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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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OK

January 10, 2003

Randy Scott, Plant Manager
Sunnyside Cogeneration Association
P.O. Box 159
Sunnyside, Utah 84539

Re: Star Point Refuse Mine, Sunnyside Cogeneration Association, Star Point Refuse Mine.
C/007/042-PM02A, Outgoing File

Dear Mr. Scott:

The above-referenced amendment has been reviewed. There are deficiencies that must be adequately addressed prior to approval. A copy of our Technical Analysis is enclosed for your information. In order for us to continue to process your application, please respond to these deficiencies by April 10, 2003.

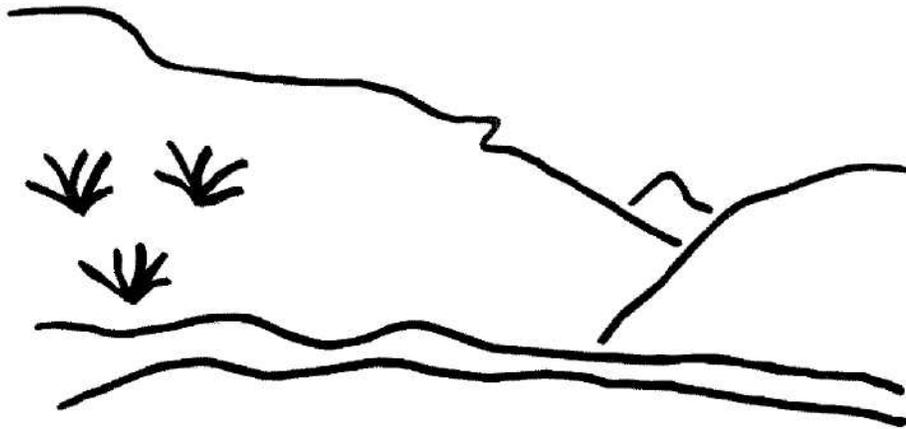
If you have any questions, please call me at (801) 538-5268 or Priscilla Burton at (801) 538-5288.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

an
Enclosure
cc: Price Field Office
O:\007042.SWFA\FINAL\DEF02A.DOC

State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Star Point Waste Fuel Mine
New Permit
007/042-PM02A
Technical Analysis
January 9, 2003

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TECHNICAL ANALYSIS

TECHNICAL ANALYSIS

The Division ensures compliance with the Surface Mining Control and Reclamation Act of 1977 (SMCRA). When a Permit Application Package or an amendment to the Mining and Reclamation Plan is received, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of the Division's analysis, the Permittee must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at <http://ogm.utah.gov/coal>

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the first technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference which describes the minimum requirements. A summary of the deficiencies is provided at the beginning of the document. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

INTRODUCTION

INTRODUCTION

The Division received the permit application for the Star Point Waste Fuel Mine on April 1, 2002. On June 24, 2002, the application for the Star Point Refuse Mine was determined to be Administratively Complete, although immediate modifications of the Application were requested. On September 23, 2002, the Division received the requested modifications. Public notification, through the Sun Advocate, occurred from July 18, 2002 to August 8, 2002.

Sunnyside Cogeneration Associates is applying for a permit to mine the refuse remaining after the closure of the Star Point Mine. SCA acquired the coal refuse and associated subsoil cover material from Plateau mining Corporation (PMC). [Cypress Plateau Mining Corporation's (CPMC) name was changed to Plateau Mining Corporation on June 30, 1999 and all references to CPMC in the application infer PMC.] SCA plans to utilize the coal refuse material as a fuel source in its fluidized-bed combustion boiler at the power cogeneration plant at Sunnyside, Utah.

The refuse pile began in 1970 as part of the Star Point Mine operations. Material was continually added to the pile until mine closure in 1997. The quality of the refuse changed over time as improvements were made to the processing of the R.O.M. coal. The most deeply buried refuse has greater btu/lb and is more fine than the material above (Exhibit 624.210a, Reserve Assessment of Star Point Coal Refuse Site). This application to re-mine the refuse (Star Point Waste Fuel Mine) inappropriately suggests that refuse discarded for use as fuel will become excess spoil. Definitions of spoil and excess spoil do not include discarded refuse.

SCA will reclaim the Star Point Waste Fuel Mine site using the subsoil salvaged from the expansion of the refuse pile in 1982. The Information supplied with the application indicates that the refuse is acid forming. (Although this fact is not acknowledged by SCA.) The application should include some way of monitoring the refuse for acid/toxic properties just prior to final reclamation, so that toxic waste or waste with the potential for acid-formation can be buried within the fill.

The list of deficiencies summarizes the information that is needed in the application for Division approval under the R645-301 regulations.

Division management should inquire about the payment of AML fees or an exemption of payment (R645-300-147 and R645-301-112.230). The coal quality is summarized on page 34 of this document under Operations Plan/Coal Recovery.

SUMMARY OF DEFICIENCIES

SUMMARY OF DEFICIENCIES

The Technical analysis of the proposed permit changes cannot be completed at this time. Additional information is requested of the permittee to address deficiencies in the proposal. A summary of deficiencies is provided below. Additional comments and concerns may also be found within the analysis and findings made in this Draft Technical Analysis. Upon finalization of this review, any deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the division, result in denial of the proposed permit changes, or may result in other executive or enforcement action and deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

Regulations

- R645-100-200 and R645-301-121.200**, The Applicant must classify all reject refuse material as coal mine waste not as spoil or excess spoil. The reject refuse material does not meet the definition of spoil..... 51
- R645-301-112.230, R645-300-147**, The application must describe payment of AML fees or contain an exemption from payment from the Office of Surface Mining. 13
- R645-301-112.500**, Plateau Mining should be added as a surface landowner within the permit area under Section 112.500 of the MRP. 13
- R645-301-121.100**, The application should state in Section 234 that the location of the existing topsoil (subsoil) stockpile pile is shown on Map 521.100d, not on Maps 222.100a and 222.100b..... 17
- R645-301-121.100**, The application must indicate in Section 411.140 that there are historic resources eligible for listing on the National Register of Historic Places adjacent to the permit area..... 21
- R645-301-121.200**, Section 542.700 must state that acid/base accounting information is founding Section 624.100 and 624.220-230 and Exhibit 542.700a, CPMC 1995 Response to DOGM Midterm Review, as well as the recent Reserve Assessment of Star Point Coal Refuse

SUMMARY OF DEFICIENCIES

Site, prepared by Miltech Energy Services Inc., Ligonier Pennsylvania, found in Exhibit 624.210a., not Section 624.330 as is currently stated in the application. 55

R645-301-121.200, Clarification of the seeding rate of number of PLS per square foot, such that Table 341.210a and paragraph on page 300-340 correspond. 75

R645-301-121.200, Clarify second paragraph (356.200; pg 300.41): reference is incorrect and maps are missing. The mine operator may have referenced and labeled the map series incorrectly as 341.210a and b. 75

R645-301-121.200, Information provided on Maps 731.720a and 731.720b are both referred to for locations of sediment control. The titles of both maps are the same and the information provided is remarkably similar on each map, such that one map might suffice. The narrative should explain the utility of each map. 76

R645-301-121.200, Map 521.121c, the sequence of mining map, cited in Section 521, could not be found. 37

R645-301-121.200, The application should contain a statement that Cypress Plateau Mining Corporation’s name was changed to Plateau Mining Corporation and that all references to Cypress Plateau infer Plateau Mining Corporation. 13

R645-301-121.200, The application should correct all references to the stockpiled topsoil with stockpiled subsoil and/or substitute topsoil. 17

R645-301-121.200, The plan indicates that gouging will extend below the final topsoil layer and that subsoils are of acceptable chemical and physical quality. The reader is referred to Section 222.400 to verify this statement. Section 222.400 of the application does not verify this statement. 68

R645-301-121.200, Two pits are labeled BH-1 on Figure 1-1 of Appendix 624.210a and Drawing No. 01-372-1, and Map 222.100a. Two drill holes are labeled DH-3 on Map 222.100a..... 41

R645-301-131, The individuals responsible for the collection and analysis of the technical information supplied in Tables 624.100b & c must be added to the narrative in Section 624. 18

R645-301-131, -132, The information reported in Table 624.100c must be accompanied by the dates of collection, the names of persons or organizations that collected and analyzed the data. The location of samples must be shown on a map. If the requested information is not available, then SCA may analyze samples collected in 2001 to provide the required information on refuse chemical characteristics (i.e. Texture, pH, EC, SAR, B, Se, Acid/Base Accounting, etc.)..... 55

SUMMARY OF DEFICIENCIES

R645-301-132, Information included in Exhibit 411.140a must include documentation of the persons or who conducted or authored the work. 21

R645-301-231.100, The application should relate that the stockpiled subsoil is comprised of the C horizon soils only and that the quality of the material as shown in Table 243 is for both upper (A & B) horizons and lower (C) horizons. The upper A & B horizons were separately salvaged into a topsoil stockpile. 26

R645-301-231.400, The application should describe measures that have been taken to control erosion on the subsoil stockpile, as well as the date when the material was stockpiled..... 45

R645-301-240, Maps 542.200d and 542.200e of the application must include pre-existing contours for the substitute topsoil storage site. These contours are available from the aerial photography taken in 1976, described on page 500-30 of the application. 68

R645-301-242.130, The application should indicate that the entire regraded site will be gouged, including the slopes. (see Section 553.100)..... 68

R645-301-243, The Permittee should specify the type and amount of phosphorus fertilizer and delete the addition of nitrogen fertilizer and provide for an increase in the native legume species in the seed mix instead. 68

R645-301-244 and -420, The application must include an air quality permit from the State of Utah Division of Environmental Quality, Bureau of Air Quality..... 40

R645-301-322.200, -323.200, (1) A current raptor survey must be provided that accurately depicts the location and status of raptor nest sites. (see related deficiency written under R645-301-512, -302-323.) **(2)** The application must include a map from the 2000 raptor survey identifying the raptors, nest site locations and status of the nests, with an accurate legend for species and number of nests..... 25

R645-301-323.100, The application must include a map showing the exact location of the vegetation reference site, including topographic and geographic features of reference and providing a descriptive location..... 34

R645-301-331, Provide a plan to establish and maintain interim plant cover on temporary disturbances throughout the mining operations or develop a contemporaneous reclamation plan (R645-301-553 and -301-352) for the surface mine. 45

R645-301-353.120, Remove or replace persistent and highly competitive species from the interim and final seed mixes. 75

R645-301-353.250, Include the use of Utah certified noxious weed free hay or straw. 75

SUMMARY OF DEFICIENCIES

R645-301-356.230, Include a discussion of success standard parameters for woody species and ground cover. 75

R645-301-358.510, The Application must provide a schematic design of the power lines at the site. 63

R645-301-411.141.1, The location of historical resources eligible for listing on the National Register of Historic Places adjacent to the permit area must be included on a map. Six such historical resources were mentioned in the Introduction to the 1998 Sagebrush Archaeological Consultants, L.L.C. study. 21

R645-301-412.200, The application must reflect Plateau Mining Corporation ownership of the topsoil storage area and include a letter from PMC indicating their agreement with the post-mining land use and configuration of the site for both the Final Reclamation Scenario and the Bonding Reclamation Scenarios. 27

R645-301-412.200, (1) Consent must be obtained from Plateau Mining Corporation to allow the subsoil to remain in its current location after reclamation of the site is completed. **(2)** Comments from the Bureau of Land Management concerning the implementation of the proposed post-mining land use are required as part of the application. (see a similar deficiency written under Environmental Resource/Land Use Resource Information.)..... 62

R645-301-515.100, The Applicant will describe how they will report slides to the Division and include a commitment to notify the Division by the fastest means possible and to comply with any remedial measured required by the Division. The Applicant must also remove or modify the qualifications to follow the Division’s requirements involving slides. 42

R645-301-521, The Permittee must give the Division a summary table of the acreages in the permit and disturbed area. The acreages must be divided into Federal, and fee land. Permit Area and disturbed area should be consistently stated throughout the permit application. 20

R645-301-521.100, The Applicant must give the Division mine maps that show the timing and sequence of the mining operation. Specifically the Division is interested in a map that shows mining and reclamation activities for each of the first five years and then the operations or each of the remaining five year periods. 59

R645-301-521.150, The Applicant must provide maps that show 1) the pre-disturbance surface configuration (topography) of the permit area where possible. 2) pre-SMCRA contour maps (topographic maps for the permit area before August 1977) and 3) current topography. 35

R645-301-521.161, The Applicant must provide a map dedicated to showing the existing facilities, structures and utilities on site when the permit is issued. 34

SUMMARY OF DEFICIENCIES

R645-301-523, If the Permittee intends to conduct crushing, sorting, and blending operations at the site, the application should provide a description and location of the type and method of procedures to be used and the major equipment to be used for all aspects of those operations. 38

R645-301-526.116, The Applicant will describe how the public will be protected from mining and reclamation activities that occur within 100 feet of the right of way of County Road 290. 39

R645-301-526.200, The Applicant must state in the text and show on maps the location of utilities such as water and power lines..... 56

R645-301-527, The Applicant must show the designs for all primary roads in the permit area including the proposed topsoil stockpile access road, the existing topsoil stockpile access road and the main haul roads. 47

R645-301-527.100, The Permittee must classify the main haul roads by the refuse pile and the road to the topsoil stockpile as primary. 47

R645-301-528.323, The Applicant’s plan for extinguishing coal mine waste fires should not depend on the use of salvaged, stockpiled substitute topsoil for smothering a fire, rather, a source for the imported soil should be stated in the plan..... 51

R645-301-533.110, The Applicant must address the stability requirements for Pond 6 and state in Section 533.100-200 of the PAP where the stability analysis for all ponds can be found. .. 55

R645-301-534, The Applicant must provide designs for all roads including the haul roads and the topsoil access road and state how the design requirements of R645-301-534 will be met. The Division is specifically concerned with embankment stability and how off site impacts will be prevented..... 47

R645-301-536.400, The Applicant must state which, if any, sediment ponds (impoundments) are constructed from coal mine waste (refuse) material and provide engineering designs for the construction in the Permit Application Package..... 51

R645-301-542.200, -553.260, -553.300, The application must indicate the exact acreage and yardage of substitute topsoil, the exact acreage to be reclaimed and cover depth to be placed in both the Final Reclamation Scenario and the Bonding Scenario Reclamation. 66

R645-301-542.300, The Applicant must give the Division detailed cross section for the worst case and best case scenario at the refuse pile area at a spacing of 200 feet..... 78

R645-301-553.250, The application should describe reclamation of the site (backfilling and grading plans) according to the requirements for refuse piles..... 51

SUMMARY OF DEFICIENCIES

R645-301-722.200. SCA shall provide information addressing the size and location of all existing catch basins and sediment controls. 55

R645-301-724, The application should show the location and type of State-appropriated water within the permit area on a map. What is the quality and quantity of the water associated with each surface water right? 31

R645-301-728.320, The PHC must include a statement that refuse is acid forming. 55

R645-301-731.121, -731.311, -746.120, The application should include some way of monitoring the refuse for acid/toxic properties just prior to final reclamation, so that toxic waste or waste with the potential for acid-formation can be buried within the fill..... 71

R645-301-731.300, Section 542.700 and Section 624.100 of the application incorrectly state that the refuse is non- acid/toxic forming. The refuse is acid forming, even when based upon pyritic sulfur values. Table 624.100c must provide a column showing Acid Potential and the Acid/Base Potential calculations based upon pyritic sulfur..... 55

R645-301-748. The Applicant will describe the detailed methods to be used to seal all boreholes and wells on the proposed permit area..... 55

R645-301-761. The Applicant will ensure all temporary structures (undisturbed diversions) are removed and reclaimed. 71

R645-301-830.140, The Applicant must give the Division detailed reclamation cost estimates. In the analysis section of the bonding requirements the Division outlined the deficiencies in the bond calculations that were submitted by the Applicant. Note: Upon request, the Division will assist the Applicant with the bond calculations. 80

GENERAL CONTENTS

GENERAL CONTENTS

IDENTIFICATION OF INTERESTS

Regulatory Reference: 30 CFR 773.22; 30 CFR 778.13; R645-301-112

Analysis:

The Applicant, Sunnyside Cogeneration Associates (SCA), is a Utah joint venture between Sunnyside Holdings I, Inc. and Sunnyside II, L.P. Information regarding these entities and other parent or controlling corporations is described in Section 112.100 of the MRP.

Information regarding the Applicant, resident agent, abandoned mine reclamation fee, owners, controllers, etc. is also written in Section 112.

The Resident Agent for the Star Point Waste Fuel Mine is Randy J. Scott, Plant Manager. His mailing address is given in Section 112.220 of the MRP.

Section 112.500 states that Sunnyside Cogeneration Associates and the United States, Bureau of Land Management (BLM) own the surface land within the permit area. Plateau Mining Corporation should be added to the list, as they own the storage location of the substitute topsoil pile.

Land contiguous to the permit area is owned by Plateau Mining Corporation, the United States (BLM), and Carbon County (Section 112.600).

Mine Safety and Health Administration (MSHA) numbers and the Applicant's interest in contiguous lands are in Section 112.600 and 112.800 of the application.

Findings:

R645-301-112.500, Plateau Mining should be added as a surface landowner within the permit area under Section 112.500 of the MRP.

R645-301-112.230, R645-300-147, The application must describe payment of AML fees or contain an exemption from payment from the Office of Surface Mining.

R645-301-121.200, The application should contain a statement that Cypress Plateau Mining Corporation's name was changed to Plateau Mining Corporation and that all references to Cypress Plateau infer Plateau Mining Corporation.

VIOLATION INFORMATION

Regulatory Reference: 30 CFR 773.15(b); 30 CFR 773.23; 30 CFR 778.14; R645-300-132; R645-301-113

The Applicant, any of the Applicant's subsidiaries, affiliates or persons controlled by or under common control with the Applicant has not had a federal or state mining permit suspended or revoked in the last five years or has forfeited a mining bond or similar security deposited in lieu of bond.

Sunnyside Cogeneration Associates have not received any notice of violations from the Division within the three-year period prior to the application.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the Star Point Waste Fuel permit application.

RIGHT OF ENTRY

Regulatory Reference: 30 CFR 778.15; R645-301-114

Analysis:

SCA acquired the coal refuse from Plateau Mining Corp on January 31, 2002. Documentation of the Applicant's right of entry are contained in Exhibits 114.100a, 114.100b, and 114.200a.

The permit area is located in Township 15 South Range 8 East, SLB&M Sections 10 & 15.

Findings:

The information provided meets the Right of Entry requirements of the Regulations.

LEGAL DESCRIPTION AND STATUS OF UNSUITABILITY CLAIMS

Regulatory Reference: 30 CFR 778.16; 30 CFR 779.12(a); 30 CFR 779.24(a)(b)(c); R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115.

GENERAL CONTENTS

Analysis:

Map 111.100a, SCA/Star Point Waste Fuel Permit Boundary Survey, indicates the permit boundary, contains a written legal description, is of proper scale, and contains a north arrow.

Section 115 of the proposed MRP indicates that the Star Point Permit Area is not an area designated unsuitable for coal mining and reclamation operations nor is the area under review. Carbon County Road 290 is within 100 feet of the permit area. The road is on the north side of the refuse pile and runs in an east-west direction. The road is indicated on maps 521.100a and 521.100b. Proximity to the road was mentioned in the public notice (see Exhibit 115.300a). A separate public notice of a public meeting was published concerning the proximity to the public road, but lack of response canceled the meeting (Exhibit 115.300a).

Findings:

The requirements of this section of the regulations are considered adequate in regard to the Star Point Waste Fuel permit application.

PERMIT TERM

Regulatory References: 30 CFR 778.17; R645-301-116.

Analysis:

The permit term is for a period of five years. The permit will be issued once the application is considered technically adequate. The life of the operation is anticipated to be 20–30 years, during which time the refuse pile will be used as a fuel source at the Sunnyside Power Plant.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit application, Star Point Waste Fuel C/007/042.

PUBLIC NOTICE AND COMMENT

Regulatory References: 30 CFR 778.21; 30 CFR 773.13; R645-300-120; R645-301-117.200.

Analysis:

Exhibit 117.200b contains the proof of publication as required by the coal rules.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit application, Star Point Waste Fuel C/007/042.

FILING FEE

Regulatory Reference: 30 CFR 777.17; R645-301-118.

Analysis:

The required fee of \$5.00 was submitted with the permit application.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit application, Star Point Waste Fuel C/007/042.

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

Subsoil to be used as substitute topsoil was removed from the refuse pile site in 1982 under the ownership of Cypress Plateau Mining Corporation (CPMC). The Applicant uses the term topsoil rather than subsoil throughout the mining and reclamation plan, but to be accurate the term subsoil should be used.

The location of the existing topsoil (subsoil) stockpile pile is shown on Map 521.100d, not on Maps 222.100a and 222.100b as stated in Section 234 of the application.

Findings:

The information provided does not meet the Division's requirements for Permit Application Format and Contents. Prior to approval the Permittee will provide the following in accordance with:

GENERAL CONTENTS

R645-301-121.100, The application should state in Section 234 that the location of the existing topsoil (subsoil) stockpile pile is shown on Map 521.100d, not on Maps 222.100a and 222.100b.

R645-301-121.200, The application should correct all references to the stockpiled topsoil with stockpiled subsoil and/or substitute topsoil.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

Psomas & Associates of Salt Lake City, Utah wrote the Star Point Waste Fuel Mining and Reclamation Plan under the direction of Scott Carlson, P.E.

The reserve exploration program (Exhibit 624.200a) was conducted by Miltech Energy Services of Lingonier, Pennsylvania in 2001 under the direction of Brian F. Miller, P.E.

Laboratory analysis of refuse samples for % moisture, % ash, Btu/lb, and %sulfur was performed by Commercial Testing & Engineering Co. of Huntington, Utah.

Individuals responsible for collection and laboratory analysis of the refuse samples with Identification Numbers 87-R-1 through 87-R-9 was not detailed in the application (Tables 624.100b & c). The samples were not located on a map.

Vegetation data collected for the Star Point Mine permit area have been collected over several years by different biologists primarily from Endangered Plant Studies, Inc. (EPS). Most of the data was collected during and after 1981. Doctors Welsh and Murdock of EPS conducted the productivity analysis in 1981. The data in this permit application has been recompiled by PSOMAS or directly taken from aerial photos, field visits, and Endangered Plant Studies, Inc. (EPS) studies.

Kevin C. O'Dell, Archaeologist with Sagebrush Consultants, L.L.C. of Ogden, Utah, wrote the 1998 historical study of the town of Wattis in the location of the Star Point Waste Fuel Mine (found in Exhibit 411.140a).

Findings:

The information provided does not meet the requirements of the Regulations for Reporting of Technical Data. Prior to approval the Permittee will provide the following in accordance with:

R645-301-131, The individuals responsible for the collection and analysis of the technical information supplied in Tables 624.100b & c must be added to the narrative in Section 624.

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

The maps submitted in the permit application are presented in a consolidated format and to the extent possible contain the type of information that is set forth on U.S. Geological Survey. The maps meet the scale requirements set forth in the coal rules.

The waste fuel pile (refuse pile) resulted from underground mining. However the mining (excavation) of the pile now is considered surface mining. Maps 222.100b and 321.100b designate pre August 3, 1977 verses post August 3, 1977 disturbance.

Findings:

The requirements of this section of the regulations are considered adequate in regard to the proposed permit application, Star Point Waste Fuel C/007/042.

ENVIRONMENTAL RESOURCES INFORMATION

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

GENERAL

Regulatory Reference: 30 CFR 783.12; R645-301-411, -301-521, -301-721.

Analysis:

The Applicant provides a description of the surface and groundwater hydrology for the mine permit in Section 700 and 722, Book 4 of 5. Cross-sections and maps are provided in sections R645-301-722.100 through 722.500.

Findings:

The information provided is adequate to describe the Environmental Resource in general as required by the Regulations.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

Map 111.100a, SCA/Star Point Waste Fuel Permit Boundary Map, shows location of the permit area and gives a detailed legal description. The permit area is divided into two areas, the refuse pile and the (substitute) topsoil stockpile area.

The public notice indicates the permit area is 188 acres, but other figures, such as 168 acres (Section 724.200) and 153.32 acres (Map 111.100a) are used throughout the application. Map 111.100a breaks out the 153.32 acres as follows:

- 40 acres of leased BLM land,
- 6.28 acres of land owned by Plateau Mining Corporation, and
- 107.04 acres of land owned by SCA are in the permit area.

The Permittee must clearly and concisely state in the text the permit and disturbed area boundaries, and coal and surface ownership acreages. For example, the Permittee could place

that information in a table. The disturbed acreage must be consistently stated in the text of the application.

According to the Star Point Mine reduction in permit area application (AM02D-1), Sunnyside Cogeneration Associates purchased 171.20 acres (the refuse pile and soil borrow area). The soil borrow area is not contemplated for this permit application. Only the refuse pile is within the permit area.

The disturbed area is identified in several maps, including Map 731.720a, Refuse Pile Surface Water and Sedimentation Control Facilities. The disturbed area includes 3.6 acres that have been reclaimed by Cypress Plateau in 2001 (Section 117.300).

Findings:

R645-301-521, The Permittee must give the Division a summary table of the acreages in the permit and disturbed area. The acreages must be divided into Federal, and fee land. Permit Area and disturbed area should be consistently stated throughout the permit application.

HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.12; R645-301-411.

Analysis:

Studies for cultural and historic resources of the permit area are contained in Exhibit 411.140a. Originally conducted for the Plateau Mining Corporation, Star Point Mine permit (C/007/006), the surveys in Exhibit 411.140a cover the location of the proposed Star Point Waste Fuel Mine (C/007/042), now owned by SCA.

The Division previously summarized the historic information for the refuse site in a document dated May 26, 1998 Final Approval of Permit Renewal Changes 007/006 Star Point Mine. Further information about the town of Wattis was requested. The 1998 study by Sagebrush Consultants, L.L.C., entitled "Inventory and National register of Historic Places Evaluation of Eight Buildings and Structural Remains at Wattis (Star Point Mine), Carbon County, Utah" addressed this issue.

Since the remains of Wattis are buried underneath the refuse pile and facilities area of the proposed Star Point Waste Fuel Mine, SCA has agreed to notify the Division and State Historic Preservation Officer (SHPO) of any previously unidentified cultural resources discovered in the course of operation and/or reclamation of Star Point Waste Fuel Mine (p 400-5, Section 411.142, Coordination with the State Historic Preservation Officer). This statement addresses the concern

ENVIRONMENTAL RESOURCES INFORMATION

that historic structures or artifacts may be encountered during reclamation (also mentioned in the Division's May 1998 Final Approval of Permit Renewal Changes 007/006 Star Point).

An historic/archaeological report written by Kevin C. O'Dell of Sagebrush Archaeological Consultants, L.L.C. in 1998 is included in Exhibit 411.140a. The report indicates in its introduction that there were four historic sites located in the Wattis area during a 1980 survey by Archaeological-Environmental Research Corporation (AERC). A map showing the locations of the eligible sites was not included with the 1998 report or with an earlier report attached to the application. The statement made in Section 411.140 that there are no historic resources eligible for listing on the National Register of Historic Places appears to be in error, based on the facts presented by the 1998 Sagebrush Archaeological Consultants.

A report of historic/archaeological investigation from 1980/1981 was included in the Exhibit 411.140a, but did not include a title page with information on who conducted the investigation. A summary of the history of Wattis was included in the Exhibit 411.140a, also without crediting an author.

Findings:

The information provided does not meet the Historic and Archaeological requirements of the Regulations. Prior to approval the Permittee will provide the following in accordance with:

R645-301-121.100, The application must indicate in Section 411.140 that there are historic resources eligible for listing on the National Register of Historic Places adjacent to the permit area.

R645-301-132, Information included in Exhibit 411.140a must include documentation of the persons or who conducted or authored the work.

R645-301-411.141.1, The location of historical resources eligible for listing on the National Register of Historic Places adjacent to the permit area must be included on a map. Six such historical resources were mentioned in the Introduction to the 1998 Sagebrush Archaeological Consultants, L.L.C. study.

CLIMATOLOGICAL RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.18; R645-301-724.

Analysis:

Climatological information is presented in Section 724.400 to 420. The normal annual precipitation is approximately 8 to 10 inches. About 73% of the average annual precipitation for

the area is in the form of snowfall between October to April. The prevailing wind direction is from the southwest. Windspeeds on the regional basis can best be described as light to moderate with average speeds below 20 mph. Temperatures range from a minimum of 13 ° F in January to over 90 °F in July.

Findings:

Information provided in the application meets the minimum Climatological Resource requirements of the regulations.

VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

Analysis:

The undisturbed vegetative resources of the permit and disturbed areas are minimal because of the previous Plateau Mining Corporation (PMC) operations. The coal refuse material was stockpiled by PMC. The Star Point Waste Fuel Mine (SPWFM) plans to remove the refuse material and haul it for use at the Sunnyside Cogeneration Associates (SCA) power generation plant at Sunnyside, Utah. Once the refuse material is removed, the stockpiled growth media will be moved to the refuse site, and the site will be recontoured and revegetated. The site where the growth media is currently stockpiled will be recontoured and revegetated.

The Permit Application describes the approximate vegetative resources of the permit and disturbed areas by referencing Tables 321.100a, 321.100b, and 321.100c as well as Appendix Map Section 300. Below are the required descriptions, in brief, and associated maps and tables:

- Probable community types present within the SPWFM permit area and surrounding area before disturbance (Map 321.100a; PSOMAS recompiled from EPS data).
- Estimated acreage for each of the communities present within the SPWFM permit area before disturbance (Table 321.100a; PSOMAS).
- Probable communities disturbed, by PMC, within the SPWFM permit area (Map 321.100b; PSOMAS recompiled from EPS data). The map shows pre- and post-SMCRA disturbance.
- Estimated acreage for each of the communities disturbed, by PMC, within the SPWFM permit area (Table 321.100b).
- Species list of dominant plants present in the four plant communities identified in Table 321.100b (Table 321.100c in Exhibit 321.100a). It is unclear as to which environmental firm may have generated this plant community list, therefore, provide the name of the resource (301.130).

ENVIRONMENTAL RESOURCES INFORMATION

Descriptions of plant community definitions were provided by EPS, and may include associated soil characteristics and primary representative species (321.100). EPS describes mountain shrub, pinyon-juniper, sagebrush, and saltbrush communities. The sagebrush community is dominated by two varieties of sage: *Artemisia tridentata tridentata* (valley big sage) and *Artemisia tridentata wyomingensis* (Wyoming sagebrush). This community type will be used to measure revegetation success for the areas disturbed by mining operations. The refuse pile was evaluated by EPS as primarily a sagebrush community. Total disturbed acreage in the SPWFM permit area that is characterized as the sagebrush community type is, 54.7 acres.

The mountain shrub community is dominated by taller shrubs with *Amelanchier utahensis* (Utah serviceberry), *Cercocarpus montanus* (true mountain mahogany), and *Symphoricarpos oreophilus* (snowberry) as the dominant species. Total disturbed acreage in the SPWFM permit area that is characterized as the mountain shrub community type is, 9.9 acres. The pinyon pine (*Pinus edulis*) - Utah juniper (*Juniperus osteosperma*) community is dominated by low growing trees and shrubs with very few herbaceous plants in the understory. The growth media stockpile was evaluated by EPS as primarily a pinyon-juniper community. Total disturbed acreage in the SPWFM permit area that is characterized as the pinyon-juniper community type is, 15.8 acres. Shrubs and drought tolerant grasses and forbs dominate the saltbrush community. In the SPWFM permit area, there is only 0.2 acres of this community type and this area has not been disturbed.

Descriptions of productivity for nearby sage and pinyon-juniper communities were provided by EPS. Both community types were rated in 1981 as fair. The pinyon-juniper community areas were measured as producing 1,115 pounds of potential forage with a potential of producing up to 1,650 pounds per acre. The sagebrush areas were measured as producing 1,400 pounds of potential forage with a potential of producing up to 2,000 pounds per acre.

Findings:

Information provided in the application is not considered adequate to meet the minimum Vegetation Information requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-301.130, Provide reference citations for Table 321.100c in Exhibit 321.100a that lists the plants present in the four plant communities.

FISH AND WILDLIFE RESOURCE INFORMATION

Analysis:

Fish and wildlife resource information is provided in Volume two Section three of the application. Section 322 provides a discussion on the threatened, endangered, sensitive and species of high value habitat. Tables 322.210a and 322.201b include a listing and status of these species. Species of high value habitat common to the area include Elk, Mule Deer, Cougar, and Bobcat. Information regarding Furbearers, Small Mammals, Birds, Reptiles and Amphibians, and Aquatic Resources is also provided in this section.

Utah Division of Wildlife Resources (DWR) has conducted wildlife surveys since 1981. There are two plant and eight animal species in the Carbon county area noted on Utah's federally threatened, endangered, or candidate species list. DWR evaluated the SPWFM site and found that there were no endangered or threatened species in the permit area. DWR also conducted surveys to evaluate the potential for special status species present in the SPWFM area. Canyon sweetvetch (*Hedysarum occidentale* var *canone*), Uintah Basin hookless cactus (*Sclerocactus glaucus*), and Graham beardtongue (*Penstemon grahamii*) were the three plant species of interest. Canyon sweetvetch was reported as occurring in adjacent lands, but rated as low probability of occurring at the permit site. Uintah Basin hookless cactus and Graham beardtongue were reported as not occurring and rated as low probability of occurring at the permit area.

Environmental data collection locations (wildlife, raptor nests and mitigation areas) are shown on map 322.220a in connection with map 321.100a. However map 322.220a does not include the raptor nests identified in table 322.200f or the more current data from the River Gas Surveys.

The locations where environmental data referring to wildlife are collected including raptor nests and wildlife mitigation area are shown on Map 322.220a in connection with Map 321.100a. However map 322.220a does not include the raptor nests identified in table 322.200f or the more current data from the River Gas Surveys. Wildlife Habitat map # 322.220a is not to scale to depict the Golden Eagle nest and 3 of the 5 stick nests identified in the legend and any active raptor nests that may be located within one half mile of the activities associated with the refuse pile removal. Table 322.200f indicates that there are 2 active Golden Eagle nests and the legend on map 322.220a only shows 1. There are additional species listed in table 322.220f that are not identified on map 322.220a. The legend is the same for Sediment ponds/Streams and Desert Cottontail/Gray Fox habitat. A different symbol for each should be provided.

Findings:

The information provided is not adequate to meet the Fish and Wildlife Resource information requirements of the Regulations. Prior to approval the Applicant must provide the following information in accordance with:

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R645-301-322.200, -323.200, (1) A current raptor survey must be provided that accurately depicts the location and status of raptor nest sites. (see related deficiency written under R645-301-512, -302-323.) **(2)** The application must include a map from the 2000 raptor survey identifying the raptors, nest site locations and status of the nests, with an accurate legend for species and number of nests.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

The Order III Soil Survey of Carbon County conducted by the Soil Conservation Service in 1988 included the permit area proposed for the Star Point Waste Fuel Mine.

The location of the refuse pile was surveyed prior to disturbance in 1981 (see Exhibit 222).

Table 222.100a Permit Area Soil Types itemizes six soil types for the 153 acre permit area. At an Order III level, the predominant soil types are Doney, Hernandez, and Strych. These map units are described in Exhibit 222.300b. Map 222.100a SCA/Star Point Waste Fuel Soils Map shows soil and refuse sample locations. Map 222.100b SCA/Star Point Waste Fuel Soils Disturbed Area Map shows the extent of the disturbed area. Within the disturbed area boundaries, the pre-existing soils would probably have been Gerst, Strych or Hernandez.

Topsoil and subsoil was salvaged from beneath the refuse pile in 1982. The material was segregated in two piles. The subsoil pile was transferred to SCA for the proposed Star Point Waste Fuel Mine and the topsoil pile remained with Plateau Mining Corp (C/007/006). The analysis of both materials is found in Table 243 Refuse Expansion Area Soil Analysis. The material was tested for and meets the suitability requirements for use as substitute topsoil.

Although the plan does not relate this information, the Division understands that the stockpiled subsoil is represented by the C horizon and the upper horizons (A & B) were separately salvaged into a topsoil stockpile (see Star Point Mine MRP C/007/006).

Findings:

The information provided is not adequate for the purposes of the Environmental Soil Resource requirements of the Regulations.

R645-301-231.100, The application should relate that the stockpiled subsoil is comprised of the C horizon soils only and that the quality of the material as shown in Table 243 is for both upper (A & B) horizons and lower (C) horizons. The upper A & B horizons were separately salvaged into a topsoil stockpile.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

Land Owner or Surface Manager Comments, Page 400-10, Section 412.200 indicates that the surface owners of record agree with the post mining land uses. The owners identified are BLM and SCA. A review of the records and the mining and reclamation plan indicates a third surface owner Plateau Mining Corporation (PMC). The narrative should reflect this owner and the application should include a letter of agreement from PMC concerning the post mining land uses as well as the potential configuration of the topsoil storage site under the two different reclamation scenarios proposed. In the Reclamation Bonding Scenario, all material from the substitute topsoil site will be removed from PMC land and the area reclaimed. Under the Reclamation Scenario only a portion of the material is planned for removal and a portion (the amount is under review) will remain on PMC land.

Pre-Mining land use is described in Section 411.100 as wildlife and grazing, administered by the BLM as part of the Wattis Grazing Allotment (Section 411.120). The wildlife and grazing land use is better ascribed to the adjoining lands, as the historic use of the land within the permit area was for the town of Wattis (Section 411.200).

The land is zoned MG-1 Mining and Grazing (Section 411.130). Section 411.130 itemizes the use of lands adjacent to the permit area, including recent oil and gas development. County Road 290 adjacent to the permit area is used for access to Gentry Mountain for recreation and maintenance of county facilities and as a route to the oil and gas developments adjacent to the permit area.

Findings:

Information provided in the application does not meet the minimum Land Use Resource Information requirements of the regulations. Prior to approval the Permittee must provide the following in accordance with:

R645-301-412.200, The application must reflect Plateau Mining Corporation ownership of the topsoil storage area and include a letter from PMC indicating their

ENVIRONMENTAL RESOURCES INFORMATION

agreement with the post- mining land use and configuration of the site for both the Final Reclamation Scenario and the Bonding Reclamation Scenarios.

ALLUVIAL VALLEY FLOORS

Regulatory Reference: 30 CFR 785.19; 30 CFR 822; R645-302-320.

Analysis:

Alluvial Valley Floor Determination

The Star Point Waste Fuel Surface Geology Map 624.100a locates the proposed mine site on pediments formed from the Mancos Shale and Quaternary deposits. Underneath the refuse, the Mancos shale member is hundreds of feet thick. The Ferron Sandstone member lies approximately 1200 feet below the shale unit and is a source for natural gas and ground water. The exceptionally low conductivities of the shale will prevent downward migration water from the refuse site to the first aquifer below the refuse piles.

Surface drainage from the site flows into sediment ponds that discharge into ephemeral tributaries of Serviceberry Creek as illustrated on Map 722.200. Serviceberry then conveys the water to Miller Creek, which is a tributary of the Price River (Section 532 and 533).

Ground water rights within or adjacent to the Star Point Waste Fuel Mine operations are listed in Table 724.100a. All ground water rights were for underground use in the Star Point Mine. Surface water rights are listed in Table 724.200b.

Areas of irrigated land is designated on Figure 724.200a. All of this irrigated land is downstream of the proposed Star Point Waste Fuel Mine. Operation of the proposed Star Point Waste Fuel Mine will not affect the quality of downstream waters. All discharges from the proposed permit area to major stream channels are regulated by a UPDES permit from the Utah Division of Water Resources.

Findings:

The Division finds that the proposed Star Point Waste Fuel Mine is not located in an alluvial valley floor.

PRIME FARMLAND

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

Analysis:

The Natural Resource Conservation Service (NRCS) was contacted for their opinion on the farmland status of the permit area (Exhibit 221). The NRCS concluded that there was no prime farmland due to arid soils and lack of irrigation water to the site.

The Division notes that there are 77 acres of Hernandez soils (Map Unit 53) listed in Table 222.100a for the permit area. This map unit is described in the 1988 Soil Conservation Service Carbon County Survey as prime farmland soils if irrigated.

Findings:

The Division concurs with the NRCS that the land within the permit boundary is not prime farmland.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

Analysis:

Geologic Resource Information is provided in Section 600 of the application. The General Surface Geology, Map 624.100a depicts the formational geology of the Star Point Waste Fuel mine area at a scale 1:100,000. The refuse pile sits on the Cretaceous Mancos Shale and Quaternary alluvial deposits. The Mancos Shale consists mostly of thick gray marine mudstone or shale that inter-finger with offshore sandstones, the Star Point Sandstone, the Panther, Storrs and Spring Canyon (from lower to upper). These sandstone members now form cliffs at outcrops and are yellowish gray and fine to medium grained.

The refuse site sits below the outcrop of the Star Point sandstone on the Mancos shale member. A stratigraphic column in Figure 624.100a shows the sequence of the geologic members in the Star Point Sandstone and Mancos Shale on and adjacent to the Star Point Waste Fuel proposed permit area.

Underneath the refuse, the Mancos shale member is hundreds of feet thick. The Ferron Sandstone member lies approximately 1200 feet below the shale unit and is a source for natural gas and ground water. The exceptionally low conductivities of the shale will prevent downward migration water from the refuse site to the first aquifer below the refuse piles.

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Findings:

Information provided in the application meets the minimum Geologic Resource Information requirements of the regulations.

HYDROLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR Sec. 701.5, 784.14; R645-100-200, -301-724.

Analysis:

Sampling and Analysis

Hydrologic Resource information is provided in Section 700, Book 4 of 5, of the application.

Baseline Information

No seeps, spring, perennial or intermittent streams or lakes are present in the immediate vicinity of the proposed permit area.

There are four water rights listed in Table 724.200b. Where are they located? The application should show the location and type of State-appropriated water within the permit area on a map. What is the quality and quantity of the water associated with each surface water right?

The Applicant does not plan to conduct a monitoring program, because there is no continuous flow on the proposed permit area.

The Applicant plans to conduct UPDES water monitoring in accordance with their permit from the Utah Division of Water Quality.

Baseline Cumulative Impact Area Information

SCA acquired the Wattis Coal Refuse Pile located in Sage Brush Canyon from Plateau Mining Corp. The refuse pile was left by the Star Point Mine. The Star Point Mine is currently being reclaimed. The cumulative impact area encompasses the area down stream from the mine until no impacts can be detected. The proposed permit area lies within the current Cumulative Hydrological Impact Area identified by the Utah Division of Oil, Gas and Mining for the Star Point Mine. The sediment controls designed for the refuse site were already in place for the operations of the Star Point Mine. After reclamation of the Star Point Waste Fuel Mine, there should be fewer downstream impacts, since the majority of the refuse will have been removed.

Probable Hydrologic Consequences Determination

The Probable Hydrologic Consequences Determination is addressed under Section 728 of the application. SCA has supplied extensive baseline information for water resources adjacent to the proposed permit area, collected by Cyprus Plateau Mining Corporation and Plateau Mining Corp. The greatest potential impacts from excavation, maintenance and reclamation of the refuse pile is an increase of sediment in the surface waters downstream from the proposed permit area. The Applicant describes in Section 200 and 300 of the application, that alternative sediment controls will be used such as those shown on Maps 733.731a and 733.731b. The use of these measures during operations and reclamation phases will reduce erosion and sedimentation, thus, reduce impacts to the adjacent environment.

Information provided in Table 624.100c of the application portrays mine refuse as acid forming.

Groundwater Monitoring Plan

The permit identifies two active aquifers in the stratigraphy above the permit area, however there is no association of these aquifers to the permit area, because they are higher in elevation than the permit area and there will not be any contact between the operations and the aquifers.

The nearest underlying aquifer below the permit area lies approximately 1200 feet below the surface. There should be no communication between runoff from the permit area and the underlying aquifer.

One well currently exists within the SCA-Star Point Permit area. This well, located in the vicinity of the surface facilities was completed by Cypress Plateau Mining Corp. in 1991 to provide process water and for dust suppression on roads near the mine. The well is drilled to a depth of 1200 feet. It is located where the Mancos Shale is the surface geologic formation and is completed in the sandstone unit located below the aquifer system described in the geologic section. Production of the well was small and as a result the well is not presently used.

Surface-Water Monitoring Plan

Water resources located within and adjacent to SCA's permit area are few. The location of surface water potential is shown on Map 731.720a. Runoff from the proposed permit site is a result of snowmelt or rainfall only. No springs are identified on the proposed permit area. There are no major stream channels draining the proposed permit area. All runoff from the disturbed area enters sediment control structures. The adjacent streams are identified as ephemeral. Any discharges from the proposed permit area to major stream channels are regulated by a UPDES permit from the Utah Division of Water Resources.

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Alternative Water Rights Resource Information

No alternative measures have been proposed, since there are no water resources identified on the proposed permit area. No water resources should be impacted or diminished. There are no water rights within or adjacent to the proposed permit area that may be impacted by the operations.

Findings:

Information provided in the application does not meet the minimum Hydrologic Resource Information requirements of the regulations. Prior to approval the Permittee must provide the following in accordance with:

R645-301-724, The application should show the location and type of State-appropriated water within the permit area on a map. What is the quality and quantity of the water associated with each surface water right?

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Affected Area Boundary Maps

The Division considers the affected area for the SCA/Star Point Waste Fuel Refuse Pile to be the same as the permit area. Map 111.100a, SCA/Star Point Waste Fuel Permit Boundary Survey, shows the permit boundaries. The map also shows the legal description.

Archeological Site Maps

Maps are included with the two historic and archaeological surveys in Exhibit 411.140a. A request has been made of the Applicant to supply a map with the locations of the four eligible historic sites adjacent to the permit area, as noted in the introduction to the 1998 Sagebrush Archaeological Consults L.L.C. survey of the area (see the Historic and Archaeological Resource Information section of this Technical Analysis).

Coal Resource and Geologic Information Maps

The refuse material to be removed is identified as the resource material (not considered coal or a coal seam). There are three stockpiles to be removed. The refuse material will be

hauled from the site to SCA's power cogeneration plant at Sunnyside, Utah where it will be used as an energy source to supplement its power generation. The Reserve Assessment is mapped on Drawing No. 01-372-1.

All the hydrologic maps showing surface areas contain contours.

The Star Point Waste Fuel Surface Geology Map 624.100a provides an overview of the regional geology. Map 624.100a has an incomplete legend. i.e. The legend does not include definitions for the following symbols: Kmbg, Kbh, Kme, Kmgc, Kmub, Qal, Qsl, and Qsw. The Star Point Waste Fuel Mine sites is located on Kme and Kmub deposits as well as QTpm (Quarternary Deposit Pediment Mantle).

Cultural Resource Maps

No maps were supplied, see the deficiency written under Historic and Archaeological Resource Information, above.

Existing Structures and Facilities Maps

The existing structures are shown on Map 521.100a and Map 521.100b. Since those maps are operation maps the features could change. To insure that a list of existing structures is available the Applicant must list those items in the text or have a map dedicated to showing the existing features. Such a map could not be modified as the operations progress.

The existing hydrologic structures at the mine consist of berms, diversion ditches, channels, culverts, catch basins and sedimentation ponds. Map 731.720b identifies the structures. Maps 733.120a, 733.120b, 742.100 and 742a illustrate the design of the structures.

Existing Surface Configuration Maps

The term existing surface configuration is not defined. Because part of the proposed permit area was disturbed pre-SMCRA and some part post-SMCRA, the issue can become complicated. Maps that show the surface configuration before disturbance should be available from PMC. The Permittee needs to supply such maps to the Division before mining and reclamation activities.

The Division would like contour maps of the pre-SMCRA disturbed areas before mining and reclamation activities. Such maps should be available from PMC. Such maps may not exist. If they do not, then the Division requests maps showing the contours of those areas, as they appeared when the SMCRA permit was issued. Aerial photography conducted in 1976 (Section 553.100) and the resource recovery investigation conducted in 2001 (Exhibit 624.210a) might provide the topographic information requested.

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If the Applicant is unable to obtain or create maps of the existing, surface configuration from PMC, then the Applicant must state so. Then, the Applicant must label a set of contour maps that show the existing topography as the “existing contour” maps.

Mine Workings Maps

There is no underground mine. Three piles of refuse will be mined. These three piles are shown on the map 521.100e.

Monitoring and Sampling Location Maps

SCA has indicated that a water monitoring plan will not be conducted. There is only one water well on site that consists of a potential water source. The well is 1,200 feet down and is not used. There are three sedimentation ponds that have discharge structures and require monthly monitoring. The UPDES program is managed by the Utah Division of Water Quality, the discharges are reviewed by the Division of Oil, Gas and Mining to assure no off site contamination.

Permit Area Boundary Maps

Map 111.100a, SCA/Star Pont Waste Fuel Permit Boundary Survey, shows the permit boundaries. The map also shows the legal description.

Subsurface Water Resource Maps

A map showing subsurface water resources is not necessary, since subsurface water resources will not be impacted. The first aquifer below the refuse pile is located 1,200 feet below proposed permit area. Any shallow subsurface water will drain to the sedimentation ponds.

Surface and Subsurface Manmade Features Maps

The locations of all buildings within 1,000 feet of the permit boundary are shown on Maps 521.100a and 521.100b. Most of the buildings out the permit area are schedule to be demolished as part of the Star Point mine reclamation.

The maps show the location of the County Road 290, which run parallel to the northern boundary of the refuse pile permit area.

Surface and Subsurface Ownership Maps

Map 111.100a serves as a surface ownership map. Subsurface ownership does not apply, since there is no underground mining planned for the Star Point Waste Fuel Mine.

Surface Water Resource Maps

A map showing the location of the four surface water rights has been requested (see the Hydrologic Resource Information section of this Technical Analysis).

Vegetation Reference Area Maps

The approximate location and boundary line of the reference area are shown on Map 321.100a. The exact location of the reference area, surrounding topography, existing roads, or other geographic tracking marker, however, are not included on a map with the reference area. An inclusive map with the markers listed is required for any proposed reference area (323.100; 411.110). It may be very difficult for someone unfamiliar with the area to find the exact location of the reference area from any of the maps provided in section 300.

Well Maps

Map 722.200 identifies the well location.

Findings:

Information provided in the application does not meet the minimum Maps, Plans and Cross-Sections of Resource Information requirements of the regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-323.100, The application must include a map showing the exact location of the vegetation reference site, including topographic and geographic features of reference and providing a descriptive location.

R645-301-521.161, The Applicant must provide a map dedicated to showing the existing facilities, structures and utilities on site when the permit is issued.

R645-301-521.150, The Applicant must provide maps that show 1) the pre-disturbance surface configuration (topography) of the permit area where possible. 2) pre-SMCRA contour maps (topographic maps for the permit area before August 1977) and 3) current topography.

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MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

The mine life is estimated to be twenty years. Volume of waste to be mined is estimated at 4,710,000 cu yds. Approximately 1,430,000 cu yds will be removed from the site every five years for the first fifteen years. The final five years in the life of the mine will see 410,000 cu yds moved from the site (see Map 521.100e). Table 523.100a relates that between 100,000 to 300,000 tons per year of coal mine waste will be excavated by SCA from the permit area. Based on an average of 200,000 tons/year there will be 833 tons/day or 104 tons/hour moved. That translates into 15 truck trips/day or two trucks an hour.

Three refuse piles (A, B, and C) are illustrated on Maps 521.100e and 731.120b. Map 521.121c, showing the sequence of mining is referred to in Section 521, but could not be found.

The consultant's report found in Exhibit 624.200a recommends sorting, crushing and blending of the coarse with the fine waste. If the Permittee intends to conduct those operations at the site, the application should describe the type and method of procedures to be used and the major equipment to be used for all aspects of the operations.

SCA will use a standard mobile fleet of excavation equipment that may include all or some of the following: dozers, front-end loaders, end-dump trucks, scrapers, backhoes, and support equipment.

The Applicant proposes to use the existing structures and facilities, which were approved for use by PMC. Those structures and facilities are shown on Plate 521.100a, Plate 521.100b and in section 526 of the PAP.

Findings:

The information provided is not adequate for the purposes of the Operation Plan Mining Operations and Facilities requirements of the Regulations. Prior to approval the Permittee will provide the following in accordance with:

R645-301-121.200, Map 521.121c, the sequence of mining map, cited in Section 521, could not be found.

R645-301-523, If the Permittee intends to conduct crushing, sorting, and blending operations at the site, the application should provide a description and location of the type and method of procedures to be used and the major equipment to be used for all aspects of those operations.

EXISTING STRUCTURES:

Regulatory Reference: 30 CFR 784.12; R645-301-526.

Analysis:

In section 526.111 of the PAP, the Applicant lists the following existing structures:

- Coal Waste Refuse Pile
- Vegetation/Soil Test Plots
- Sediment Pond No. 5
- Sediment Pond No. 6
- Accounting/Surface Operations Office
- Surface Operations Bathhouse
- Surface Foreman's Office, Salt Storage, Achieves
- Excess Spoil Disposal Area (Former Pond Treatment Area)
- Concrete Slab (Part of fuel storage/dispensing structures that have been removed.)
- Shop Building
- Sediment Pond No. 9

Exhibit 526.112a contains photographs of the existing structures. That information is adequate to document the structures that exist at the time of permit issuance and the condition that the structures are in.

Findings:

The information provided in the PAP meets the minimum requirements for the existing structures section of the regulations.

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PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

Regulatory Reference: 30 CFR784.17; R645-301-411.

Analysis:

Cultural and Historic Resources Information, Page 400-5, Section 411.140 indicates that there are no sites eligible for nomination to the National Register of Historic Places within the disturbed area. No cemeteries or Indian burial grounds have been identified within the permit area. There are no units of the national trails system or the wild and scenic rivers system within the areas encompassed by the permit boundary.

Findings:

The information provided is adequate for the Protection of Public Parks and Historic Places requirements of the regulations.

RELOCATION OR USE OF PUBLIC ROADS

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

Analysis:

The Applicant does not plan to relocate or use any public roads that are within the permit boundary. However, SCA does plan to conduct mining operations with 100 feet of the right-of-way of a public road. Therefore, the Applicant needs to indicate how the public will be protected from mining and reclamation activities that occur within 100 feet of the public right-of-way.

Findings:

The information provided in the PAP is not considered adequate to meet the minimum requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-526.116, The Applicant will describe how the public will be protected from mining and reclamation activities that occur within 100 feet of the right of way of County Road 290.

AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR 784.26, 817.95; R645-301-244, -301-420.

Analysis:

The application indicates that fugitive dust will be controlled with applications of water and/or calcium chloride or potassium chloride or other biodegradable wetting agents. Section 526.400 indicates that the air quality permit could be found in Exhibit 421a. This exhibit could not be found.

Findings:

The information provided is not adequate for the purposes of the Air Pollution Control Plan requirements of the Regulations.

R645-301-244 and -420, The application must include an air quality permit from the State of Utah Division of Environmental Quality, Bureau of Air Quality.

COAL RECOVERY

Regulatory Reference: 30 CFR 817.59; R645-301-522.

Analysis:

An exploration program was undertaken in 2001 by Miltech Energy Services of Lingonier, Pennsylvania (Exhibit 624.200a). Summary conclusions from the report include the raw material quality, size characteristics, and volume. The report indicates that there are 4.7 million cubic yards of raw material, with an average density of 105 lbs/cu ft (1.42 tons/cu yd). At 12% moisture, the site could yield 7.3 million tons of coal refuse. Average quality of the raw material increases with depth to 8,000 or 9,000 btu/lb. Greater heat content is an attribute of the coal fines, which are located near the bottom of the pile. Coal fines represent 30% of the refuse pile. Screening of the large fragments from the pile will improve product quality.

Operations will consist of excavation, loading and hauling refuse from the identified disturbed area to a plant at Sunnyside, Utah.

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Findings:

The information provided is not adequate for the purposes of the Air Pollution Control Plan requirements of the Regulations. Prior to approval the Permittee will provide the following in accordance with:

R645-301-121.200, Two pits are labeled BH-1 on Figure 1-1 of Appendix 624.210a and Drawing No. 01-372-1, and Map 222.100a. Two drill holes are labeled DH-3 on Map 222.100a.

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

Analysis:

Subsidence Control Plan

The Applicant does not propose to conduct underground coal mining within the proposed permit boundaries. There are no known underground workings within the proposed permit boundaries. Since subsidence will not occur, the Applicant does not need to submit a subsidence control plan.

Findings:

The information provided in the Permit Application Package meets the minimum requirements for the subsidence control plan of the regulations.

SLIDES AND OTHER DAMAGE

Regulatory Reference: 30 CFR Sec. 817.99; R645-301-515.

Analysis:

The Applicant has committed to notify the Division if a slide was to occur and to comply with any remedial measures required by the Division. The Applicant did not specifically state that they would notify the Division by the fastest method available in the event of a slide. R645-301-515.100 requires that the Division be notified by the fastest available means.

The Applicant also qualifies how they will respond to remedial measures required by the Division. The Applicant qualifies the commitment by stating, "If those measures are considered

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to be sound and safe.” The qualification seems unnecessary as the Division would not persist in requiring any measures considered to be unsound or unsafe. The Division is concerned that this qualification could be used to void the commitment to follow Division requirements.

Findings:

The information provided in the PAP is not considered adequate to meet the minimum requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-515.100, The Applicant will describe how they will report slides to the Division and include a commitment to notify the Division by the fastest means possible and to comply with any remedial measures required by the Division. The Applicant must also remove or modify the qualifications to follow the Division’s requirements involving slides.

FISH AND WILDLIFE INFORMATION

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

Analysis:

Protection and Enhancement Plan

Measures taken to disturb the smallest practicable area and a plan to minimize disturbances and adverse impacts are discussed in Sections 331 and 333. In the application it states that, “Only facilities required to operate the refuse pile, access the topsoil area or to satisfy environmental or safety requirements will be built.”

The protection plan is divided into four categories, direct impacts to individuals or populations, direct impacts to wildlife habitat, indirect impacts associated with increased access, and residual impact associated with the operation of the SCA facilities. Specific measures include:

- A commitment to notify the Division of any sightings of threatened, endangered or sensitive species;
- A commitment to preclude the potential of raptor electrocutions on construction of power lines. The application references a letter dated October 9, 1981 from the USFWS to Cleon B. Feight, Director of DOGM stating, “The Plateau Mining Company Lines were examined for the Star Point mine. It’s lines do not pose a threat to raptors.”;

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- A commitment to provide passage for large mammals where excavation related structures prevent necessary migrations;
- A commitment to provide fencing, cover, or other appropriate methods that protect animals from accessing ponds that may contain toxic materials;
- A commitment to develop a mitigation plan with the appropriate agencies should there be impacts to surface or ground water quality; and
- A commitment to inform all employees of the values of the wildlife resources associated with the mining activities.

Endangered and Threatened Species

A discussion of these species is provided in section 322.210 of the application:

Bonytail Chub
Colorado Pike Minnow
Humpback Chub
Razorback Sucker
Bald Eagle
Mexican Spotted Owl
Black Footed Ferret

The Mexican Spotted Owl is listed in Carbon County as possibly being a threatened species. The former Permittee had conducted raptor surveys since the inception of the Surface Mining and Reclamation Control Act with no sightings of the Owl. Since there will be no additional surface disturbance associated with the activities proposed by SCA it is unlikely that there will be any impacts to the birds or their habitat.

There have been no confirmed sightings of Black-Footed Ferrets in Carbon County in several years.

The removal of the refuse has no potential, through water depletions, of adversely affecting four listed threatened and endangered fish species of the upper Colorado River drainage. No water will be consumed as a result of the refuse removal activities other than occasional watering of the access road. The U.S. Fish and Wildlife Service (USFWS) requires mitigation when water depletions exceed 100 acre-feet annually. USFWS concurrence is pending.

Bald and Golden Eagles

Bald eagles are not common in the area during the winter but could occasionally fly through or roost in the proposed permit area. Mining would have negligible effects on these birds.

Wetlands and Habitats of Unusually High Value for Fish and Wildlife

There are no wetlands within or associated with the proposed refuse removal activities.

The permit and adjacent areas are high value for Mule Deer and Elk. Mule Deer occupy both high priority summer and winter range. Elk occupy high priority winter range. Since the refuse pile has been active for approximately 30 years, no impacts to wildlife species are anticipated.

Findings:

The information provided is adequate to meet the requirements of this section of the regulations. Note: Should the raptor survey information requested in the Environmental Resource Information section (R645-301-322.200) indicate that there are active nests within ½ mile of the proposed activities, then additional protection information will be required.

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

Topsoil Removal and Storage

Subsoil to be used as substitute topsoil was removed from the refuse pile site in 1982 under the ownership of Cypress Plateau Mining Corporation (CPMC). The Applicant uses the term topsoil rather than subsoil throughout the mining and reclamation plan, but to be accurate the term subsoil should be used.

The location of subsoil pile is shown on Map 521.100d, SCA/Star Point Waste Fuel Refuse Pile Operation Plan Overview, and on Map 111.100a SCA/Star Point Waste Fuel Refuse Permit Boundary Survey. The volume of substitute topsoil has been surveyed at 192,000 cu yds by CPMC. SCA estimates that 250,000 cu yds will be available during reclamation due to a swelling of the material. (The compaction factor of 0.3 was used based on published research (page 200-9.)

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Section 234 describes topsoil storage. The topsoil is stockpiled with 2h:1v slopes and is vegetated. The application should indicate which mix was seeded on the stockpile and in what year the stockpile was formed.

Findings:

The information provided is not adequate for the purposes of the Operations Topsoil Subsoil requirements of the Regulations.

R645-301-231.400, The application should describe measures that have been taken to control erosion on the subsoil stockpile, as well as the date when the material was stockpiled.

VEGETATION

Regulatory Reference: R645-301-330, -301-331, -301-332.

Analysis:

SCA reports mining operations will consist of removing the refuse pile and transporting it to the SCA power plant in Sunnyside, Utah. SCA commits to keeping disturbance to areas or facilities related to refuse pile removal and to the topsoil stockpile. The mine operator does not include a plan to establish and maintain interim plant cover on temporary disturbances throughout the mining operations even though an interim seed mix is included in the application. SCA must submit a vegetation and soil stabilization plan for temporary disturbances (301-331) on the 75-acre refuse pile, or develop a contemporaneous reclamation plan (R645-301-553 and – 301-352) for the surface mine.

SCA reports that there is no expectancy of subsidence during this mining project.

Findings:

Information provided in the application is not considered adequate to meet the minimum Operations Plan Vegetation requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-331, Provide a plan to establish and maintain interim plant cover on temporary disturbances throughout the mining operations or develop a contemporaneous reclamation plan (R645-301-553 and –301-352) for the surface mine.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

Analysis:

Road Classification System

All roads with the possible exception of pit roads must be classified as primary or ancillary roads, R645-301-527.100. The Division considers pit roads to be roads in the active mining section of the refuse pile. The location of pit roads will change as mining progresses. In general, the Division does not require pit roads to be designed.

In Section 527.100-200 of the PAP the Applicant stated that all roads would be classified as ancillary. The Division does not agree with that classification. By definition, a primary road is used frequently for access for a period of six months or more or is used to haul coal or spoil. Therefore, the access roads and haulage roads in the permit area must be considered primary. For a road to be classified as ancillary, it must be shown to have limited use, such as a road to a monitoring station.

Plans and Drawings

The Applicant needs to include detailed designs and drawings for all primary and ancillary roads within the permit boundaries. Therefore, the Applicant needs to include designs for the roads they call temporary pit roads, which includes access roads to pond 5 and the catch basins. In addition, the Applicant must also include designs for the road to the topsoil stockpile area.

In section 527.210 of the PAP the Applicant describes the general designs for Road G (access to pond 6) and Road L (access to excess spoil disposal area and pond 9.) The roads were included in the Star Point MRP and approved by the Division. Road G is 10 to 12 feet wide and has a maximum grade of 15%. Road L is 15 to 25 feet wide and has a maximum grade of 7.3%.

None of the roads described by the Applicant involve low water crossings or fording streams. The Applicant has committed to maintain all roads. The Division requires no special geotechnical analysis.

The Applicant did not address all of the requirements of R645-301-534. Since the Division as part of the Star Point MRP has approved the roads the information on road design should be available to the Applicant.

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The Applicant did state that all private roads within the permit area would be reclaimed. The commitment is stated in section 542.200 of the PAP.

Performance Standards

The general performance standards are listed in R645-301-534.140, R645-301-534.150, R645-301-534.200 and R645-301-534.300. The Applicant needs to address those performance standards.

Primary Road Certification

Plate 534.100a and Plate 534.100b show the general designs for road L and road G. A registered professional engineer has certified the designs.

Other Transportation Facilities

The Applicant did stated that the only other not list any other transportation facilities within the permit boundaries is a rail line that is not under control of the Applicant.

Findings:

The information provided in the PAP is not considered adequate to meet the minimum requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-527.100, The Permittee must classify the main haul roads by the refuse pile and the road to the topsoil stockpile as primary.

R645-301-527, The Applicant must show the designs for all primary roads in the permit area including the proposed topsoil stockpile access road, the existing topsoil stockpile access road and the main haul roads.

R645-301-534, The Applicant must provide designs for all roads including the haul roads and the topsoil access road and state how the design requirements of R645-301-534 will be met. The Division is specifically concerned with embankment stability and how off site impacts will be prevented.

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

Disposal Of Noncoal Mine Wastes

The Applicant committed to have dumpsters placed in a central location. Periodically the dumpsters will be emptied and the noncoal waste will be shipped to a state approved landfill. All hazardous wastes will be disposed of in accordance with RCRA.

Coal Mine Waste

Coal mine waste is defined as coal processing waste and underground development waste. Sunnyside Cogeneration Associates will reduce the coal processing/underground development waste by its re-mining operation at the site.

Refuse Piles

There are three existing refuse piles at the site, A, B and C. The refuse piles are shown on several maps including Plate 521.100d and Plate 521.100e. Because of the nature of the project, no additional refuse will be placed on site. The mine plan calls for the refuse to be removed from the piles and sent to a cogeneration facility for burning.

The general requirements for refuse pile design are as follows:

- The refuse pile will be designed using current prudent engineering practices and will meet the design requirements of the Division. The Division has approved the design of the refuse piles as part of the Star Point MRP. Since the Applicant intends to remove material from the refuse piles instead of adding to them the Division will consider the design of the existing refuse piles adequate.
- The refuse piles must have a static safety factor of 1.5. The stability analysis for the refuse piles is in Exhibit 528.322a. The Applicant proposes to keep the slopes stable by maintaining a slope angle of 2H: 1V.

No additional foundations will be constructed at that the site.

The application states in Section 528.300-321 that excess spoil (or undesirable refuse) will be routinely compacted and covered to prevent combustion and wind-borne transport. The Division requests clarification of the plan to routinely cover the undesirable refuse.

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Section 528.300-321 states that the Excess Spoil Disposal Area is shown on Map 528.300a. Map 528.300a could not be found. The proposed disposal area is shown on Map 521.100f as indicated in Section 528.322. This map shows the proposed undesirable refuse disposal area covering 5.5 acres. The material will be formed into a wedge against the existing topography. The wedge will have a maximum 4h:1v slope. The sloping sides of the wedge will face north, east and southeast. The waste will be packed forty feet deep at the center of the wedge and at a maximum of 55 feet at the highest point of the wedge.

The plan indicates that the undesirable refuse disposal site will be covered with four feet of soil from the subsoil pile (Section 528.300-321).

Coal mine waste must be disposed of in controlled manner as required by R645-301-536.200. R645-301-536.300 allows disposal of coal mine waste in excess spoil fills, if approved by the Division. In section 528.300-321 the Applicant states that coal mine waste (refuse) that is not suitable for combustion will be placed in the excess spoil disposal area (settling ponds).

Although, the Division does consider sediment pond clean out material to be excess spoil, in general, excess spoil means overburden that cannot be returned to the pit area due to swelling. Since the Applicant proposes to dispose of 140,000 cubic yard of reject material in the excess spoil area, the Division considers this a major undertaking. The amount of sediment pond clean out material is minor compared to the amount of reject material. As a point of comparison, the amount of substitute topsoil is 240,000 cubic yards.

The Division's main concern about the disposal of coal mine waste in the excess spoil pile area is with reclamation. For example there are specific regulations requiring refuse material to be covered with 4 feet of material, while there are no requirements for depth of cover over excess spoil.

The Division wants the Applicant to dispose of the refuse reject material either in the existing refuse piles or to permit the sediment basins as refuse piles.

The existing refuse pile was designed and approved in the Star Point MRP.

Impounding Structures

The Applicant states in section 528.400 of the PAP that there are numerous sediment ponds and sediment traps in the area. The main purpose of this regulation is to regulate impoundments made out of coal mine waste, see R645-301-536.400. Therefore, the Applicant needs to state if any impoundments are made out of coal mine waste and if so then document that the Division approved the ponds construction.

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Burning And Burned Waste Utilization

The refuse pile that has been in existence at the Star Point Mine will be utilized for fuel at the Sunnyside Refuse Cogeneration Plant. If coal mine waste fires erupt during the operation, they will be extinguished by covering or excavating the burning material. According to Section 528.323, clean spoil or other imported soil may be used for this purpose. The Applicant should not plan on using salvaged, stockpiled substitute topsoil for this purpose. A source of for the imported soil should be stated in the plan.

The Applicant committed to using only employees trained in handling burning waste material for extinguishing the fires. This plan is similar to those approved by the Division and used by AML for dealing with coal waste fires.

Return of Coal Processing Waste to Abandoned Underground Workings

The Applicant does not propose to place coal processing waste in underground workings.

Excess Spoil:

The application describes an excess spoil disposal area, which is shown on Plate 521.100a. The spoil will be placed in a controlled manner and then covered with four feet of material. In Sections 521.169 and 528.300-321 of the PAP and throughout the application, the Applicant refers to reject refuse material as excess spoil. The Division does not consider refuse reject material as excess spoil. Spoil means overburden that has been removed during coal mining and reclamation operations. Reject refuse material does not meet the definition of spoil.

The only material to be generated at the site fitting the definition of excess spoil is sediment pond cleanout material. The Applicant states that the excess spoil disposal area is capable of handling 145,000 cubic yards of material. The amount of sediment pond clean out material will be minor compared to the amount of reject material. This method of disposal for refuse is not acceptable to the Division, because the excess spoil disposal area could become a refuse pile. Unless the Applicant can show a compelling reason why coal mine waste should be disposed of in the excess spoil pile site, the Division will require that all coal mine waste (refuse) is disposed of in the existing refuse pile areas.

Findings:

The information provided is not adequate for the purposes of the Operations Refuse and Spoil and Waste requirements of the Regulations.

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R645-100-200 and R645-301-121.200, The Applicant must classify all reject refuse material as coal mine waste not as spoil or excess spoil. The reject refuse material does not meet the definition of spoil.

R645-301-553.250, The application should describe reclamation of the site (backfilling and grading plans) according to the requirements for refuse piles.

R645-301-528.323, The Applicant's plan for extinguishing coal mine waste fires should not depend on the use of salvaged, stockpiled substitute topsoil for smothering a fire, rather, a source for the imported soil should be stated in the plan.

R645-301-536.400, The Applicant must state which, if any, sediment ponds (impoundments) are constructed from coal mine waste (refuse) material and provide engineering designs for the construction in the Permit Application Package.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

General

The operational runoff conveyance and sediment control plans were approved for operation by PMC. The plan includes a complete layout of temporary control diversions, ditches, and ponds. Throughout the majority of the mine plan area diversions and ditches have been designed to safely transmit the precipitation events of a 10-year, 24 hour storm.

Casing and sealing of wells

The casing and sealing of wells is discussed in Sections 631 and 748 of the application. The Applicant states that all water wells within the permit area will be cased or sealed as approved by the Division to prevent acid or toxic drainage from entering ground or surface water; to minimize disturbance to the hydrologic balance; and ensure the safety of people, livestock, fish, wildlife and machinery. The Applicant's statement, although well meaning, does not necessarily meet the requirements of the regulations. The Applicant should be specific how

the well will be reclaimed. The Division is looking for the methods the Applicant will use to plug the well.

Groundwater Monitoring

No ground water monitoring will take place. The well is not being used. Since the surface is separated from the aquifer by 1,200 feet of shale, groundwater contamination is not likely. No springs or other groundwater sources exist on the property. The operations will not disturb or disrupt groundwater recharge sources. No monitoring will be required.

(A specific requirement for surface mining (R645-731.112 should be addressed in this section.)

Surface Water Monitoring

Surface water monitoring will not be conducted (other than UPDES monitoring), because there are no surface waters in the proposed permit area.

Acid- and Toxic-Forming Materials and Underground Development Waste

The plan indicates in Section 542.700 that the refuse is non acid/toxic forming. Supportive information for this statement is founding Section 624.330. This is an incorrect citation. Chemical characteristics of the refuse are found in Section 624.100 and 624.220-230 and Exhibit 542.700a, CPMC 1995 Response to DOGM Midterm Review. Recent research on refuse fuel quality is reported in Exhibit 624.210a, Reserve Assessment of Star Point Coal Refuse Site, prepared by Miltech Energy Services Inc., Ligonier Pennsylvania.

Table 624.100c presents samples taken at an uncertain date from the top four feet of the refuse pile. Locations are uncertain. Table 624.100c indicates that the refuse is acid forming based upon total sulfur values (average total sulfur acid/base potential of -9.6 Tons/1000 Tons and a range of -36 to positive 37 Tons/1000Ton). The Applicant correctly suggests in Section 624 (page 600-12) that only pyritic sulfur should be taken into account for the Acid/Base calculation. When only pyritic sulfur is used, the Division calculates t the Acid/Base Potential to range between -3.4 and -26.9 Tons/1000 Tons. Of the twenty samples analyzed for acid base accounting, only four are less than -5.0 Tons/1000 Tons. The average Acid/Base Potential of the refuse reported in Table 624.100c is -12.6 Tons/1000 Tons. Clearly, Table 624.100c indicates that the refuse is acid forming even when calculations are based solely on pyritic sulfur content.

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Transfer of Wells

Only one unused well exists in the proposed permit area. Transfer of this well and any other constructed wells will be in accordance with State water law and an approval by the Division and State Engineer.

Discharges Into An Underground Mine

There are no mine openings associated with removal of the coal seam, this no discharge into an underground mine.

Gravity Discharges From Underground Mines

Not applicable. No gravity discharges from an underground mine will take place.

Water-Quality Standards And Effluent Limitations

The sedimentation ponds will continue to be monitored in accordance with UPDES permits, which outline the State and Federal discharge limitations. Details regarding effluent limitations related to UPDES discharges are found in Exhibit 731.221 and 731.221d. The plans for the sedimentation ponds are prepared by a registered professional engineer and presented in Section 742.212. Sediment will be removed from these ponds on a regular basis when 60 percent of the "sediment capacity" is reached.

Diversions: General

SCA has submitted maps 731.720a and 731.720b that shows the location of diversion structures on the proposed permit area. Diversion ditch and culvert peak flow calculations are provided in Exhibit 732.300a.

Stream Buffer Zones

There are no flowing stream channels in the permit area.

Sediment Control Measures

On October 1, 2002 representatives from the Division of Oil Gas & Mining toured the refuse pile. Mr. Johnny Pappas pointed out several catch basins that are located around the proposed permit area. The catch basins are not identified on the Surface Water and Sedimentation Control Facilities Maps, 731.720a or 731.120b. SCA should provide information addressing the size and location of the catch basins.

Siltation Structures: General

Alternate sediment control areas for the Star Point Mine permit (C/007/006) were approved on September 28, 1989. Map 742.100 identifies surface roughening, benches, silt fences, sediment traps, rock check dams, water bars, berms and straw bales to help control sediment. The structures will be used throughout the permit area to control small areas where sediment is a concern.

Siltation Structures: Sedimentation Ponds

Three sedimentation ponds (Ponds 5, 6 and 9) are already constructed and functioning to serve as on site water pollution control facilities. The ponds are designed to contain the 10-year 24-hour design storm runoff event. Sediment pond details are illustrated on Maps 733.120a, 733.120 f and 733.120 j. Stage-capacity curves for ponds 5, 6 and 9 are illustrated in Figures 742.221e, 742.221 f and 742.221i. The site also contains several other alternative sediment control measures such as berms, silt fences and catch basins. The facilities will remain in place throughout the operation period.

Discharge Structures

Pond inlet and outlet design calculations are presented in Exhibits 742.221e.

Impoundments

The sediment ponds, Pond 5, Pond 6 and Pond 9 were all constructed or approved under the Star Point permit.

The designs of the sediment ponds address the following requirements:

- None of the ponds meet the requirements of an MSHA pond.
- A registered professional engineer designed all ponds.
- The Applicant did not address the stability of Pond 6 in Section 533.100-200 of the PAP and the Applicant did not state where the stability analysis for Pond 9 could be found. The Applicant did state that Pond 5 has a safety factor of 1.8 and Pond 9 has a safety factor of greater than 1.5.
- Since the ponds were approved in the Star Point permit the Division has already reviewed the ponds' construction, including foundation preparation.
- No highwalls are associated with the ponds.
- Inspections of the pond construction were handled under the Star Point permit.
- None of the ponds will be permanent, all ponds will be removed during final reclamation.

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In addition to the sedimentation ponds several small retention ponds that will trap and fully contain runoff from small areas.

Findings:

The information provided in the application is not considered adequate to meet the minimum Operation Plan Hydrologic Information requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-121.200, Section 542.700 must state that acid/base accounting information is founding Section 624.100 and 624.220-230 and Exhibit 542.700a, CPMC 1995 Response to DOGM Midterm Review, as well as the recent Reserve Assessment of Star Point Coal Refuse Site, prepared by Miltech Energy Services Inc., Ligonier Pennsylvania, found in Exhibit 624.210a., not Section 624.330 as is currently stated in the application.

R645-301-131, -132, The information reported in Table 624.100c must be accompanied by the dates of collection, the names of persons or organizations that collected and analyzed the data. The location of samples must be shown on a map. If the requested information is not available, then SCA may analyze samples collected in 2001 to provide the required information on refuse chemical characteristics (i.e. Texture, pH, EC, SAR, B, Se, Acid/Base Accounting, etc.)

R645-301-533.110, The Applicant must address the stability requirements for Pond 6 and state in Section 533.100-200 of the PAP where the stability analysis for all ponds can be found.

R645-301-731.300, Section 542.700 and Section 624.100 of the application incorrectly state that the refuse is non- acid/toxic forming. The refuse is acid forming, even when based upon pyritic sulfur values. Table 624.100c must provide a column showing Acid Potential and the Acid/Base Potential calculations based upon pyritic sulfur.

R645-301-728.320, The PHC must include a statement that refuse is acid forming.

R645-301-748. The Applicant will describe the detailed methods to be used to seal all boreholes and wells on the proposed permit area.

R645-301-722.200. SCA shall provide information addressing the size and location of all existing catch basins and sediment controls.

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

Analysis:

In section 526 of the PAP the Applicant lists the existing and proposed support facilities and utility installations. In Table 526.111a of the PAP, the Applicant lists the following existing structures:

- Coal Waste Refuse Pile
- Vegetation/Soil Test Plots
- Sediment Pond No. 5
- Sediment Pond No. 6
- Accounting/Surface Operations Office
- Surface Operations Bathhouse
- Surface Foreman's Office, Salt Storage, Achieves
- Excess Spoil Disposal Area (Former Pond Treatment Area)
- Concrete Slab (Part of fuel storage/dispensing structures that have been removed.)
- Shop Building
- Sediment Pond No. 9

In Table 526.11b of the PAP the Applicant lists the following proposed structures.

- Bermed containment area for portable tank with concrete slab.
- Bermed containment area for portable tank.

The Applicant did not discuss utilities such a power and waterlines.

Findings:

The information provided in the PAP is not considered adequate to meet the minimum requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-526.200, The Applicant must state in the text and show on maps the location of utilities such as water and power lines.

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SIGNS AND MARKERS

Regulatory Reference: 30 CFR Sec. 817.11; R645-301-521.

Analysis:

The Applicant committed in the MRP to post all signs and markers as required by R645-301-521.200. The following guidelines will be followed:

- The signs and markers will be posted, maintained and removed by SCA.
- The signs and markers will be built of durable material and conform to local laws and regulations.
- They will be in-place and maintained during all operation and reclamation activities
- They will be retained and maintained until after the release of all bonds.

Findings:

The information provided meets the minimum Operations Plan Signs and Markers requirements of the Regulations.

USE OF EXPLOSIVES

Regulatory Reference: 30 CFR Sec. 817.61, 817.62, 817.64, 817.66, 817.67, 817.68; R645-301-524.

Analysis:

General Requirements

No blasting is anticipated at the site therefore, no blasting plan or pre-blasting survey is needed.

Findings:

The information provided meets the minimum reporting requirements of the Regulations for the use of explosives.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Affected Area Maps

The affected area should include the areas on which mining and reclamation activities will occur over the life of the mine. For the SCA/ Star Point Waste Fuel Refuse Pile those areas should be within the proposed permit boundaries. Several maps show the location of the permit boundaries including maps 521.100a, 521.100b and 521.100c. A professional engineer certified all the maps.

Mining Facilities Maps

The mining facilities are shown on several maps including maps 521.100a, 521.100b and 521.100c. A professional engineer certified all the maps.

Mine Workings Maps

Due to the nature of the project, detailed mine maps are not needed. Mining will consist of removing coal mine waste (refuse) from the refuse piles and shipping it to a cogeneration facility. What the Division is interested in is the configuration of the refuse piles before mining and the configuration after mine. The after mining configuration is shown on the reclamation maps, 542.200a and 542.200b. A professional engineer certified all the maps.

The Division does need a map that shows the timing and sequence of mining operations. None of the maps show that information. Specifically the Division needs a map that shows the sequence and timing for the each of the first five years and a general plan for each additional five year period.

Monitoring and Sampling Location Maps

Subsidence monitoring is not applicable to this operation. No ground water monitoring will take place. Surface water monitoring other than UPDES monitoring will not be conducted, because there is no surface water sources on the proposed permit area. Raptor activity will be monitored and is shown on Wildlife Habitat map # 322.220a.

Certification Requirements

All maps submitted by the Applicant that need certification have been certified.

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Findings:

The information provided in the PAP is not considered adequate to meet the minimum requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-521.100, The Applicant must give the Division mine maps that show the timing and sequence of the mining operation. Specifically the Division is interested in a map that shows mining and reclamation activities for each of the first five years and then the operations or each of the remaining five year periods.

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GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

Two reclamation scenarios are proposed: one for complete elimination of the refuse pile is referred to as the Final Reclamation Scenario. The second called Bonding Scenario Reclamation describes reclamation of the site if only a portion of the refuse is utilized for fuel.

Reclamation information for removing structures and regrading the site to approximate original contour is presented in Section 5.

All temporary hydrologic structures will be removed and reclaimed according to the reclamation plan presented under Section 540 and 550 of the permit application. The well will be transferred or sealed and the drainage pattern reestablished.

Post mining reclamation contours are presented in 542.200a and 542.200e. No permanent sedimentation ponds, impoundments or treatment facilities are planned for the permit area.

Findings:

Information provided in the application meets the minimum General Requirements of the Regulations.

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

Post mining land use is described in Section 412.200 and Table 412.100a as wildlife, grazing and recreation. Management plans (required by R645-301-412.120) are synonymous

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with the reclamation plan for the site. The plan indicates that the timing and extent of grazing use will be made after bond-release by the land owner(s). A portion of the site falls within the BLM Wattis Grazing Allotment and will be managed by that agency. Apparently the allotment includes 3,500 acres of Public Land with an allocation of about 100 Animal Unit Months (AUM's) (Section 411.120).

The application indicates that the subsoil pile may not be completely removed from land owned by Plateau Mining Corporation. Authorization from Plateau Mining Corporation must be received to allow the subsoil pile to remain after reclamation of the site.

Findings:

The information provided is not adequate post mining land use requirements of the Regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-412.200, (1) Consent must be obtained from Plateau Mining Corporation to allow the subsoil to remain in its current location after reclamation of the site is completed. **(2)** Comments from the Bureau of Land Management concerning the implementation of the proposed post-mining land use are required as part of the application. (see a similar deficiency written under Environmental Resource/Land Use Resource Information.)

PROTECTION OF FISH, WILDLIFE, AND RELATED ENVIRONMENTAL VALUES

Regulatory Reference: 30 CFR Sec. 817.97; R645-301-333, -301-342, -301-358.

Analysis:

Measures taken to disturb the smallest practicable area and a plan to minimize disturbances and adverse impacts are discussed in sections 331 and 333. (See the discussion under Operations Plan/Fish and Wildlife).

The Applicant refers to Section 330 for details concerning enhancement measures for terrestrial habitat development during reclamation and postmining phases of operation (342.100) as well as for details on vegetation criteria (342.200). Section 330 does not include discussions of these regulations, but they are discussed in section 353. In section 330, SCA primarily focuses on raptor electrocution precautions and water quality issues.

On raptor electrocution precautions, SCA states that power lines constructed post 1977 by CPMC are "raptor-proof". The mine operator supports their declaration of safety on a

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USFWS report of no sightings of droppings or electrocuted birds under CPMC lines and on a 1981 UDWR inspection of CPMC power lines. It is unclear whether power lines in the permit area raptor safe by design or because raptors choose to perch on trees outside the permit area

On water quality concerns, SCA will continue to monitor water quality and quantity of streams and ponds. The mine operator commits to providing fencing protection for wildlife from toxic materials that may be found in ponds. If water quality is compromised by mining operations or reclamation practices, research will be conducted to assess impacts and guide mitigation efforts.

Section 330 also briefly discusses threatened, endangered, and special interest plant and animal species as well as large mammal migratory passages. The mine operator commits to contact the Division if sensitive species are sighted at the permit area. A proposition to educate employees on the values of wildlife and critical seasons to wildlife is included (333; pg 300-29), although, specifics of an educational program are not provided. For large mammals, SCA agrees to provide passages if migratory paths are blocked by mining operations or structures.

Findings:

The information provided is not adequate to meet the minimum Reclamation Plan requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-358.510, The Application must provide a schematic design of the power lines at the site.

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

The term approximate original contour restoration means that the final surface configuration shall closely resemble the general surface configuration of the land before mining. The requirement does not mean that the post-mining and pre-mining configurations are the same. Rather, the term AOC means:

- The post-mining topography shall closely resemble the slopes of the surrounding area.
- Spoil piles will be eliminated
- Highwalls will be eliminated
- Drainage systems will complement those of the surrounding area.

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Since mining will consist of removing coal mine waste (refuse) the mined area will be reclaimed to the near pre-disturbed contours. The post-mining contours will be similar to those of the surrounding area, a gently sloping topography.

No spoil piles or highwalls are associated with the permit area. The reclaimed drainage systems will be constructed so that it blends into the surrounding drainage systems.

There are two reclamation plans for the SCA/Star Point Waste Fuel Refuse Pile. The first is based on the assumption that all the refuse is removed and that the Applicant reclaims according to the approved plan. The second is that the Applicant is unable to remove the coal mine waste and must reclaim refuse at the site. The Division has reviewed the first reclamation scenario and found that it meets the AOC requirements. The second scenario is similar to the reclamation plan approved by the Division for the Star Point refuse pile, which is approved. In both cases the Applicant meets the minimum requirements for meeting AOC.

Findings:

The information provided meets the minimum Approximate Original Contour requirements of the Regulations.

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

Analysis:

General

Approximate original contours of the area are known from a 1976 aerial photographs of the site (Section 553.100) and from exploration work conducted in 2001 (Exhibit 624.210a). The plan indicates that, "to the maximum extent technically practical, the site will be backfilled and graded to achieve the assumed approximate original contour."

No highwalls or spoil piles are on site and all depression will be eliminated. In addition, there are not settled and revegetated fill areas, or exposed coal seams. All coal mine waste will be covered. The slopes will be gentle and blend into the surrounding areas. Such slopes will help minimize erosion and water pollution both on and off site. Road cuts will be eliminated using fill from the downslope of the road. They will be mulched, roughened and seeded according to the methods described in Section 542.200. The site will be compatible with the postmining landuse.

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Two reclamation scenarios are proposed: one for complete elimination of the refuse pile is referred to as the Final Reclamation Scenario. The second called Bonding Scenario Reclamation describes reclamation of the site if only a portion of the refuse is utilized for fuel. Under the Bonding Scenario grading of the substitute topsoil pile will be as shown on Map 542.200c. This map must show pre-existing contours which are available from the aerial photography referred to in Section 553.110.

If all the refuse is utilized, the final reclamation topography will look like that shown on Map 542.200e. Slopes will be graded no steeper than 3h:1vertical. Under this scenario, unused refuse will be placed in the Excess Spoil Disposal Site. Waste material (54,000 cu yds) will be graded at the site, and 30,400 cubic yards of substitute topsoil will be redistributed over the regraded site. Under this Final Reclamation scenario, there is virtually no change in the topography of the subsoil storage pile.

To the extent known, Map 542.200e must reflect the original contours for the site. This deficiency was cited earlier in this document under Environmental Resource Information/Maps and Plans, R645-301-521.250.

The plan does not indicate the acreage of refuse piles A, B, and C and the proposed excess spoil disposal area. Using map 542.200a, the Division calculates that this acreage is approximately 75 acres. Coverage of 75 acres with 30,400 cubic yards of substitute topsoil material amounts to only three inch cover depth. This does not agree with plans stated in Section 200 of the application. Section 542.700 describes an eighteen inch or four foot cover depth depending upon slope in the Bonding Reclamation Scenario, but is less specific for the cover depth in the Final Reclamation Scenario.

Plans for the final disposal of coal mine waste (refuse) that will not be shipped off site must be described using regulations covering reclamation of refuse piles, as discussed earlier under Operation Plan/Excess Spoil and as requested under deficiency R645-301-553.250. The Applicant's proposal to place reject material in the sediment basins along with sediment pond clean out material (excess spoil) is not acceptable to the Division. The main reason is that the reclamation requirements for excess spoil are not the same for refuse. The Division wants all refuse material to be covered with 4 feet of material and be disposed of in engineered site.

Previously Mined Areas

The provisions of the previously mined area allow for highwalls to be retained under limited conditions. Because there are no highwalls in the permit area, this provision does not apply.

Backfilling and Grading On Steep Slopes

Not applicable.

Special Provisions for Steep Slope Mining

Not applicable.

Findings:

The information provided is not adequate to supply general information for the backfilling and grading requirements of the Regulations. In addition to information requested previously under R645-301-553.250 and R645-301-521.150, prior to approval, the Permittee must provide the following in accordance with:

R645-301-542.200, -553.260, -553.300, The application must indicate the exact acreage and yardage of substitute topsoil, the exact acreage to be reclaimed and cover depth to be placed in both the Final Reclamation Scenario and the Bonding Scenario Reclamation.

MINE OPENINGS

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

Analysis:

There are no mine openings on the proposed permit area.

Findings:

Information provided in the application meets the minimum requirements of the Mine Openings regulations.

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TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Analysis:

Reclamation of the refuse under the Bonding Scenario will require 235,000 loose cubic yards of substitute topsoil (Table 542.200b). Map 542.200c shows the existing and final contours of the topsoil storage area under the Bonding Scenario. Reclamation cross-sections for this scenario are shown in Map 542.200d.

Under the Final Reclamation Scenario, the Applicant will explore underneath the refuse pile for suitable substitute topsoil at reclamation (Section 224). Specific locations identified for evaluation as substitute topsoil are mentioned in Section 233. Under the Final Reclamation Scenario, 30,400 loose cubic yards will be excavated for use as substitute topsoil over what remains of the refuse pile (Table 542.200a). Map 542.200e illustrated the contours of the substitute topsoil pile for this scenario.

Both must illustrate the pre-existing contours for the substitute topsoil storage site. These contours are available from the aerial photography taken in 1976, described on page 500-30 of the application.

Section 534 describes the construction of additional roads for access to the Topsoil Area to improve the operation of hauling topsoil. If needed, additional designs including sediment controls will be provided to the Division. Plans for road development must include topsoil or substitute topsoil salvage and replacement along the roadway.

Section 242 of the application describes the ripping of the compacted surface to a depth of six to twenty four inches where possible to reduce surface compaction. Track-mounted equipment will be utilized for topsoil redistribution.

Section 553.100 states that dozers will be used to place topsoil on the slopes at a uniform thickness. All areas will be roughened. The plan further specifies, "The terraces and the flat top of the refuse pile will be deeply gouged with a track hoe." The Division recommends that the slopes are roughened as well. This roughening technique has been used on slopes of 2h:1v or less at many mine sites successfully. The plan indicates that gouging will extend below the final topsoil layer and that subsoils are of acceptable chemical and physical quality. The reader is referred to Section 222.400 to verify this statement. Section 222.400 of the application does not verify this statement.

Based on sampling of the soils, supplemental nitrogen will be applied at a rate of 40 pounds per acre and supplemental phosphorus will be applied at the rate of 30 pounds per acre

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active ingredient (Section 243). This fertilization program was based on the Division's 1985 "Guidelines for Supplying Soil Amendments."

Current recommendations are to apply fertilizers only when necessary due to an extreme nutrient deficiency, because nitrogen fertilization will encourage weed species at the expense of native species (see page 69 of The Practical Guide to Reclamation in Utah, a 2000 Division publication, available on line at www.dogm.nr.state.ut.us). Perhaps a healthy nitrogen balance could be achieved over time with the inclusion of native legumes in the seed mix, rather than with fertilization.

Fertilization with phosphorus should remain part of the plan. The application should further specify a slow release Treble-super-phosphate fertilizer that is incorporated into the topsoil layer with gouging.

The Star Point Mine was reclaimed in 2001 - 2002 and there was no fertilizer applied. The Des Bee Dove Mine was reclaimed using phosphorus fertilizer only. The phosphorus fertilization scheme might be refined based upon a comparison of the success of these two reclamation sites over the next ten years.

Findings:

The information provided in the application is not considered adequate to meet the minimum Topsoil Redistribution requirement of the regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-240, Maps 542.200d and 542.200e of the application must include pre-existing contours for the substitute topsoil storage site. These contours are available from the aerial photography taken in 1976, described on page 500-30 of the application.

R645-301-243, The Permittee should specify the type and amount of phosphorus fertilizer and delete the addition of nitrogen fertilizer and provide for an increase in the native legume species in the seed mix instead.

R645-301-242.130, The application should indicate that the entire regraded site will be gouged, including the slopes. (see Section 553.100).

R645-301-121.200, The plan indicates that gouging will extend below the final topsoil layer and that subsoils are of acceptable chemical and physical quality. The reader is referred to Section 222.400 to verify this statement. Section 222.400 of the application does not verify this statement.

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ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

Analysis:

Reclamation

The Applicant states that all private roads within the permit area will be reclaimed when no longer needed. The roads will be dirt, so disposal of surfacing materials should not be a problem. Reclamation of the roads will be done by pulling fill back up from the down-slopes and placing it in the cuts. The replaced fill material will be shaped to conform to the adjacent terrain and to meet the natural drainage pattern. Barriers of native rock or earthen berms to prevent vehicular access will block the entrances to reclaimed roads. Water bars and cross drains may be constructed across reclaimed roads to minimize erosion where necessary. The Division anticipates that the use of water bars and cross drains shouldn't be necessary with the extreme gouging described in the reclamation section.

Map 542.200a shows the reclamation surface for the site under the worst case bonding scenario all roads are removed. Map 542.200e shows the reclaimed site after full mining and all roads are removed.

Retention

No roads in the permit area are scheduled to be retained.

Findings:

The information provided meets the minimum requirements for the road system section of the regulations.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Hydrologic Reclamation Plan

SCA has submitted reclamation plans in Section 540. A timetable for reclaiming hydrologic structures is provided in Table 542.100a. The Applicant proposes to minimize erosion during the regrading and revegetation process by installing of interim sediment control structures.

Backfilling and regrading will proceed from the upstream end of the surface facilities to the downstream end, thus allowing the sedimentation ponds to remain effective for as long as possible.

SCA proposes to establish the drainage pattern over the regraded surface as shown on Map 761a. Reclamation channel design calculations are provided in Exhibit 761a. SCA states in Section 761, Reclamation Channel Design, "diversions except those associated with the county road will be removed at final reclamation. Surface runoff will follow natural flow paths approximating those which existed prior to mining." All drainages less than 1 sq. mi. are ephemeral and will be constructed using design calculations of a 10 yr.-6 hr. precipitation event.

SCA provides information in Exhibit 761a showing the final designs for conveying runoff over the reclaimed site. The information provided for the channel reclamation is not complete. Map 761a shows a reestablished drainage channel, RC-1, a diversion channel, RC-2, that diverts undisturbed runoff away from drainages RWS-1 and RWS-3 and a diversion that collects runoff from RWS-1 and RWS-3. There should be no diversion channels remaining after regrading. There should only be two watersheds on the reclaimed site, RWS-1 and RWS-3, remaining after regrading. Regulations require all undisturbed diversions be removed.

All sedimentation ponds will be removed at reclamation. Discharge structures are properly designed and will be removed along with the ponds at reclamation. Siltation structures, such as silt fence, water bars, straw bales, check dams, surface roughening and reseeding, will be used as interim sediment control measures. Designs of alternative sedimentation control structures are in Map 724.100. Alternate sediment controls will be implemented, as identified on Map 742.100.

No ground water monitoring will be conducted on the proposed permit or adjacent area. No surface water monitoring will be conducted on the proposed permit or adjacent area other than that conducted in accordance with the UPDES permits. The Applicant will be required to submit Discharge Monitoring Report (UPDES) data into the Utah Coal Water Quality Database.

Only one unused well exists in the proposed permit area. At this time, SCA has no plans to transfer the single well on the property. But Section 731.400 states that any well existing at

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the time reclamation begins will be transferred or reclaimed in accordance with State water law and approval by the Division and State Engineer.

Table 624.200c presents information on the acid/toxic nature of the refuse. The Division calculates that waste is acid forming based upon pyritic sulfur values. Three of twenty samples have levels of plant available selenium in the surface three inches in exceedence of the recommended 0.1 ppm limit established in the Division's 1988 Guidelines for the Management of Topsoil and Overburden.

The coal mine waste will be routinely sampled for characteristics of combustion, but not for acid/toxic forming properties. The plan should include some way of monitoring the refuse for acid/toxic properties just prior to final reclamation, so that acidic waste and waste high in selenium can be buried within the fill.

Findings:

The information provided in the application is not considered adequate to meet the minimum Hydrologic Reclamation requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-761. The Applicant will ensure all temporary structures (undisturbed diversions) are removed and reclaimed.

R645-301-731.121, -731.311, -746.120, The application should include some way of monitoring the refuse for acid/toxic properties just prior to final reclamation, so that toxic waste or waste with the potential for acid-formation can be buried within the fill.

CONTEMPORANEOUS RECLAMATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.100; R645-301-352, -301-553, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

General

R645-301-553 requires that surface mining will be followed by rough backfilling and grading within 60 days or not more than 1500 linear feet. The application indicates that the 75 acre site will be treated as a single unit and the rough backfilling and grading of the site will be accomplished at completion of mining.

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Since the mine will not be reclaimed contemporaneously, additional information on the stabilization of surface areas using interim reclamation techniques has been requested under Operations/Vegetation Information. The mine sequence map 521.121c, cited in Section 521 could not be found, but would be helpful to illustrate the operation plan and possible locations for interim treatments.

Findings:

The information provided is not adequate for the Contemporaneous Reclamation requirements of the Regulations. Further information has been requested under Operations/Vegetation Information.

REVEGETATION

Regulatory Reference: 30 CFR Sec. 785.18, 817.111, 817.113, 817.114, 817.116; R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280, -302-281, -302-282, -302-283, -302-284.

Analysis:

Revegetation: General Requirements

Proposed plant species and associated application rates are provided in Tables 341.210a and b. There are two seed mix lists – one is the final reclamation species list and the other is the interim species list. These lists also provide proposed seeding rates in pounds of pure live seed (PLS) per acre and number of PLS per square foot. The final and interim seed lists have four species that are persistent and highly competitive with Utah native species. These species are no longer recommended by the Division and should be removed from the list (353.120). The four species are *Agropyron cristatum*, *Agropyron trichophorum*, *Saniguisorba minor*, and *Medicago sativa*. The mine operator may want to add to their interim list, *Agropyron smithii* (western wheatgrass) at a broadcast seeding rate of 2 pounds of PLS per acre. The final seed list also includes *Chrysothamnus nauseosus* at a broadcast seeding rate of 0.4 PLS per acre. The Division recommends reducing this rate to 0.1 pounds (or less) of PLS per acre. This reduction will reduce the probability of the rabbitbrush population out competing the other shrub species in the seed mix and limiting species diversity. Furthermore, for the final reclamation, the Division suggest planting container plants of the shrub species listed in the final seed mix. These transplants could be primarily planted on areas that are commonly difficult for seed to germinate e.g., steep slopes, southern exposures and extremely windy sites. Incorporation of the transplants in the planting method will contribute to soil stabilization (353.140) and to wildlife habitat enhancement (342.100).

The primary planting method will be broadcast seeding, however, if conditions require, drill seeding may also be incorporated. SCA proposes that approximately 100-150 PLS per

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square foot will be broadcast (301-220; pg 300-34), which does not correspond to the numbers provided on Table 341.210a.

Revegetation: Timing

Schedules are provided (Table 341.100a) that describe major reclamation scenarios (542.100) and revegetation strategies. The revegetation schedule proposes that the entire process from plant specifications and seed ordering to planting and mulching may require up to 7-8 months. SCA proposes that seeding will take place after September 15th unless weather prevents access (301-354).

Revegetation: Mulching and Other Soil Stabilizing Practices

Type of mulch as well as rate and method of mulch application are provided. The mine operator must specify the use of Utah certified noxious weed free hay or straw (353.250). Two tons per acre of hay, straw, or a mix of the two will be incorporated into the growth media. The surface will be gouged and seeded. A final mulch layer of 1.5-2 tons per acre of hay or straw crimped or sprayed with a tackifier will be applied. If necessary, in certain areas, erosion netting may be used.

No irrigation is planned for this reclamation project.

CPMC administered test plots in the 1980's. The studies were designed to examine native species planting and establishment and planting requirements for the refuse pile. The experimental plan is referenced in Volume III of Permit ACT/007/006 submitted in 1981. Yearly analyses are referenced in CPMC permit updates and annual reports. The Division approved to discontinue monitoring in 1986. No additional test plots are planned for this reclamation project.

Revegetation: Standards For Success

Revegetation/Cover: The mine operator's goal is to provide diversity, cover, woody species density, and productivity on all disturbed sites within their permit area. Vegetative cover will be considered for the refuse pile (sage community) and growth media stockpile (pinyon-juniper) areas. The postmining land uses for these areas are livestock grazing and wildlife habitat. A seed mix that has 19 representative species from grass, forb, and shrub growth habits will provide vegetative cover (Table 341.210a). The seed mix contains 10 and 8 native species found in the sage and pinyon-juniper communities within the CPMC permit area, respectively. SCA's seed mix selection was based on the success of researched reclamation and succession studies. SCA states that the selected seed mix will provide soil stabilization and cover that is equal or greater than the reference area. SCA refers the reader to section 341.200 to read about reference area sampling, however, there is no discussion in that section about cover comparisons.

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Revegetation/Species Selection: The species selected will be compatible with the postmining land use and surrounding biota. SCA states that the planting distribution will maximize edge effects, cover, and other benefits to wildlife. Primary considerations of SCA are to provide rapid establishment and soil stabilization. The interim seed mix contains introduced species, and the longer-term seed mix only contains natives of the region. None of the species in either mixes are listed on the Utah Noxious Weed Act. There are persistent and highly competitive species in the interim seed mix list, which should be removed or replaced, as recommended above.

Revegetation/Timing: Revegetation procedures will be administered to seed in the fall after September 15th unless weather prevents access to the sites. No temporary cover crops will be applied, however protective strategies will be applied if weather prevents seeding in the fall.

Revegetation/Mulching: Mulching type and procedure is addressed in sections 242, 244 and 341.230. These sections describe the placement of hay or straw mulch at a rate of 2 tons/acre and incorporation of the mulch with gouging.

Revegetation/Success Standards/Sampling: The mine operator will use a single reference area that is identified as a sage-community type for both the refuse pile and growth media stockpile. The Permittee will conduct qualitative assessment yearly and quantitative testing following an OGM authorized schedule. Standards for success will be tested at the 90% confidence level with a 10% change in the mean. SCA will measure woody species density based on the number of plants instead of the number of stems, which follows the Division's "Vegetation Guidelines". The mine operator will sample the reclaimed sites for cover, woody species density, and diversity in years four, six, eight, nine, and ten following replanting. SCA will sample for productivity in years five, nine, and ten following replanting.

Revegetation/Success Standards: SCA delineated disturbances into pre-, post-SMCRA, and CPMC reclaimed categories. The mine operator states, "As described in 341.220, the revegetation of the mine site has been mapped according to the Bonding Scenario Reclamation and the final Reclamation (map 341.220a, b, & c)" (356.200; pg 300-41). This description is not included in the 341.220 section of "Planting and Seeding Methods". Also, the 341.220 map series are not included in the two copies of the application located at the Division. The correct reference as to the location in this document of the descriptions needs to be clarified as well as the 341.220 map series to be incorporated. Standards for success that quantify cover, woody species diversity, and productivity for all three categories will be compared to the sagebrush community-type reference area. One exception is that productivity for pre-SMCRA will be compared to the estimates provided by National Resource Conservation Service. Woody species density for all three categories will be compared to the standard of 2000 plant per acre.

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For areas disturbed post-SMCRA, revegetation success will be based on the effectiveness of the plants for grazing and wildlife habitat. For areas disturbed pre-SMCRA and redisturbed post-SMCRA, success will be based on the effectiveness of the plants to control erosion and on the percent cover compared to the area pre-redisturbance.

In 1981, the sage community reference area was chosen to represent the overall standard for success. Other community types were removed as classified reference areas. Even though the growth media stockpile is in a pinyon-juniper community, the sage reference area will still be used to evaluate success. ESG removed the pinyon-juniper community type as a reference area because of low cover and species diversity.

Sampling techniques and analysis procedures from year 1981-1990 are provided for the sage community predisturbance and reference areas. Results show that there was no significant difference between the two areas.

Revegetation/Liability Period: SCA will be responsible for successful vegetation for a minimum of 10 years following the seeding of the disturbed areas. Husbandry practices approved by the Division will be applied as needed.

Findings:

Information provided in the application is not considered adequate to meet the minimum Reclamation Plan Revegetation Performance Standard requirements of the regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-121.200, Clarification of the seeding rate of number of PLS per square foot, such that Table 341.210a and paragraph on page 300-340 correspond.

R645-301-353.120, Remove or replace persistent and highly competitive species from the interim and final seed mixes.

R645-301-353.250, Include the use of Utah certified noxious weed free hay or straw.

R645-301-121.200, Clarify second paragraph (356.200; pg 300.41): reference is incorrect and maps are missing. The mine operator may have referenced and labeled the map series incorrectly as 341.210a and b.

R645-301-356.230, Include a discussion of success standard parameters for woody species and ground cover.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

Analysis:

Erosion control measures include surface roughening, mulching, and gouging (Section 242). Map 742.100 Alternate Sediment Controls illustrates the details of construction of surface roughening/benching, silt fencing, rock check dams, sediment traps water bars, berms, and straw bale check dams. As stated in Section 542.200, under the heading "Sedimentation Pond Removal and Interim Sediment Control," use of these structures during final reclamation will be utilized in the locations shown on Maps 731.720a and 731.720b, with field changes made as necessary; Map 542.200c shows proposed locations on the Topsoil stockpile. Installation of straw bales and silt fences will be according to the illustration in Figure 542.200a.

The application indicates in Section 542.200, under the heading "Sedimentation Pond Removal and Interim Sediment Control," that winter conditions may temporarily halt reclamation work. If so, regraded areas which have not been topsoiled will be deep gouged and left in a roughened state until the next opportunity to resume reclamation.

Findings:

The information provided in the application is not considered adequate to meet the minimum Stabilization of Surface areas requirement of the regulations. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-121.200, Information provided on Maps 731.720a and 731.720b are both referred to for locations of sediment control. The titles of both maps are the same and the information provided is remarkably similar on each map, such that one map might suffice. The narrative should explain the utility of each map.

CESSATION OF OPERATIONS

Regulatory Reference: 30 CFR Sec. 817.131, 817.132; R645-301-515, -301-541.

Analysis:

The Applicant commits in section 515.300 to follow the requirements of R645-301-515.300 in the event of temporary cessation. The general commitments are to notify the Division if temporary cessation will last more than 30 days and to secure the site.

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In section 541 of the PAP, the Applicant commits to reclaim the site once mining activities have been completed.

Findings:

The information provided meets the minimum Cessation of Operations requirements of the Regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

Bonded Area Map

The Division usually considers the bonded area to be the same as the disturbed area boundaries.

Reclamation Backfilling And Grading Maps

The project has two possible backfilling and grading plans. The worst case scenario is base on the assumption that as soon as the permit is issued the site will go into permanent reclamation. In that case, the refuse pile would be covered with substitute topsoil. Plans for the worst case scenario are shown on Map 542.200a with cross section on 542.200b. The reclamation plans for the best case scenario are shown Map 542.200e. The plans for the substitute soil area are shown on Map 542.200c and 542.200d.

There is only one cross-section of the refuse pile for the worst-case scenario and no cross-sections of the best-case scenario. The Division needs to have cross-sections for the entire main mine facility at intervals of 200 feet. The Division needs that information to verify that reclamation is going according to plan.

Reclamation Facilities Maps

No facilities at the site will exist after reclamation.

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Final Surface Configuration Maps

The project has two possible final surface configurations. The worst case scenario is based on the assumption that as soon as the permit is issued the site will go into permanent reclamation. In that case, the refuse pile would be covered with substitute topsoil. Plans for the worst case scenario are shown on Map 542.200a with cross section on 542.200b. The reclamation plans for the best case scenario are shown Map 542.200e. The plans for the substitute soil area are shown on Map 542.200c and 542.200d.

Reclamation Surface And Subsurface Manmade Features Maps

No surface features are planned nor are any subsurface manmade features known for the site.

Reclamation Treatments Maps

No permanent reclamation treatment facilities are scheduled for the site.

Certification Requirements.

Maps and cross sections were certified by a registered professional engineer, as required.

Findings:

The information provided in the PAP is not considered adequate to meet the minimum requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-542.300, The Applicant must give the Division detailed cross section for the worst case and best case scenario at the refuse pile area at a spacing of 200 feet.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Form of Bond

The Division will review the form of the bond after the Permittee has acquired the bond but before the permit has been issued.

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Determination of Bond Amount

The Division reviewed the reclamation cost estimates for the Star Point refuse pile and while most of the information was submitted there were some deficiencies. The Division divides the reclamation cost estimate into three sections, demolition, earthwork and vegetation. The following is an outline of the reclamation cost estimate:

Demolition

There are five buildings associated with the refuse pile. The buildings are either masonry, mixed, or steel construction. The Permittee listed the buildings dimensions and type. The Permittee did not list the following:

- The floor thickness
- The footing dimensions
- Where the building debris will be disposed.

The concrete demolition costs listed in Means are for small jobs and usually exceed the cost of most contractors. The Division uses concrete demolition costs based on larger equipment. Therefore, the Division needs the dimensions of the floors and footers.

The Means demolition costs do not include debris disposal because the cost varies according to local markets. The Permittee needs to state where the debris will be sent for final disposal. Local disposal facilities include Nelsen construction, City Services and ECDC. The Division will allow steel to be shipped to a recycle facility with the assumption the no disposal fee will be charged. Means demolition costs include a transportation cost of 20 miles one way. If the distance to the disposal facility exceeds 20 miles then additional transportation fees must be included.

Earthwork

The Permittee supplied the Division with summary sheets of the earthwork costs and productivity. To verify the amount the Division needs detailed worksheets that include cut and fill calculations. In the past cut and fill calculations included cross-sections and volume calculations. Since most Permittees choose to do volume calculation with a computer program the Division needs a map showing the cut and fill areas and where material will be sent. The Division also needs detailed productivity calculations for equipment productivity. Copies of those worksheets are in the OSM handbook on reclamation cost estimates. The Division will supply the Permittee with copies upon request.

The Permittee listed a 651E scrapper under equipment rental rates but did not show the use of a scrapper in the cost sheet.

Vegetation

The Permittee shows the vegetation cost as a lump sum. The Division does not base vegetation costs lump sums. The Division bases the vegetation costs on local seed prices and Means labor and equipment rates. The Division will assist the Permittee in determining vegetation cost estimates.

Terms and Conditions for Liability Insurance

The Division will review the liability insurance policy after the policy has been acquired but before the permit has been issued.

Findings:

The information provided in the PAP is not considered adequate to meet the minimum requirements of the regulations. Prior to approval, the Applicant must provide the following in accordance with:

R645-301-830.140, The Applicant must give the Division detailed reclamation cost estimates. In the analysis section of the bonding requirements the Division outlined the deficiencies in the bond calculations that were submitted by the Applicant. Note: Upon request, the Division will assist the Applicant with the bond calculations.

CHIA

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

Analysis:

The proposed permit area already exists in the Star Point Mine CHIA. All cumulative impacts are already addressed in the current CHIA. Updates to the CHIA will be required for this permit.

Findings:

Information provided by the Applicant is sufficient to analyze cumulative hydrologic impacts of the proposed permit area.

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