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State of Utah
DEPARTMENT OF NATURAL RESOURCES

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September 24, 2008

Greg Hunt, Agent
Carbon Resources, LLC
16577 Columbine Lane
Cedaredge, Colorado 81413

Subject: Deficient Permit Application, Carbon Resources LLC, Kinney #2 Mine, C/007/0047, Task ID #2989, Outgoing File

Dear Mr. Hunt:

The Division has reviewed your application to operate a coal mine facility at the Kinney No. 2 mine site in Scofield, Utah.

The Division has determined that there are deficiencies that must be addressed before a determination can be made that the requirements of the R645 Coal Mining Rules have been met, and an approval can be granted. Those deficiencies are listed as an attachment to this letter.

Each deficiency identifies its author by that author's initials in parentheses, such that your staff can directly communicate with that individual should any questions arise relative to the preparation of Carbon Resource's response to that particular deficiency.

Please respond to these deficiencies as soon as possible such that we may efficiently process your application.

Sincerely,

Daron R. Haddock
Permit Supervisor

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Attachment

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Deficiency List

Task ID #2989

Kinney #2 Mine

The members of the review team include the following individuals:

Priscilla Burton-(PB)
Steve Christensen- (SC)
David Darby- (DD)
Joe Helfrich- (JH)
Wayne Western- (WW)

R645-103-235, The application must include a written waiver from the owner of each occupied dwelling within 300 ft of the disturbed area boundary, to allow coal mining and reclamation operations within 300 feet of the dwelling. (PB)

R645-300-113, The Applicant must maintain current registration with the Utah Department of Commerce. Carbon Resources LLC registration lapsed on November 17, 2007. (PB)

R645-300-114.400, Corporate identification numbers for Western Reserve Coal Company, Inc. and WRCC, LLC. and Carbon Resources, LLC are required, are not confidential, and must be provided in the application. (PB)

R645-300-141, The application must provide the legal description of the land designated as permit area. Numerous errors in the legal description were noted in Section 2.1.5.1 for the permit area portion of the lease and these must be verified. (PB)

R645-301-112, The Applicant must disclose all company officers' names and addresses and telephone numbers along with their employer identification numbers. All those who own 10% or more controlling interest in the company must be disclosed. • Percent ownership of the officers in each company and percent ownership of parent companies within the organizational family tree must be disclosed. • For all officers and directors and members, the date their position was assumed must be provided. (PB)

R645-301-112.700, Prior to permit issuance, the application must provide MSHA numbers for mine associated structures. (PB)

R645-301-112.800, Map 4.5.1.2-2, Coal Regional Ownership Map, mis-represents the coal ownership by Carbon Resources, LLC, according to the legal description in Section 2.1.5.1. The legal description provided in Section 2.1.5.1 is for a much larger area than the 452.5-acre permit area shown on Map 4.5.1.2-2. All adjacent coal leases must be shown on Map 4.5.1.2-2. In addition, Map 4.5.1.2-2 must designate the separation between R. 6 E. and R. 7 E. (PB)

R645-301-121.200, The legend provided for Regional Land Use Map 3.4.1.4-1 provides a hatch

marking for Bureau of Reclamation land, but Scofield Reservoir is not marked with this legend and the Scofield Lake State Recreation Area boundary should be marked on the Regional land Use Map 3.4.1.4-1. • The application should note the connection between Exhibit 1.2-1 photographs and the pre-mining site condition Map 4.5.1.2-4 that provides photograph locations. Likewise, the application should refer to Exhibit 1.2-1 on Map 4.5.1.2-4 for photographs of numbered locations shown on that map. (PB)

R645-301-121.200 and R645-103-234.100, Applicant states that they have obtained approval for access to SR 96, from Emery County, but the authority with jurisdiction over the State highway is the Utah Department of Transportation. The permit application must contain the approvals from Utah Department of Transportation. (PB)

R645-301-121.200 and R645-301-526.210, Section 4.5.2.3 refers to Section 4.7 for further information on the 50,000-gallon water tank and water system to be supplied by the Scofield Town. No further information was found in Section 4.7 with regard to the water system. Is this potable water? Is this water for dust control? Is there an agreement in place with the Town of Scofield? (PB)

R645-301-221 and R645-301-121.100, Please include in Exhibit 1.5-1, the original correspondence letter and map (if any) that was sent to the NRCS, so that the area reviewed by the NRCS is documented. (PB)

R645-301-222 and R645-301-121.200, Figure 1 must show the proposed disturbed area boundary and references to the acreage enclosed by the "proposed mine facilities area" in Section 4.2.2.2 and the "actual proposed disturbance" in Section 4.2.2.1 should agree with the proposed disturbed area boundaries shown on Figure 1. • Figure 1 Soils Map should be produced on a scale equivalent to other mine maps (scale of 1 inch equals 200 feet, with 2 ft. contours), such that it can be used for soil salvage during site construction (and so that the Division can read the symbols on the map!). • Figure 1 should illustrate the known locations of buried coal fines. (PB)

R65-301-222.400, Provide an estimate of productivity for each soil type or range type or vegetation type. (PB)

R645-301-231.400, The maximum dimensions of the soil stockpile are requested. (PB)

R645-301-232.100, A second soil stockpile is necessary to provide for salvage of all 68,092 cubic yards available from the site. This second stockpile would allow separation of undisturbed from previously disturbed soil and coal fines. In addition, a second stockpile would provide room for expansion, if needed. The Division notes that 0.1 acres of map Unit 3A was included in the total disturbed acreage (27.3 acres) on Figure 1. Map Unit 3A is on the west side of the highway (Telonis owned property) and might be evaluated for use as a stockpile location. (PB)

R645-301-232.700, Figure 1 should have a symbol for those areas considered too steep or

otherwise unavailable for soil salvage. An estimate of acreage unavailable for soil salvage should be included in the narrative and in the Planned Disturbance Table on Figure 1. (PB)

R645-301-234.210, The application should explain how the soil stockpile would be separated from the bathhouse fill pad. (PB)

R645-301-234, The applicant commits to reporting final salvage volumes in an annual report (Section 4.4.2.1). This commitment should state that the mining and reclamation plan (MRP) will be amended with the as-built information on final soil salvage volumes, areas and recovery depths, as well. • The application should state the source, and describe the quality and quantity of the excavated material to be used as a base for the soil stockpile construction. (PB)

R645-301-234.220 and R645-301-121.200, The plan describes protection of the topsoil stockpile from Hwy 96 by means of a ditch and a berm. As illustrated on Map 4.7.2.1-2, the plan should clearly indicate that the ditch begins approximately 200 ft. from the southern end of the stockpile and that the main protection for salt loading at the southern end of the stockpile is the six-foot fill. (PB)

R645-301-241, the topsoil sampling described in Sec. 5.2.2.3 is appropriate, but the commitment should include a description of the analyses to be performed. (PB)

R645-301-242.110 and R645-301-553.130, Reclamation slopes will vary from 5h:1v to 0.5h:1v (Section 5.4.2.3, Backfilling and Grading to Establish Final Configuration). The geotechnical investigation in Exhibit 4.5.2.1-1 recommends construction of cutslopes no greater than 1.25h:1v or in the vicinity of B-B' no greater than 1.75h:1v. The geotechnical investigation does specify that cuts into competent sandstone may approach 0.5h:1v, but does not indicate fill slopes may approach this steepness. No specific recommendations for fill slopes were made, except that the sandy lean clay soils are collapsible and have a friction angle of 20 degrees. Map 4.7.2.9-1 shows reclamation contours. To facilitate the Division's understanding of where topsoil will be replaced, this map should also identify steep slope segments by their slope angle as well as those slopes which are pre-existing, pre-SMCRA remnants of previous mining. Topsoil should not be replaced on areas that are too steep. (PB)

R645-301-244.100, For those areas where discing the surface is not an option due to excessive slope, Section 5.2.2.4 must describe seeding, and mulch application immediately following topsoil application, regardless of season. • Section 5.2.2.4 must describe a method of soil stabilization for those areas where seeding does not immediately following topsoil application. • The plan should differentiate on a map, which slopes will be deep gouged as described in Section 5.3.2.2 and which will be disced as described in Section 5.2.2.4. (PB)

R645-301-244.320, The application must include a commitment to repair rills and gullies, including replacement of topsoil and reseeding or replanting, if necessary. (PB)

R645-302-321, The application should provide the name of the irrigation company or individual that owns the irrigation ditch running across the proposed mine site and the date the ditch was last used. • The application must describe agricultural activity (production quantities by crop type, animal units supported, etc.) for each agricultural landowner adjacent to the mine site. • The application must provide a map showing the adjacent agricultural lands, identifying subirrigated and irrigated lands, showing all irrigation ditches, and define the extent of the adjacent alluvial valley floor in Pleasant Valley. (PB)

R645-301-422, Prior to permit issuance, the application must include the Air Quality Approval Order. (PB)

R645-301-624, Table 3.6-2 provides some information on the acid forming potential for roof and floor, but it is not clear whether this is the acid/base potential of the rock or the acid forming potential of the sulfate in the rock or the base forming characteristic of the rock. This table must be supported by the analytical results accompanied by the name of the organization that analyzed the data (R645-301-131). According to R645-300-124.300, acid/toxic reporting on roof and floor is not confidential. • Table 3.6-3 does not provide the laboratory analysis for the parameters identified. Table 3.6-3 must be accompanied by the analytical results accompanied by the name of the organization that analyzed the data. According to R645-300-124.300, chemical characteristics of roof and floor are not confidential. • Section 4.7.2.1 states that "Analysis of both actual existing and potential future coal materials, including incidental roof and floor rock, are described in Section 3.6-3 Coal and Overburden/Interburden Characteristics." However, Section 3.6-3 does not discuss the characteristics of the coal currently buried on site. The plan must provide information on the characteristics of the buried waste that will be unearthed in the process of site development. (PB)

R645-301-553.252, A commitment to bury coal mine waste beneath four feet of cover is required. Section 5.4.2.3, Disposal of Mine Waste, and Non-Coal Waste is silent on this issue. (PB)

R645-301-731.300 and R645-301-121.200, The applicant should verify whether the statements made in Section 4.7.2.4 and Section 4.7.4.3 agree with other statements in the plan concerning blending of development waste with spec coal. •The application should include in Sections 4.7.2.4 and 4.7.4.3 a discussion of the information known about the chemical acid/toxic characteristics of the roof, floor, coal, and buried mine waste on site. (PB)

R645-301-731.300 and R645-301-536.320, Provide a sampling plan to identify acid/toxic characteristics of waste stored on the surface. (PB)

R645-301-120, The Permittee should provide legends for all maps within the application. If a map depicts a feature or item of interest that is denoted by a specific symbol or demarcation, that symbol should be noted in a legend and identified. For example, Map

4.7.2.1-1, *Drainage and Sediment Control Plan Undisturbed Drainage Areas*, depicts components of the mine sites drainage design, yet there is no legend on the map that identifies what those components are. Map 3.7.2-1, *Works-Wells-Springs-Faults* depicts numerous geological and hydrologic features that are not identified within the legend. (SC)

R645-301-150, The List of Tables indicates that the application contains Table 3.7-1, *Kinney No. 2 Mine Baseline Monitoring Stations*, at the end of section. Upon review of the application, it does not appear that this table was included in the application. The Permittee should include Table 3.7-1, *Kinney No. 2 Mine Baseline Monitoring Stations*, as indicated in the table of contents. (SC)

R645-302-321, Based on available data or field studies, the application must define the extent of any adjacent alluvial valley floors within the permit and adjacent area. (SC)

R645-301-724.300, The Permittee should provide more discussion/data to address the nature of the material contained within the north-south trending fault systems. On page 3.7-13, 5th paragraph, "At times shales in or adjacent to fractured or faulted zones will swell, acting as an aquitard thus limiting vertical ground water movement via the fault, and horizontal movement through the fault." The Permittee should provide further characterization as to the hydrologic properties of the numerous faults located within and adjacent to the permit area. The application should address how it was determined that the faults serve as confining layers to hydrologic flow within the permit and adjacent area as opposed to (as in some cases within the Utah coal fields) a fault that is capable of transmitting water. (SC)

R645-301-723, The Permittee should provide commitment to conduct all water quality analyses according to the methodology in the current edition of "Standard Methods for the Examination of Water and Wastewater" or the methodology in 40 CFR Parts 136 and 434. Upon review of the application, it did not appear that such a commitment or discussion per R645-301-723 (as to the sampling protocols/standards to be followed) was included. In addition, the Permittee should provide a commitment to submit water quality data electronically to the Division's Utah Coal Mining Water Quality Database. (SC)

R645-301-724, The Permittee should provide the laboratory analytical reports generated from both the ground and surface water monitoring activities. (SC)

R645-301-724.100, The application should provide a more clear and concise presentation as to the groundwater characterization within the permit and adjacent area. The discussion should explicitly address why the minimum groundwater quality samples could not be obtained (with the exception of CR 06-03 ABV) from the monitoring wells depicted on Map 3.7.2.1-1, *Ground Water Level Data*. Exhibit 3.7.2.2-2, *Surface and Ground Water Field Measurements*, outlines the numerous field visits where water level readings were obtained from below, within and above the coal seam. Map 3.7.2.1-1 identifies CR-06-02 as a dry well, however upon review of the field data presented in Exhibit 3.7.2.2-2

water level data was obtained from CR-06-02 fifteen times and exhibited fluctuations of more than four feet. In addition, the application should discuss why the minimum groundwater quality samples were not obtained for Eagle Springs 1A, 2 and 3. (SC)

R645-301-724.100, The application should provide a more clear and concise presentation as to the groundwater characterization within the permit and adjacent area. A regional aquifer is discussed in several instances within the application. It is unclear as to whether the application has provided the data necessary (i.e. water quality, quantity, seasonal fluctuation, usage etc.) in order to accurately characterize the nature/characteristics of the regional aquifer system. The Permittee should provide the data and/or a reference to information that can substantiate the characterization of the regional aquifer system in the permit and adjacent area. Page 3.7-11 of the application states, "Because the lower portion of the Blackhawk Formation is the primary coal-bearing sequence in the area, the regional aquifer system is the only ground water system which could be directly affected by the mining operations". Page 4.7-5 states, "Mining within a regional aquifer is not *anticipated*, however, if it were to occur, a reduction in the amount of water available within the aquifer due to in-mine pumping and extraction, would result in a temporary localized depression of the piezometric surface". The groundwater baseline discussion should provide data and/or a reference that characterizes the seasonal fluctuation of the regional aquifer's potentiometric surface, it's usage and it's water quality. (SC)

R645-301-724.100, The Permittee should provide a more clear and concise characterization/discussion as to the origin of recharge to the seeps and springs identified within the permit and adjacent area. (SC)

R645-301-724.100, The Permittee must address the following discrepancy. Page 3.7-4 states, "No seeps and springs were found within the permit area itself". However, Map 3.7.1.3-1, *Regional Hydrology* depicts Eagle Springs 1, 1A, 2 and 3 within the permit boundary. (SC)

R645-301-724.100, On page 3.7-9, the application states, "Further evaluation also shows that with the exception of Sulphur Spring, seeps and springs located along the western facing slope of the mine permit area are all located *south* of the mine permit area and are at elevations of 8,000 feet msl or higher". Upon review of Exhibit 3.7.2.2-1, Seep and Spring Survey and Map 3.7.1.3-1, it's difficult to determine the locations of the springs located south of the proposed permit area. The application should provide a more clear and concise presentation as to the springs and seeps located within the permit and adjacent area. (SC)

R645-301-724.100, The Permittee should provide a map that depicts the locations of the groundwater rights within and adjacent to the permit area. Per R645-301-724, the Permittee must provide the location and ownership for the permit and adjacent areas of existing wells, springs and other ground-water resources. The table of contents lists Figure 3.7.2.5-1, *Ground Water Right Locations*, in the table of contents. However, it appears that the figure was not inserted into the application prior to submittal. The locations of these water rights are necessary in order to evaluate the potential impacts

from the proposed mining operation on groundwater resources. (SC)

R645-301-724.200, The Permittee should provide data and discussion as to how the characterizations of the Eagle Canyon and UP Canyon drainages were formulated. Page 3.7-17 of the application states, "Minor *perennial* streams drain watersheds adjacent to the proposed permit area including several *small intermittent and ephemeral* tributaries are located within and adjacent to the permit area, including UP Canyon to the south and Eagle canyon to the north." The sentence is unclear. On page 3.7-18, the application states that with the exception of Mud Creek and Long/Miller Canyon, "all other area drainages are characterized by intermittent or ephemeral flow patterns". The Permittee should provide the data that was utilized in determining the flow/usage characteristics as well as the water quality for all drainages located within the permit and adjacent area. The additional information should also be supplied for any undisturbed drainage that intercepts the surface facilities as depicted on Map 4.7.2.1-2. Page 3.7-7 discusses the nature of surface runoff within the disturbed permit area. The application notes that when runoff occurs, it is either sheet flow or small concentrated flow within ephemeral channels. The application should clearly identify and characterize the drainages that intersect the surface facilities. Upon review of map 4.7.2.9-1 and the discussion regarding diversions, it's clear that ephemeral drainages intersect the disturbed area. The surface water baseline information needs to address all drainages within and adjacent to the permit area (i.e. ephemeral, intermittent and perennial). (SC)

R645-301-729, The application does not meet the Baseline Cumulative Impact Area Information requirements of the State of Utah R645-Coal Mining Rules. The Permittee must address the baseline data deficiencies outlined previously in order for the Division to assess the probable cumulative hydrologic impacts from the proposed operation on ground and surface water systems. The Permittee must address the baseline data deficiencies outlined previously in order for the Division to make that assessment. (SC)

R645-301-728, In order to accurately assess the PHC Determination provided in the application, the Permittee must first address the baseline data deficiencies outlined in the Environmental Resource Information section. Per R645-301-728, "The PHC determination will be based on baseline hydrologic, geologic and other information collected for the permit application". Once the baseline deficiencies have been addressed, the Division will be able to accurately assess the probable hydrologic consequences associated with the proposed mining activity. (SC)

R645-301-724.100, The Permittee should provide a table that clearly identifies the monitoring schedule and sample parameters for each individual water-monitoring site. Table 4.7.2.3-1, *Monitoring Schedule* provides a table listing the parameters and the frequency with which sites will be monitored, however; based upon access issues with surface owners within the permit area, it's the Division's understanding that CR-06-03-ABV and Angle Spring depicted on Map 4.7.2.3-1, *Surface & Ground Water Monitoring Sites* can not be monitored. The application should provide a clear presentation as to what sites are to be monitored (identified by specific Site ID), as well as the sampling frequency and analytical parameters for each individual site. (SC)

R645-301-724.100, The Permittee should remove the sentence on Page 3.7-8 that states, "The first of these wells is located in Eagle Canyon and has been ordered to be abandoned by DOGM". The application is discussing water-monitoring well CR-06-03-ABV. The Division ordered the well to be abandoned due to contract disputes that arose between the landowner and the Permittee. The well was reclaimed because of the language in the Permittee's access agreement and the wishes of the landowners. (SC)

R645-301-724.100, The Permittee should include Table 3.7-1, *Kinney No. 2 Baseline Monitoring Stations*, as identified in the Table of Contents. None of the permit applications submitted to the Division contained this table. (SC)

R645-301-724.200, The Permittee should provide some discussion/justification for not establishing water-monitoring points within Eagle and UP Canyon as well as any ephemeral or intermittent drainage that exists within the proposed permit and adjacent area. (SC)

R645-301-724, The Permittee should include Table 3.7-1, *Kinney No. 2 Baseline Monitoring Stations* as identified in the Table of Contents. None of the permit applications submitted to the Division contained this table. (SC)

R645-301-722, The scale of Exhibit 3.7.2.2-1, *Spring and Seep Survey June 2006*, needs to be enlarged. The map in Exhibit 3.7.2.2-1 depicts the locations/results of the spring and seep survey conducted by Rock Lock Consulting, LLC in June of 2006. However, the scale of the map is such that it's difficult to make out the names and locations of the various springs and seeps. In addition, the proposed permit boundary should be depicted on the map. (SC)

R645-301-722, The Permittee must provide a map that depicts the locations of the groundwater rights located within the permit and adjacent area. A surface water right location map was submitted, however, it appears that a groundwater right location map was not. It is noted however, that a Ground Water Right location map is shown on the table of contents submitted with the application. (SC)

R645-301-722, The Permittee should provide a cross-section that depicts the relationship between the coal seam to be mined and the groundwater levels encountered during baseline data collection at each of the monitoring wells as show on Map 3.7.2.1-1, *Ground Water Level Data*. (SC)

R645-301-722.200, The Permittee should modify Map 3.7.1.3-1, *Regional Hydrology*. In Section 3.7.3.2 on Page 3.7-17, the application identifies the UP Canyon and Eagle Canyon as "small intermittent and ephemeral tributaries within and adjacent to the permit area". A hatched line or some demarcation should be utilized to depict the locations of these ephemeral/intermittent drainages. The UP Canyon drainage is not depicted on Map 3.7.1.3-1. In addition, page 4.7-17 discusses the re-establishment of an ephemeral drainage through the disturbed area. Map 3.7.1.3-1 should depict all of the ephemeral,

intermittent and perennial drainages that are located within or adjacent to the permit area. (SC)

R645-301-722.200, The Permittee should revise Map 3.7.1.3-1, *Regional Hydrology*. Based on the surface water discussion on page 3.7-16, perennial flows are exhibited in Miller and Long Canyon. However, the aforementioned map depicts the drainage path of the Miller and Long Canyon as a discontinuous blue line. If the flow is perennial, the drainage should be depicted with a solid blue, contiguous line. (SC)

R645-301-722.400, The application must include the location and depth, if available, of water wells in the permit area and adjacent area. Upon review of the application, it's not clear as to whether this regulation has been addressed. If there are no water wells within the permit and adjacent area, the Permittee should provide a brief discussion and provide a reference that supports that conclusion. (SC)

R645-301-746, The Permittee should provide a clear and concise discussion as to how generated coal mine waste will be handled on the mine site. Surface facility item number 9 on Map 4.5.1.2-3, *Surface Facilities*, is listed as a screening and crushing building. If screening is to occur at the mine site, it's assumed that some form of residual material (i.e. coal mine waste) would be produced as a result of that physical processing. The application must provide a discussion as to how coalmine waste will be stored and handled. The discussion should also address the hydrologic design criteria requirement in R645-303-746.212. (SC)

R645-301-731.210, -220, The Permittee must first address the deficiencies relative to ground and surface water baseline data, geologic baseline data and the PHC before the Division can make a finding that the proposed operational phase monitoring plan meets the requirements of the State of Utah R645-Coal Mining Rules. The water-monitoring plan must be based upon the PHC determination as well as all baseline hydrologic and geologic information. (SC)

R645-301-731, The application should discuss how acid- and toxic-forming materials will be identified and handled during the construction, operational and reclamation phases of the mining operation. (SC)

R645-301-731.510, The application should discuss the potential for discharges into the underground mine per R645-301-731.510. Page 4.7-15 of the application discusses gravity discharges of water from the mine, but it does not appear that the application discusses discharges into an underground mine. (SC)

R645-301-751, The Permittee must obtain a Utah Pollutant Discharge Elimination System (UPDES) permit prior to Division approval of the application. A copy of the UPDES permit should be included within the application. (SC)

R645-301-742.300, The Permittee should provide a clear and concise discussion as to which diversions are temporary and which diversions will be permanent. On page 4.7-17 of the

application, the Permittee discusses “permanent diversions” which will be constructed following the termination of mining activity. However, Map 4.7.2.9-1, *Mine Surface Facilities Area Post Mining Topography & Interim Drainage Control* appears to depict only one diversion (Culvert UDC-2). (SC)

R645-301-742.300, The Permittee should provide a clear and concise discussion as to the diversions to be utilized at the site. On page 4.5-31 the application discusses the designs of “temporary diversion ditches” and a 10-year, 6-hour storm event. In the same paragraph, the application discusses “collection ditches” and peak flows utilized from a 25-year, 24-hour storm event. Upon reviewing the application, it’s unclear as to what the difference is between a ‘temporary diversion ditch’ and a ‘collection ditch’ and why they would require two different design storm events. Upon reviewing Exhibit 4.7.2.2-1, *Runoff Control Design Details* and Table 4.7.2.2-1, *Ditch Design Details*, it appears that the 10-year, 6-hour storm was utilized in designing all of the diversions. In addition Table 3.7.8.2-1, *Design Rainfall Depths*, does not list a 25-year, 24-hour storm event. (SC)

R645-301-742.300, The Permittee should revise the routing figure provided in Exhibit 4.7.2.2-1. Due to the scale of the drawing, it’s extremely difficult to determine the routing that was utilized in the hydraulic/hydrologic modeling runs. (SC)

R645-301-742.300, In order for the Division to make a finding that the proposed diversions meet the requirements of the State of Utah R645-Coal Mining Rules, the Permittee must first present more information as to the location and characteristics of any drainage that intersects the proposed surface facility. (SC)

R645-301-731.600, The Permittee must address the baseline deficiencies relative to baseline surface water data in order for the Division to determine whether stream buffer zones will be required. The Permittee must characterize any drainage that exists within 100 feet of the proposed disturbed area (See Baseline Deficiencies). Upon review of the application, it’s clear that drainages intersect the disturbed area of the mine site. (SC)

R645-301-743, The Permittee should clarify the design information provided regarding the sediment pond. On page 4.5-30, the application states, “Sedimentation Pond 1 has been designed to contain or treat the runoff from the 10-year, 24-hour storm event and total design capacity includes storage for at least five years accumulation of sediment.”

However, on page 4.5-34 of the application, the Permittee states, “The pond has been designed to provide adequate capacity for at least three years accumulation of sediments..” The Permittee must address this discrepancy. (SC)

R645-301-744, The Permittee should provide a clear and concise presentation as to the primary and emergency spillways to be utilized with Sediment Pond 1. Map 4.7.2.1-3 depicts the sediment pond design details. It appears that two spillway devices will be utilized. However, one design drawing of the 24” CMP inlet structure is presented. The profile view at the bottom of Map 4.7.2.1-3 depicts a primary and an emergency spillway tee

connected to a riser with the same design detail citation called out. The plan view also shows a primary and emergency spillway with the same design detail citation called out. If the same inlet design is to be utilized for two structures, the text sections of the plan that discuss the sediment pond spillways as well as any design drawings should make that clear. (SC)

R645-301-744, The plan should briefly discuss the ultimate discharge point of the sediment pond in the sediment pond/discharge structure section of the MRP. The MRP should also provide some discussion as to where the overflow water would ultimately report in the event that the pond overflow elevation of 7,690' is breached. (SC)

R645-301-731, -760, The application should include a map that clearly depicts the ground and surface water monitoring sites to be sampled during the *operational and reclamation phase* of mining. Map 3.7.3.1-1, *Regional Hydrology* and Map 4.7.2.3-1, *Surface and Ground Water Monitoring Sites* both depict well CR-06-03-ABV as a monitoring site. However, on page 4.7-13 the application discusses how groundwater monitoring well CR-06-03-ABV and Angle Spring cannot be monitored due to access limitations resulting from "legal issues". In addition, on page 4.7-13, the application states, "The monitoring network is shown on Map 3.7.1.3-1, *Surface and Ground Water Monitoring Sites*." This appears to be incorrect as Map 3.7.3-1 is entitled *Regional Hydrology*. The Permittee must address this discrepancy in the text. (SC)

R645-301-760, The Permittee must provide a clear and concise discussion as to the hydrologic reclamation components to be implemented at the site. In several places the application discusses 'temporary' and 'permanent' drainages, but does not provide sufficient specificity as to what features of the hydrologic design system are 'temporary' and which ones 'permanent'. In addition, on page 5.5-2 states, "As a component of the planned reclamation activities CR will remove *some* temporary operational drainage structures, establish designed permanent post mining drainage structures, and modify *some* of the existing temporary drainage structures to provide for effective drainage..." The Permittee must provide additional detail as to what drainage features are part of what phase of the hydrologic reclamation plan (i.e. temporary, interim or permanent). (SC)

R645-301-760, The Permittee must revise the text of the application as well as Map 4.7.2.9-1 so as to more clearly depict the hydrologic reclamation plan. On page 5.4-4, the application states, "The proposed interim drainage and sediment control plan includes four areas where CR proposes to utilize alternative sediment control methods as the primary means of controlling erosion and sediment contributions." The application then cites Map 4.7.2.9-1 as depicting the sediment control features. Upon review of the map, it's not possible to determine what the 'four areas' are that will be utilizing alternative sediment control. (SC)

R645-301-760, The Permittee must provide a clear depiction of the runoff controls and alternative sediment control measures to be utilized during reclamation. The application discusses the use of alternative sediment controls such as silt fences, hay bales. These alternative sediment control measures and their installation locations do not appear to be

on any of the maps submitted in the application. On page 5.5-4 of the application, the Permittee states, "Runoff from the area south of the site access road cannot flow to the sedimentation pond and therefore will be controlled by alternative sediment control measures as shown on Map 4.7.2.9-1." Upon review of the map, it does not appear that the alternative sediment control measures are depicted. (SC)

R645-301-760, The Permittee should provide a reclamation treatment map that clearly depicts what drainage features will be temporary and which drainage features are permanent. The text of the application indicates that a component of the reclamation plan includes the removal of 'some' temporary operational drainage structures, establish designed permanent post-mining drainage structures, and modify 'some' of the existing temporary drainage structures to provide for effective drainage and sediment control. (SC)

R645-301-760, The Permittee should clarify Map 4.7.2.9.1, *Post Mining Topography*. Map 4.7.2.9-1 depicts a sediment trap in the legend as a hatched oval. Upon review of the map, the location of the sediment trap is unclear. (SC)

R645-301-729, In order for the Division to make a finding that the mine plan has been designed to prevent material damage to the hydrologic balance outside the permit area, the Permittee must provide additional hydrologic information relative to ground and surface water resources located within and adjacent to the proposed permit area. (SC)

R645-301-624.310, The applicant shall submit drill holes showing lithologic characteristics, including physical properties and thickness of each stratum that may be impacted. (DD)

R645-301-624.320, The applicant shall submit chemical analyses for acid- or toxic forming or alkalinity-producing materials and their content in the strata immediately above and below the coal seam to be mined. (DD)

R645-301-624.330, The applicant shall submit Chemical analyses of the coal seam for acid or toxic forming materials, including the total sulfur and pyritic sulfur. (DD)

R645-301-120, The applicant needs to complete the formatting of the application in accordance with the coal regulations. (JH)

R645-301-411, The SHPO has requested that the applicant develop a mitigation plan for the eligible sites that would be eliminated by the development of the mining operations (correspondence from Jim Dykman to Joe Helfrich dated August 26, 2008). This correspondence was "E" mailed to the applicant and Jody Patterson on September 11, 2008. (JH)

R645-301-320, a current list of the TE&S plant, animal and fish species for Carbon County needs to be included in the application. The list of maps section in volume 1 page LOM-I needs to identify map 3.2.1.2-1 as "Facilities Area Vegetation". (JH)

R645-301-320, a current list of the TE&S animal and fish species for Carbon County needs to be included in the application. The TE&S information provided by the Utah Natural Heritage Program needs to be field verified by a qualified professional in the identification of TE&S species. (JH)

R645-301-411, The land use classifications on page 3.4-4 do not coincide with those noted on map 3.4.1.4-1. The legend on the map does not show hash marks running from left to right as noted in the upper portion of the disturbed area. These inconsistencies need to be clarified. (JH)

R645-302-320, According to the information in the application section 3.2.1.2-1 "Facilities Area Vegetation Map contain resource values consistent with the AVF criteria", the applicant needs to explain what that means and define the boundaries of the AVF in relation to the proposed mining operations. The application also needs to address the requirements of this section of the regulations and explain how the eight reasons stated on page 7.0-5 do not meet the criteria for an AVF. (JH)

R645-301-411, the applicant needs to address this section of the regulations. (JH)

R645-301-322, -301-333, -301-342, -301-358, Page 4.3-2 section 4.3.1.2 includes a list of mitigation measures. The applicant needs to explain what these measures mean and how each of these measures will be implemented to ensure disturbance to the smallest practicable area and protect and enhance wildlife during the operational phase of the mining operation. (JH)

R645-301-322, -301-333, -301-342, -301-358, Page 4.3-2 section 4.3.1.3 includes a description of animals and habitats within the permit area. These habitats need to be clearly defined on map 3.3.1.4. The map lists habitat acronyms for various species in certain sections but does not define the range of these habitats. The habitats for all species listed on the map must be clearly defined on perhaps several maps and described in a clear and concise manner in this section of the text. Section 4.3.1.3 also needs to be revised to include a clear and concise protection and enhancement plan for these species. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements. (JH)

R645-301-322, -301-333, -301-342, -301-358, Page 4.3-2 section 4.3.1.4, Section 2.1.2, page 2.1-2 of the application states that "27.3 acres are planned to be disturbed by mining operations. Within this acreage there are a several high value wildlife species habitats some of which the applicant needs to further define as previously noted in section 4.3.1.3. The 27.3 acres of disturbance will eliminate these habitats until final reclamation is achieved after the conclusion of mining activities. Therefore this section of the application needs to be revised to include a clear and concise protection and enhancement

plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements. (JH)

R645-301-322, -301-333, -301-342, -301-358, The regional wildlife map 3.3.1.4 includes the location of stick nests. The application needs to include the species of raptor associated with each nest and the status of the nest. This data is available through the DWR. (JH)

R645-301-322, -301-333, -301-342, -301-358, Page 4.3-3, section 4.3.2.1 includes a list of impacts to vegetation and wildlife. Once again this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. The plan should include how these impacts listed on page 4.3-2 will be mitigated during active mining operations. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements. (JH)

R645-301-322, -301-333, -301-342, -301-358, Page 4.3-5 paragraph two should be deleted as it makes reference to the "Barn Canyon air ventilation shaft". (JH)

R645-301-322, -301-333, -301-342, -301-358, The proposed mining activities are located in a watershed that contributes water to the upper Colorado River. Within that section of the river are four endangered fish species, the Colorado pike Minnow, Razorback Sucker, Humpbacked Chub and Bonytail Chub. The USFWS considers water depletion to the Colorado River drainage as a potential jeopardy to these endangered fish. Water users may be required to mitigate if the overall water consumption is greater than 100 acre-feet per year. Currently, the mitigation fee is approximately 16.00 per acre-foot of depletion, but may change marginally from year to year. (JH)

R645-301-322, -301-333, -301-342, -301-358, The Permittee is required to address possible adverse affects to these four fish species by first calculating the amount of water used by all mining operations and explorations. The "Windy Gap Process" provides a guideline of parameters necessary to calculate overall water consumption for coal mines. (JH)

R645-301-322, -301-333, -301-342, -301-358, The application needs to include calculations for an estimate of mine water consumption for the mining activities. Criteria used to determine an estimate of the consumption can be obtained from the Division (801 538-5290). (JH)

R645-301-322, -301-333, -301-342, -301-358, Page 3.3-28 paragraph 3 describes the habitat for the Bald Eagle but does not include protection and enhancement measures for this species or Golden Eagles. (JH)

R645-301-322, -301-333, -301-342, -301-358, The application needs to include information about these habitat types if they are present in the proposed permit and adjacent areas.

The information needs to include how they will be protected and enhanced during the life of the mine and throughout reclamation. (JH)

R645-301-330, -301-331, -301-332, There are two vegetation maps in the application that show these features, Map 3.2.1.2-1 and Figure 1 but no Map 5. There are several other references to map 5 in exhibit 3.2 that need to be corrected. (JH)

R645-301-330, -301-331, -301-332, Page 5 of Exhibit 3.2 references the compilation of a list of threatened, endangered and sensitive plant species for the area. The list should be included in the application. (JH)

R645-301-330, -301-331, -301-332, Page 4.3-2 section 4.3.1.4, Section 2.1.2, page 2.1-2 of the application states that "27.3 acres are planned to be disturbed by mining operations. Within this acreage there are a several high value wildlife species habitats some of which the applicant needs to further define as previously noted in section 4.3.1.3. The 27.3 acres of disturbance will eliminate these habitats until final reclamation is achieved after the conclusion of mining activities. Therefore this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements. (JH)

R645-301-330, -301-331, -301-332, Page 4.3-3, section 4.3.2.1 includes a list of impacts to vegetation and wildlife. Once again this section of the application needs to be revised to include a clear and concise protection and enhancement plan for the vegetation and wildlife species that are displaced as a result of the proposed mining disturbance. The plan should include how these impacts listed on page 4.3-2 will be mitigated during active mining operations. Any assumptions need to be supported by accurate reliable data and the names of the individuals who collected the data and or made the assumptions or statements. (JH)

R645-301-412, -301-413, -301-414, The application needs to include information that addresses the post mining land-use section of the regulations. (JH)

R645-301-412, -301-413, -301-414, There is one reference to "a post mining land use of wildlife habitat and watershed" noted on page 5.0-1, paragraph one. The wildlife habitat needs to be defined by species occupancy and their type of habitat (example deer critical winter range). What is a watershed land use? (JH)

R645-301-244, -301-353, -301-354, -301-355, -301-356, -302-280 Section 5.3.2.4 includes a description of the mulching and stabilization practices for the reclaimed area. This section needs to include a method for incorporating the mulch into the soil. (JH)

R645-301-521, The Applicant must give a description of the permit area in the MRP, such as in Section 2.1.5.1. The information in Section 2.1.5.1 of the application describes the lease areas, which can be different from the permit area. (WW)

R645-301-521.190, The Applicant must include a table that states the acreages for permitted area and the disturbed area and lists what acreages as owned by the federal government, State government, local government or private ownership. The Division needs that information for reports that are given to the Office of Surface Mining. (WW)

R645-301-521.120, The Permittee must provide the Division with a map that shows the existing surface and subsurface facilities within the proposed disturbed area. Map 4.5.1.2-4, Mine Surface Facilities Area Pre-Mining Topography, must either be updated or a new map provided that shows • the disturbed area boundaries, • list on the map or in the text those existing facilities that will be used in connection with mining. (WW)

R645-301-521.150, The Applicant must provide the Division with a map the shows the existing surface contours of proposed disturbed areas. The maps that the Applicant supplied the Division do not show the disturbed area boundaries. (WW)

R645-301-521.190, The Applicant must provide the Division with a list of sources that they used to compile the existing mine working map. The Division recommends that the Applicant contact the Utah Geologic Survey and the Office of Surface Mining map repository in Pittsburgh, Pennsylvania. (WW)

R645-301-526.110, The Applicant must list in the text of the MRP all existing structures within the disturbed area that will be used in connection with mining and reclamation activities. The Applicant must also list those structures with the proposed disturbed area that will not be used or reclaimed. (WW)

R645-301-526.116.1 and R645-301-526.116.1, The Applicant must have detailed plans on what work will be done in connection with modifications to Highway 96. Specifically will the Applicant or the State relocate the road. The Division needs to have plans in place or commitments not to begin construction until the plans have been approved. (WW)

R645-301-527.210, The Applicant must show the thickness of asphalt and sub-base on Figure 4-5.3. The Division also needs specific information on asphalt and sub-base thickness. (WW)

R645-301-534.130 and R645-301-121.200, The Applicant must address the safety factor for roads within the text of the MRP. (WW)

R645-301-528.320 and R645-301-121.200, The Applicant must refer to underground development rock as either coal mine waste or underground development waste. Those terms have specific meaning for the Utah Coal Rules while underground development rock does not have a specific meaning and the term could be confusing to the reader. In addition, the Applicant must not refer to low-grade coal as underground development waste. The rules for handling and disposing of coal are much different than coal mine waste. (WW)

R645-301-528.320, The Applicant must specifically state the volume of material that will be stored in the temporary underground development waste storage site and the maximum time that material will remain on site. The Division needs so that there will not be any confusion about what constitutes temporary storage. (WW)

R645-301-536.510, If the Applicant wants to ship coal mine waste off site then the Applicant must state specifically to which permitted disposal site the material will be sent. In addition, the receiving site must also be permitted to receive material from the Applicant. (WW)

R645-301-528.323.1, The Applicant must state that only authorized personnel who understand the plan will be involved with extinguishing the fires. In addition, the Division does not recommend that the Applicant try to extinguish the fire with water due to the possibility of a steam explosion. (WW)

R645-301-533.100 and R645-301-121.200, The Applicant must state if any of the impoundments meet the NRCS Class B or C criteria for dams in TR-60, or the size or other criteria of 30 CRF Section 77.216. (WW)

R645-301-512.240, The Applicant did not have the designs for Sediment Pond 1 certified by a registered professional engineer. The information in Exhibit 4.7.2.2.1 was not certified. (WW)

R645-301-533.100 and 533.110, the Applicant did not specifically state the safety factor for Sediment Pond 1. (WW)

R645-301-533.300, The Applicant did not state how Sediment Pond 1 would be protected against sudden drawdown. (WW)

R645-301-524 The Applicant must address this applicable blasting regulation. Specifically the Applicant must cite each specific regulation and then describe how they will comply. The Division needs to have specific information on how the public will be protected from blasting given the State Highway 96 is within 1,000 of the disturbed area. The Applicant may want to submit the blasting plan at a later date. See R645-301-524.220, when specific blasting plans can be developed. (WW)

R645-301-553.120, The Applicant must provide the Division with cross sections for each portal area that show the existing configuration (including any previously mined areas) the proposed operational configuration and the reclaimed configuration. The Division needs that information to evaluate highwall reclamation. (WW)

R645-301-553.130, The Applicant must provide the Division with information on the angle of repose and if any of the reclaimed slopes will exceed that angle. (WW)

R645-301-553.300, The Applicant must provide the Division with cross sections that show that all coal seams will be backfilled with a minimum of four feet of material. (WW)

R645-301-551, The Applicant must also backfill the portal openings with a minimum of 25 feet of material. The main reason is that backfill acts as a protection against vandalism to the seals. (WW)

R645-301-542.600, The Applicant must revise the road reclamation plan so that all roads not to be retained as part of the postmining land use will be removed during the bond liability period. The Permittee must also state what roads if any will be retained as part of the postmining land use. (WW)

R645-301-512.130, The Applicant must have all reclamation maps and cross sections certified by a registered professional engineer. (WW)

R645-301-542.200, The Applicant must provide the Division with maps and cross sections that show final reclamation. Map 4.7.2.9-1 does not show the site after final reclamation. The pond, which is scheduled for removal, is shown. In addition, the Applicant must identify what surface and subsurface manmade features will remain after final reclamation. (WW)