



Technical Analysis and Findings
Utah Coal Regulatory Program

July 28, 2015

PID: C0070005
TaskID: 4806
Mine Name: SKYLINE MINE
Title: FLAT CANYON LEASE ADDITION

General Contents

Identification of Interest

Analysis:

The minimum requirements of R645-301-112 were met.
The Division performed a cross check with the Applicant/Violator System. No errors in the ownership and control information were identified.

ssteab

Identification of Interest

Analysis:

Drawing 1.6-1 illustrates land ownership in relation to the lease boundary and Dwg 1.6-2 illustrates coal ownership in relation to the lease boundary. Land ownership and coal ownership is also listed in Sec 112.600 of the MRP.
The application is not clear because Section 112.600 erroneously refers to Map 1.6-3 for land ownership.

Deficiencies Details:

R645-301-121.200 and R645-301-114.200, The application is not clear because Section 112.600 erroneously refers to Map 1.6-3 for land ownership.

pburton

Violation Information

Analysis:

The minimum requirements for R645-301-113 were met.
An AVS evaluation was generated on 3/10/15 with no violations listed.
There is no change to existing General Chapter 1 dated January 16, 2015.
There is no change to existing Table 1-2 dated June 30, 2014.

Right of Entry

Analysis:

The requirements of 114 have not been met. Table 1.114 must be updated with the date of lease issuance.

Deficiencies Details:

R645-301-114, Please update Table 1.114 with the date of lease issuance.

pburton

Legal Description

Analysis:

Federal lease UTU 771114 contains 2,692.16 acres as described in Chapter 1 of the application. This description matches that in the public notice. The coal ownership is outlined on Dwg 1.6-2. This information meets the requirements of the legal description.

pburton

Completeness

Analysis:

The BLM issued a Record of Decision (ROD) on 1/3/2002 that indicates there will be certain terms and conditions as stipulated in the Flat Canyon Coal Lease. The sale of the lease was held on 6/17/15 with Skyline being the high bidder. The lease has not yet been awarded as of this date (6/22/15) and therefore specific stipulations can't be reviewed for accuracy. Based on information obtained from the ROD and also that information available in the submitted proposed application it appears the application does not accurately reflect stipulations the lease may hold. Many of the findings made in the Biology and Land Use sections are assumptions made from information contained in the ROD.

Deficiencies Details:

Information provided in the application does not meet the minimum requirements of R645-301.150. Prior to approval the application will be complete and will include a copy of the Flat Canyon Federal Lease UTU-771114 with applicable stipulations.

Ireinhart

Environmental Resource Information

General

Analysis:

Canyon Fuel Company is proposing to add the Flat Canyon Coal Lease tract to the Skyline Mine Permit C/007/0005. The parcel of Federal Land underlies National Forest System Lands in the Manti-LaSal National Forest and is located in Sanpete County, Utah. The United States Forest Service, (FS) issued a ROD on January 3, 2002 on the subject Federal coal Lands with certain terms and conditions. The following is a review of biology and land use sections of the plan to ensure accordance with R645-301-300, R645-301-400 and stipulations provided in the ROD.

Ireinhart

General

Analysis:

The application does not meet the minimum requirements of R645-301-521 due to information stated the mine plan details, plates, and drawings conflicting with the Federal stipulations. The mine plan also details mining operations outside the provided legal description of the mine boundary, as shown on Drawing 1.6-3.

The application does not address any of the Federal stipulations outlined in the USFS and USBLM documents. Federal stipulations regarding the mining operations around the Flat Canyon Campground are outlined in Federal Stipulation #9 and

#23. Federal stipulations regarding the mining operations around the USFS dam Boulger Reservoir are detailed in Federal stipulation #22.

Additional, the mine plan shown on Plate 3.1.8-2 details mining operations outside the legal description detailed on drawing 1.6-3 as well as in Chapter 1. Specifically, the mine plan shows operations outside of the mine boundary for T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3.

The application includes updates to Chapter 2, 3, and 4 to include the updated lease acres of the Flat Canyon Lease. The appendix A-4 was added to Volume to that contains a copy of the EIS. The FEIS was reviewed by the Price Field Office staff and found the report to be adequate and current laws, additional information, and changing circumstances are not considered significant. In addition, the Forest Service conducted a Supplemental Information Review in 2012 to see if any new information or circumstances exists. The SIR determined that no new information or circumstances exist. The Federal stipulations #9 and #23 details specification for mining under the Flat Canyon Campground, while Federal stipulation #22 list requirements for mining operations to occur under the Boulger Reservoir.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-521 due to information stated the mine plan details, plates, and drawings conflicting with the Federal stipulations. The mine plan also details mining operations outside the provided legal description of the mine boundary, as shown on Drawing 1.6-3. The application failed to address any of the Federal stipulations, i.e. #9 and #23 details specification for mining under the Flat Canyon Campground, while Federal stipulation #22 list requirements for mining operations to occur under the Boulger Reservoir. The application also provided conflicting information detailing mining plans outside the provided mine boundary, as shown on Drawing 1.6-3. The mine plan shows operations outside of the mine boundary in T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3.

cparker

Permit Area

Analysis:

The application does not meet the minimum requirements of R645-301-521 due to information stated in the mine plan details and plates that conflict with the provided legal description of the mine boundary. The mine plan shown on Plate 3.1.8-2 details mining operations outside the legal description detailed on Drawing 1.6-3 as well as in Chapter 1. Specifically the mine plan shows operations outside of the mine boundary in T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301521 due to information stated in the mine plan details and plates that conflict with the provided legal description of the mine boundary. The mine plan shown on Plate 3.1.8-2 details mining operations outside the legal description detailed on drawing 1.6-3 as well as in Chapter 1. Specifically the mine plan shows operations outside of the mine boundary in T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3.

cparker

Historic and Archeological Resource Information

Analysis:

Section 2.1 discusses cultural and historical resources found within the lease area. Since the area is within USFS boundaries, the USFS is the lead agency and provides consultation with the SHPO. The application indicates cultural resources were analyzed as part of the NEPA process. According to the ROD, "No effects to cultural resources are anticipated." The application does not provide any support documentation for consultation with the SHPO.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Prior to approval the permittee must provide a narrative that describes coordination efforts with and present evidence of clearances by the SHPO in accordance R645-301-411.140

Ireinhart

Climatological Resource Information

Analysis:

The information provided and contained within the currently approved MRP is sufficient to meet the requirements of the State of Utah R645-301 Coal Mining Rules.

Section 2.6 of the approved MRP contains a description of climatological conditions in the Skyline Mine area. This information applies to the Flat Canyon Lease area as well. The permittee also submitted information prepared by Petersen Hydrologic that includes a discussion of climatic condition in the Flat Canyon Lease area. Information provides average annual seasonal precipitation amounts, monthly average temperatures, and other general climatic information.

adaniels

Vegetation Resource Information

Analysis:

Vegetation resources are provided in subsection 2.7.9 Southwest Reserve Flat Canyon area (pg 2-63a) and generally describe the area. If mining results in subsidence which alters existing vegetation near riparian areas or wetlands, the Division will require additional quantitative vegetation information including production information for monitoring and/or reclamation purposes. This baseline information must be collected prior to subsidizing riparian areas.

Deficiencies Details:

Information provided in the application does not meet the minimum requirements of R645-301-321. Prior to approval, the permittee must submit a plan for monitoring the riparian vegetation near perennial streams and/or reservoirs and the associated effects to aquatic ecosystems and wetlands. The plan shall also include measures for mitigating detrimental effects discovered during monitoring.

Ireinhart

Fish and Wildlife Resource Information

Analysis:

The primary wildlife species within the permit area are big game (elk and deer), sage grouse and transient raptor species. Upper Huntington Creek is the only disease free source of Yellowstone cutthroat trout in Utah. Boulder Reservoir is a 5.2 acre reservoir that the Department of Wildlife Resources stocks with Rainbow Trout. The USFS has designated habitat for the goshawk, flammulated owl, and three-toed wood pecker on the lease permit area.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Prior to approval the permittee must update the resource information regarding threatened and endangered species in accordance with R645-301-322.

The Western Yellow-Billed Cuckoo was recently listed as "Threatened" and has proposed critical habitat in the area. An evaluation of this habitat and the potential to impact this species must be considered. Emphasis should be on all riparian areas and impacts from subsidence.

The application fails to recognize fish and wildlife dependant on Boulder reservoir. Although surface disturbance is not anticipated, the ROD indicates the dam will need to be taken out of service and the reservoir drained while mining is taking place. Prior to approval, the application must address fish and wildlife that may be impacted by this activity and to what extent.

Table 2-72a has been updated to include fish monitoring for Boulder creek for 2016, 2019, and 2022. No monitoring is proposed on Boulder Reservoir. Section 2.9 indicates a raptor/wildlife/sensitive species survey of the area was conducted in 2011 and 2012 which updated both raptors and other wildlife in the area to meet the Special Coal Lease Stipulations #2, #3, and #14 as outlined in the ROD and referenced in Attachment 1, pp2-3. However, this attachment is not available with the application. Prior to approval, the permittee must provide a copy of the Special Coal Lease Stipulations for the Division to review.

Table 2.9-5 includes a list of Utah Sensitive Species List. Although "Revised 2-1015" is typed at the bottom of the report, the actual list is current as of March 29, 2011. Prior to approval, the typed "Revised" text must be removed or corrected since it is misleading.

The text in 2.9.7 Wildlife of the Southwest Reserve Flat Canyon Lease relies heavily on the information provided in the EIS by USFS. That information is outdated (2002) and new species have been added to the T&E list and as such only current information should be referenced.

Ireinhart

Soils Resource Information

Analysis:

The minimum requirements for R645-301-220 soil survey information has been met in the existing mining and reclamation plan. This application does not include any additional surface disturbed area. Appendix A-2 of the application does contain a statement of non-prime farmland from the NRCS to which the Division concurs. The surface is steep mountainous terrain at elevations above 8,500 ft.

pburton

Land Use Resource Information

Analysis:

Section 2.12 has been updated to include livestock numbers and season of use for related allotments. The application fails to address Boulger Reservoir and Flat Canyon Campground which are public facilities that lie within the adjacent area. Some private cabins and State Highway 264 also lie within the area.

As noted in the FEIS p. 4-18 mining under the Flat Canyon campground will cause subsidence and may cause some damage to the restroom structures. There is some potential for damage to the water supply pipeline feeding the campground.

Coal mining under Boulger Reservoir and the Flat Canyon Campground will directly impact recreation at these sites because they will have to be taken out of service due to the potential impacts of subsidence on these facilities...These will require some mitigation efforts by the operator/lessee. (FEIS, page 4-59 through 4- 60).

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Prior to approval the permittee must provide a narrative of all existing land uses and land-use classifications under local law of the proposed permit and adjacent area in accordance with R645-301-411.

In accordance with UTT-77114 Stipulation #23, prior to approval, the permittee will commit to submit a plan for mining under the Flat Canyon Campground 2 years prior to development of the panels that would cause subsidence of associated facilities. This plan shall include but not be limited to mining, when and how the Flat Canyon Campground will be taken out of service and what mitigation measures will be taken to place the Flat Canyon Campground back into full service.

Ireinhart

Geologic Resource Information

Analysis:

The applicant has not met the minimum requirements for Geologic Resource Information. Section 2.2 of Chapter 2 includes a discussion of the geology and geotechnical data for the Flat Canyon Area.

Appendix A-3 includes analysis of the roof, floor and coal samples. Figure 4 of the Petersen Hydrologic Report shows the generalized geology map of the Flat Canyon Area.

Dwgs 2.2.7-1 and 2.2.4-1D show the structural geology and the seam isopachs. Also shows the structural profile of the area which includes a fence diagram using 9 drill holes as correlation.

The existing MRP discusses plans for casing and sealing drill holes. No changes have been proposed with this revision. Flat Canyon Lease has low potential for generating acid and toxicity from the mining of the coal. Within the lease, the merged Flat Canyon / Lower O'Connor A.and Lower O'Connor 8 seams will be mined. Lab analysis from drill holes show the

coal and surrounding rock to be consistent with the materials generated in Mines #1 and #2 located to the east and Mine #3 in the North Lease. Table 2.2.8-2 has been updated to illustrate the sulfur and acid-forming potential in the seams to be mined. Plate 2.2.4-1 D provides a fence diagram of the stratigraphy and the seams to be mined. This plate may be miss-labeled as it is referred to as Drawing 2.3.4-1D in various sections of the text. This discrepancy should be corrected. The chemical and acid-base potential analysis of the roof, coal, floor of selected drill holes are provided in Appendix A-3. The analysis shows a very low potential for acid forming materials to be generated, with only one of the floor samples showing a -1.5 acid base potential and all other samples were a positive number. Locations for holes 95-21-1 , 95-28-1 , 99-33-1, and 98-3-2C are available on Plate 2.2.4-1 D; sites used in the fence diagram.

Deficiencies Details:

R645-301-622. Cross Sections, Maps and Plans. Plate 2.2.4-1 D provides a fence diagram of the stratigraphy and the seams to be mined. This plate may be miss-labeled as it is referred to as Drawing 2.3.4-1D in various sections of the text. This discrepancy should be corrected. Also geologic cross-sections and maps in the application are required to be certified and none have been.

dhaddock

Hydro Sampling and Analysis

Analysis:

The information provided and contained within the currently approved MRP is sufficient to meet the requirements of the State of Utah R645-301 Coal Mining Rules.

Methods used to conduct water sampling are described in the Peterson Hydrologic Investigation of Groundwater and Surface-Water Systems in the Flat Canyon Tract and Adjacent Areas report. Laboratory analysis of water samples were performed by SGS Laboratories and Chemtech Ford Laboratory. These labs are both NELAC certified. Any isotopic analysis done of water samples were conducted at the University of Miami, Florida, the BYU Department of Geology, and Geochron Laboratories of Cambridge, Massachusetts.

adaniels

Hydro Baseline Information

Analysis:

The Peterson Hydrologic report goes into detail describing the type of baseline monitoring that has taken place in the Flat Canyon Lease area. See the Hydro Ground Water Monitoring Plan section and the Hydro Surface Water Monitoring Plan sections for an in depth analysis and findings.

adaniels

Hydro Baseline Cumulative Impact Area

Analysis:

The information provided is not sufficient to meet the requirements of the State of Utah R645-301 Coal Mining Rules

The environmental resource information will not be completely analyzed until all relevant information has been submitted to the Division. See comments below regarding Boulger Reservoir.

Petersen Hydrologic submitted a report, "Groundwater Condition in the Star Point Sandstone", separate from their baseline monitoring report, that summarizes groundwater conditions around the Skyline Mine, specifically in the Star Point Sandstone formation. This report uses a number of studies, and data collected over the years in the vicinity of the Flat Canyon Lease.

There are also four monitoring wells located in the area of the Flat Canyon Lease that are completed in the regional Star Point Formation aquifer below the coal seams to be mined. These wells have a potentiometric surface ranging from 700 to 1000 feet above the coal seam. This has remained consistent since pumping began in the #2 mine in 2001.

There are a number of developed springs in the lease area to be undermined. These springs may have structures like collection boxes and conveyance pipes. A list and description of these structures should be included in the MRP to fully evaluate potential impacts that could occur to pre-mining structures.

Although there are some descriptions of surface water resources in the area of the Flat Canyon Lease, there are some significant features that are not detailed in this submission. While the submission does identify the perennial streams, it fails to identify potential impacts to Boulger Reservoir and the Permittee's planned actions when the structure will be undermined.

In the PHC submitted as Appendix N of the current PHC addendum volume 2, it is contemplated that discharges from the Skyline Mine during mining of the Flat Canyon Lease will possibly be in the range of 15,000 gpm. It goes on to state that if this kind of discharge is released into Eccles Creek, as is currently the plan, it could result in "stream bank erosion, undercutting of valley site-slopes and sloughing, channel widening, and sum headcutting." In 2002 the PHC was updated to include a report from a study conducted by EarthFax Engineering. This report is a thorough stability study of Eccles Creek, and the Division feels that this study should be updated to reflect the current conditions of the creek. The Permittee should also propose some type of stream bank inspection program, should flows begin elevating, to establish if there are any impacts from mining to the creek. A new stream bank stability study prior to mining in the Flat Canyon lease will benefit any analysis of future impacts.

There are a number of federal BLM and FS lease stipulations related to hydrologic resources. These need to be clearly addressed in the MRP.

Deficiencies Details:

R645-301-725 The Permittee must provide a detailed description of all water resources within the lease area. This includes a detailed description of Boulger Reservoir and its uses. A list of all developed springs should be provided, as well as a description of the existing development structures, and uses.

R645-301-725 & 728 There are a number of Federal lease stipulations from the BLM and FS related to hydrologic resources that need to be addressed in the MRP.

R645-301-725 It is unclear if the perennial reaches of stream is Little Swens Canyon, Swens Canyon, Flat Canyon, and Boulger Canyon are continuously perennial through the entire sections within the Flat Canyon lease boundary. Please clarify what stretches are perennial using maps if necessary.

R645-301-728 The submitted PHC indicates that there are potential impacts to Eccles Creek should discharge rates from the mine reach or exceed 15,000 gpm. Currently, there is a 2002 study conducted by EarthFax Engineering in the MRP that evaluates the stream bank stability under high flow conditions. The Division feels that some kind of addition should be made to this study to indicate the current most up to date conditions of the stream banks. Also, with the possibility of stream bank erosion on Eccles Creek, the Permittee should propose some type of stream banks inspection program, should the mine discharge begin elevating, that would indicate if there are any impacts to the creek from mining.

adaniels

Probable Hydrologic Consequences Determination

Analysis:

The information provided is not sufficient to meet the requirements of the State of Utah R645-301 Coal Mining Rules.

The PHC will not be fully analyzed until all relevant lease information has been provided to the Division by the Permittee. Currently, the Division is aware of a number of federal lease stipulations from the BLM and FS that have not been addressed in the Permittee's submission. Until this information has been provided to the Division, there is on way to know if all probably hydrologic consequences of mining have been addressed.

Appendix N of the PHC Addendum Volume 2, is a PHC report prepared by Petersen Hydrologic. This does not address potential damages to surface water structures, including Boulger Reservoir and any spring collection structures that may be located within the lease area. It does give a detailed description of natural surface and ground water systems within the lease. This will be discussed more fully in later permit findings once the Permittee submits an amendment that addresses all leasing stipulations.

Because of missing information deficiencies related to this have been listed in the Environmental Resource Info section "Baseline Cumulative Impact Area Information".

adaniels

Hydro GroundWater Monitoring Plan

Analysis:

The information provided is not sufficient to meet the requirements of the State of Utah R645-301 Coal Mining Rules.

Table 1, attached to this report, is a summary of baseline sampling. It includes spring monitoring locations, from which formation they discharge, and the amount of baseline data collected. Sites that only have the minimum baseline parameter sample for in the late 1990s should have the required baseline parameters re-sampled for. This includes TDS or specific conductivity, pH, total iron, total manganese and discharge information. Sites that have less than two years of high and low flow samples especially need additional sampling.

There appears to be a discrepancy between spring monitoring locations 32-279, 32-278 and 32-277 between Plate 2.3.6-1, Table 2.3.7-1, Table 5 of the Peterson Hydrologic report and Figure 2 of the Peterson Hydrologic report. This needs to be corrected.

There are four monitoring wells within the Flat Canyon Lease area. These are wells 99-21-1, 20-28-1, 99-4-1, and 20-4-1. Well 99-21-1 has had depth monitored since 2001, wells 99-4-1 and 20-28-1 have had depth monitored since 2002, and well 20-4-1 has had depth monitored since 2002 but became blocked in 2014. These wells were completed in the Starpoint Formation aquifer below the coal seam and have a potentiometric surface ranging from 700 to 1000 feet above the coal seam.

Deficiencies Details:

R645-301-724.100 A number of baseline spring monitoring locations have either not had the minimum baseline parameters sampled for since the late 1990s, or have not had 2 years of low and high flow sampling. Please provide any additional spring sampling that has taken place.

R645-301-724.100 There appears to be a discrepancy between spring monitoring locations 32-279, 32-278 and 32-277 between Plate 2.3.6-1, Table 2.3.7-1, Table 5 of the Peterson Hydrologic report and Figure 2 of the Peterson Hydrologic report. This needs to be corrected.

adaniels

Hydro SurfaceWater Monitoring Plan

Analysis:

The information provided is not sufficient to meet the requirements of the State of Utah R645-301 Coal Mining Rules.

Table 1, attached to this report, is a summary of baseline sampling. It includes stream monitoring locations, and the amount of baseline data collected. Some of the stream monitoring locations have many years of baseline data because they were part of the existing MRP's monitoring program. Many of the new sites have years of field data but and some samples that include the minimum parameter requirements, but need additional monitoring. Site CS-27 and CS-28 that are proposed as operational monitoring locations have no included monitoring data. There was not a stream monitoring location upstream of mining in Boulger Canyon, but in June 2015, a sampling location was established in consultation with the Division. Baseline data should be submitted to the Division for sites CS-27, CS-28 and the new monitoring site up Boulger Canyon.

Deficiencies Details:

R645-301-724.200 A number of baseline stream monitoring locations have not had 2 years of low and high flow sampling for the minimum monitoring parameters, and not since the late 1990s. Please provide any additional stream sampling that has taken place.

R645-301-724.200 Please provide baseline monitoring data for stream monitoring site CS-27, CS-28, and the new monitoring location above mining in Boulger Canyon.

adaniels

Maps Affected Area Boundary Maps

Analysis:

The application does not meet the minimum requirements of R645-301-521.100 through-521.130 by not updating all the relevant maps for the entire area shown on the mine plan as detailed on Plate 3.1.8-2.

R645-301-521.110 requires previously mined areas to be shown on cross sections and maps. The Flat Canyon lease has not been previously mined. Drawing 2.2.7-7 shows the locations of previously mine operations within the permit area. The application meets the minimum requirements of R645-301-521.110.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-521.100 through-521.130 by not updating all the relevant maps for the entire area shown on the mine plan as detailed on Plate 3.1.8-2. The Permittee will correct the mine boundary line on Drawing 1.6-3 to match the mine plan presented on Plate 3.1.8-2.

cparker

Maps Archeological Site Maps

Analysis:

The application does not contain a map of cultural and historic resources.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-411.141. Prior to approval the permittee must provide a map clearly showing the boundaries of any public park and locations of cultural or historical resources listed or eligible for listing in the National Register of Historic Places and known archeological sites within the permit and adjacent areas. Note - Information on the nature and location of archeological resources on public land and Indian land as required under the Archeological Resources Protection Act of 1979 must be submitted separately from the application, and marked and held as confidential.

lreinhart

Maps Existing Surface Configuration

Analysis:

The application meets the minimum requirements of R645-301-521.150 as it includes a drawing or plate that clearly calls out the existing surface contours.

cparker

Maps Mine Working

Analysis:

R645-301-521.140 requires maps that clearly show all mine plans. The application does not meet the minimum requires as all relevant existing drawings and plates were not updated.

- Drawing 1.6-2 was updated within the application to show the details of existing coal ownership within the Flat Canyon lease boundary (UTU-77114). The drawing meets the minimum requirements of R645-301-521.131.
- Drawing 1.6-3 was updated within the application to detail the new permit boundary, lease boundary, and adjacent areas including the Flat Lease. The new mine boundary does not include T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3 which Plate 3.1.8-2 shows mining operations will be conducted within the previously stated sections. This drawing conflicts with the mine plan presented in Chapter 3 of the application and does not meet the minimum requirements of R645-301.521.141
- A drawing is missing from the application to meet the minimum requirements of R645-301-521.120 clearly showing the items detail in -521.120 through-521.125. A similar drawing 1.6-3(A) is currently in the MRP for James Canyon that could give an example of what the drawing should depict.
- Drawing 2.2.7-1 was updated in the application but does not meet the minimum requirements of R645-301-522 and R645-301-622 due to missing all isopach contours and is missing the seam isopach information for T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 5 and Section 6. Plate 3.1.8-2 details mining operations to include the above sections.

- Drawing 2.2.7-3 was not updated in the application and does not meet the minimum requirements of R645-301-522 and R645-301-622 due to missing information of the isopach details for the lower O'Conner "B" seam for T.14.S., R.6E., Section 5 and Section 6. Plate 3.1.8-2 details mining operations to include the above sections.
- Drawing 2.2.7-4 was not updated in the application and does not meet the minimum requirements of R645-301-522 and R645-301-622 due to missing information of the Overburden details for the lower O'Conner "B" seam for T.14.S., R.6E., Section 5 and Section 6. Plate 3.1.8-2 details mining operations to include the above sections.
- Drawing 2.2.4-1D The drawing was updated to show the flat canyon seam legend and planned reserve workings. The application meets the minimum requirements of R645-301-522.

Deficiencies Details:

R645-301-521.140 requires maps that clearly show all mine plans. The application does not meet the minimum requires as all relevant existing drawings and plates were not updated. As previously state the Permittee will: correct the mine boundary line on Drawing 1.6-3 to match the mine plan presented on Plate 3.1.8-2, provide a new detailed map calling out all the surface and subsurface man made features relevant in the new Flat Canyon Lease area, update Drawing 2.2.7-1 to include the full extent of the mine plan, update Drawing 2.2.7-3 to include the full extent of the mine plan, and update Drawing 2.2.7-4 to include the full extent of the mine plan. Mine plan maps may show proposed workings outside of the existing boundary if a note is added to the map stating "Any projected mining shown beyond existing lease boundary lines is subject to future lease modifications and approvals."

cparker

Maps Monitoring and Sampling Locations

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301 Coal Mining Rules.

Plate 2.3.6-1 was updated to include new spring, stream and well monitoring locations within the Flat Canyon Lease area. For discussion on samples and baseline data collected at these points, see the analysis in sections titled, "Groundwater Monitoring Plan" and "Surface-Water Monitoring Plan".

adaniels

Maps Permit Area Boundary

Analysis:

Plate 1.6-3 adequately shows the boundaries of all the permit areas.

ireinhart

Maps Permit Area Boundary

Analysis:

The application does not meet the minimum requirements of R645-301-521.140 as Drawing 1.6-3 was updated within the application to detail the new permit boundary, lease boundary, and adjacent areas to include the Flat Lease. The new mine boundary does not include T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3 which Plate 3.1.8-2 shows mining operations will be conducted within.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-521.140 as Drawing 1.6-3 was updated within the application to detail the new permit boundary, lease boundary, and adjacent areas to include the Flat Lease. The new mine boundary does not include T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3 which Plate 3.1.8-2 shows mining operations will be conducted within. The Permittee will correct the mine boundary line on Drawing 1.6-3 to match the mine plan presented on Plate 3.1.8-2.

cparker

Maps Subsurface Water Resources

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301 Coal Mining Rules.

Plate 2.2.4-1D was added, and includes a structure profile cross section of the Flat Canyon Lease area. It includes a potentiometric surface established from a series of 4 wells throughout the lease.

Plate 2.3.4-2 maps a potentiometric surface for the entire Skyline permit area, including the flat canyon lease.

adaniels

Maps Surface and Subsurface Manmade Features

Analysis:

R645-301-521.120 through-521.125 requires maps to clearly show man made surface and subsurface facilities. The application does not meet the minimum requirements of R645-301-521.122 as it fails to include a drawing or plate that clearly calls out the existing surface and subsurface man made features within, passing through, or passing over the permit area such as SR-264, facilities such as buildings and pipelines associated with the Flat Canyon compound, and Boulger Reservoir/Dam.

Deficiencies Details:

R645-301-521.120 through-521.125 requires maps to clearly show existing surface and subsurface facilities. The application does not meet the minimum requirements of R645-301-521.122 as it fails to include a drawing or plate that clearly calls out the existing surface and subsurface man made features within, passing through, or passing over the permit area such as SR-264, facilities such as buildings and pipelines associated with the Flat Canyon compound, and Boulger Reservoir/Dam. The Permittee will provide a new detailed map calling out all the surface and subsurface man made features relevant in the new Flat Canyon Lease area.

cparker

Maps Surface and Subsurface Ownershiip

Analysis:

The application meets the minimum requirements of R645-301-521.130 which requires landowners, right of entry, and public interest maps. The Flat Canyon lease includes about 3,792 acres that underlie the Manti-LaSal National Forest in Sanpete County about 10 miles Southwest of Scofield, Utah on the Wasatch Plateau. Coal of economic interest is in the Upper and Lower O'Connor, and Flat Canyon Coal beds, all located within the Blackhawk Formation. The intent of the Permittee is to mine approximately 41 million tons of coal. The surface estate is on 2,962 acres of Manti-La Sal National Forest and 1,100 acres privately owned. Plate 1.6-1 details the land owners for the various parcels in and adjacent to the permit boundary and was updated in the application.

cparker

Maps Surface Water Resource

Analysis:

The information provided is not sufficient to meet the requirements of State of Utah R645-301 Coal Mining Rules.

Plate 2.3.6-1 includes surface water features. This includes reservoirs, streams, and ponds. Plate 2.3.5.1-1 is a map showing water rights within the Skyline permit area. It was not updated with this submission. It does not extend to the most western extents of the Flat Canyon Lease area, and needs to be updated to include the entire lease area.

Deficiencies Details:

R645-301-722 Plate 2.3.5.1-1 needs to be updated to include the entirety of the Flat Canyon lease area. Currently it does not extend far enough to the west.

adaniels

Maps Vegetation Reference Area

Analysis:

Although vegetation maps may seem redundant due to no ground disturbance, it is necessary to evaluate riparian areas that will be undermined/subsided. If deemed appropriate, monitoring locations must be established to determine the impact subsidence may have on streams or wetlands important for wildlife.

Figures 2.9.3-A-D provide information on distribution of endangered species, (canada lynx, grizzly bear, grey wolf, and utah prairie-dog). Figure 2.9.7 is a map with sage-grouse areas in relation to the permit area.

Appendix A-3 contains an analysis of the Northern Goshawk and other raptors for the southwest reserves. The report fails to address habitat for the Yellow-billed cuckoo. As referenced in the report, the FEIS has the following stipulations:

Stipulation #2 states; "If there is reason to believe that Threatened or Endangered (T&E) species of plants or animals, or migratory bird species of high Federal interest occur in the area, the Lessee shall be required to conduct an intensive field inventory of the area to be disturbed and/or impacted..."

Stipulation #3 states; The Lessee shall be required to perform a study to secure adequate baseline data to quantify the existing surface resources on and adjacent to the lease area...The study shall be adequate to locate, quantify, and demonstrate the interrelationship of hydrology, vegetation, and wildlife. Baseline data will be established so that future programs of observation can be incorporated at regular intervals for comparison.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-323. Prior to approval the permittee must provide maps identifying each vegetative type and plant community, including sample locations that may be impacted from subsidence, specifically riparian areas and wetlands.

lreinhart

Maps Well

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

Plate 2.3.6-1 includes the location of groundwater monitoring wells within the Skyline lease area, including the Flat Canyon Lease area. Page 2-29e of the proposed changes to the MRP includes a description of the 4 monitoring wells that area located within the lease area. The 4 monitoring wells are completed in the Starpoint Formation aquifer below the coal seams to be mined. There is also discussion on the potentiometric surface established from these wells.

adaniels

Operation Plan

Mining Operations and Facilities

Analysis:

The application does not meet the minimum requirements of R645-301-526 due to a failure to address any of the Federal Stipulations of the lease in Chapter 3 and Chapter 4, page 4-94.

Chapter 3 of the Skyline MRP details the mining operations. The addition of the Flat Canyon lease will be mined utilizing longwall and room/pillar methods. An update to section 3.1.8-2 of Chapter 3 fails to state all the sections that mining operations will be conducted. Plate 3.1.8-2 details mining operations to also be conducted in T.13., S.R.6.E. Section 32 and T.14.S., R.6E., Section 6 and Section 3.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-526 due to a failure to address any of the Federal Stipulations of the lease in Chapter 3 and Chapter 4, page 4-94. The Permittee will add discussion to Chapter 3 and Chapter 4 detailing how the various Federal stipulations will be met within the planned mining operations.

cparker

Existing Structures

Analysis:

The application does not meet the minimum requirements of R645-301-526 because Chapter 2 page 2-132 was not updated to include the discussion of the existing buildings of the Flat Canyon Campground, Boulger Reservoir, and SR-124. The application also fails to reference any procedures to meet the Federal stipulation 9, 22, and 23 relevant to said existing structures.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-526 because Chapter 2 page 2-132 was not updated to include the discussion of the existing buildings of the Flat Canyon Campground, Boulger Reservoir, any relevant oil and gas wells in the area, and SR-124. The application also fails to reference any procedures to meet the Federal stipulation 9, 22, and 23 relevant to said existing structures. The Permittee will add text to Chapter 3 section 3.1.7 in the event of any oil and gas wells in the area and section 3.1.6 for plans to protect the other features listed in the Federal stipulations.

cparker

Protection Public Places

Analysis:

The application fails to address Flat Canyon Campground which is operated by the United States Forest Service.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-411.144.

Prior to approval, the applicant must provide measures that will be implemented to protect historic or archeological properties listed on or eligible for listing on the National Register of Historic Places through appropriate mitigation and treatment measures. Potential impacts from subsidence on eligible NRHP sites (42Sp44S & 42Sp443) must be addressed.

Prior to approval the permittee must provide measures that will be implemented to protect the Boulger Canyon dam, reservoir, and associated recreation area and Flat Canyon Campground in accordance with R645-301-413. Mining induced subsidence and seismicity could damage facilities at these locations. Reference BLM ROD pages 3-4.

lreinhard

Relocation or Use of Public Roads

Analysis:

The application does not meet the minimum requirements of R645-301-521.133 due to missing information detailing measure to be used such as a general mining method that will be employed under or within 100 ft of public roads to protect interest of the public.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-521.133 due to missing information detailing measure to be used such as a general mining method that will be employed under or within 100 ft of public roads to protect interest of the public. The Permittee will add a section to Chapter 3 detailing how mining operations will be conducted within 100 feet or under public roads and then detail in Chapter 4 section 4.17 what measure will be taken to reduce the risk of subsidence damage the public road.

cparker

Air Pollution Control Plan

Analysis:

The air quality monitoring program is described in 2.6.1 of the approved MRP. This application does not provide any additional information or describe any coordination and compliance efforts with the Utah DEQ.

Deficiencies Details:

Prior to approval, the permittee will update the application to include a description of coordination and compliance efforts which have been undertaken by the applicant with the Utah Division of Air Quality in accordance with R645-301-420.

lreinhart

Coal Recovery

Analysis:

The application does not meet the minimum requirements of R645-301-522 due to a missing discussion on how the Federal stipulation will be met in Chapter 3 and Chapter 4, section 4.17.3

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-522 due to a missing discussion on how the Federal stipulation will be met in Chapter 3. The Permittee will add text to Chapter 3 section 3.1.2. and as needed in Chapter 4 Section 4.17.3 detailing the process of coal recovery as shown on the mine plan Plates 3.1.8-2, 3.3-2 and 3.3-3. The Permittee needs to clarify what seams will be mine and the order of seam mining under protected areas.

cparker

Subsidence Control Plan Renewable Resource

Analysis:

The minimum requirements of R645-301-525.130 are not met in the application as the Permittee did not presented a clear survey of all state appropriate water supplies within the permit area and adjacent area that could be contaminated, diminished , or interrupted by subsidence.

Deficiencies Details:

The minimum requirements of R645-301-525.130 are not met in the application as the Permittee did not presented a clear survey of all state appropriate water supplies within the permit area and adjacent area that could be contaminated, diminished , or interrupted by subsidence

cparker

Subsidence Control Plan Subsidence

Analysis:

The minimum requirements of R645-301-525 are not met in the application as the Permittee failed to address the Federal stipulations for UTU-77114, Flat Canyon Lease and present a clear subsidence plan for protected areas.

The application does not address R645-301-525.200 to detail why underground mining will be allowed under normally protected areas. The application includes an updated to Section 4.17 where a paragraph referencing Boulger Reservoir was added. The information states that the coal seam is approximately 1,200 feet below the reservoir, and that no adverse impacts are anticipated. The text goes on to detail that even though adverse impacts are anticipated the reservoir may be drained prior to undermining as a safety precaution. The text does not include any reference to meeting the Federal Stipulation #22 specific details for undermining the Boulger Reservoir.

The application fails to mention any plans for mining under the Flat Canyon Campground to address Federal stipulations #9 and #22 along with R645-301-525.200. Flat Canyon Campground facilities are to include any support facilities that may be utilized by recreation users at the campground, i.e. pipelines to convey potable water, that extend beyond the general campground area.

Deficiencies Details:

The minimum requirements of R645-301-525.300 are not met in the application as the Permittee failed to address the Federal stipulations for UTU-77114, Flat Canyon Lease and present a clear subsidence plan for protected areas. The Permittee will add text to Chapter 4 Section 4.17 to address the Federal Stipulation #22 specific to Boulger reservoir, Federal Stipulation #9 and #23 specific to Flat Canyon Campground, and measures to be taken for mining under SR-127. The Permittee will also correct text in Chapter 4 Section 4.17.3. page 4-95 that states mining will not commence under

Upper Huntington Creek, Boulger Creek inlets to the reservoir, and Electric Lake to fit the mine plan as depicted on Plate 3.1.8-2.

cparker

Subsidence Control Plan Subsidence

Analysis:

R645-301-632. Subsidence Control-- Conventional mining will be used for development of longwall panels on the existing lease and for accessing lease UTU-771114 west of Huntimrton Creek. Longwall mining is scheduled to begin in approximately 2019. Undermining portions of Boulger, Swens, and Little Swens is planned, but only minor subsidence is anticipated. No long wall mining or subsidence is planned for Huntington Creek. While little subsidence is anticipated, the subsidence control plan must provide a method of verifying the amount of subsidence or lack thereof. A monitoring plan must be put in place that will determine the commencement and degree of subsidence within and adjacent to the Flat Canyon lease area.

Deficiencies Details:

R645-301-632. Subsidence Control-- the subsidence control plan must provide a method of verifying the amount of subsidence or lack thereof. A monitoring plan must be put in place that will determine the commencement and degree of subsidence within and adjacent to the Flat Canyon lease area.

dhaddock

Subsidence Control Plan Performance STD

Analysis:

The application does not meet the minimum requirements of R645-301-525.300 due to a lack of discussion that addresses the measures the Permittee will conduct to address the Federal stipulations for mining under protected areas as detailed in R645-301-525.200.

Deficiencies Details:

The application is deficient under R645-301-525 as it fails to mention any plans for mining under the Flat Canyon Campground, Federal stipulations #9 and #23. The Permittee will add text to the application in Chapter 4 section 4.17.3 detailing the measure that will be taken to meet the Federal stipulations and detail measure that will be taken when mining under protected areas. Detail will included appropriate performance measure in place to measure the extent of damage in the event of subsidence.

cparker

Subsidence Control Plan Notification

Analysis:

The minimum requirements of R645-301-525.700 are met in the application as the Permittee presented a clear subsidence plan for protected areas that includes the appropriate notification at least six months prior to mining.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

The application meets the minimum requirements of R645-301-515.100 with procedures already described within the existing MRP detailing the emergency contact procedures in the event of a slide.

cparker

Fish and Wildlife Protection and Enhancement Plan

Analysis:

The EIS (pg. 3-31) summarizes that Boulger, Swens, and Little Swens Creeks are tributaries to Upper Huntington Creek and provide spawning habitat for cutthroat trout. Rainbow trout are stocked in Boulger reservoir by UDWR. Boreal toads

were not found in a 2001 survey but habitat is excellent.

Based on the combination of minimal habitat and minimal reaches being undermined, only Boulger Creek will be monitored for fish. The electro fish survey will estimate the fish populations in the stream for one year and every third year thereafter. The surveys will begin one year prior to undermining any portion of the creek and will be consistent with surveys previously conducted on James, Burnout, Eccles, Woods, and Winter Quarters creeks.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-332. Prior to approval the permittee must provide a description of the anticipated impacts of subsidence on fisheries and terrestrial wildlife.

Although only Boulger creek is proposed to be monitored for fish populations, the Permittee must submit a plan for monitoring subsidence impacts on other perennial streams (Swens, Little Swens, Flat Canyon) within the lease and the associated effects to aquatic ecosystems and wetlands in accordance with Stipulation #24 of the lease.

The Western Yellow-Billed Cuckoo, was recently listed as "Threatened" and has proposed critical habitat in the area. The Permittee must provide a plan to monitor presence of this species. The Permittee shall promptly report to the Division any State- or federally-listed endangered or threatened species within the permit area of which the Permittee becomes aware. Upon notification, the Division shall consult with appropriate State and Federal fish and wildlife agencies and, after consultation, shall identify whether, and under what conditions, the Permittee may proceed.

Ireinhart

Fish and Wildlife Endangered and Threatened

Analysis:

With the exception of the Greater Sage-grouse, the application makes the assumption that there are no threatened and endangered, or sensitive species present in the lease area as determined by an EIS in 2002 in section 2.7.9. An inquiry to the U.S. Fish and Wildlife Service using the Information for Planning and Conservation tool, revealed that 10 endangered species should be considered as part of an effect analysis.

Deficiencies Details:

The application fails to address 9 of 10 species that are listed by the Secretary under the Endangered Species Act of 1973, as amended, or those species or habitats protected by similar state statutes in accordance with R645-301-322.200-230. Prior to approval, the application must consider potential effects and identify protection measures for the following species: Greater Sage-grouse, Mexican Spotted Owl, Southwestern Willow Flycatcher, Yellow-billed Cuckoo, Bonytail Chub, Colorado Pikeminnow, Humpback Chub, Razorback Sucker, Barneby Reed-mustard, Jones Cycladenia. Section 2.9.7 states that Figure 2.9-4 and 2.9-5 have been updated in 2015 which is not correct and should be corrected for to reflect the actual date the list was updated.

Ireinhart

Fish and Wildlife Wetlands and Habitats High Value

Analysis:

Since there is no surface disturbance proposed, the only impact of operations would be in relation to subsidence and those impacts to fisheries or avian species. Section 2.8 includes monitoring of Boulger creek for fish. Although it is not modified in this application, the commitment to conduct annual raptor surveys of areas to be subsided remains in 4.18.2 page 4-103 of the approved MRP. Page 4-94 states existing overburden is roughly 120 times the extraction thickness and no adverse impacts to Boulger Reservoir are anticipated-- which is contradicted in the NEPA analysis.

As noted on p.4-94, the reservoir may be drained prior to undermining as a safety precaution. Mining under the Boulger Dam could cause the dam to fail. This is a small dam that can be taken out of service while the mining is taking place and placed back into service after mining is complete. If both coal seams are mined this would could cause the dam to be out of service for 12 years. If a single seam is mined then the impact would be 1-2 fishing seasons depending upon when the mining takes place (FEIS p. 4-15). The application fails to address how fish and wildlife will be protected when the dam is taken out of service and the reservoir is drained.

Surface cracks and minor changes to spring emergence location will affect individual animals. If stream gradients are reversed pooling and deposition of sediment would result from upstream entrenchment. This would reduce the habitat quality of existing pools and those created by subsidence. Because the majority of the fish habitat in Boulger Creek is in areas of relatively flat gradient, the possible effects of subsidence would affect the entire stream system. Stream channel adjustment and the consequent loss of habitat features could significantly reduce the productivity of the currently very productive fishery. (EIS, page 4-53)

Deficiencies Details:

The application fails to address how the operator will minimize disturbances and adverse impacts on fish and wildlife during undermining of the reservoir which is a habitat of unusually high value for fish and wildlife.

Prior to approval, the permittee must submit a plan for the protection of fish and wildlife throughout the life of the mine in accordance with R645-301-331 through R645-301-333. Additionally, the permittee must submit a plan for mining under Boulger Reservoir. This plan shall include but not be limited to type of mining, when and how the dam will be taken out of service while undermining and/or subjected to mining induced acceleration of 0.1 and greater, and what mitigation measures will be taken to place the dam and reservoir back into full service in compliance with Stipulation #22 of the ROD.

lreinhart

Topsoil and Subsoil

Analysis:

The minimum requirements of R645-301-230 are met as there is no change to the existing MRP plan.

pburton

Vegetation

Analysis:

Up to 28 acres of established riparian vegetation could be affected as stream channels react to changes caused by subsidence. If mine discharge is allowed to increase in Eccles Creek due to lack of discharge into Electric Lake, erosion could cause an increase in sediment. It could take as long as 10 to 20 years for the steam channels to stabilize and the riparian vegetation reestablished. (FEIS, pages 4-47 to 4-48).

Deficiencies Details:

The application fails to address how the operator will monitor impacts to riparian vegetation as a result from subsidence. Prior to approval, the application must describe how the operator will monitor and potentially mitigate impacts to riparian and wetland vegetation in accordance with R645-301-333.

lreinhart

Road Systems Classification

Analysis:

The application meets the minimum standards or R645-301-527 due to not changes in the MRP text regarding transportation features.

cparker

Road System Plans and Drawings

Analysis:

The application meets the minimum standards or R645-301-527 due to not changes in the MRP text regarding transportation features.

cparker

Road System Performance Standards

Analysis:

The application meets the minimum standards or R645-301-527 due to not changes in the MRP text regarding transportation features.

cparker

Road System Certification

Analysis:

The application meets the minimum standards or R645-301-527 due to not changes in the MRP text regarding transportation features.

cparker

Road System Other Transportation Facilities

Analysis:

The application meets the minimum standards or R645-301-527 due to not changes in the MRP text regarding transportation features.

cparker

Spoil Waste Disposals of Noncoal Mine Wastes

Analysis:

The application meets the minimum standards or R645-301-528 due to not changes in the MRP text. The application does not include any changes general description of noncoal mine waste disposal located in the current Chapter 3 Section 3.2.8 plans for noncoal mine wastes.

cparker

Spoil Waste Coal Mine Waste

Analysis:

The application meets the minimum standards or R645-301-528 due to not changes in the MRP text. The application does not include any changes general description of coal mine waste disposal located in the current Chapter 3 Section 3.2.8 plans for coal mine wastes.

cparker

Spoil Waste Refuse Piles

Analysis:

Section 2.2.8, Appendix A-3 and Plate 2.2.4-1D and 2.3.4-1D provide information on the location of drill holes and analysis of roof, floor and coal in the Flat Canyon lease. The information indicates that the floor of the seam may be acid forming. There has been no change to the reclamation plan which calls for burial of acid/toxic forming materials below four feet at the waste rock site (Section 4.6.4.1 of the MRP). This information meets the requirements of R645-301-553.252.

pburton

Spoil Waste Refuse Piles

Analysis:

The application meets the minimum standards or R645-301-528.322 due to not changes in the MRP text. The application does not include any changes general description of coal mine refuse disposal located in the current Chapter 3 Section 3.2.8 plans.

cparker

Spoil Waste Impounding Structures

Analysis:

The minimum requirements of R645-301-528 are met as the MRP does not contemplate the disposal of any mine waste into impounding structures.

cparker

Spoil Waste Burning and Burned Waste Utilization

Analysis:

The minimum requirements of R645-301-528.323 are met as the MRP does not contemplate the disposal of any mine waste by burning.

cparker

Spoil Waste Coal Processing Waste to Abandoned

Analysis:

The application meets the minimum standards of R645-301-528 due to not changes in the MRP text. The application does not include any changes general description of returning coal mine waste underground located in the current Chapter 3 Section 3.2.8 MRP.

cparker

Spoil Waste Excess Spoil

Analysis:

The minimum requirements of R645-301-528.310 are met as the MRP does change the disposal of any mine spoil procedures

cparker

Hydrologic General

Analysis:

The information provided is not sufficient to meet the requirements of State of Utah R645-301 Coal Mining Rules.

The application to approve mining in the Flat Canyon lease does not include any surface disturbances. The Federal EIS for the lease does discuss the possibility of needing ventilation shafts for mining in the lease, but if shafts are needed they will go through the permitting process in the future.

The leasing RODs include a number of hydrology related stipulations that have not been addressed by this submission from the Permittee. Probably the most significant stipulation that has not been addressed is a plan to address how Boulger Reservoir will be handled during mining. The Permittee should submit a detailed plan of how the reservoir will be monitored and evaluated for any potential subsidence damage. The plan should also include what measures may be taken if repairs are necessary.

Deficiencies Details:

R645-301-731 The Permittee should provide a plan to comply with federal leasing stipulation #22 regarding mining under Boulger Reservoir.

adaniels

Hydrologic Ground Water Monitoring

Analysis:

The information provided is not sufficient to meet the requirements of State of Utah R645-301 Coal Mining Rules.

The currently approved MRP contains a commitment to monitor inflows and conduct age dating on any mine inflows of groundwater if inflows of 800 gpm or more are encountered. This is a commitment that will continue through mining of the

Flat Canyon Lease.

There are 5 additional springs that will be incorporated into the regular water monitoring program, and already have or will have baseline data collected on them. These springs represent discharge from the Price River Formation, Castlegate Sandstone, and Blackhawk Formation.

Spring S33-268 is a spring that is developed with a collection box and pipeline to provide water to the Forest Service Campground. While it will be difficult to get true spring flow measurements from this site, it will continue to be monitored due to its importance as a water source.

During a hydrology field visit on June 18, 2015, there were discussions about picking up more spring monitoring locations. If this has since then been incorporated into the monitoring plan, these should be updated into the proposed plan.

There are four water level monitoring wells within the Flat Canyon lease area, 99-21-1, 20-28-1, 99-4-1, and 20-4-1. These wells are completed in the Starpoint Formation, located just below the coal seams to be mined. These wells will continue to be monitored through the operational ground water monitoring program.

Deficiencies Details:

R645-301-731.210 During the June 18, 2015 hydrology field work day, there was a discussion about identifying additional springs within the lease for additional water monitoring. The plan should be updated to include any additional information that may have come from this discussion.

adaniels

Hydro Surface Water Monitoring

Analysis:

The information provided is not sufficient to meet the requirements of State of Utah R645-301 Coal Mining Rules.

The operational surface water monitoring program has been expanded to monitor four additional stream monitoring locations, CS-27, CS-28, CS-29, and CS-30. The points are to monitor stream sections along Little Swens Canyon, Swens Canyon, Flat Canyon and Boulger Canyon. Each of these canyons have reaches of perennial streams. From the PHC submitted as appendix N, it was unclear of the entire stretches of streams in these canyons are perennial, the Permittee should clarify this and provide maps if necessary.

Stream monitoring locations CS-27 and CS-17 provide upstream of mining and downstream of mining monitoring along Little Swens Canyon respectively. CS-28 and CS-16 provide monitoring up and downstream of mining monitoring of Swens Canyon. CS-29 and CS-18 provide upstream and downstream of mining monitoring of Flat Canyon. CS-18 also provides a downstream of mining monitoring location for Boulger Canyon, and CS-30 is monitoring the stream from Boulger Canyon within mining. There is no upstream of mining monitoring location in Boulger Canyon, but during field work at the mine in June, a new monitoring location was established upstream of mining, and monitoring has begun at that point. This new monitoring information should be included in the submission.

Deficiencies Details:

R645-301-731.220 During the June 18, 2015 hydrology field work day, there was a new stream monitoring location established in Boulger Canyon. The plan should be updated to include any additional information that may have come from this discussion.

adaniels

Hydrologic Acid and Toxic forming Materials

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

Material from the new Flat Canyon lease area will be handled in a manner similar to the way coal is being handled at the site now. There are no proposed changes to handling acid or toxic forming materials. Coal mine waste will be managed in the currently permitted Skyline waste rock site.

Hydrologic Transfer Wells

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

Water monitoring wells, under the current plan, are planned to be capped and sealed according to the rules set forth by the Utah Division of Water Rights.

adaniels

Hydrologic Discharge Into an Underground Mine

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There are no new portals or underground openings proposed with this submission. There are no changes to the currently approved MRP regarding discharge into underground mines.

adaniels

Hydrologic Gravity Discharge From Underground Mine

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There are no proposed changes to the way Skyline mine is discharging water from their underground workings. For more detailed analysis on the way higher volumes of discharge will be handled in Eccles Creek, see the sections of the findings titled "Baseline Cumulative Impact Area Information".

adaniels

Hydrologic Water Quality Standards

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

The Skyline mine holds a current UPDES permit to cover their discharges from the mine and their sedimentation ponds. Their UPDES permit was recently renewed and is effective until April 30, 2020.

adaniels

Hydrologic Diversion General

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Diversion Perennial and Intermitten

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Diversion Misc. Flows

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Stream Buffer Zones

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Sediment Control Measures

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Siltation General

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Siltation Sedimentation

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Siltation Treatment

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Exemptions

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Discharge Structures

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Impoundments

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Hydrologic Ponds Impoundments Banks Dams

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Support Facilities and Utility Installations

Analysis:

The application meets the minimum requirements of R645-301-521.180 and -526 the require the description, plans, and drawing for each support facility to be constructed, used, or maintained within the proposed permit area. Future amendments are will likely come in association with ventilation shafts in the Flat Canyon area and text will need to be edited under Chapter 3 Section 3.2.8.

cparker

Signs and Markers

Analysis:

The application meets the minimum requirements of R645-301-521.200 by the general discussion of signs in Chapter 3 section 3.2.7. No changes were made to the MRP to detail Flat Canyon operations specifically.

cparker

Explosives General

Analysis:

The application meets the minimum requirements of R645-301-524 by no changes made to the blasting plan of the MRP within the application.

cparker

Explosives Preblasting Survey

Analysis:

The application meets the minimum requirements of R645-301-524 by no changes made to the blasting plan of the MRP within the application.

cparker

Explosives General Performance Standards

Analysis:

The application meets the minimum requirements of R645-301-524 by no changes made to the blasting plan of the MRP within the application.

cparker

Explosives Blasting Signs Warnings Access Control

Analysis:

The application meets the minimum requirements of R645-301-524 by no changes made to the blasting plan of the MRP within the application.

cparker

Explosives Control of Adverse Effects

Analysis:

The application meets the minimum requirements of R645-301-524 by no changes made to the blasting plan of the MRP within the application.

cparker

Explosives Records of Blasting Operations

Analysis:

The application meets the minimum requirements of R645-301-524 by no changes made to the blasting plan of the MRP within the application.

cparker

Maps Affected Area

Analysis:

see analysis in Environmental Resources Maps Affected

Deficiencies Details:

see analysis in Environmental Resources Maps Affected

cparker

Maps Facilities

Analysis:

see analysis in Environmental Resources Mining Facilities Maps

Deficiencies Details:

see analysis and deficiencies in Environmental Resources Mining Facilities Maps

cparker

Maps Mine Workings

Analysis:

See analysis in Environmental Resources Mine Working Maps

Deficiencies Details:

See analysis and deficiencies in Environmental Resources Mine Working Maps

cparker

Maps Monitoring and Sampling Locations

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.
Water Monitoring Map 2.3.6-1 was updated to include new water monitoring locations.

adaniels

Maps Certification Requirements

Analysis:

R645-3010-512 minimum requirements are not met as all mine drawings and plates are not stamped by a Utah certified professional engineer with experience in underground mining operations.

Deficiencies Details:

R645-3010-512 minimum requirements are not met as all mine drawings and plates are not stamped by a Utah certified professional engineer with experience in underground mining operations.

cparker

Reclamation Plan

General Requirements

Analysis:

The minimum requirements of R645-301-540 are met within the application as there is no change to the existing MRP reclamation details.

cparker

PostMining Land Use

Analysis:

The application does not address post-mining land use in the application.

Deficiencies Details:

Prior to approval, the permittee must comply with R645-301-412. The application will contain a detailed description of the post-mining land use including how it is to be achieved.

lreinhart

WildLife Protection

Analysis:

Because no surface disturbance is proposed, the assumption is made that there will be no need for habitat restoration. However, the application fails to address undermining of the reservoir and streams which are habitats of unusually high value for fish and wildlife.

Deficiencies Details:

Prior to approval, the permittee must comply with R645-301-342. Where wetlands and habitats of unusually high value for fish and wildlife occur, the operator conducting underground mining activities shall provide a description of the measures taken to avoid disturbances to, enhance where practicable, restore, or replace, wetlands and riparian vegetation along rivers and streams and bordering ponds and lakes. Designs and plans for underground mining activities shall include measures to avoid disturbances to, enhance where practicable, or restore habitats of unusually high value for fish and wildlife.

lreinhart

Approximate Original Contour Restoration

Analysis:

The application meets the minimum R645-301-512.200 and -553.110 as there is no change in the MRP and all grading will be place back to approximate original contours.

cparker

Backfill and Grading General

Analysis:

The minimum requirements of R645-301-553 are met within the application as there is no change to the existing MRP grading reclamation details.

cparker

Backfill and Grading Previously Mined

Analysis:

The minimum requirements of R645-301-553 are met within the application as there is no change to the existing MRP grading reclamation details.

cparker

Backfill and Grading on Steep Slopes

Analysis:

The minimum requirements of R645-301-553 are met within the application as there is no change to the existing MRP grading reclamation details.

cparker

Mine Openings

Analysis:

The minimum requirements of R645-301-529 and -551 are met within the application as there is no change to the existing MRP sealing of mine openings at the time of final reclamation.

cparker

Mine Openings

Analysis:

R645-301-641. The application meets the requirements for casing and sealing of exploration and boreholes. The existing MRP discusses plans for casing and sealing drill holes. No changes have been proposed with this revision.

dhaddock

Topsoil and Subsoil

Analysis:

The minimum requirements of R645-301-240 have been met as there is no change to the existing MRP plan.

pburton

Road System Reclamation

Analysis:

The minimum requirements of R645-301-534 are met within the application as there is no change to the existing MRP reclamation of roads throughout the permitted area.

cparker

Road System Retention

Analysis:

The minimum requirements of R645-301-534 and -552 are met within the application as there is no change to the existing MRP reclamation of roads that will be retained at the end of mining that exist throughout the permitted area.

cparker

Hydrological Information Reclamation Plan

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

There is no new surface disturbance associated with this submission.

adaniels

Contemporaneous Reclamation General

Analysis:

The application meets the minimum requirements of R645-301-553 as there is no change within the existing MRP for plans of Contemporaneous Reclamation.

cparker

Revegetation General Requirements

Analysis:

Information provided in the application meets the minimum requirements of R645-301-341. Because no surface disturbance is proposed, there should be no need to expand the current MRP's revegetation commitments with traditional requirements.

Ireinhart

Cessation of Operations

Analysis:

The minimum requirements of R645-301-515 and -541 are met within the application as there is no change to the existing MRP plan of communication with the appropriate parties in the event of the cessation of operations and final reclamation.

cparker

Maps Affected Area Boundary

Analysis:

The minimum requirements of R645-301-542 are met within the application as there is no change to the existing MRP plan

cparker

Maps Bonded Area

Analysis:

The application is currently being reviewed by the Division in an effort to expedite the significant revision process. No bonding information or maps were included within the application at this time.

cparker

Maps Reclamation BackFilling and Grading

Analysis:

The minimum requirements of R645-301-542 are met within the application as there is no change to the existing MRP plan

cparker

Maps Reclamation Facilities

Analysis:

The minimum requirements of R645-301-542 are met within the application as there is no change to the existing MRP plan

cparker

Maps Reclamation Final Surface Configuration

Analysis:

The minimum requirements of R645-301-542 are met within the application as there is no change to the existing MRP plan

cparker

Maps Reclamation Monitoring and Sample Locations

Analysis:

The information provided is sufficient to meet the requirements of State of Utah R645-301-700 Coal Mining Hydrology Rules.

Water Monitoring Map 2.3.6-1 was updated to include new water monitoring locations this map is operations and reclamation monitoring.

Maps Reclamation Surface and Subsurface Man Made

Analysis:

The minimum requirements of R645-301-542 are met within the application as there is no change to the existing MRP plan

cparker

Maps Reclamation Certification Requirments

Analysis:

R645-3010-512 minimum requirements are not met as all mine drawings and plates are not stamped by a Utah certified professional engineer with experience in underground mining operations.

Deficiencies Details:

R645-3010-512 minimum requirements are not met as all mine drawings and plates are not stamped by a Utah certified professional engineer with experience in underground mining operations.

cparker

Bonding and Insurance General

Analysis:

The application does not meet the minimum requirements of R645-301-800 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. No bonding information or maps were included within the application at this time. The Permittee will submit detailed bond information in regards to the Flat Canyon lease.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-800 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. No bonding information or maps were included within the application at this time. The Permittee will submit detailed bond information in regards to the Flat Canyon lease.

cparker

Bonding Form of Bond

Analysis:

The application does not meet the minimum requirements of R645-301-860.100 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. The current surety bond amount of \$5,799,00 is held by Lexon Insurance Co with a rider held by Ironshore Indemnity Inc.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-860.100 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. The current surety bond amount of \$5,799,00 is held by Lexon Insurance Co with a rider held by Ironshore Indemnity Inc.

cparker

Bonding Determination of Amount

Analysis:

The application does not meet the minimum requirements of R645-301-830.140 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. No bonding information or maps were included within the application at this time. The Permittee will submit detailed bond information in regards to the Flat Canyon lease.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-830.140 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. No bonding information or maps were included within the application at this time. The Permittee will submit detailed bond information in regards to the Flat Canyon lease.

cparker

Bonding Terms and Conditions Liability Insurance

Analysis:

The application does not meet the minimum requirements of R645-301-850 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. No bonding information or maps were included within the application at this time. The Skyline mine currently holds liability insurance through National Union Fire Ins Co, effective until 2/1/16. The insurance includes the required Marsh from, explosives and claims made per occurrence.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-850 as the application is currently being reviewed by the Division in an effort to expedite the significant revision process. No bonding information or maps were included within the application at this time. The Skyline mine currently holds liability insurance through National Union Fire Ins Co, effective until 2/1/16. The insurance includes the required Marsh from, explosives and claims made per occurrence.

cparker

CHIA

CHIA

Analysis:

The CHIA may require a revision. This will be analyzed once all hydrologic information has been submitted to the Division and is ready for approval.

adaniels

Table 1 - Baseline Sampling - Flat Canyon Lease

Site Type	Sampling Site	Geologic Formation	Sampling Years		Minimum Sampling Parameters	Field Parameters
Springs	29-138	Price River	1997	2000	x	
			2006	Current		x
	32-277	Price River	1997	2000	x	
			2006	2014		x
	MSS-1	Price River	'97 (1), '00 (1)		x	
	4-429	Castlegate	'97 (1), '99 (1), '00 (1)		x	
			2006	Current		x
	8-253	Castlegate	1997	2000	x	
			2005	Current		x
	29-133	Castlegate	1997	2000	x	
			2006	2014		x
	33-268	Castlegate	'97 (1), '98 (1)		x	
			2006	2014		x
	21-222	Castlegate/Blackhawk	1997	2000	x	
			2006	Current		x
	32-183	Castlegate/Blackhawk	1997	2000	x	
	32-279	Castlegate/Blackhawk	1997	2000	x	
	3-290	Blackhawk	1997	2005	x	
			2005	Current		x
	4-173	Blackhawk	1997	2000	x	
2006			2014		x	
5-231	Blackhawk	1997	2000	x		
28-110	Blackhawk	1997	2000	x		
		2006	2014		x	
MST-1	Composit - water tank	'97 (1)		x		
MST-2	Composit - water tank	'97 (1)				
MST-3	Composit - water tank	'97 (1), '00 (1)		x		
		'98 (1)			x	
Streams	C-5	-	1997	2000	x	
			2007	Current		x
	C-6 (CS-29)	-	'99 (1), '00 (1)		x	
			2006	Current		x
	C-7	-	'99 (1), '00 (1)		x	
			2006	Current		x
	C-8 (CS-30)	-	'99 (1), '00 (1)		x	
			2006	Current		
	CS-10	-	Part of current plan		x	x
	CS-16	-	Part of current plan		x	x
CS-17	-	Part of current plan		x	x	
CS-18	-	Part of current plan		x	x	
UPL-10	-	Part of current plan		x	x	