2001.

B. APPLICANT'S PROPOSAL

The applicant does not feel that the areas over underground mine workings require bonding (p. 3-134). He is, however, prepared to bond those area.

Different bonding levels ($/acre) are a result of the amount of work required to reclaim an area (i.e., structure removal, backfilling, grading, topsoil spreading, seeding vs. grading, topsoil spreading, seeding). The applicant is not definite about what additional areas will be permitted and disturbed over the life of the mine. The reviewer can find no map which specifically details the areas to be bonded. The applicant does provide a detailed estimate of the cost of reclamation of the operation as well as supporting calculations for those estimates.

A permit term of 20 years has been requested (p. 2-32).

The permit area receives approximately 13 inches of precipitation annually. Therefore, the period of liability for revegetation is 10 years.

C. COMPLIANCE

The 20 year requested permit term will not be given. The applicant provides insufficient information for a permit covering more than five years.

The liability period for the applicant for revegetation is 10 years.

The applicant provides no information on anticipated bond release times. There is no request for bond release in the permit application, although there is an implication (in Table 3-12) that once a sum has been spent for reclamation, that sum is automatically removed from the amount of the bond. This is incorrect. A request must be made to DOGM which specifically asks for the release of those funds. Until such a request is made, the applicant must be bonded for $1,768,000. This figure includes costs for reclaiming the Seeley Canyon breakouts and the Gentry Mountain ventilation shaft but not for subsidence, which is felt to be a negligible impact for this mine. Areas which will be permitted and disturbed in the future must be bonded prior to disturbance.

The applicant's insurance policy must be corrected to meet the requirements of the Utah regulations.

forfeited any bonds.

The company has not forfeited any bonds.

The applicant must submit a bond approved by DOGM before permit approval.

The applicant does not request incrementation bonding. It is not clear to the reviewer how the applicant is planning to bond under this permit. It should be pointed out, however, that bonds are not automatically released merely because the applicant has spent a given amount of money for reclamation. Bond release must be requested from the Division of Oil, Gas and Mining. Until release is given, the amount of bond remains constant. Since the applicant does not request bond release at this time, and does not indicate that any bond has been released, the bond to cover reclamation costs is $1,768,000 not $1,646,000. An additional 10 percent is normally added to this base cost for the added expenses incurred by having an outside source (e.g., DOGM) undertake the reclamation asks. The applicant must provide information on when it plans to seek bond release and must take into account the seasonability of some types of evaluation which go into the release (UMC 807.11).

The method of bonding must be disclosed.

The applicant's insurance policy for the Starpoint Mines expires in March 1982. It does not include water wells or explosives provisions. The coverage is insufficient ($300,000 combined coverage for bodily injury and property damage per occurrence and $500,000 combined) for compliance.