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DEPARTMENT OF NATURAL RESOURCES

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Technical Analysis and Findings
Utah Coal Regulatory Program

April 14, 2015

PID: C0070019
TaskID: 4763
Mine Name: CENTENNIAL MINE
Title: KENILWORTH LEASE ADDITION

Summary

Utah American Energy, Inc. (the Permittee) submitted an application to add the Kenilworth lease to the current Centennial MRP to the Division of Oil, Gas and Mining (the Division) on Dec. 9th, 2014. The Division assigned Task ID #4763 to the application. The task is processed by the Division as a significant revision to the Centennial MRP because it will increase the permit area by > 15 %.

The division will need to update the CHIA boundaries for the Centennial Mine. Currently the Centennial mine is within the Book Cliffs I CHIA, but the Kenilworth lease will extend to the west into the Willow Creek CHIA boundary.

kstorrar

General Contents

Permit Application Format and Contents

Analysis:

Chapter three (Biology) is not formatted as requested by the Division. A Table of Contents is available but is rendered useless because information is referenced back to the first 10 pages of the Introduction. Information is not current, not clear and concise as many statements contradict each other, and contains information not applicable to Biology (specifically Operations section).

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-120. The information in Chapter 3 needs to be updated to reflect current conditions, organized by rule to provide clear and concise information and contain only information relevant to the Chapter. More specifically, information that applies to the specific rule should be placed in the appropriate section and not referred back to the introduction. It is not clear where information is located since it is scattered throughout and referenced to old documents. The general flow is hard to follow and should be reorganized so that information is provided in the same sequence as the rules.

Ireinhart

Permit Application Format and Contents

Analysis:

The application is very confusing. Data, narratives, and maps are randomly placed throughout the document and are often of poor quality. The application needs to be fluidly incorporated into the approved MRP. There are multiple incorrect references to maps or references that cannot be found.

Findings:

The Permittee's application does not meet the minimum clear and concise requirements as per the Division's rules R645-301-100.

Deficiencies Details:

R645-301-121.200: The application does not meet the Divisions clear and concise requirements in multiple locations of the text. Unclear and confusing sections and maps that need addressing are as follows:

- 1) Base topographic map illegible: Figure 5, Figure 7-1, Figure 7-2,
- 2) Incorrect reference of Plate 29: a reference to a hydrologic boundary map is needed
- 3) One complete water monitoring table is needed for the mine site. Incorporate Kenilworth lease monitoring sites into the currently approved water monitoring tables.
- 4) All references to insert map or table (i.e. Insert original map Figure IV-11) need to be inserted into document.
- 5) Table IV-6, IV-7 needs to be properly formatted. Pg 7-101.
- 6) Chapter and page number need to be given if a Table is referenced.
- 7) Combine Kenilworth lease water monitoring maps and tables with the approved water monitoring maps and tables in the current MRP.

kstorrar

Environmental Resource Information

General

Analysis:

The application for the Kenilworth lease includes the addition of text to section R645-301-510 stating the additional acres associated with the new lease. The acres associated with the Kenilworth lease raise the total acres under the Centennial Project to 4,034.77 acres. The Kenilworth federal lease is approximately 1760.0 acres, as shown on an updated Plate 3, with the lease acquired in 2006. The application meets the minimum requirements of R645-301-521 general information on operations.

cparker

Permit Area

Analysis:

The application for the Kenilworth lease updated section R645-301-510 to include the additional 1,760.0 acres of the Kenilworth lease to the current Centennial Project of 2,274.77 acres, for a total of 4, 034.77 acres total, as shown on Plate 3. The proposed Kenilworth lease acres and all other leases, easements, and right of ways are described in Chapter 1, Table 1-1 and Table 1-2. Acreage associated with the OSO gasewell area, approximately 11.92 acres, are not included in the Centennial Project permit area. The application meets the minimum requirements of R645-301-521 in terms of the Kenilworth lease permit area application as submitted.

cparker

Historic and Archeological Resource Information

Analysis:

An archaeological survey for the Kenilworth Lease is referenced; however adequate information is not available to determine the nature of cultural and historic resources listed or eligible for listing in the National Register of Historic Places. The application references Appendix C, which covers the permitted mining area in 1974 and also includes a file search and quad map at a 1:50,000 scale.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Prior to approval the application must contain a description of the existing land uses and land-use classifications under local law, if any, of the proposed permit and adjacent areas in accordance with R645-301-411.130. The zoning and land use

classification must be updated to include the new permit area (including the Kenilworth Lease additions). The existing information is for the permitted area in 1974 as noted on page 4-2.

Prior to approval the application must provide adequate information on cultural and historic resources on the Kenilworth Lease addition. DOGM needs this information to request concurrence from SHPO, in which a determination is made if any sites could be listed or eligible for listing in the National Register of Historic Places in accordance with R645-411-140 through 144. Although the application does contain a file search (literature review) on the general area from 2007, a comprehensive report describing the level of survey and recommendations from a professional archeologist are not provided. The map provided does not include a boundary of the Kenilworth lease area, nor does it include any information to determine who made the map and how reliable it is. As noted in Appendix C, letter dated 6/15/1988 from the Utah State Historic Preservation Office, the area has the potential for rock shelters and rock art. Furthermore, it is well understood that subsidence may impact rock shelters or art and as such a monitoring and mitigation plan must be in place prior to approval of the application.

Ireinhart

Vegetation Resource Information

Analysis:

The application provides references to vegetative resource information in an effort to predict the potential for reestablishing vegetation on areas with surface disturbance. Although the information is quite old (collected in 1980 by SCS), additional information is contained throughout the introduction and describes the vegetation communities which consist of mountain-brush, desert shrub, pinion-juniper woodland, sagebrush-grass, conifer-aspen, and minor streamside vegetation (riparian). Plate 19 is a supposedly updated (no date) map indicating vegetation type boundaries. Appendix M provides production estimates, species diversity, cover, and density of woody species from 1980. However the information is not clearly depicted on a map that associates the information within the permit area.

As noted in Appendix A, Wildlife Resources Information, seven wildlife habitats present—riparian wetlands, cliffs and tallus, sage-brush, pinion-juniper forest, shrubland, ponderosa forest and spruce-fir forest.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-321.200 and R645.301-323.100.

Prior to approval the application must clearly associate the production information provided in appendix M with areas of surface disturbance. From the information provided, it is not clear where reclamation monitoring locations for production estimates are located. The map provided in Appendix M (pg. 121) does not show permit boundaries and furthermore appears to only include portions of Sections 4 & 9 in T.13S, R.11E whereas surface disturbance has occurred in other permitted areas, specifically sections 7, 18, 31, & 36.

Page 3-1/3-2 states three reference areas for vegetation have been selected and approved by the Division. A map indicating the reference areas should be included or referenced in accordance with R645-300-122. If this section is referencing areas as noted on Plate 9, it should reference it. Page 3-41 references Attachment 3-1, however this attachment is not included in the application or the existing MRP. Please submit attachment 3-1.

Page 3-2 references new vegetation mapping completed by Mt. Nebo Scientific, Inc. The next paragraph indicates EarthFax Engineering completed vegetation mapping (Plate 19). There are other references to Appendix M, from SCS. References to vegetation and mapping are inconsistent and need clarification on what map should be used and also include the report that coincides with the map. Include a date of when the information was collected. R645-301-121.200.

The statement on page 3-2, "It should be noted that no wetland or riparian areas are known to exist on the current permit or on the Kenilworth Lease Area..." directly conflicts with the statement on page 3-1 "...and minor stream-side vegetative types cover the total mine plan area". According to visual inspection from topographic maps and aerial imagery, numerous streams and springs exist within the permit area. Prior to approval the application must accurately describe any streams, wetlands, riparian areas contained in the entire permit area in accordance with R645.301-322.220

Ireinhart

Vegetation Resource Information

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As noted in Appendix A, Wildlife Resources Information, seven wildlife habitats present—riparian wetlands, cliffs and tallus, sage-brush, piñon-juniper forest, shrubland, ponderosa forest and spruce-fir forest.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-321.200 and R645.301-323.100.

Prior to approval the application must clearly associate the production information provided in appendix M with areas of surface disturbance. From the information provided, it is not clear where reclamation monitoring locations for production estimates are located. The map provided in Appendix M (pg. 121) does not show permit boundaries and furthermore appears to only include portions of Sections 4 & 9 in T.13S, R.11E whereas surface disturbance has occurred in other permitted areas, specifically sections 7, 18, 31, & 36.

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Ireinhart

Fish and Wildlife Resource Information

Analysis:

Plates 34 A-D are wildlife maps that show ranges for deer, elk, and sage grouse range as well as a raptor survey from 2007. T&E species are discussed starting on page 3-3 through 3-12. Table III-II is a list of animals possibly occurring in the lease area.

The information contained in the application is out of date and is not adequate for current conditions. A cursory review of current threatened, endangered, candidate and sensitive species in the area is considerably different than what is provided in the application.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. The T&E list is completely out of date. According to the Trust Resources List (3/24/2015) there are a total of 7 threatened, endangered, or candidate species that have the potential to occupy the area with emphasis on Mexican Spotted Owl, and Yellow Billed Cuckoo. Prior to approval the application must contain the following in accordance with R645-301-322.210. The application shall include current fish and wildlife resource information for the permit area and adjacent area and shall be sufficient to design the protection and enhancement plan required under the operation and reclamation plan.

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Prior to approval the permittee must provide the following in accordance with R645-301-323.200. Elevations and locations of monitoring stations used to gather data for fish and wildlife, and any special habitat features.

Land Use Resource Information

Analysis:

Information provided in the application is adequate to meet the minimum requirements of the R645-301-411. Present land use is grazing, wildlife habitat, and outdoor recreation. Historically, it was also used for coal mining, Figure 4-1 is a Land Use Map. County zoning regulations (1974) indicate all lands involved in the lease application are within zone M and G1 which is for mining and grazing. There are no public parks, cemeteries, significant trails or known cultural or historical resources listed.

Ireinhart

Geologic Resource Information

Analysis:

Geological information has been revised and provided in Chapter 6 of the Application. Plate 21 shows the surface geology of the area. There is revised text in Chapter 6 that describes the geology of the Kenilworth lease area. Maps have been PE certified. The application contains an updated version of Plate 22 which is a drill hole reference map. Plate 22A provides the fence diagram through the drill holes showing the stratigraphic cross section through the Kenilworth lease. There were 6 drill holes used which accurately describe the stratigraphy of the lease area. Plate 29 is an Isopach map of the lease area and it describes the Aberdeen seam and shows coal thickness of between 9 to 12 feet. The depth of cover is shown to between 2500 and 3000 feet. This depth of cover may present difficulties in mining, but it will limit the extent of subsidence occurring at the surface. Much of the narrative discusses previous mining and mining in other leases such as the Graves lease and the AEP lease and describes the overburden as being from 0 to 2700 feet (see pages 6-4, 6-10 and 6-11). Page 6-4 describes the bulk of the coal being under less than 1500 feet of cover. This is not the case in the Kenilworth lease. There seems to be some hold-over information from the original Centennial mining and reclamation plan which has not been up-dated. A more accurate description of the overburden in the Kenilworth lease needs to be provided. The application adequately describes the stratum above and below the coal seam. There is a discussion of this on pages 6-13 and 6-14 and Appendix E. The seams in the book cliffs area generally dip towards the North and East. This provides for fairly dry mining conditions and limits the amount of mine water discharge that is needed. Gravity discharge of mine water is not anticipated.

Deficiencies Details:

Much of the narrative discusses previous mining and mining in other leases such as the Graves lease and the AEP lease and describes the overburden as being from 0 to 2700 feet (see pages 6-4, 6-10 and 6-11). Page 6-4 describes the bulk of the coal being under less than 1500 feet of cover. This is not the case in the Kenilworth lease. There seems to be some hold-over information from the original Centennial mining and reclamation plan which has not been up-dated. A more accurate description of the overburden in the Kenilworth lease needs to be provided.

dhaddock

Hydro Sampling and Analysis

Analysis:

Baseline water monitoring, R645-301-724:
The application has submitted a deficient baseline water monitoring program. It provides monitoring locations that do not adequately quantify the surface water bodies and areal and vertical distribution of aquifers that can potentially be affected by underground mining. The baseline data provided in the application is too old and is not considered current because springs and streams respond rapidly to climate and season. There have been multiple drought and wet cycles since the sites were last monitored.

Cross-sections and maps:

No maps are provided that show the regional and/or isolated groundwater aquifers and the seasonal flow of the aquifers within and adjacent to the permit area. Maps that are provided are often of poor quality and surface water bodies and topography are illegible or confusing.

Sediment Pond, R645-301-742.221.33:

The reclamation plan of the surface disturbance area does not provide proper calculations to support the sediment pond design.

Findings:

The Permittee's application does not meet the minimum hydrology requirements as per the Division's rules R645-301-724.

Deficiencies Details:

R645-301-722.100: The application is missing a narrative with supporting maps and cross-sections of the geologic relationship with subsurface water, surface alluvial deposit depths in stream channels etc. and areal and vertical distribution of aquifers and discussion of seasonal differences in head.

R645-301-722.200: A spring a seep survey of hydrologic resources potentially affected by underground mining within and adjacent to the Kenilworth lease area is needed.

R645-301-722.500: The application is deficient in providing a surface map identifying hydrologic stream boundaries within and adjacent to the permit area.

R645-301-724: Proposed stream and groundwater monitoring sites do not adequately capture the area affected by proposed underground monitoring.

R645-301-724.200: The names of all surface water bodies potentially affected within and adjacent to the permit area are needed.

R645-301-724.100 - .200: The application does not provide up-to-date baseline data on current seasonal flows. An approved baseline monitoring plan must be submitted that clearly outlines a robust baseline data collection and monitoring plan at low and high flows. The plan will outline when monitoring will commence so an adequate number of samples can be collected of low and high flows prior to the beginning of mining.

R645-301-724.320, -742.221.32: Pond "E"-PM does not provide adequate detention time calculations to show the pond will settle suspended solids and meet Utah effluent standards.

Pond "E"-PM reclamation design does not meet the minimum containment or treatment of a 10-year, 24-hour event.

kstorrar

Probable Hydrologic Consequences Determination

Analysis:

The application has submitted an additional appendix for the PHC and proposed water monitoring program. No stream and seep survey is provided with the application. This is probably why the proposed water monitoring program for the Kenilworth lease does not adequately quantify the surface and groundwater hydrology potentially affected by mining. The Kenilworth lease proposed water monitoring program will need to be incorporated into the currently approved MRP.

Findings:

The Permittee's application does not meet the minimum hydrology requirements as per the Division's rules R645-301-728.

Deficiencies Details:

R645-301-728.100: The application does not contain a PHC determination upon the quality and quantity on surface and groundwater within and adjacent to the permit area with regard to specific geologic units and alluvium.

R645-301-728.223 – The application does not outline how the mine will be de-watered and how the contaminated water quality will impact local water resources.

R645-301-728.310: The application is lacking monitoring wells to show groundwater is not in hydraulic communication with shallow bedrock and alluvial groundwater aquifers.

R645-301-728.333 – The PHC in the application does not discuss streamflow alteration in areas where subsidence could potentially occur.

kstorrar

Maps Affected Area Boundary Maps

Analysis:

The application includes updated Plates 14 and 15 that depict the area currently affected by mining, as well as the area to be affected by future mining operations in the Kenilworth lease. The application also included the information that County Road 299 starts at highway 6 in Price and terminates at Andalex Resources' mine site, as shown on Plate 1. The application meets the minimum requirements of R645-301-521 detailing the affect area boundary maps.

cparker

Maps Coal Reasource and Geologic Information

Analysis:

The application included information that crop lines, strikes and dips can be found on the coal thickness isopachs in Volume II, Plates 26, 27, 28, and 40 with the updated Kenilworth lease area. The application meets the minimum requirements of R645-301-521 detailing the coal resources and geologic information maps.

cparker

Maps Existing Structures and Facilities

Analysis:

The old workings in the three coal seams mined are shown on Plates 29, 30, and 31. Plate 29 was updated in this application to include the Kenliworth Lease area with approximately 2,500 to 3,000 feet of cover. The application meets the minimum requirements of R645-301-521 detailing the existing structures and facilities maps.

cparker

Maps Existing Surface Configuration

Analysis:

The application included updates to Plates 6 and 7 that shows there are no buildings within 1,000 feet of the permit area that are not associated with mining operations. The application meets the minimum requirements of R645-301-521 detailing the existing surface configuration maps.

cparker

Maps Mine Working

Analysis:

Plate 25, Subsidence Map, and Plate 29 show the proposed mine workings for the additional lease. The application meets the minimum requirements of R645-301-512.100 for mine workings maps.

cparker

Maps Monitoring and Sampling Locations

Analysis:

Plat 9 shows the location of the reference areas R-1, R-3, and R-4, each approximately 200 square feet. Plates 26, 27 and 28 show all the test borings locations and elevations, with the respective information from each located in Appendix E. The application meets the minimum requirements of R645-301-521 detailing the monitor and sample location maps.

cparker

Maps Permit Area Boundary

Analysis:

The Kenilworth federal lease is approximately 1760.0 acres, as shown on an updated Plate 3, with the lease acquired in

2006. The application meets the minimum requirements of R645-301-521 detailing the permit area boundary maps.

cparker

Maps Surface and Subsurface Manmade Features

Analysis:

The application detail that there are no surface facilities currently associated or planned for the Kenilworth Lease. There are no changes to the plates that currently describe the main facilities areas. The application meets the minimum requirements of R645-301-512.120 for surface and subsurface manmade features.

cparker

Maps Surface and Subsurface Ownershiip

Analysis:

The application updated Plates 2 and 3 to show the surface and subsurface ownership of lands contiguous to the permit area. The lease for which the Permittee has legal right of entry are shown on plate 4. The application meets the minimum requirements of R645-301-521 detailing the existing surface and subsurface ownership maps.

cparker

Maps Vegetation Reference Area

Analysis:

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of the regulations. Prior to approval the permittee must provide the following in accordance with R645-301-323.100. The location and boundary of any proposed reference area for determining the success of revegetation

Ireinhart

Operation Plan

Mining Operations and Facilities

Analysis:

The application included various minor edits to include the Kenilworth Lease addition. The mining operations described in the MRP remain unchanged with the development of room and pillar, pillar extraction and longwall panels general 650 to 800 feet in width and up to 800 feet in length. There was an addition of text in the application to state that due to the recent MSHA requirements a barrier pillar will be left between longwall panels at depths deeper than 1,500 feet. The application for the Kenilworth lease does not include the addition of any equipment beyond the extent already operating at the Centennial mine. The application included the change in acreage to reflect the Kenilworth Lease to a total of 47.19 acres affected by mining operations located in T13S, R11E, S.L.B.&M, Carbon County Utah. The application meets the minimum requirements of R645-301-521, -526 and -528.

cparker

Existing Structures

Analysis:

Plates 6, 7, and LF-1 detail the support structures and buildings associated with mining operations, the proposed lease requires no additional buildings at this time and this section and plates remain unchanged. The application meets the minimum requirements of R645-301-526 in detailing the existing structures within the permitted area.

cparker

Protection Public Places

Analysis:

Information provided in the application meets the minimum requirements of R645-301-411. There are no known publicly owned parks or places listed on the National Register of Historic Places within the permit boundary.

Ireinhart

Air Pollution Control Plan

Analysis:

Although the Kenilworth Lease addition does not include any new surface disturbance, this application is to completely replace Chapter 4 and therefore, the entire permit area is analyzed for compliance with the rules.

The application references Appendix F for the air quality permit. Appendix F is the emission inventory and includes a letter dated 11/2/1988 from Department of Health, Division of Environmental Health. The letter conditionally approves the project of the Centennial Mine operation, consisting of the Pinnacle Mine, the Apex Mine, and the Aberdeen Mine according to the information submitted in the notices of intent in 1980, 1980, 1981, 1982, 1985, and 1988. Coal production parameters are established and shall not be exceeded without prior approval in accordance with Section 3.1, UACR.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-420. Prior to approval, the application must contain a description of coordination and compliance efforts which have been undertaken by the applicant with the Utah Division of Air Quality. Due to the addition of the new lease area and the time lapse (27 years) since the last documented coordination with the air quality regulatory authority, it is prudent to provide recent coordination efforts between the applicant the Utah Department of Air Quality. The projected production rates from the Kenilworth lease addition shall be considered in the air pollution control plan.

Ireinhart

Coal Recovery

Analysis:

The application includes the additional of the Kenilworth Lease to the Andalex Resources mining operations located in the Deadman Canyon area of the Book Cliffs coal field. Plate 6 shows the development into all seams, which involve separate surface facilities as shown. All seams within the current leases have been mined out. The addition of the Kenilworth lease will provide some coal for future recovery. Of the four original economic seams available in the leased areas, the lowermost seam, Aberdeen, is the only seam with coal remaining. Plate 29 details the mine plan for the Aberdeen seam. A minor change in text was added on page 5-178 to revise the location of the destination to which coal haulage trucks will transport coal from the Centennial Projects. The change specifically removes the Wildcat loadout from the truck dump point to a more general "unit train loadout in the near vicinity. The application meets the minimum requirements of R645-301-521 and -522 detailing coal recovery.

cparker

Subsidence Control Plan Subsidence

Analysis:

The application included the revision of text on page 5-153 to reflect the changes in the subsidence monitoring points currently outlined on Plate 25. The text states that three additional subsidence monitoring stations have been added to Plate 25 to cover the long wall mining operations on the new Kenilworth Lease area. The application meets the minimum requirements of R645-301-521 detailing the additional monitoring locations.

Deficiencies Details:

The application sections do not reference the current R645 rules. The application includes the sections R645-301-525.241 through -525.270, which no longer exist. The section addressed as -525.240 does not meet the minimum requirements or R645-301-525.240 that require the operator to submit a detailed plan of the underground workings which include maps and descriptions of significant features of the underground mine. The current application has all of this information presented under Section R645-301-525.270. The Permittee will correct section R645-301-525.240 through -525.270 to match the current R645 Rules.

The application does not meet the minimum requirements of R645-301-525.300, Subsidence control. The application is missing references to previous section where subsidence control is discussed and improperly references R645-301-525.300. Under section R645-301-525.300 of the current application only includes reference to a public notice of proposed mining and does not address any means of subsidence control or the Kenilworth lease area. The Permittee will address section R645-301-525.300 in regards to the Kenilworth lease.

The application does not include any reference to R645-301-525.400 which requires details of the subsidence control plan contents as outlined in the rules. The application covers the relevant information in section R645-301-525.270, which no longer exists as a R645 rule. The appropriate information should be moved and referenced in section R645-301-525.400. The application does not meet the minimum requirements of R645-301-525.400 which states that because no structures, or State-appropriated water supplies or renewable resource land exist, or that no material damage or diminution in value or reasonable foreseeable use of such structures or lands, and no contamination, diminution, or interruption of such water supplies would occur as a result of mine subsidence, and if the Division agrees with this conclusion, no further information need be provided. The Permittee will address section R645-301-525.400 in regards to the Kenilworth lease.

The application does not include any reference to R645-301-525.500 which requires details of repairing damage due to subsidence. The application covers the relevant information in section R645-301-525.270, which no longer exists as a R645 rule. The appropriate information should be moved and referenced in section R645-301-525.500.

cparker

Subsidence Control Plan Notification

Analysis:

The application includes no text to detail that 6 months prior to mining the underground mine operator shall mail a notification to all owners and occupants of surface property and structures above the underground workings. The application sections do not reference the current R645 rules.

Deficiencies Details:

The application does not include any reference to R645-301-525.700 and does not meet the minimum requirements set forth in said section for notification of owners of the area above underground operations. The Permittee will address this section to include the new ownership of the Kenilworth lease.

cparker

Subsidence Control Plan Notification

Analysis:

The application includes no text to detail that 6 months prior to mining the underground mine operator shall mail a notification to all owners and occupants of surface property and structures above the underground workings. The application sections do not reference the current R645 rules.

Deficiencies Details:

The application does not include any reference to R645-301-525.700 and does not meet the minimum requirements set forth in said section for notification of owners of the area above underground operations. The Permittee will address this section to include the new ownership of the Kenilworth lease.

cparker

Subsidence Control Plan Slides and Other Damage

Analysis:

The application includes the revision of section R645-301-515.100 that is identical to text that was previously approved and included in the MRP as of October 2, 2002. The application meets the minimum requirements of R645-301-515.100 in detailing slides and other potential damages.

cparker

Fish and Wildlife Protection and Enhancement Plan

Analysis:

The application references Appendix A for the Protection and Enhancement Plan. Appendix A contains recommendations from the UDWR and includes a wildlife plan that adequately addresses protection and enhancement of the species that were known to exist on the permitted site in 1981. It does not address protection and enhancement measures for current T&E species (specifically Western Yellow Billed Cuckoo or Mexican Spotted Owl) or those on the Kenilworth lease addition, should they exist.

Page 3-12 states "There will be no additional surface disturbance required on the new Kenilworth coal lease. Consequently, there will be no additional disturbance or adverse impact on fish and wildlife or related environmental values." As previously noted, subsidence may indirectly impact wildlife or environmental resources. For example, subsidence may cause downstream effects on water resources or result in disturbance of important nesting habitat for protected raptors or other wildlife. The potential for these impacts to occur exists and as such, a protection and enhancement plan for the Kenilworth lease area is required by R645-301-358.100. If supporting information exists to document subsidence is not likely, a reference should be made to in the appropriate information in R645-301-525.

Page 3-15 describes several ways Andalex will provide general protection and enhancement measure for non-critical wildlife.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-358. Prior to approval, the application must reconcile the following.

The statement is made in the Introduction on page 3-1 "Since the Kenilworth Lease is simply an extension of underground mine workings under roughly 2,000 to 3,000 feet of cover there will be absolutely no effect on vegetation, fish or wildlife." This statement should be supported with additional technical and scientific backing from previous similar mining situations. The statement found on page 3-16 is in direct conflict "Andalex, through raptor surveys conducted, has identified Golden Eagle nests which could be impacted by subsidence".

The raptor survey depicted on plate 34 A was conducted in 2007 and needs to be updated two years prior to subsiding in accordance with the Utah Coal Regulatory Program Raptor Survey Guidelines. Although Andalex notes they are committed to acquiring necessary take permits prior to longwall mining under raptor nests, R645-301-300 states nothing in the R645 Rules will authorize the taking of an endangered or threatened species or a bald or golden eagle, its nest, or any of its eggs in violation of the endangered Species Act of 1973 or the Bald Eagle Protection Act, as amended. Prior to approval, the application must identify how the mine plans to monitor for, and prevent take of an endangered or threatened species, or bald or golden eagle, its nest, or eggs.

Adequate information exists to support potential effects to environmental resources, including wildlife habitat and water resources as a result from subsidence. According to the Trust Resources List (3/24/2015) there are a total of 7 threatened, endangered, or candidate species that have the potential to occupy the area and the potential for subsidence to negatively impact these species must be analyzed. See R645-301-322.210 and R645-301-322.220

Page 3-12; Impacts of Operations. Provide reference documentation in accordance with R645-300-122 to the following: "The only potential impact to wildlife as a result of construction (golden eagle nests) has been addressed thoroughly and a negative impact determination was made."

Ireinhart

Vegetation

Analysis:

Page 3-15 notes that small islands of natural vegetation remain which will not be removed during final reclamation. The assumption is made that since there will be no additional surface disturbance, there will be no impact to wildlife or vegetation.

Deficiencies Details:

Information provided in the application is not considered adequate to meet the minimum requirements of R645-301-332. Although the Kenilworth Lease will result in no new surface disturbance, the application does not adequately address potential impacts of subsidence on renewable resources, specifically those as noted as riparian areas as referenced on page 3-1 "...and minor stream-side vegetative types cover the total mine plan area".

Road Systems Classification

Analysis:

Text has been previously approved by the Division in previous amendments was moved to section R645-301-527.100. The text states that all roads within the permit area are classified as primary roads and details the typical designs of such roads. Primary Road 1 through 11 along with Ancillary Road 1 through 5 were moved to this section with the text left unchanged within each section. The application meets the minimum requirements of R645-301-512.250 and of R645-301-527 detailing road systems within the permitted area.

cparker

Road System Plans and Drawings

Analysis:

No changes were made to text within this section of the MRP within this amendment. The application meets the minimum requirements of R645-301-527.

cparker

Road System Performance Standards

Analysis:

No changes were made to text within this section of the MRP within the Kenilworth Lease amendment. The application meets the minimum requirements of R645-301-527.

cparker

Road System Certification

Analysis:

Text within the application details that all primary road design and construction has been certified by a Professional engineer. The application meets the minimum requirements of R645-301-512.250. The minimum requirements of R645-301-527 have been met.

cparker

Road System Other Transportation Facilities

Analysis:

Text detailing the conveyor structures was moved to this section. The text was left unchanged from a previous Division approval in 8/8/95. The application meets the minimum requirements of R645-301-512.250. The minimum requirements of R645-301-527 have been met

cparker

Spoil Waste Disposals of Noncoal Mine Wastes

Analysis:

No changes were made to text within this section of the MRP within this amendment. The application meets the minimum requirements of R645-301-500.

cparker

Spoil Waste Coal Mine Waste

Analysis:

Plate 6 shows the location of temporary storage for underground development waste which can be stored in an area which

was previously used as sediment pond. No text was revised in this section in the current application. There were no changes in the text in section R645-301-512. The application meets the minimum requirements of R645-301-512, -521, -526 and -528.

cparker

Spoil Waste Refuse Piles

Analysis:

No changes were made to text within this section of the MRP within the Kenilworth Lease amendment. The application meets the minimum requirements of R645-301-526.

cparker

Spoil Waste Impounding Structures

Analysis:

All information regarding impoundments was moved from Chapter 5 to section R645-301-733. The application meets the minimum requirements of R645-301-512.240.

cparker

Spoil Waste Burning and Burned Waste Utilization

Analysis:

No changes were made to text within this section of the MRP within the Kenilworth Lease amendment. The application meets the minimum requirements of R645-301-526 as spoil waste burning is not applicable to the site.

cparker

Spoil Waste Coal Processing Waste to Abandoned

Analysis:

No changes were made to text within this section of the MRP within the Kenilworth Lease amendment. The application meets the minimum requirements of R645-301-526 since no coal processing waste will be stored underground.

cparker

Spoil Waste Excess Spoil

Analysis:

The application did not revise text within this section as excess spoil is not applicable to mining operations at Centennial. The application meets the minimum requirements of R645-301-512.210.

cparker

Hydro Surface Water Monitoring

Analysis:

The proposed water monitoring program will not be clear and concise as it currently stands. There are no new proposed water monitoring sites rather the application asks to turn back on old water monitoring sites that were used to monitor the most recently mined leases. The application will need to establish points water monitoring sites in order to quantify streams in the following locations: left and right fork and directly below junction of the two in Mathis Canyon, Dry Canyon Willow creek, Dry canyon; and in the adjacent Price River drainage – Cordingly Canyon, Alrad Canyon, Left fork Deadman. The proposed monitoring is only for the 2nd, 3rd, and 4th quarters for all sites. This does not meet the

There is no discussion about sampling in-mine water during dewatering of the mine. This water is likely high in Fe and other contaminants. If/when the mine is dewatered it will likely need active treatment prior to being discharged through a UPDES outfall.

UPDES:

The application discusses a UPDES permit, however the referenced number within the text does not match the currently approved UPDES permit number.

Findings:

The Permittee's application does not meet the minimum hydrology requirements as per the Division's rules R645-301-700.

Deficiencies Details:

R645-301-731.200: The proposed monitoring schedule does not meet the minimum hydrologic requirements. Water monitoring sites will be monitored quarterly and submitted to the Division.

R645-301-731.200: The Kenilworth lease proposed water monitoring program will need to be incorporated into the currently approved MRP. The proposed water monitoring program is not clear and concise as it currently stands. Table A and Table B in the approved MRP will be updated to include the proposed water monitoring sites.

R645-301-731.210: Deep and shallow water monitoring wells are required within the permit area to monitor groundwater within the permit area.

R645-301-731.211: A quantifiable in-mine monitoring plan is needed for intercepted flow.

R645-301-731.222: Stream water monitoring points are needed in areas affected by subsidence.

R645-301-728.334, R645-301-731.222: The application lacks a contingency monitoring plan if subsidence within stream channels or near springs alters the flow of the water resources within and adjacent to permit area.

R645-301-731.222.2: The reference UPDES permit within the text is reference is expired.

R645-301-731.121, R645-301-521.124: The application is deficient in designing a passive or active treatment system to treat mine water as it is dewatered from the mine.

kstorrar

Support Facilities and Utility Installations

Analysis:

There is no change in the text in regards to the information regarding supporting facilities, as shown on Plates 6 and 7. The application meets the minimum requirements of R645-301-526.

cparker

Signs and Markers

Analysis:

Text included in section R645-301-521.200 details the signs and markers required to meet the minimum compliance of said state code. The text remains unaltered from previously approved MRP amendments. The application meets the minimum requirements of R645-301-521.200.

cparker

Explosives General

Analysis:

There was no change in the text describing the explosives and blasting operations at the Anadelx mine within this application. The application meets the minimum requirements of R645-301-524.

cparker

Maps Affected Area

Analysis:

The application includes an updated Plate 26, as Plate 26, 27, 28 and 40 show all the relevant test borings locations and elevations. Plate 29, 30, and 31 show the old workings in the three coal seams and Plate 29 was updated within this application to show the Kenilworth lease on the figure. The application meets the minimum requirements of R645-301-512 and -521.

cparker

Maps Facilities

Analysis:

The application includes text that details that there are no current or proposed surface facilities associated with the Kenilworth lease area are anticipated at this time. Should additional surface facilities be required during the mining of the Kenilworth lease, the facilities will be permitted and bonded for as the need arises. The application meets the minimum requirements of R645-301-512 and -521.

cparker

Maps Mine Workings

Analysis:

The application included an update to Plate 26 and Plate 29 showing the proposed extent of the mine workings within the Kenilworth lease area. The application meets the minimum requirements of R645-301-512 and -521.

cparker

Maps Monitoring and Sampling Locations

Analysis:

Plat 9 shows the location of the reference areas R-1, R-3, and R-4, each approximately 200 square feet. Plates 26, 27 and 28 show all the test borings locations and elevations, with the respective information from each located in Appendix E. The application meets the minimum requirements of R645-301-521 detailing the monitor and sample location maps.

cparker

Reclamation Plan

General Requirements

Analysis:

The application includes the revision of section R645-301-515.100 through -515.300 that is identical to text that was previously approved and included in the MRP as of October 2, 2002 which details the minimum required environmental monitoring which the Permittee will continue to perform while Centennial Projects is in temporary cessation status. The application meets the minimum requirements of R645-301-500.

cparker

PostMining Land Use

Analysis:

The application notes there will be no additional surface disturbance except for possible GVH holes, if required. There will be no change in land-use status from premining to post mining use which is livestock grazing, wildlife habitat, and recreation. The application references Appendix R for surface owner comments. Appendix R was not updated in the application. Appendix R, as approved 8/17/1992 in the MRP is a letter dated 6/1/1992 in which surface landowners provide consent. Although there is not a map included, information in Chapter 1 indicates the landowners of record are the Federal Government and Zion Securities Corporation. The Federal Government will provide comments in an updated Environmental Assessment and Zion Securities Corporation has agreed with the use in the right to enter lease.

Ireinhart

Approximate Original Contour Restoration

Analysis:

The application included the addition of text under section R645-301-512.260 to state the only cut slopes at Apex, Pinnacle and Aberdeen will vary from AOC. All remaining slopes will be backfilled to the extent possible. The application does not meet the minimum requirements of R645-301-512.260.

Deficiencies Details:

The current application states that variance has been granted for Apex, Pinnacle, and Aberdeen from approximate original Contour. This statement is incorrect as any "variance" to any R645 Coal mining rules falls under section R645-302 which requires reviews and approval by the Division and the U.S. Office of Surface Mining. The application does not meet the minimum requirements of R645-301-512.260 as no variance has been granted. The Permittee will remove the text from this section stating that variance has been granted.

cparker

Backfill and Grading General

Analysis:

No changes were made to section R645-301-553. The application meets the minimum requirements of R645-301-553.

cparker

Mine Openings

Analysis:

The application did not include the revision or addition of any text within sections R645-301-513, -529, and 551 that was not already previously approved in the MRP. The application meets the minimum requirements of R645-301-513. The application includes a revision to the text on page 5-183 under section R645-301-525, that states a five to seven entry system is being used. The remainder of the paragraph goes on to describe five of the entry points. Clarification is required if the operations at the mine included a five or seven entry system. The application does not meet the minimum requirements of R645-301-529 and -551. The Permittee states that mine water discharges would be treated, should one occur from any of the Aberdeen , Pinnacle or Apex Mine portals. The Permittee states that this is unlikely to occur, as the coal seam at the mines portals dips away from the portals as one advances deeper into the mine. The Permittee commits to monitoring any mine discharge according to the UPDES permit which is in effect when the discharge is observed.

Deficiencies Details:

The application does not meet the minimum requirements of R645-301-529 and -551 as the first sentence in Mains, Submains, and slopes states a five to seven entry system is being used. The statement then conflicts with the final sentence in the paragraph stating "... making the five entry system." Clarification is requested on the number of entries as such information is pertinent to R645-301-529 and -301-800.

cparker

Road System Reclamation

Analysis:

The current application did not change the text within section R645-301-534 and -537 and meets the minimum requirements of R645-301-534 and -537.

cparker

Road System Retention

Analysis:

The current application did not change the text within section R645-301-534 and -537 and meets the minimum requirements of R645-301-534 and -537

cparker

Contemporaneous Reclamation General

Analysis:

Information provided in the application meets the minimum requirements of R645-301-352. Page 3-23 provides a plan for interim reclamation. Disturbed areas will be stabilized and hydroseeded with the final reclamation seedmix. Vegetation cover will be maintained as necessary and slope stability will be measured by visual inspection.

Ireinhart

Revegetation Timing

Analysis:

Interim revegetation will take place on all disturbed sloped via hydroseeding. Schedule of revegetation is on page 3-23 and contains a description of seeding native seeds during the first normal seeding period in coordination with regulatory agencies. A detailed schedule and timetable of each major step is not provided. Seed mixtures and rates are provided in tables III-13 & III-14 and include species important for wildlife habitat. Seeding methods, mulching techniques, management practices, and measures to determine success are described on pages 3-24 & 3-25. Measures to determine success are described on pages 3-25 and 3-26. Wildlife and enhancement measures are described in Appendix A. Additionally, they commit to include water sources, thermal cover, escapeways, hiding and loafing places, and travelways. Andalex will consult with the DWR at the time of final reclamation, to determine exactly what reclamation design would best enhance habitat.

Deficiencies Details:

The application must contain a detailed schedule and timetable for the completion of each major step in the revegetation plan in accordance with R645-301-341.

Ireinhart

Cessation of Operations

Analysis:

The application includes the revision of section R645-301-515.300 and -529 that are identical to text that has been previously approved and was added to the MRP as of October 2, 2002. The application meets the minimum requirements of R645-301-515.300 and -529.

cparker

Maps Affected Area Boundary

Analysis:

The text was not edited within the MRP and references section R645-301-510. Section R645-301-510 details that Plate 26 and 29 have been updated to reflect the addition of the Kenilworth lease. The application meets the minimum requirements of R645-301-542.

cparker

Maps Bonded Area

Analysis:

The text was not edited within the MRP and references section R645-301-542. Section R645-301-510 details that Plate 26 and 29 have been updated to reflect the addition of the Kenilworth lease. The application meets the minimum requirements of R645-301-542

cparker

Bonding and Insurance General

Analysis:

Chapter 8 of the application was revised to contain the relinquishment of the mined out leases and the addition of the Kenilworth Lease. These changes do not required any changes in the amount of disturbed area acreage at this time. Although the addition of gob vent holes may be necessary to mine the Kenilworth lease, these disturbances are not

anticipated at this time.

All changes to the text within Chapter 8 are minor and the approved reclamation cost estimate is contained in Volume 2, Appendix B of the Centennial Project MRP.

cparker

Bonding Form of Bond

Analysis:

The Division and the OSMRE currently hold thirteen surety bonds and one letter of credit which total \$1,520,000 for the 47.9 acres of disturbance at Centennial.

cparker

Bonding Determination of Amount

Analysis:

The posted bond amount for the Centennial project is \$1,520,000.

cparker

Bonding Terms and Conditions Liability Insurance

Analysis:

The Permittee is a subsidiary of Murray Energy Corporation which maintains general liability insurance for the site on an annual basis.

cparker