



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

January 18, 2017

John Byars, General Manager
Canyon Fuel Company, LLC
397 South 800 West
Salina, Utah 84654

Subject: Greens Hollow Lease Tract Addition, Canyon Fuel Company, LLC, Sufco Mine, C/041/0002, Task ID #5259

Dear Mr. Byars:

The Division has reviewed your application for the Green Hollow Lease Tract Addition. Deficiencies remain in the application. The deficiencies are listed as an attachment to this letter. The names of the deficiency authors are provided so that your staff can communicate directly with that individual should questions arise.

Please review the application accordingly and resubmit the entire package in order for us to complete the processing of your permit revision. Please be aware that the technical review cannot be completed until the plan is determined to be Administratively Complete.

Thank you for your help during this process. If you have any questions, please feel free to call me at (801) 538-5325.

Sincerely,

Daron R. Haddock
Coal Program Manager

DRH/ss
Enclosure
O:\041002.SUF\WG5259 GREENS HOLLOW\IncompleteACR.doc





State of Utah
 DEPARTMENT OF NATURAL RESOURCES
 MICHAEL R. STYLER
Executive Director
 Division of Oil, Gas and Mining
 JOHN R. BAZA
Division Director

Technical Analysis and Findings

Utah Coal Regulatory Program

January 18, 2017

PID: C0410002
TaskID: 5259
Mine Name: SUFCO MINE
Title: GREENS HOLLOW LEASE TRACT

General Contents

Identification of Interest

Analysis:

The application meets the State of Utah R645 requirements for Identification of Interest.
 The current ownership and control information is located in the General Chapter 1 of the Mining Reclamation Plan.

ssteab

Violation Information

Analysis:

The application does not meet the R645 requirements for Violation Information.
 The current Mining Reclamation Plan General Chapter 1, Table 1-2 Three Year Violation History requires updating.
 An AVS evaluation of the permit C/041/0002 was generated on 1/18/17. The evaluation lists 7 outstanding violations. These violations will need to be settled prior to permit issuance.

Deficiencies Details:

The application does not meet the R645 requirements for Violation Information.
 The following deficiency must be addressed prior approval:
 The current Mining Reclamation Plan General Chapter 1, Table 1-2 Three Year Violation History requires updating.
 An AVS evaluation of the permit C/041/0002 was generated on 1/18/17. The evaluation lists 7 outstanding violations. These violations will need to be settled prior to permit issuance.

ssteab

Legal Description

Analysis:

The amendment does not meet the State of Utah R645 requirements for providing an accurate legal description of the area to be included in the permit.

The legal description provided on page 1-10 titled BLM Lease UTU-84102 (6,696.41 acres) does not match the legal description in the ROD page 22 (6,175.39 acres) for said lease.

More specifically, property located in T.20S, R4E., Sections 14, 23, and 24 are included in the MRP but are not included in the lease. This additional property is also not included on Plate 5-6 (Land ownership, lease, and permit area map). The legal description on page 1-10 T.20S, R.5 E, Sec.21 incorrectly states W1/2,SW1/4, whereas it should be W1/2SW1/4.

Plate 5-6 (and all others in the amendment) includes property in the South Fork Lease (Emergency Lease) but this lease has not been acquired by the permittee and therefore can't be within the permitted mining area.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for providing an accurate legal description of the area to be included in the permit. The following deficiency must be addressed prior to final approval.

The Permittee must correct the legal description on page 1-10 as that provided in the ROD or lease.

lreinhart

Permit Term

Analysis:

Not applicable.

ssteab

Public Notice and Comment

Analysis:

The Permittee will be required to publish for four consecutive weeks, with an additional 30 day comment period upon the determination of a complete application.

ssteab

Filing Fee

Analysis:

Not applicable.

ssteab

Permit Application Format and Contents

Analysis:

Analysis:

The application states an increase of 1.234 surface acres of total disturbance (pg 1-13) related to the permitted disturbed area at the waste rock, as well as an actual disturbed area at the waste rock site of 2.557 acres (which would be more correctly accounted for in an as-built to the waste rock site and not this Greens Hollow Lease amendment).

pburton

Permit Application Format and Contents

Analysis:

The amendment does not meet the State of Utah R645 requirements for Permit Application Format and Contents. The Division of Oil, Gas and Mining's (the Division) Submittals Format Guide expressly states that review copies must be submitted in a redline/strikeout format. (See R645-301-121.300). Any proposed revisions to the approved Mining and Reclamation Plan (MRP) must be submitted in redline strike-out format (i.e. text, figures, plates etc.).

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Permit Application Format and Contents. The following deficiency must be addressed prior to final approval:

R6545-301-120, -121.200, -121.300: The Permittee must provide all revisions to the MRP in redline strike-out format (i.e. text, figures, and plates).

Environmental Resource Information

General

Analysis:

The amendment meets the State of Utah R645 requirements for General Environmental Resource Information in terms of engineering.

The amendment meets the requirements of R645-301-521 due to information stated the mine plan details, plates, and drawings for the proposed coal mining and reclamation operations for Greens Hollow. Narrative was added stating mine plan assumptions are based on full extraction mining. Plate 5-2C detailing surface portals was updated to show the additional proposed lease of approximately 79 acres of Fishlake National Forest and 6,096.39 acres of Manti La Sal National Forest.

cparker

Historic and Archeological Resource Information

Analysis:

The amendment does not meet the State of Utah R645-301-411.140 requirements for cultural and historic resources information. The amendment includes Appendix 4-2 which is supposed to be the Cultural and Historical Resources report for the Greens Hollow Lease. However, this report is for the Muddy Tract Lease not the Greens Hollow Lease.

A map pursuant to R645-301-411.141 is not provided in the confidential section the amendment. The map must show locations of cultural sites identified in the MOU and indicate no public parks or cemeteries are within 100 feet of the permit area. Utah has approximately 169.3 miles of designated Wild and Scenic River, all of which are tributaries of the Virgin River in southwest Utah and outside the adjacent area. National System of Trails in Utah are inclusive of the Pony Express, California National Historic Trail, Mormon Pioneer Trail, and Old Spanish National Historic Trail. None of the trail systems are within the adjacent area.

The Manti-La Sal National Forest Service (MLS NF) is the lead agency and handled all consultation and coordination with the Utah State Historic Preservation Officer (SHPO). Consequently, an MOA between the MLS NF and the SHPO was developed. The MOA is included with the amendment as Appendix 4-5 (Confidential Folder).

The MLS NF has determined that the undertaking may have an adverse effect on archaeological sites 42SV1484, 42SV1578/2341, 42SV2554, 42SV2584, 42SV2586, 42SV2589, 42SV2597, 42SV2949, 42SV3224 and 42SV3226, which are eligible for listing in the National Register of Historic Places. The MLS NF has consulted with the Ute Indian Tribe and Paiute Tribe of Utah regarding the effects of the undertaking on historic properties and they have chosen not to sign the MOA as concurring parties.

In accordance with 36 C.F.R. Â§ 800.6(a)(1), the MLS NF has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR Â§ 800.6(a)(1)(iii).

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-411.140 requirements for cultural and historic resources information.

R645-301-411.141: The application will contain maps as described under R645-301-411.141. The amendment includes Appendix 4-2 which is supposed to be the Cultural and Historical Resources report for the Greens Hollow Lease. However, this report is for the Muddy Tract Lease not the Greens Hollow Lease. The Permittee must provide the correct report for the Greens Hollow Tract and include a map showing the location of the cultural sites.

Ireinhart

Vegetation Resource Information

Analysis:

The amendment meets the State of Utah R645-301-321 requirements for vegetation resource information.

Volume 1, Chapter 3, Section 3.2.1, pages 3-3 through 3-5 provide vegetation information. This amendment updates Ch.3 on page 3-5 to include a summary of vegetation in the Greens Hollow Tract. Detailed vegetation information is located in the EIS (Environmental Impact Statement) prepared by the BLM. Plate 3-1 is updated to include the vegetation within the Greens Hollow Lease.

Ireinhart

Fish and Wildlife Resource Information

Analysis:

The amendment meets the State of Utah R645-301-322 requirements for fish and wildlife resource information.

Volume 1, Chapter 3, Section 3.2.2, pages 3-6 through 3-27 provide fish and wildlife information. Section 3.2.2.3 contains the Fish and Wildlife Service Review.

This amendment adds Appendix 3-15 which is the Wildlife Technical Report for Greens Hollow Coal Lease Tract. Federal and State sensitive species within the Greens Hollow Tract were evaluated. As noted on pages 294 and 295 of the FSEIS, the BLM analyzed the impacts of underground coal mining on wildlife and plant species listed under the ESA.

A supplemental biological assessment was prepared for the proposed Greens Hollow tract (Cirrus 2014f). That assessment determined there would be no effect on federally-listed threatened and endangered species under the alternatives analyzed. Therefore, consultation with the U.S. Fish and Wildlife Service was not required.

There are no known federally listed plant species in the project area. One sensitive plant species (Link Canyon columbine) occurs in the general analysis area but not in the permit area and would not be affected by project.

As required by the Migratory Bird Treaty Act, the BLM analyzed the impacts of the project on migratory birds. None of the potential impacts of the project would be contrary to any of the laws, regulations, and orders included in the Migratory Bird Treaty Act of 1918.

The level of detail of the information is sufficient to design the protection and enhancement plan under R645-301-333 should one be required. The amended permit area contains habitats of unusually high value for fish and wildlife. However, none of these areas should be adversely affected from underground coal mining. Any surface disturbing activities will be evaluated separately.

Pursuant to the Executive Order Implementing the Utah Conservation Plan for Greater Sage-Grouse, consultation with Utah Division of Wildlife occurred on 11/22/2016. DWR did not request any additional mitigation or monitoring.

Based on the analysis conducted by the BLM and the Divisions evaluation of the IPac Trust Resource Report generated November 22, 2016, Consultation Code: 06E23000-2017-SLI-0052, the Division determined that approval of this amendment would not affect a listed species or designated critical habitat and therefore did not initiate informational consultation with U.S. Fish and Wildlife Service.

Potential water depletion from mining operations that may have an effect on endangered fish species identified in pertinent fish recovery programs of the USFWS have been evaluated by the Windy Gap Process as it applies to existing coal mines in the Upper Colorado River Basin on pages 3-40A-B. Total mining operations have a net water gain of 5365.2 ac-ft/yr due to mine discharge.

Ireinhart

Soils Resource Information

Analysis:

Analysis:

The application adds BLM Greens Hollow Lease UTU-84102 within T. 20 S., R. 4 E., Sec 36, 14, 23, 24; and T 20 S., R. 5 E. Sec. 19, 20, 21, 28, 29, 30, 31, 32, and Sec 33; and T 21 S, R 4 E Sec 1, 2, 11, 12, 13, and 1; and T 21 S, R 5 E Sec 6. In all, the lease contains 6,696.41 acres of surface managed by Fishlake (79 acres) and Manti LaSal National Forests (the

remainder). The application does not describe any surface disturbance.

pburton

Land Use Resource Information

Analysis:

The amendment meets the State of Utah R645-301-411 requirements for land use information.

Volume 1, Chapter 4, Section 4.10, pages 4-1 through 4-12A provide information on premining land use. This amendment adds land use information for the Greens Hollow Tract on pages 4-7 and 4-8. The land is under USFS management and therefore is managed according to the USFS plans. Recreational use is light and livestock grazing and wildlife are the primary uses. The narrative analyzes the land use in conjunction with other environmental resources and provides analysis of the capability of the land before any coal mining and reclamation operations to support a variety of uses.

Plate 4-1b is a map showing Greens Hollow range allotments for livestock use.

Ireinhart

Hydro Baseline Information

Analysis:

The amendment does not meet the State of Utah R645 requirements for Baseline Information.

Appendix 7-27 provides a hydrologic evaluation report conducted by Cirrus Ecological Solutions, LC and Norwest Applied Hydrology (Appendix 7-27). The report entitled "Surface and Ground Water Technical Report Greens Hollow Coal Lease Tract 2014" contains a description of the existing ground and surface water resources within and adjacent to the Greens Hollow lease. It appears that much of the data provided in the report relative to ground and surface water resources was obtained during sampling/field work conducted in the early 2000s (i.e. 2001-2004 timeframe) with subsequent updates in 2014. Upon review, many of the data sources referred to and/or presented in Appendix 7-27 are in some instances well over 10 years old. Page 10 of Appendix 7-27 indicates that "surface and ground water resources in the Greens Hollow tract area were monitored by Cirrus during 2001-2004". Page 11 discusses that the spring and seep survey in the Greens Hollow lease was completed in the summer of 2001 as part of the Muddy Creek Tract assessment. Eight springs are discussed on page 12 as having been identified for water quality measurements; however, the names and locations are not provided. Quarterly monitoring data was collected for these eight springs through 2004. The text continues that Sufco has been monitoring five of those eight springs since 2004 for "field measurements". The text identifies Figure 4 as showing the locations of these springs; however, the names of these monitored springs is not provided. As such, it is not possible to ascertain what springs are being referred to during these timeframes.

On page 13 of Appendix 7-27, surface water resources are discussed. The text identifies ten stream monitoring sites as having been established in and adjacent to the Greens Hollow Lease (with the exception of the "main stem of Muddy Creek") and that quarterly monitoring has continued at these locations since 1982. Six sites were selected for monitoring including four sites with continuous flow sensors and two non-instrumented sites. However, the names of these monitoring sites are not provided. The text indicates that Figure 1 depicts the location of all ten stream monitoring sites. However, Figure 1 is illegible and thus it is not possible to accurately identify the referenced streams and their respective locations. The surface water discussion continues by indicating that "Water quality measurements were collected from 2002-2004 at the six instrumented stream monitoring sites four times during the year including early spring as soon as the site was accessible, late spring/early summer, mid-summer and fall. The two non-instrumented stream sites and the two stream locations maintained by Sufco were monitored on a quarterly basis." Again, Appendix 7-27 fails to provide the names of these monitoring sites nor a legible map with their locations.

A gain-loss study conducted on perennial stream segments of Greens Hollow, Cowboy Creek and Greens Canyon during baseline (fall) conditions was discussed. It appears that the gain-loss studies were conducted in the early 2000s (2001-2003 timeframe).

A review of State Appropriated Water Rights (Water Rights) was conducted in 2014. A table of identified water rights is provided in the amendment along with Plate 7-2, Surface and Ground water Rights-Quitcupah Tract.

The Permittee provides an excerpt from the Final Supplemental Environmental Impact Statement for the Leasing and Underground Mining of the Greens Hollow Federal Coal Lease Tract UTU-84102 (FEIS 2015). Portions of the text are highlighted in yellow. The highlighted sections discuss the potential for subsidence to impact hydrologic resources. As part

of the discussion, the FEIS 2015 provides a contrast between the surficial/overlying geology of the Pines Coal Tract and the Greens Hollow Lease.

Following the subsidence/geology discussion, a map and table of data are provided. The table is entitled "Comparison of Manti-LaSal Forest Water Monitoring and Sufco Water monitoring 2004, 2013, 2014, 2015". The table provides a comparison of flow values obtained from the USDA Forest Service and Sufco. The Sufco data appears to have been obtained in 2004 and 2013 with the USDA Forest flow data obtained in 2013, 2014 and 2015. Water quality data is not provided in this table. Flow data only is provided for a selection of springs in the Greens Hollow Lease Tract.

The amendment also provides information/data obtained from underground water sampling analyses and age dating. Samples were obtained from three locations within the mine workings: XC51 2 South Bleeder, 3 Right Bleeder and 5 West #4 Entry Roof Drip. Age data and water quality parameters were sampled. A figure is provided with hand drawn locations provided for two of the locations. The third location does not appear to be identified. It's unclear as to which two of the three samples the hand-drawn locations are identifying as the map is not legible. Samples were obtained in May and September of 2015. The Permittee must provide clarification in the age dating/water quality analyses section of the amendment. Age dating and water quality analyses were performed on three in-mine samples obtained in May and September of 2015. The figure provided with the data depicts two hand-drawn locations for two of the three monitoring sites. The map is not legible enough to ascertain what the two hand drawn locations refer to and it appears that the 3rd in-mine sampling point is not identified at all. Please revise the drawing to clearly identify the three sampling points.

The Permittee must discuss the variance between the age dating values obtained from the BYU Laboratory of Isotope Chemistry and the University (BYU) of Miami Tritium Laboratory (U of M). It appears that there is a sizable variance between the BYU tritium values obtained from the three in-mine sampling points in May of 2015 with the U of M values obtained from September of 2015 at the same sampling points. The BYU samples produced tritium samples indicative of a modern water component; whereas the U of M tritium unit values were exceedingly low.

Following the age dating/water quality the in-mine sampling points, the Permittee provides a section entitled "Greens Hollow Lease Water Monitoring". It appears that data is provided from three surface water monitoring sites and nineteen spring monitoring sites. Upon review of the data, the number of samples obtained and the time span of those samples is highly variable. Many of the sites were initially sampled during the field investigations performed in the early 2000s (i.e. 2001-2004) and then sampled again beginning in 2014 and 2015; however some were not (e.g. Sufco Site # M-SP206 sampled one time in September of 2014).

The Permittee must provide a clear and concise presentation of the baseline information being offered in support of the proposed amendment. The baseline data, as it's presented in the amendment, is inadequate in determining what ground and surface water monitoring sites meet the minimum requirements of R645-301-724.100 and 724.200. The data provided in the amendment is inconsistent in terms of time-frames, parameters sampled, nomenclature of the monitoring sites not matching the associated tables, figures/plates etc. The text of Chapter 7, attached appendices, tables and figures must provide a clear presentation as to the ground and surface water monitoring sites that are being offered as baseline data. Attaching this information/data in the absence of supporting narrative is inadequate. Chapter 7 text must be revised to discuss the baseline data collection efforts/study and the sites selected for baseline monitoring (i.e. why selected, location, elevation, geologic unit etc.). A comprehensive table that identifies the ground and surface water monitoring sites being submitted for baseline data consideration is necessary. A stand-alone baseline monitoring station map for the Greens Hollow Lease is also required. The amendment must differentiate between monitoring sites where field/flow only measurements were obtained versus sites that meet the minimum requirements of R645-301-724.100 and -724.200. The supporting data obtained from those sites can be attached elsewhere in the amendment, but must also be provided.

The Permittee must revise Chapter 7, Hydrology of the MRP to be more clear and concise. Throughout Chapter 7 of the approved MRP, references are made to the "SUFco lease area" or "the lease area". As the mine plan encompasses more than one lease, it's not possible for the reader to ascertain which lease is being referred to. In other instances, the various leases (i.e. Pines Tract, SITLA Muddy Lease and Quichupah Lease) are called out individually for various sections without any such reference or discussion of the Greens Hollow Lease.

The Permittee must revise the redline strike-out information provided in Section 7.2.4.1. The text describes "three locations" that were sampled as "close as possible to the Greens Hollow Tract". Please provide the names of these sampling locations and map that identifies their location. Additionally, the redline strike-out text discusses data obtained from four observation wells. The names and locations of these wells must be provided.

The Permittee must supplement Chapter 7 and the submitted baseline information with current information/data. Much of the baseline data provided is fairly old, in numerous instances well over ten years old. The discussion provide in Appendix 7-27 indicates that much of the data obtained was collected in the early 2000s (2001-2004 timeframe). The spring and

seep survey, as well as the gain/loss studies for the Greens Hollow Lease were conducted in 2001. Appendix 7-27 discusses quarterly monitoring that was collected through 2004. The data provided is valuable information and should be included in the amendment; however, the established interpretation of the State of Utah R645 rules relative to baseline information does not allow for the acceptance of data that, in some instances, is well over ten years old (in some instances closer to 16 years old).

The Permittee must revise Section 7.2.2.4, Location and Depth of Water Wells. The amendment does not revise this section that discusses the presence of ground water monitoring wells "in the area located as shown on Plate 7-3". It's unclear as to whether ground water monitoring wells were constructed/installed in the Greens Hollow Lease Area.

The Permittee must revise the Water Quality Section of Section 7.2.2.4. The redline strike-out text references the three year study conducted by Cirrus in 2004. As previously identified, the data must be supplemented with more current information. Additionally, the text indicates that "water quality samples were collected for laboratory analysis from eight springs during 2001 -2004". The names and locations of these springs must be included in the discussion. The text references Appendix 7-27 as containing the data summaries for springs M-SP 4,5,6,9,15,19,20,40,41,44,45,60,82,87,100,103,104,105,106 and 260. Upon review of the data provided in Appendix 7-27, it appears that the springs have not been sampled beyond 2004. The data must be supplemented with more current information/data.

The Permittee must revise Section 7.2.4.2, Surface Water Information. The redline strike-out revisions that were provided discuss a gain/loss study conducted on Greens Canyon (its tributaries, Greens Hollow and Cowboy Creek from 2001). As the study is over 15 years old, the narrative must be revised based on more current data. The redline text further discusses surface water monitoring on the South Fork of Quitchupah (Upper), U-Mud and MSTR-6. Upon review of the data provided in Appendix 7-27, it appears that with the exception of the S Fork of Quitchupah (Upper), the monitoring was discontinued in 2004. The data provided for the S. Fork of Quitchupah (Upper) extends to 2012 (going on 5 years old). The baseline information must be revised with more current data.

The Permittee must revise the Water Quality discussion relative to Surface Water. It does not appear that the amendment revised this discussion in the approved MRP.

The Permittee must provide the required baseline information for aquifers located within the Greens Hollow Lease (i.e. the Star Point Sandstone). A potentiometric surface map of the Star Point Sandstone within the Greens Hollow Lease must be provided along with a portrayal of seasonal differences of head for this ground water system.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Hydrologic Baseline Information. The following deficiencies must be addressed prior to final approval:

R645-301-721.121.200: The Permittee must provide clarification in the age dating/water quality analyses section of the amendment. Age dating and water quality analyses were performed on three in-mine samples obtained in May and September of 2015. The figure provided with the data depicts two hand-drawn locations for two of the three monitoring sites. The map is not legible enough to ascertain what the two hand drawn locations refer to and it appears that the 3rd in-mine sampling point is not identified at all. Please revise the drawing to clearly identify the three sampling points.

R645-301-724.100: The Permittee must discuss the variance between the age dating values obtained from the BYU Laboratory of Isotope Chemistry and the University (BYU) of Miami Tritium Laboratory (U of M). It appears that there is a sizable variance between the BYU tritium values obtained from the three in-mine sampling points in May of 2015 with the U of M values obtained from September of 2015 at the same sampling points. The BYU samples produced tritium samples indicative of a modern water component; whereas the U of M tritium unit values were exceedingly low.

R645-301-121.100, -121.200, 724, -724.100, -724.200: The Permittee must provide a clear and concise presentation of the baseline information being offered in support of the proposed amendment. The baseline data, as it's presented in the amendment, is inadequate in determining what ground and surface water monitoring sites meet the minimum requirements of R645-301-724.100 and 724.200. The data provided in the amendment is inconsistent in terms of time-frames, parameters sampled, nomenclature of the monitoring sites not matching the associated tables, figures/plates etc. The text of Chapter 7, attached appendices, tables and figures must provide a clear presentation as to the ground and surface water monitoring sites that are being offered as baseline data. Attaching this information/data in the absence of supporting narrative is inadequate. Chapter 7 text must be revised to discuss the baseline data collection efforts/study and the sites selected for baseline monitoring (i.e. why selected, location, elevation, geologic unit etc.). A comprehensive table that identifies the ground and surface water monitoring sites being submitted for baseline data consideration is necessary. A stand-alone baseline monitoring station map for the Greens Hollow Lease is also required. The amendment must differentiate between monitoring sites where field/flow only measurements were obtained versus sites that meet the

minimum requirements of R645-301-724.100 and -724.200. The supporting data obtained from those sites can be attached elsewhere in the amendment, but must also be provided.

724.100, -724.200: The Permittee must revise Chapter 7, Hydrology of the MRP to be more clear and concise. Throughout Chapter 7 of the approved MRP, references are made to the "SUFCA lease area" or "the lease area". As the mine plan encompasses more than one lease, it's not possible for the reader to ascertain which lease is being referred to. In other instances, the various leases (i.e. Pines Tract, SITLA Muddy Lease and Quichupah Lease) are called out individually for various sections without any such reference or discussion of the Greens Hollow Lease.

R645-301-724.100: The Permittee must revise the redline strike-out information provided in Section 7.2.4.1. The text describes "three locations" that were sampled as "close as possible to the Greens Hollow Tract". Please provide the names of these sampling locations and map that identifies their location. Additionally, the redline strike-out text discusses data obtained from four observation wells. The names and locations of these wells must be provided.

R645-301-121.100, -121.200, -724.100, -724.200: The Permittee must supplement Chapter 7 and the submitted baseline information with current information/data. Much of the baseline data provided is fairly old, in numerous instances well over ten years old. The discussion provide in Appendix 7-27 indicates that much of the data obtained was collected in the early 2000's (2001-2004 timeframe). The spring and seep survey, as well as the gain/loss studies for the Greens Hollow Lease were conducted in 2001. Appendix 7-27 discusses quarterly monitoring that was collected through 2004. The data provided is valuable information and should be included in the amendment; however, the established interpretation of the State of Utah R645 rules relative to baseline information does not allow for the acceptance of data that, in some instances, is well over ten years old (in some instances closer to 16 years old).

R645-301-724.100: The Permittee must revise Section 7.2.2.4, Location and Depth of Water Wells. The amendment does not revise this section that discusses the presence of ground water monitoring wells "in the area located as shown on Plate 7-3". It's unclear as to whether ground water monitoring wells were constructed/installed in the Greens Hollow Lease Area.

R645-301-724.100: The Permittee must revise the Water Quality Section of Section 7.2.2.4. The redline strike-out text references the three year study conducted by Cirrus in 2004. As previously identified, the data must be supplemented with more current information. Additionally, the text indicates that "water quality samples were collected for laboratory analysis from eight springs during 2001 -2004". The names and locations of these springs must be included in the discussion. The text references Appendix 7-27 as containing the data summaries for springs M-SP 4,5,6,9,15,19,20,40,41,44,45,60,82,87,100,103,104,105,106 and 260. Upon review of the data provided in Appendix 7-27, it appears that the springs have not been sampled beyond 2004. The data must be supplemented with more current information/data.

R645-301-, 121.100, 121.200, 724.200: The Permittee must revise Section 7.2.4.2, Surface Water Information. The redline strike-out revisions that were provided discuss a gain/loss study conducted on Greens Canyon (its tributaries, Greens Hollow and Cowboy Creek from 2001). As the study is over 15 years old, the narrative must be revised based on more current data. The redline text further discusses surface water monitoring on the South Fork of Quitchupah (Upper), U-Mud and MSTR-6. Upon review of the data provided in Appendix 7-27, it appears that with the exception of the S Fork of Quitchupah (Upper), the monitoring was discontinued in 2004. The data provided for the S. Fork of Quitchupah (Upper) extends to 2012 (going on 5 years old). The baseline information must be revised with more current data.

R645-301-724.200: The Permittee must revise the Water Quality discussion relative to Surface Water. It does not appear that the amendment revised this discussion in the approved MRP.

R645-301-722.100: The Permittee must provide the required baseline information for aquifers located within the Greens Hollow Lease (i.e. the Star Point Sandstone). A potentiometric surface map of the Star Point Sandstone within the Greens Hollow Lease must be provided along with a portrayal of seasonal differences of head for this ground water system.

schriste

Hydro Baseline Cumulative Impact Area

Analysis:

The amendment does not meet the State of Utah R645 for Baseline Cumulative Impact Area Information.

The Permittee must address the baseline data deficiencies relative to ground and surface water in order for the Division to

make a finding that this rule has been addressed.

Deficiencies Details:

The amendment does not meet the State of Utah R645 for Baseline Cumulative Impact Area Information. The following deficiency must be addressed prior to final approval:

R645-301-725: The Permittee must address the baseline data deficiencies relative to ground and surface water in order for the Division to make a finding that this rule has been addressed.

schriste

Probable Hydrologic Consequences Determination

Analysis:

The amendment does not meet the State of Utah R645 Requirements for Probable Hydrologic Consequences Determination.

Upon review of the amendment, it does not appear that the Probable Hydrologic Consequences (PHC) section of the MRP was revised. In Section 7.2.8.3, PHC Determination within the approved MRP, the text references various appendices that correspond to historical lease additions (e.g. Appendices 7-18, 7-20 and 7-24 for the Pines Tract, SITLA Muddy tracts and West Coal Lease Modifications respectively). On page 7-38E, redline strike-out language provides a brief discussion of potential hydrologic consequences posed by mining within the Greens Hollow Lease; however, it is inadequate to address R645-301-728.

The Permittee must revise the Probable Hydrologic Consequences (PHC) section of the MRP. The revisions must address the potential impacts to ground and surface water resources. Particular attention must be paid to the potential for coal mining activity within the Greens Hollow lease and adjacent area to proximately result in contamination, diminution or interruption of an underground or surface source of water within the proposed permit and adjacent areas which is used for domestic, agricultural, industrial or other legitimate purpose (i.e. impacts as a result of subsidence, trans-basin diversion of encountered ground water in the mine workings).

Deficiencies Details:

The amendment does not meet the State of Utah R645 Requirements for Probable Hydrologic Consequences Determination. The following deficiency must be addressed prior to final approval:

R645-301-728: The Permittee must revise the Probable Hydrologic Consequences (PHC) section of the MRP. The revisions must address the potential impacts to ground and surface water resources. Particular attention must be paid to the potential for coal mining activity within the Greens Hollow lease and adjacent area to proximately result in contamination, diminution or interruption of an underground or surface source of water within the proposed permit and adjacent areas which is used for domestic, agricultural, industrial or other legitimate purpose (i.e. impacts as a result of subsidence, trans-basin diversion of encountered ground water in the mine workings).

schriste

Hydro GroundWater Monitoring Plan

Analysis:

The amendment does not meet the State of Utah R645 requirements for Ground water Monitoring Plan.

Upon review of the amendment, it's unclear as to the ground water monitoring plan that was implemented to establish the baseline ground water conditions within the proposed Greens Hollow Lease and adjacent area.

Additionally, it does not appear that the baseline information that was included identified ground water monitoring locations within the North Fork Quitchupah drainage. Plate 7-3, Hydrologic Monitoring Stations identifies numerous springs; however, it doesn't appear that they were monitored for baseline establishment.

Upon review of Plate 7-3, Appendix 7-27 and attached Greens Hollow Lease Water Monitoring data, it appears that no water monitoring wells have been installed/constructed within the Greens Hollow Lease area. The Permittee must address the absence of water monitoring wells within the Greens Hollow Lease area.

The Permittee must revise the amendment to provide a clear and concise presentation of the monitoring plan that was implemented to establish the baseline condition (i.e. seasonal quality and quantity) of the ground water resources located within and adjacent to the proposed Greens Hollow Lease. The revision must provide a table that identifies the baseline ground water monitoring locations; a corresponding map that identifies their location and the data obtained demonstrating compliance with R645-301-724.100.

The Permittee must revise the amendment to address why ground water resources were not monitored within the North Fork of Quitchupah drainage. Upon review of Plate 7-3, Appendix 7-27 and attached Greens Hollow Lease Water Monitoring, it appears that data from at least six springs located within the drainage was not provided.

The Permittee must address the absence of water monitoring wells within the Greens Hollow Lease area.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Ground water Monitoring Plan. The following deficiencies must be addressed prior to final approval:

R645-301-724.100, -728.100: The Permittee must revise the amendment to provide a clear and concise presentation of the monitoring plan that was implemented to establish the baseline condition (i.e. seasonal quality and quantity) of the ground water resources located within and adjacent to the proposed Greens Hollow Lease. The revision must provide a table that identifies the baseline ground water monitoring locations; a corresponding map that identifies their location and the data obtained demonstrating compliance with R645-301-724.100.

R645-301-724.100, -728.100: The Permittee must revise the amendment to address why ground water resources were not monitored within the North Fork of Quitchupah drainage. Upon review of Plate 7-3, Appendix 7-27 and attached Greens Hollow Lease Water Monitoring, it appears that data from at least six springs located within the drainage was not provided.

R645-301-724.100, -728.100: The Permittee must address the absence of water monitoring wells within the Greens Hollow Lease area.

schriste

Hydro SurfaceWater Monitoring Plan

Analysis:

The amendment does not meet the State of Utah R645 requirements for Surface Water Monitoring Plan.

Upon review of the amendment, it's unclear as to the surface water monitoring plan that was implemented to establish the baseline surface water conditions within the proposed Greens Hollow Lease and adjacent area. Upon review of the amendment, Appendix 7-27 and the Greens Hollow Lease Water Monitoring information, it's unclear as to which surface water monitoring locations are being offered for consideration of baseline establishment.

Plate 7-3, Hydrologic Monitoring Stations depicts the locations of numerous monitoring points (surface and ground, baseline and operational). It appears that surface water monitoring points may not have been established above and below the proposed mine workings on the major drainages within the Greens Hollow Lease area. It appears that one stream monitoring site (Sufco 007) was established downstream of the proposed mine workings on the North Fork of Quitchupah Creek. M-STR3, M-STR4 and M-STR5 appear to be the only monitoring sites on the Cowboy Creek drainage; all of which are located downstream from the proposed mine workings. The Greens Hollow drainage appears to have three monitoring site established below the proposed mine workings (M-STR1, M-STR2, M-STR6). Muddy Creek has a stream monitoring site established upstream of the proposed mine workings at M-STR8 and one monitoring site located on an unnamed tributary at M-STR7. With the exception of Muddy Creek, Plate 7-3 and the provided data does not appear to identify a stream monitoring site located upstream of the proposed mine workings. Conversely, Muddy Creek appears to have one monitoring site above the proposed mine workings, but none below. In order for baseline conditions of a stream to be established for a proposed mining operation, at a minimum water monitoring data must be collected above and below the mining area. Additionally surface water monitoring points would be of use in establishing gaining/losing sections of the stream and the contributions of flow from tributary drainages.

The Permittee must revise the amendment to provide a clear and concise presentation of the monitoring plan that was implemented to establish the baseline condition (i.e. seasonal quality and quantity) of the surface water resources located within and adjacent to the proposed Greens Hollow Lease. The revision should provide a table that identifies the baseline surface water monitoring locations; a corresponding map that identifies their location and the data obtained demonstrating compliance with R645-301-724.200.

The Permittee must revise the amendment to address the absence of surface water monitoring points above and below the proposed mine workings on the major surface drainages within the proposed Greens Hollow Lease (i.e. North Fork of Quitchupah Creek, Cowboy Creek, Greens Hollow Creek/Canyon and Muddy Creek). In order for baseline conditions of a stream to be established for a proposed mining operation, at minimum water monitoring data must be collected above and below the mining area. Additionally surface water monitoring points would be of use in establishing gaining/losing sections of the stream as well as the relative contributions of flow from area tributaries.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Surface Water Monitoring Plan. The following deficiencies must be addressed prior to final approval:

R645-301-724.200, -728.100: The Permittee must revise the amendment to provide a clear and concise presentation of the monitoring plan that was implemented to establish the baseline condition (i.e. seasonal quality and quantity) of the surface water resources located within and adjacent to the proposed Greens Hollow Lease. The revision should provide a table that identifies the baseline surface water monitoring locations; a corresponding map that identifies their location and the data obtained demonstrating compliance with R645-301-724.200.

R645-301-724.200, -728.100: The Permittee must revise the amendment to address the absence of surface water monitoring points above and below the proposed mine workings on the major surface drainages within the proposed Greens Hollow Lease (i.e. North Fork of Quitchupah Creek, Cowboy Creek, Greens Hollow Creek/Canyon and Muddy Creek). In order for baseline conditions of a stream to be established for a proposed mining operation, at minimum water monitoring data must be collected above and below the mining area. Additionally surface water monitoring points would be of use in establishing gaining/losing sections of the stream as well as the relative contributions of flow from area tributaries.

schriste

Maps Affected Area Boundary Maps

Analysis:

The amendment does not meet the State of Utah R645 requirements for Affected Area Boundary Maps.

The amendment does not meet the requirements of R645-301-542 by updating all the relevant maps showing an additional 521.02 acres of Federal leases beyond the pending Green's Hollow Lease that are not approved.

The amendment meets the requirements of R645-301-521.110 requires previously mined areas to be shown on cross sections and maps. Plate 5-2 details the current and previously mined areas within the entire Sufco Permit area.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Affect Area Boundary Maps. The following deficiency must be addressed prior to final approval.

R645-301-521.100 through-521.130: The Permittee shall correct all relevant drawings to show only the approved Sufco Leases and pending Green's Hollow lease.

cparker

Maps Existing Structures and Facilities

Analysis:

The amendment meets the State of Utah R645 requirements for Existing Structures and Facilities Maps.

The amendment meets the requirements of R645-301-521.120 which require a map clearly showing the location of all building in and within a1000 ft of the proposed permit area, along with identifying the current use of said building. Plate 5-5 details the existing surface structures and facilities within the entire permit area including the proposed Green's Hollow Lease. The plate shows no buildings are located within the Permit Area or 1000 ft buffer of the permit area. The plate does show that there are four runoff ponds, three natural ponds, and three stock watering troughs located within the Green's Hollow tract. The plate incorrectly shows additional leases not currently approved, e.g. South Fork Lease, which must be removed. See analysis in Surface and Subsurface Ownership Maps for more details.

cparker

Maps Existing Surface Configuration

Analysis:

The amendment meets the State of Utah R645 requirements for Existing Surface Configuration Maps.

The amendment meets the requirements of R645-301-521.150 as it includes a drawing or plate that clearly calls out the existing surface on Plate 5-5. The plate incorrectly shows additional leases not currently approved, e.g. South Fork Lease, which must be removed. See analysis in Surface and Subsurface Ownership Maps for more details.

cparker

Maps Mine Working

Analysis:

The amendment meets the State of Utah R645 requirements for Mine Workings Maps.

The amendment meets the requirement of R645-301-521.140 which require maps that clearly show all mine plans. Plate 5-7 shows the proposed 5 year Upper Hiawatha mine plan projections in the current Sufco leases as well as the proposed Greenâ€™s Hollow lease. Plate 5-8 shows the proposed 5 year mine plan for the Lower Hiawatha seam. The plate incorrectly shows additional leases not currently approved, e.g. South Fork Lease, which must be removed. See analysis in Surface and Subsurface Ownership Maps for more details.

cparker

Maps Monitoring and Sampling Locations

Analysis:

The amendment does not meet the State of Utah R645 requirements for Monitoring and Sampling Location Maps.

The amendment must provide a baseline water monitoring map that clearly identifies the ground and surface water resources that were monitored as part of the pre-mining baseline study for the Greens Hollow Lease and adjacent area. The map must differentiate between monitoring sites in which field/flow parameters were measured versus sites where water quality data was also obtained to meet the minimum requirements of R645-301-724.100 and -724.200.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Monitoring and Sampling Location Maps. The following deficiency must be addressed prior to final approval:

R645-301-724.100, -724.200, -731: The amendment must provide a baseline water monitoring map that clearly identifies the ground and surface water resources that were monitored as part of the pre-mining baseline study for the Greens Hollow Lease and adjacent area. The map must differentiate between monitoring sites in which field/flow parameters were measured versus sites where water quality data was also obtained to meet the minimum requirements of R645-301-724.100 and -724.200.

schriste

Maps Permit Area Boundary

Analysis:

The amendment does not meet the State of Utah R645-301-323 requirements for maps and aerial photographs. The maps provided incorrectly show the addition of the South Fork Lease within the lease boundary. Since this lease has not yet been issued, the Division cant approve the maps.

This amendment updates Plate 3-1 (plant communities and reference), 3-2 (elk range), 3-3 (deer range and raptor nests) and 4-b1(land use) to include the Greens Hollow tract. These maps must be corrected to show the existing permit/lease

boundary.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-323 requirements for maps and photographic information. The following deficiency must be addressed prior to final approval:

R645-301-323: The Permittee must correct maps showing the permitted mining boundary location associated with any reference areas, monitoring stations for fish and wildlife, and habitat features, facility used to protect and enhance fish and wildlife, and land use.

ireinhart

Maps Subsurface Water Resources

Analysis:

The amendment does not meet the State of Utah R645 requirements for Subsurface Water Resource Maps.

The amendment must provide map(s) that identify the location and extent of subsurface water within the proposed permit and adjacent areas. The maps will include, but not be limited to areal and vertical distribution of aquifers, and portrayal of seasonal differences of head in different aquifers on cross-sections and contour maps.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Subsurface Water Resource Maps. The following deficiency must be addressed prior to final approval:

R645-301-722.100: The amendment must provide map(s) that identify the location and extent of subsurface water within the proposed permit and adjacent areas. The maps will include, but not be limited to areal and vertical distribution of aquifers, and portrayal of seasonal differences of head in different aquifers on cross-sections and contour maps.

schriste

Maps Surface and Subsurface Manmade Features

Analysis:

The amendment meets the State of Utah R645 requirements for pre-existing Surface and Subsurface Manmade features maps.

The amendment meets the requirement of R645-301-521.122 as the amended includes 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. R645-301-521.120 through-521.125 requires maps to clearly show existing surface and subsurface facilities. Plate 5-5 details the existing surface structures and facilities within the entire permit area including the proposed Greenâ€™s Hollow Lease. Plate 5-5 shows there are current public USFS road located within and crossing through the Greenâ€™s Hollow lease. The plate shows that there are four runoff ponds, three natural ponds, and three stock watering troughs located within the Greenâ€™s Hollow tract. The plate incorrectly shows additional leases not currently approved, e.g. South Fork Lease, which must be removed. See analysis in Surface and Subsurface Ownership Maps for more details.

cparker

Maps Surface and Subsurface Ownership

Analysis:

The amendment does not meet the State of Utah R645 requirements for Surface and Subsurface Ownership Maps.

The amendment does not meet the requirements of R645-301-521.130 which requires landowners, right of entry, and public interest maps. Plate 5-6 details the surface and subsurface ownership for the current and proposed leases within the Sufco permit area. The addition of the Greenâ€™s Hollow brings the total lease area of 31,019.82 acres for the Sufco Mine. The Greenâ€™s Hollow leases surface and subsurface are primarily owned by the Federal Government. The plate incorrectly shows 521.02 additional leases acres not currently approved, e.g. South Fork Lease, which must be removed. The

Green's Hollow lease is only 6,175.39 acres and the Permittee's drawing and related tables on Plate 5-6 show a total of 6,696.41 acres of Federal leases.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Affect Area Boundary Maps. The following deficiency must be addressed prior to final approval.

R645-301-521.130: The Permittee shall only show approved lease boundaries and the Green's Hollow lease on all relevant plates.

cparker

Maps Surface Water Resource

Analysis:

The amendment meets the State of Utah R645 requirements for Surface Water Resource Maps.

Plate 7-2, Surface and Ground Water Rights depicts the state appropriated water rights within and adjacent to the proposed Greens Hollow Lease area. Plate 7-3, Hydrologic Monitoring depicts the surface water resources within and adjacent to the Greens Hollow Lease area.

schriste

Operation Plan

Mining Operations and Facilities

Analysis:

The amendment does not meet all the State of Utah R645 requirements for Mining Operations and Facilities.

The amendment does not meet the requirements of R645-301-523, -526, and 528 by not including a description of the mining operation, method of coal mining, engineering techniques, anticipated annual and total production of coal by tonnage, and major equipment to be used for all aspects of those operations proposed to be conducted during the life specific to the Greens Hollow lease.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Mining Operations and Facilities. The following deficiency must be addressed prior to final approval.

R645-301-523: The Permittee shall include a detailed narrative within the MRP of the expected coal recovery details for the Greens Hollow Lease. Each application will include a description of the mining operation proposed to be conducted during the life of the mine within the proposed permit area, including, at a minimum, a narrative description of the type and method of coal mining procedures and proposed engineering techniques, anticipated annual and total production of coal, by tonnage and the major equipment to be used for all aspects of those operations. Chapter 5 Section 5.2.6.1 does detail the potential that a ventilation and escape way shaft facility could be required as mining progresses through the lease.

cparker

Existing Structures

Analysis:

The amendment meets the State of Utah R645 requirements for Existing Structures.

The amendment meets the requirements of R645-301-526 by providing updated information to include the discussion of the existing structures within the proposed lease. Plate 5-5 details the existing surface structures and facilities within the entire permit area including the proposed Green's Hollow Lease. Plate 5-5 shows there are current public USFS road located within and crossing through the Green's Hollow lease. The plate shows that there are four runoff ponds, three natural ponds, and three stock watering troughs located within the Green's Hollow tract. The plate incorrectly shows additional leases not currently approved, e.g. South Fork Lease, which must be removed. See analysis in Surface and Subsurface Ownership

Maps for more details.

cparker

Relocation or Use of Public Roads

Analysis:

The amendment meets the State of Utah R645 requirements for the Relocation or Use of Public Roads.

The amendment meets the requirements of R645-301-521.133 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 proposed Green's Hollow lease does not have any surface disturbances associated within the tract at the time of this review.

cparker

Air Pollution Control Plan

Analysis:

The amendment does not meet the State of Utah R645-301-420 requirements for Air Quality.

The approved MRP references DAQ Permit Approval Order DAQE-AN0106650013-11 dated March 30, 2011 and DAQEEN0106590004-11. The amendment does not contain a description of coordination and compliance efforts which have been undertaken by the applicant with the Utah Division of Air Quality for the addition of the Greens Hollow Lease.

Volume 1, Chapter 4, Section 4.2 pages 4-21 through 4-23 discusses air quality and compliance information.

Deficiencies Details:

The amendment does not meet the State of Utah R645-301-420 requirements for Air Quality. The following deficiency must be addressed prior to final approval:

R645-301-420: The application will contain a description of coordination and compliance efforts in regards to adding the Greens Hollow Lease to the existing Approval Orders.

Ireinhart

Coal Recovery

Analysis:

The amendment does not meet the State of Utah R645 requirements for Coal Recovery.

The amendment does not meet the requirements of R645-301-522 due to missing a discussion of the measures to be used to maximize the use and conservation of the coal resources or describe the lands subject to coal mining and reclamation operations over the estimated life of the operations and the size, sequence, and timing of the subareas for which it is anticipated. Plate 5-7 does identify the lands subject to coal mining and reclamation operations by detailing the proposed upper Hiawatha five year min plan was updated to show proposed workings within the Greens Hollow lease. Plate 5-8 was also updated to show the same information for the lower Hiawatha five year mine plan. The application must also describe the sequencing of operations, measures used to maximize the use and conservation of the coal resources, the expected coal recovery and R2P2 details for the Greens Hollow Lease, and any potential surface impacts regarding the Greens Hollow Lease within the MRP narrative. The description will assure that coal mining and reclamation operations are conducted so as to maximize the utilization and conservation of the coal, while utilizing the best technology currently available to maintain environmental integrity, so that re-affecting the land in the future through coal mining and reclamation operations is minimized.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Coal Recovery. The following deficiency must be addressed prior to final approval.

R645-301-522: The Permittee shall also include a narrative within the MRP describing the sequencing of operations, measures used to maximize the use and conservation of the coal resources, the expected coal recovery and R2P2 details for the Greens Hollow Lease, and any potential surface impacts regarding the Greens Hollow Lease within the MRP

narrative.

cparker

Subsidence Control Plan Renewable Resource

Analysis:

The amendment meets the State of Utah R645-301-332 requirements for describing impacts of subsidence to fish, wildlife, and vegetative resources.

Volume 1, Chapter 3, Section 3.3.3 pages 3-45 through 3-46 provides a description of the anticipated impacts of subsidence. Subsidence associated with the Greens Hollow Lease is consistent with subsidence impacts from other leased areas that are in the approved MRP.

As noted on pages 3-43 and 3-45A, the permittee has implemented a program to monitor the effect of subsidence on the vegetative communities. The applicant uses color infrared photography (CIR) to document changes to vegetation. This CIR coverage was begun in 1987 and will be updated at least every 5 years which shall be updated in 2018.

Because of the depth of mining and type of cover, Sufco anticipates there will be little impact to upland vegetation due to the subsidence. Subsidence cracks that form that are determined to be a safety hazard will be mitigated as discussed in section 3.3.3. Subsidence induced seismicity has not been noted to have an adverse impact on livestock or wildlife in the existing mined portions of the Sufco permit area. It is not anticipated the impact to wildlife and livestock due to mining induced seismicity will change or increase as the permit area is expanded into new lease areas.

lreinhart

Subsidence Control Plan Renewable Resource

Analysis:

The amendment does not meet the State of Utah R645-301-525.130 requirements for Subsidence Control Plan with a renewable resources survey.

The requirements of R645-301-525.130 are not met in the amendment as the Permittee failed to identify if any protected areas were present within the proposed Green's Hollow Lease as Plate 4-1 was not updated, as detailed within the MRP Chapter 5 Section 5.2.5.1. Plate 5-5 details several manmade ponds and stock watering troughs that the Permittee must address if any of the said features have state appropriated water supplies.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Renewable Resources Survey. The following deficiency must be addressed prior to final approval.

R645-301-525.130: The stock troughs and manmade ponds detailed on Plate 5-5 must be addressed if they are state-appropriated water supplies within the Permit Area.

cparker

Subsidence Control Plan Subsidence

Analysis:

The amendment does not meet the State of Utah R645-301-525.400 requirements for Subsidence Control Plan.

The requirements of R645-301-525.400 are not met in the amendment as the Permittee did not update any of the subsidence control plan specific to the Green's Hollow lease and lithology of overlying strata specific the lease.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Subsidence Control Plan. The following deficiency must be addressed prior to final approval.

R645-301-525.400: The Permittee did not update the subsidence control plan specific to Green's Hollow's lease protection

areas and lithology of overlying strata specific to the lease.

cparker

Subsidence Control Plan Performance STD

Analysis:

The amendment does not meet the State of Utah R645-301-525.requirements for Performance Standards for Subsidence Control.

The amendment does not meet the 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. The Permittee only added a vague statement regarding potential areas to be excluded. The Permittee must clarify exact areas identified for protection either in the narrative or an appropriate drawing. The existing subsidence monitoring plan was not updated to add additional monitoring points related to the Green's Hollow lease.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Performance Standards for Subsidence Control. The following deficiency must be addressed prior to final approval.

R645-301-525.300: The Permittee will add detailed narrative describing specific areas to be excluded from subsidence. The Permittee must identify why additional monitoring locations are not required for the Green's Hollow lease.

cparker

Subsidence Control Plan Notification

Analysis:

The amendment meets the State of Utah R645-301-525.700 requirements for Public Notice of Proposed Mining.

The requirements of R645-301-525.700 are met in the amendment as the Permittee did not presented a clear subsidence plan for protected areas that includes the appropriate notification at least six months prior to mining. The amendment did not include any specific areas for protection or an affidavit to show the public notice of the proposed mining mailed to all owners affected within the Permit Area.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Subsidence Control Plan Notification. The following deficiency must be addressed prior to final approval.

R645-301-525.700: The Permittee must have a clear plan of specific areas to be protected and a copy of the notification sent to appropriate surface owners affected by the proposed subsidence.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

The amendment meets the State of Utah R645 requirements for Slides and Other Damage.

The amendment meets the 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 amendment meets the State of Utah R645-301-333 requirements by describing how using best technology currently available will be used to minimize adverse impacts to fish and wildlife, including compliance with the Endangered Species Act.

Volume 1, Chapter 3, Section 3.3.3 pages 3-38 through 3-41 provides a plan to minimize disturbance and adverse impacts to fish and wildlife. Since this amendment does not include additional surface disturbance, the approved MRP is adequate.

Appendix 3-15 contains a sound monitoring report conducted by Tetra Tech, Inc in 2008. The monitoring was conducted to collect baseline data in association with the potential development and operation of a ventilation shaft near Quitcupah Canyon. The data was collected around an existing ventilation fan and at selected sensitive resource locations such as Forest System Roads, and Greater Sage-grouse leks. The collected sound level data will be used to determine measures which could reduce sound related impacts associated with the operation of the proposed ventilation fan.

lreinhart

Topsoil and Subsoil

Analysis:

Analysis:

There is no revision to Chapter 2, Soils, other than a disclaimer that the 2015 FEIS is provided as background. The potential for a ventilation and escapeway shaft facility is anticipated in Section 5.2.6.1 with a statement that permitting of the potetial shaft will follow the acquisition of the Greens Hollow Lease. Confidential Appendix 4-5 Memorandum of Agreement between USFS and SHPO should be referred to during shaft permitting, because it outlines the requirements of shaft development.

pburton

Vegetation

Analysis:

The amendment meets the State of Utah R645-301-331 requirements for protection of vegetation.

Volume 1, Chapter 3, Section 3.3.1 page 3-37 provides protection measures for vegetation. Potential impacts to vegetative, fish and wildlife resources and the associated mitigation plans are presented in Sections 3.30 and 3.40 of the approved MRP. Since this amendment is for an expansion of underground mine workings with no additional surface disturbance, the existing protection measures are adequate.

lreinhart

Road Systems Classification

Analysis:

The amendment meets the State of Utah R645 requirements for Road Systems and Other Transportation Facilities.

The amendment meets the requirements of R645-301-527.100 by classify each road as primary or ancillary. No roads or other surface disturbances are proposed within the Green's Hollow Lease at the time of this review.

cparker

Road System Plans and Drawings

Analysis:

The amendment meets the State of Utah R645 requirements for Transportation Plans and Drawings.

The amendment meets the requirements of R645-301-534.100 by maintaining plans and drawing for each road to be maintained within the permit area. No roads or other surface disturbances are proposed within the Green's Hollow Lease at the time of this review.

cparker

Road System Performance Standards

Analysis:

The amendment meets the State of Utah R645 requirements for Performance Standards of roads within the permit area.

The amendment meets the requirements of R645-301-534.150 by having plans and drawing for each road to be maintained within the permit area to prevent and control erosion. No roads or other surface disturbances are proposed within the Green's Hollow Lease at the time of this review.

cparker

Road System Certification

Analysis:

The amendment meets the State of Utah R645 requirements for Primary Road Certification

The amendment meets the requirements of R645-301-521.170 by maintaining plans and drawing for each road to be prepared by or under the direction of and certified by a qualified registered professional engineer. No roads or other surface disturbances are proposed within the Green's Hollow Lease at the time of this review.

cparker

Road System Other Transportation Facilities

Analysis:

The amendment meets the State of Utah R645 requirements for Other Transportation Facilities.

The amendment meets the requirements of R645-301-521.170 by maintaining plans and drawing for each road, conveyor, and rail system to be used within the proposed permit area. No supplemental transportation facilities or other surface disturbances are proposed within the Green's Hollow Lease at the time of this review.

cparker

Spoil Waste Disposals of Noncoal Mine Wastes

Analysis:

The amendment meets the State of Utah R645 requirements for Spoil and Waste Materials.

The amendment meets the standards of R645-301-528.330 due to no changes in the MRP text noncoal mine waste disposal located in the current MRP.

cparker

Spoil Waste Coal Mine Waste

Analysis:

The amendment meets the State of Utah R645 requirements for Coal Mine Waste.

The amendment meets the standards of R645-301-528.320 due to no changes in the MRP text.

cparker

Spoil Waste Refuse Piles

Analysis:

The amendment meets meet the State of Utah R645 requirements for Refuse Piles

The amendment meets the standards of R645-301-528.322 due to no changes in the MRP text.

cparker

Spoil Waste Impounding Structures

Analysis:

The amendment meets the State of Utah R645 requirements for impounding structures.

The amendment meets the standards of R645-301-533 due to no changes in the MRP text.

cparker

Spoil Waste Burning and Burned Waste Utilization

Analysis:

The amendment meets the State of Utah R645-301-513.800 and R645-301-528.323 requirements due to no changes in the MRP text that no waste will be burned within the Permit area.

cparker

Spoil Waste Coal Processing Waste to Abandoned

Analysis:

The amendment meets the State of Utah R645 requirements for the approved return of coal development into abandoned underground workings.

The amendment meets the standards of R645-301-528.340 due to no changes in the MRP text.

cparker

Spoil Waste Excess Spoil

Analysis:

The amendment meets the State of Utah R645 requirements for excess spoil.

The amendment meets the requirements of R645-301-512.210, R645-301-514.100, R645-301-521.143, R645-301-528, and R645-301-535.100 as there is no change in the approved MRP Chapter 3 Section 3.2.3.1 that states that no excess spoil will be generated.

cparker

Hydrologic Ground Water Monitoring

Analysis:

The amendment does not meet the State of Utah R645 requirements for Ground Water Monitoring.

Table 7-2, Water Monitoring Program has been revised to show additional operational ground water monitoring sites. The amendment identifies nineteen springs that are to be added to the ground water monitoring program. Seventeen of the sites have been proposed to be monitored for quarterly discharge measurements and quarterly water quality field parameter sampling. Two of the spring monitoring sites M-SP11 and M-SP12 have been proposed for quarterly discharge measurements as well as quarterly laboratory water quality sampling. The Permittee must revise the ground water monitoring plan. R645-301-731.211 outlines the requirements for ground water monitoring which includes, at a minimum, total dissolved solids or specific conductance, pH, total iron and total manganese. Additionally, ground water quantity measurements must be provided. The proposed ground water monitoring plan for springs is not adequate as currently proposed.

The amendment must provide a water monitoring plan for ground water encountered within the mine workings. The monitoring plan must include a commitment (based on encountered flow and duration of flow) to monitor in-mine ground water that is encountered. The monitoring plan must include water quality/quantity monitoring in addition to age dating sampling measures.

The Permittee must address the lack of ground water monitoring wells within the Greens Hollow Lease and adjacent area. Upon review of the amendment, it does not appear that water monitoring wells are included in the proposed ground water monitoring plan. R645-301-731.213 does allow for the Division to waive monitoring of water bearing stratum if the amendment can demonstrate (by use of the PHC determination) that a particular water bearing stratum is not one which serves as an aquifer which significantly ensures the hydrologic balance within the cumulative impact area.

The Permittee must revise the ground water monitoring section of the MRP to describe how the data may be used to

determine the impacts of the proposed mining operation on the hydrologic balance.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Ground Water Monitoring. The following deficiencies must be addressed prior to final approval:

R645-301-731.210, -731.211: The Permittee must revise the ground water monitoring plan. R645-301-731.211 outlines the requirements for ground water monitoring which includes, at a minimum, total dissolved solids or specific conductance, pH, total iron and total manganese. Additionally, ground water quantity measurements must be provided. The proposed ground water monitoring plan for springs is not adequate as currently proposed.

R645-301-731.200, -731.210: The amendment must provide a water monitoring plan for ground water encountered within the mine workings. The monitoring plan must include a commitment (based on encountered flow and duration of flow) to monitor in-mine ground water that is encountered. The monitoring plan must include water quality/quantity monitoring in addition to age dating sampling measures.

R645-301-724.100: The Permittee must address the lack of ground water monitoring wells within the Greens Hollow Lease and adjacent area. Upon review of the amendment, it does not appear that water monitoring wells are included in the proposed ground water monitoring plan.

R645-301-731.211: The Permittee must revise the ground water monitoring section of the MRP to describe how the data may be used to determine the impacts of the proposed mining operation on the hydrologic balance.

schriste

Hydro Surface Water Monitoring

Analysis:

The amendment does not meet the State of Utah R645 requirements for Surface Water Monitoring.

Table 7-2, Water Monitoring Program was revised to reflect additional surface water monitoring locations within the Greens Hollow Lease Area and adjacent area. The Permittee proposes the addition of two additional surface water monitoring sites: M-STR6 (Top Greens Canyon) and U-Mud (Confluence North & South Fork Muddy). The Permittee must revise the surface water monitoring plan. The two surface water monitoring sites are proposed to be monitored quarterly for discharge and field water quality parameters. R645-301-731.220, -731.221, -731.222.1 outlines the requirements for surface water monitoring which includes, at a minimum, total dissolved solids or specific conductance, total suspended solids, pH, total iron, total manganese and flow.

The Permittee must revise the amendment to address the absence of surface water monitoring points above and below the proposed mine workings on the major surface drainages within the proposed Greens Hollow Lease (i.e. North Fork of Quitcupah Creek, Cowboy Creek, Greens Hollow Creek/Canyon and Muddy Creek). In order to assess potential impacts to a stream monitoring points must be established above and below the proposed mining area. Additionally surface water monitoring points would be of use in monitoring gaining/losing sections of the stream as well as the relative contributions of flow from area tributaries.

The Permittee must revise the surface water monitoring plan to describe how the water monitoring data may be used to determine the impacts of the proposed mining operation on the hydrologic balance.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Surface Water Monitoring. The following deficiencies must be addressed prior to final approval:

R645-301-731.222.1: The Permittee must revise the surface water monitoring plan. The two surface water monitoring sites are proposed to be monitored quarterly for discharge and field water quality parameters. R645-301-731.220, -731.221, -731.222.1 outlines the requirements for surface water monitoring which includes, at a minimum, total dissolved solids or specific conductance, total suspended solids, pH, total iron, total manganese and flow.

R645-301-731.220, -731.221, -731.222: The Permittee must revise the amendment to address the absence of surface

water monitoring points above and below the proposed mine workings on the major surface drainages within the proposed Greens Hollow Lease (i.e. North Fork of Quitcupah Creek, Cowboy Creek, Greens Hollow Creek/Canyon and Muddy Creek). In order to assess potential impacts to a stream monitoring points must be established above and below the proposed mining area. Additionally surface water monitoring points would be of use in monitoring gaining/losing sections of the stream as well as the relative contributions of flow from area tributaries.

R645-301-731.222: The Permittee must revise the surface water monitoring plan to describe how the water monitoring data may be used to determine the impacts of the proposed mining operation on the hydrologic balance.

schriste

Support Facilities and Utility Installations

Analysis:

The amendment meets the State of Utah R645 requirements for Support Facilities and Utility Installations. The amendment meets the 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

cparker

Signs and Markers

Analysis:

The amendment meets the State of Utah R645 requirements for Signs and Markers.

The amendment meets the requirements of R645-301-521.200 by the general discussion of signs.

cparker

Explosives General

Analysis:

The amendment meets the State of Utah R645 requirements for general Use of Explosives.

The amendment meets the requirements of R645-301-524 by no changes made to the MRP within the amendment as no blasting plan in currently approved for the Sufco mine as the mine does not intend to blast.

cparker

Explosives Preblasting Survey

Analysis:

The amendment meets the State of Utah R645 requirements for a Preblasting Survey.

The amendment meets the requirements of R645-301-524.300 by no changes made to the MRP within the amendment detailing no planned blasting.

cparker

Explosives General Performance Standards

Analysis:

The amendment meets the State of Utah R645 requirements for establishing General Performance Standards.

The amendment meets the requirements of R645-301-524.430 by no changes made to MRP within the amendment as no blasting will occur at the Sufco Mine.

cparker

Explosives Blasting Signs Warnings Access Control

Analysis:

The amendment meets the State of Utah R645 requirements for Blasting Signs and Warnings

The amendment meets the requirements of R645-301-524.460 and -524.530 by no changes made to the blasting schedule contents and access control contained within the blasting plan of the MRP.

cparker

Explosives Control of Adverse Effects

Analysis:

The amendment meets the State of Utah R645 requirements for Blasting: Control of Adverse Effects

The amendment meets the requirements of R645-301-524.600 by no changes made to MRP within the amendment as no blasting will occur at the Sufco Mine.

cparker

Explosives Records of Blasting Operations

Analysis:

The amendment meets the State of Utah R645 requirements for Records of Blasting Operations

The amendment meets the requirements of R645-301-524.700 by no changes made to MRP within the amendment as no blasting will occur at the Sufco Mine.

cparker

Maps Affected Area

Analysis:

The amendment does not meet the State of Utah R645 requirements for Affected Area Boundary Maps.

The amendment does not meet the requirements of R645-301-542 by updating all the relevant maps showing an additional 521.02 acres of Federal leases beyond the pending Green's Hollow Lease that are not approved.

The amendment meets the requirements of R645-301-521.110 requires previously mined areas to be shown on cross sections and maps. Plate 5-2 details the current and previously mined areas within the entire Sufco Permit area.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Affect Area Boundary Maps. The following deficiency must be addressed prior to final approval.

R645-301-521.100 through-521.130: The Permittee shall correct all relevant drawings to show only the approved Sufco Leases and pending Green's Hollow lease.

cparker

Maps Facilities

Analysis:

The amendment meets the State of Utah R645 requirements Mining Facilities Maps.

The amendment meets the requirements of R645-301-521.120 through-521.125 which require maps to clearly show existing surface and subsurface facilities as no changes were made to Plates 5-2A through 5-2F.

cparker

Maps Mine Workings

Analysis:

The amendment meets the State of Utah R645-301-521.140 requirements for Mine Workings Maps.

The amendment meets the requirements of R645-301-521.140 which requires maps that clearly show all mine plans. Plates 5-7 and 5-8 were updated to show the proposed five year mine workings for the additional Green's Hollow Lease. The Plates also incorrectly detail an additional 521.02 acres of Federal leases beyond the pending Green's Hollow Lease that are not approved. See previous Analysis and Deficiencies for more details.

cparker

Maps Monitoring and Sampling Locations

Analysis:

The amendment does not meet the State of Utah R645 requirements for Monitoring and Sampling Location Maps.

The Permittee must revise Plate 7-3, Hydrologic Monitoring Stations to depict the operational surface and ground water monitoring sites only. As submitted, Plate 7-3 depicts the locations of numerous baseline data collection sites. Plate 7-3 must provide a clear and concise presentation of the operational water monitoring locations being proposed. The names of the proposed sites on Plate 7-3 must correspond directly with the associated tables outlining the proposed ground and surface water monitoring plan.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Monitoring and Sampling Location Maps. the following deficiency must be addressed prior to final approval:

R645-301-121.200, -731: The Permittee must revise Plate 7-3, Hydrologic Monitoring Stations to depict the operational surface and ground water monitoring sites only. As submitted, Plate 7-3 depicts the locations of numerous baseline data collection sites. Plate 7-3 must provide a clear and concise presentation of the operational water monitoring locations being proposed. The names of the proposed sites on Plate 7-3 must correspond directly with the associated tables outlining the proposed ground and surface water monitoring plan.

schriste

Maps Certification Requirements

Analysis:

The amendment meets the State of Utah R645-301-512 Certification Requirements.

R645-301-512 requirements are met as all mine drawings and plates were electronically stamped by a Utah certified professional engineer with experience in underground mining operations. Upon receipt of approval all clean copies will contain physical PE stamps.

cparker

Reclamation Plan

General Requirements

Analysis:

The amendment meets the State of Utah R645 requirements for Reclamation Activities.

The requirements of R645-301-540 are met within the amendment as there is no change to the existing MRP reclamation details as no surface disturbances are proposed within the Green's Hollow Lease at the time of this review.

cparker

PostMining Land Use

Analysis:

The amendment meets the State of Utah R645-301-412 requirements for postmining land use.

Volume 1, Chapter 4, Section 4.1.2 pages 4-16 through 4-16 provide the post-mining land use plan.

The Greens Hollow mining area is managed by U.S. Forest Service for multiple use under the Federal Land Policy and Management Act. Present management emphasizes livestock grazing, wildlife, timber and watershed development. The postmining land uses will be consistent with the land use plans prepared by the Forest Service. Final reclamation activities such as grading and seeding as detailed within the MRP will be completed in a manner to provide uses of the lands consistent with those uses required by the U.S. Forest Service land use plans. Retention of pre-SMCRA highwalls is discussed in Section 5.5.3.6.

lreinhart

WildLife Protection

Analysis:

The amendment meets the State of Utah R645-301-342 requirements for a fish and wildlife plan for the reclamation and postmining phase of operation.

The amendment does not propose any additional surface disturbance and therefore the existing MRP adequately meets the requirements. Volume 1, Chapter 3, Section 3.4.2 pages 3-51 and 3-52 provides a wildlife enhancement plan. Enhancement measures include range improvements within the lease area and reclamation seed mixes are designed to provide nutritional value and cover to wildlife.

Table 3-1 (pg. 3-15) provides information on federally protected threatened, endangered, and listed species. Table 3-2 (pg 3-28) provides a list of Utah species that are protected. Table 3-3 (pg 3-30) provides a list of USDA-FS Region 4 Sensitive species. The proposed amendment will not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act.

lreinhart

Approximate Original Contour Restoration

Analysis:

The amendment meets the State of Utah R645 requirements for Approximate Original Contour Restoration.

The amendment meets the R645-301-512.200 , -553.110 through -553.150, and -302-270 due to the current reclamation plan reclaiming to approximate original contour (AOC).

AOC as defined by R645-301-553.100 through -553.150 is achieved when the final grade closely resembles the general surface configuration of the land prior to mining activities and provides a subsurface foundation for vegetative cover capable of stabilizing the surface from erosion. The amendment meets the 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 amendment meets the State of Utah R645 requirements for Backfill and Grading.

The amendment meets the general requirements of R645-301-553 by no changes in the general backfill and grading plan. The plan details how disturbed areas will be backfilled and graded to achieve the approximate original contour, eliminate all highwalls, spoil piles, and depressions, and achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a long term static safety factor of 1.3 and to prevent slides, minimize erosion and water pollution both on and off the site, and support the approved postmining land use.

cparker

Backfill and Grading Previously Mined

Analysis:

The amendment meets the State of Utah R645 requirements for Previously Mined Areas.

The requirements of R645-301-553.500 are met within the amendment as there is no change to the existing MRP grading reclamation details.

cparker

Backfill and Grading on Steep Slopes

Analysis:

The amendment meets the State of Utah R645 requirements for Backfilling and Grading on Steep Slopes.

The requirements of R645-301-553.200 are met within the amendment as there is no change to the existing MRP grading reclamation details.

cparker

Backfill and Grading Steep Special Provisions

Analysis:

The amendment meets the State of Utah R645 requirements for Special Provisions for Steep Slope Mining.

The requirements of R645-301-537 and -553 are met within the amendment as there is no change to the existing MRP grading reclamation details.

cparker

Mine Openings

Analysis:

The amendment meets the State of Utah R645 requirements for Mine Openings.

The requirements of R645-301-513.500, R645-301-529, and R645-301-551 are met within the amendment as there is no change to the existing MRP sealing of mine openings at the time of final reclamation. No additional mine openings are proposed for the Green's Hollow Lease at the time of this review.

cparker

Road System Reclamation

Analysis:

The amendment meets the State of Utah R645 requirements for Reclamation of Roads.

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

cparker

Road System Retention

Analysis:

The amendment meets the State of Utah R645 requirements for Retention of Roadway Facilities.

The requirements of R645-301-534 and -552 are met within the amendment 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.

Hydrological Information Reclamation Plan

Analysis:

The amendment meets the State of Utah R645 requirements for Hydrologic Reclamation Plan.

Upon review of the amendment, it does not appear that any surface disturbance/construction is associated with the addition of the Greens Hollow Lease. As a result, a hydrologic reclamation plan reclamation is not required.

schriste

Contemporaneous Reclamation General

Analysis:

The amendment meets the State of Utah R645-301-352 requirements for contemporaneous reclamation.

Volume 1, Chapter 3, Section 3.5.2 page 3-52 provides the contemporaneous reclamation plan. The amendment does not contemplate any surface disturbance and therefore, the approved MRP meets the regulations.

Ireinhart

Contemporaneous Reclamation General

Analysis:

The amendment meets the State of Utah R645 requirements for Contemporaneous Reclamation.

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

cparker

Revegetation General Requirements

Analysis:

The amendment meets the State of Utah R645-301-353 requirements for vegetative cover.

Volume 1, Chapter 3, Section 3.5.3 page 3-53 through 3-58 provides general requirements for revegetation. The amendment does not contemplate any surface disturbance and therefore, the approved MRP meets the regulations.

Ireinhart

Cessation of Operations

Analysis:

The amendment meets the State of Utah R645 requirements for Cessation of Operations

The requirements of R645-301-515 and -541 are met within the amendment 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 amendment does not meet the State of Utah R645 requirements for Affected Area Boundary Maps.

The amendment does not meet the requirements of R645-301-542 by updating all the relevant maps showing an additional 521.02 acres of Federal leases beyond the pending Green's Hollow Lease that are not approved.

The amendment meets the requirements of R645-301-521.110 requires previously mined areas to be shown on cross sections and maps. Plate 5-2 details the current and previously mined areas within the entire Sufco Permit area.

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Affect Area Boundary Maps. The following deficiency must be addressed prior to final approval.

R645-301-521.100 through-521.130: The Permittee shall correct all relevant drawings to show only the approved Sufco Leases and pending Green's Hollow lease.

cparker

Maps Bonded Area

Analysis:

The amendment meets the State of Utah R645 requirements for Bonded Area.

The requirements of R645-301-800 are met within the amendment as there is no change to the existing MRP plan of backfilling and grading areas or volumes

cparker

Maps Reclamation BackFilling and Grading

Analysis:

The amendment meets the State of Utah R645 requirements for Reclamation Backfilling and Grading Maps.

The requirements of R645-301-542 are met within the amendment as there is no change to the existing MRP plan of backfilling and grading areas or volumes.

cparker

Maps Reclamation Facilities

Analysis:

The amendment meets the State of Utah R645 requirements for Reclamation Facilities Maps

The requirements of R645-301-542 are met within the amendment as there is no change to the existing MRP plan of facilities that will remain post mining operations.

cparker

Maps Reclamation Final Surface Configuration

Analysis:

The amendment meets the State of Utah R645 requirements for Final Surface Configuration Maps.

The requirements of R645-301-542 are met within the amendment as there is no change to the existing MRP plan of the estimated final surface configuration back to AOC.

cparker

Maps Reclamation Surface and Subsurface Man Made

Analysis:

The amendment meets the State of Utah R645 requirements for Reclamation of Surface and Subsurface Manmade Features Maps.

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

surface and or subsurface manmade features within the permit area.

cparker

Maps Reclamation Certification Requirments

Analysis:

The amendment meets the State of Utah R645-301-512 Certification Requirements.

R645-301-512 requirements are met as all mine drawings and plates were electronically stamped by a Utah certified professional engineer with experience in underground mining operations. Upon receipt of approval all clean copies will contain physical PE stamps.

cparker

Bonding and Insurance General

Analysis:

The amendment meets the State of Utah R645 requirements for Bonding and Insurance Requirements.

The amendment meets the requirements of R645-301-800 as the applicant is current on the bond and insurance standings.

cparker

Bonding Form of Bond

Analysis:

The amendment meets the State of Utah R645 requirements for Form of Bond.

The amendment meets the requirements of R645-301-860.100 as the applicant currently maintains a surety bond amount of \$4,362,000 which is held by Lexon Insurance Co with a rider held by Ironshore Indemnity Inc.

cparker

Bonding Determination of Amount

Analysis:

The amendment meets the State of Utah R645 requirements for Determination of Bond Amount.

The amendment meets the requirements of R645-301-830.140 as the Permittee did not need to submit detailed bond information in regards to the amendment as no surface disturbances are proposed at the time of this review.

cparker

Bonding Terms and Conditions Liability Insurance

Analysis:

The amendment meets the State of Utah R645 requirements for Terms and Conditions for Liability Insurance.

The amendment meets the requirements of R645-301-850 as the applicant currently holds liability insurance through National Union Fire Ins Co, effective until 2/1/17. The insurance includes the required Marsh from, explosives and claims made per occurrence.

cparker

CHIA

CHIA

Analysis:

The amendment does not meet the State of Utah R645 requirements for Cumulative Hydrologic Impact Assessment. The Permittee must address the deficiencies relative to baseline data, probable hydrologic consequences and water monitoring before the Division can revise the Cumulative Hydrologic Impact Assessment (CHIA).

Deficiencies Details:

The amendment does not meet the State of Utah R645 requirements for Cumulative Hydrologic Impact Assessment. The following deficiency must be addressed prior to final approval:

R645-301-729: The Permittee must address the deficiencies relative to baseline data, probable hydrologic consequences and water monitoring before the Division can revise the Cumulative Hydrologic Impact Assessment (CHIA).

schrister