

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

June 23, 2008

TO: Internal File

THRU: Daron R. Haddock, Permit Supervisor *DRH*

FROM: Steve Christensen, Lead *SC*

RE: Wellington Dry-Coal Cleaning Facility Application, Headwaters, Inc., Covol, Permit C/007/0045, Task ID #2899

SUMMARY:

On January 15th, 2008, the Division of Oil, Gas and Mining (the Division) received a permit application package (the application) from Headwaters, Inc. (the Permittee) for the Wellington Dry-Coal cleaning Facility (COVOL).

The facility utilizes an air-jig method to process coal-bearing materials. Termination of operations is contingent upon economic conditions. As such, the permit term is unknown. The Permittee anticipates that the facility will operate at the site for a period in excess of 5 years.

The anticipated acreage to be affected by the operation is approximately 30 acres. The disturbed area to be reclaimed is 30 acres. The land occupied by the facility is zoned for general industrial use. As such, complete site reclamation will not be required.

The following is the hydrologic analysis relative to the State of Utah R645-Coal Mining Rules. The hydrologic information provided in the application does not meet the requirements of the State of Utah R645-Coal Mining Rules. The application should not be approved at this time.

The following deficiencies must be addressed prior to Division approval of the application:

R645-301-723:

The Permittee must provide a commitment to perform all water quality analyses according to the approved methodologies outlined in R645-301-723. (SC)

R645-301-728 and -731.300:

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The Permittee must clarify whether acid- or toxic-forming materials are to be present at the site. If acid- or toxic-forming materials are present, the Permittee should address how they will be handled. The Permittee should discuss (if applicable) the potential for acid- or toxic-forming materials to produce hydrologic impacts. In addition, the Permittee should provide some discussion as to how it will be determined whether acid- or toxic-forming materials are brought to the site. (SC)

Page 7-8 of the application states, "No acid- or toxic-forming materials are present at the COVOL Dry-Coal Cleaning Facility". The first paragraph of page 7-11 indicates, "No acid or toxic materials are disposed of at the site." The fifth paragraph of page 7-11 states, "Acid- and toxic-forming materials are not permanently stored at the COVOL Dry-Coal Cleaning Facility. In the event that acid- or toxic-forming materials are brought to the facility, they will be handled appropriately." (SC)

R645-301-724: The Permittee should amend their water right information. According to the application on page 7-3, "The only water right field in the vicinity of the facility is for stock watering on Miller Creek." The water right (#91-3294) is depicted on Figure 7-2, *Surface Water Rights and Permitted Facility Discharge Locations*. However, according to the Utah Division of Water Rights (Dwri) Database, water right #91-3295 is located from a point at N 660 ft. W 660 Ft. from the SE corner of Section 14, T15S, R10E. Water right #91-3295 is a point-to-point diversion for the purpose of stock watering. Water rights #91-3294 and #91-3295 were located in the database utilizing the Dwri's Point of Diversion (POD) query. By utilizing a township, range, section search of the Dwri's Place of Use (POU) query, the database produced 69 entries located within T15S, R10E, and Section 14. The Permittee should amend water quality references within the text of the application to reflect additional water rights within the adjacent area as well as amend Figure 7-2. (SC)

R645-301-724.100: The application should provide the data that was utilized in determining the nature and characteristics of the groundwater system in the permit and adjacent area. On page 7-2 of the application, references are made to "logs of nearby wells" as well as groundwater monitoring data obtained from the Savage Coal Terminal. On page 7-4 of the application the Permittee states, "Based on the findings from groundwater monitoring wells drilled for the nearby Savage coal Terminal, shallow groundwater is saline, contains high levels of dissolved solids, and is generally poorly suited for drinking or irrigation". The referenced data should be provided with the application. (SC)

In addition, the application should provide a discussion as to how the information obtained from the Savage Coal Terminal and "nearby wells" is applicable to the proposed activity. The discussion should address groundwater flow direction within the permit and adjacent area. (SC)

R645-301-724.200: The application should provide the data that was utilized in determining the nature and characteristics of Miller Creek. The application characterizes Miller

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Creek as “a small perennial stream”. The Permittee should provide the data or justification for that determination. In addition, the Permittee should address the nature/characteristics of what appears to be a tributary to Miller Creek located approximately 400 feet west of the southwest sediment pond (See Figure 7-2). (SC)

R645-301-725: The application does not meet the Baseline Cumulative Impact Area Information requirements of R645-301-725. The Permittee must provide the data utilized in characterizing the nature of the ground and surface water systems within the permit and adjacent area. The data is necessary in order for the Division to accurately assess the probably cumulative hydrologic impacts of the proposed operation. (SC)

R645-301-728: The Permittee must clarify whether acid- or toxic-forming materials are to be present at the site. If acid- or toxic-forming materials are present, the Permittee should address how they will be handled. The Permittee should discuss (if applicable) the potential for acid- or toxic-forming materials to produce hydrologic impacts. In addition, the Permittee should provide some discussion as to how it will be determined whether acid- or toxic-forming materials are brought to the site. (SC)

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R645-301-724.100: The Permittee must provide a justification for not conducting groundwater monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates that “no groundwater monitoring” is to be conducted at the site. The Division must determine whether the proposed operation produces impacts to groundwater resources within the permit and adjacent area. With the absence of groundwater data within the application and with no groundwater monitoring proposed by the Permittee, the Division is unable to make that determination.

It should be noted that the Division might waive groundwater monitoring for the purpose of obtaining baseline information if the Permittee can demonstrate that data obtained from adjacent areas is comparable to conditions found at the site. (SC)

R645-301-724.200: The Permittee must provide a justification for not conducting surface water monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates, “No streams exist within the permit or adjacent areas. Therefore, only storm water will be monitored.” However, Figure 7-2, Surface Water Rights and Permitted Facility Discharge Locations”, depicts a tributary to Miller Creek approximately 400 feet from the southwest sediment pond. The application identifies Miller Creek as a small perennial stream (See Page 7-5). (SC)

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The Division must determine whether the proposed operation produces impacts to surface water resources within the permit and adjacent area. With the absence of surface water data within the application and with no surface water monitoring proposed by the Permittee, the Division is unable to make that determination. (SC)

R645-301-722.400: The Permittee should provide a map that depicts the wells located within the permit and adjacent area. On page 7-3 of the application the Permittee states, "No water-supply wells or groundwater monitoring wells exist in the permit or adjacent areas". This statement appears to contradict information provided in Section 7.2.2.1. The second paragraph of page 7-2 states, "Groundwater monitoring wells and a French drain installed at the Savage Coal Terminal, located approximately 0.25 miles north of the COVOL Dry-Coal cleaning Facility, were constructed from 6 to 20 feet deep into these materials." If the groundwater information from the Savage Coal Terminal is to be cited as the baseline data for the permit application, a map should be provided that depicts the locations of the monitoring wells. (SC)

R645-301-746.200: The application does not meet the Refuse Pile requirements of R645-301-746.200. The application should address how the Permittee will handle/store/dispose of refuse piles.

On page 5-5 the Permittee states, "No *permanent* refuse piles will be located in the permit area". On page 7-25, the Permittee states, "There are *no* refuse piles at the facility." These statements appear to contradict each other and should be clarified in the application. (SC)

R645-301-210: The application does not meet the Groundwater Monitoring requirements of R645-301-210. The Permittee must provide justification for not conducting groundwater monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates that "no groundwater monitoring" is to be conducted at the site. The Division must determine whether the proposed operation produces impacts to groundwater resources within the permit and adjacent area. With the absence of groundwater data within the application and with no groundwater monitoring proposed by the Permittee, the Division is unable to make that determination. (SC)

R645-301-220: The application does not meet the Surface Water Monitoring requirements of R645-301-220. The Permittee must provide justification for not conducting surface water monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates, "No streams exist within the permit or adjacent areas. Therefore, only storm water will be monitored." However, Figure 7-2, Surface Water Rights and Permitted Facility Discharge Locations", depicts a tributary to Miller Creek approximately 400 feet from the southwest sediment pond. The application identifies Miller Creek as a small perennial stream (See Page 7-5). (SC)

The Division must determine whether the proposed operation produces impacts to surface water resources within the permit and adjacent area. With the absence of surface water data

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within the application and with no surface water monitoring proposed by the Permittee, the Division is unable to make that determination. (SC)

R645-301-525.480 and -731.530: The Permittee should delete the statement found on page 7-12 under the Water Rights and Replacement heading. Section 7.3.1.8. of the application states, "Since there is no surface mining at the COVOL Dry-Coal cleaning Facility, this section does not apply". The Division finds that the proposed operation falls under the requirements of R645-301-525.480 and -731.530, which require the Permittee to replace/mitigate any State-appropriated water supply that is contaminated, diminished or interrupted. (SC)

R645-301-731.300: The Permittee must clarify whether acid- or toxic-forming materials are to be present at the site. If acid- or toxic-forming materials are present, the Permittee should address how they will be handled. The Permittee should discuss (if applicable) the potential for acid- or toxic-forming materials to produce hydrologic impacts. In addition, the Permittee should provide some discussion as to how it will be determined whether acid- or toxic-forming materials are brought to the site. Page 7-8 of the application states, "No acid- or toxic-forming materials are present at the COVOL Dry-Coal Cleaning Facility". The first paragraph of page 7-11 indicates, "No acid or toxic materials are disposed of at the site." The fifth paragraph of page 7-11 states, "Acid- and toxic-forming materials are not permanently stored at the COVOL Dry-Coal Cleaning Facility. In the event that acid- or toxic-forming materials are brought to the facility, they will be handled appropriately." (SC)

R645-301-732.200: The Permittee should discuss where the sediment ponds discharge (if they were to discharge) ultimately reports. Upon review of the application, it's unclear as to where the discharge from the ponds will be routed. Appendices 7-5, 7-6 and 7-7 provide the AutoCAD Modeling runs and hydrologic calculations but does not provide identify the receiving drainage from the sites sedimentation ponds. (SC)

TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

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

GENERAL

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

Analysis:

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The application meets the General Environmental Resource Information requirements. Beginning on page 7-2, the Permittee provides the general hydrologic information.

Findings:

The application meets the General Environmental Resource Information requirements as outlined in the State of Utah R645-Coal Mining Rules.

CLIMATOLOGICAL RESOURCE INFORMATION

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

Analysis:

The application meets the Climatological Resource Information requirements per the State of Utah R645-Coal Mining Rules. On page 7-6 of the application the Permittee provides climatological information for the site. Data is presented from the Western Regional Climate Center. The Permittee provides normal annual precipitation values, normal annual temperatures as well as the average annual wind speed at the location.

Findings:

The application meets the Climatological Resource Information requirements per the State of Utah R645-Coal Mining Rules.

ALLUVIAL VALLEY FLOORS

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

Analysis:

Alluvial Valley Floor Determination

The application meets the Alluvial Valley floor requirements as outlined in the State of Utah R645-Coal Mining Rules. The Permittee addresses alluvial valley floors in Chapter 9 of the application.

The Permittee states, "The COVOL Dry –Coal Cleaning Facility is located in an upland area overlain by a thin veneer of colluvial, slope wash deposits. It is not located within or adjacent to an alluvial valley floor."

Findings:

The application meets the Alluvial Valley floor requirements as outlined in the State of Utah R645-Coal Mining Rules.

HYDROLOGIC RESOURCE INFORMATION

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

Analysis:

Sampling and Analysis

The application does not meet the Sampling and Analysis requirements of R645-301-723. The Permittee must provide a commitment to perform all water quality analyses according to the approved methodologies outlined in R645-301-723.

Baseline Information

The application does not meet the Hydrologic Baseline Resource Information requirements as outlined in R645-301-724.

Water Rights

The Permittee should amend their water right information. According to the application on page 7-3, "The only water right field in the vicinity of the facility is for stock watering on Miller Creek." The water right (#91-3294) is depicted on Figure 7-2, *Surface Water Rights and Permitted Facility Discharge Locations*. However, according to the Utah Division of Water Rights (Dwri) Database, water right #91-3295 is located from a point at N 660 ft. W 660 Ft. from the SE corner of Section 14, T15S, R10E. Water right #91-3295 is a point-to-point diversion for the purpose of stock watering. Water rights #91-3294 and #91-3295 were located in the database utilizing the Dwri's Point of Diversion (POD) query. By utilizing a township, range, section search of the Dwri's Place of Use (POU) query, the database produced 69 entries located within T15S, R10E, and Section 14. The Permittee should amend water quality references within the text of the application to reflect additional water rights within the adjacent area as well as amend Figure 7-2.

Groundwater

The application discusses groundwater beginning on page 7-2 of the application. The groundwater information is based upon published information as well as from nearby well logs and monitoring information.

According to the application, groundwater is "potentially located in both shallow, perched Quaternary unconsolidated deposits above bedrock and in the Ferron Sandstone member of the Mancos Shale, which is approximately 700 feet below the ground surface at the permit

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area". The application references information from Utah Geological Survey bulletin 132, "Energy, Mineral, and Ground-Water Resources of Carbon and Emery Counties, Utah" (Gloyn et al., 2003).

The application should provide the data that was utilized in determining the nature and characteristics of the groundwater system in the permit and adjacent area. On page 7-2 of the application, references are made to "logs of nearby wells" as well as groundwater monitoring data obtained from the Savage Coal Terminal. On page 7-4 of the application the Permittee states, "Based on the findings from groundwater monitoring wells drilled for the nearby Savage coal Terminal, shallow groundwater is saline, contains high levels of dissolved solids, and is generally poorly suited for drinking or irrigation". The referenced data should be provided with the application.

In addition, the application should provide a discussion as to how the information obtained from the Savage Coal Terminal and "nearby wells" is applicable to the proposed activity. The discussion should address groundwater flow direction within the permit and adjacent area.

Surface Water

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The surface water information is presented on page 7-3 and 7-5 of the application. Figure 7-2, *Surface Water Rights and Permitted Facility Discharge Locations*, depicts the proposed permit area boundary relative to surface water resources with the permit and adjacent area. The permit boundary is located approximately 350 feet of a tributary drainage to Miller Creek.

The topography of the permit and adjacent areas drains to the south toward Miller Creek. Miller Creek is characterized in the application as being a "small perennial stream that feeds into the Price River in Wellington, Utah". The application indicates that no historical stream gage data exists for Miller Creek.

The application should provide the data that was utilized in determining the nature and characteristics of Miller Creek. The application characterizes Miller Creek as "a small perennial stream". The Permittee should provide the data or justification for that determination. In addition, the Permittee should address the nature/characteristics of what appears to be a tributary to Miller Creek located approximately 400 feet west of the southwest sediment pond (See Figure 7-2).

Baseline Cumulative Impact Area Information

The application does not meet the Baseline Cumulative Impact Area Information requirements of R645-301-725. The Permittee must provide the data utilized in characterizing the nature of the ground and surface water systems within the permit and adjacent area. The data is necessary in order for the Division to accurately assess the probably cumulative hydrologic impacts of the proposed operation.

Modeling

No numerical modeling of ground or surface water was conducted in the preparation of the application.

Probable Hydrologic Consequences Determination

The application does not meet the Probable Hydrologic Consequences Determination requirements of R645-301-728.

The application discusses the probable hydrologic consequences from the operation beginning on page 7-7. The potential for hydrologic consequences on surface and ground water resources within the permit and adjacent area are minimal. As no mining activity is associated with the operation, the surface disturbance will be minimal.

The facility will operate under a UPDES Permit (# UTR000685). As part of the UPDES permit, the Permittee has developed a Storm Water Pollution Prevention Plan (SWP3) as well as a Spill Prevention Control and Countermeasure Plan. Copies of these documents are provided in the application in Appendices 7-2, 7-3 and 7-4 respectively.

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The surface topography of the site slopes generally to the southeast. Grading of the site has been performed to direct all surface runoff to one of two sediment ponds located in the southeast and southwest corners of the site. Berms will be constructed to prevent storm water runoff from leaving the site. As part of the UPDES permit, both the berms and sediment ponds will be inspected on a quarterly basis or after/during a storm event greater than .5 inches to insure that they are operating as designed. As a result of the surface drainage plan, the potential for increased sedimentation to the receiving drainage (Miller Creek) is considered minimal.

The potential for flooding or stream flow alteration is considered minimal. The disturbed area does not contain surface water drainages. In addition, the disturbed area will be isolated from adjacent areas by the runoff control structures such as earthen berms, diversion ditches and sedimentation ponds. Runoff from all disturbed areas will flow to one of two sedimentation ponds prior to discharge into undisturbed drainages.

Groundwater and surface water availability impacts should be minimal. Due to the minimal amount of surface water resources within the permit and adjacent areas, and due to the runoff controls to be implemented at the site, surface water availability impacts should be negligible. Groundwater availability impacts should be minimal as well due to the relatively impermeable nature of the surface geology and underlying strata of Mancos Shale.

Potential hydrocarbon contamination is addressed on page 7-9 of the application. Impacts due to hydrocarbon contamination are considered to be minimal. All tanks and drums will be stored in secondary containment structures that prevent leaks from ever reaching the ground. Spills caused by filling operations outside of the secondary containment structures will be minimized due to the economic value of the product. In addition, because the storage tanks and drums will be located above ground, leakage from the tanks will be readily detected and repaired. The Permittee has provided the Spill Prevention Control and Countermeasure Plan in Appendix 7-4. The plan mandates in sections, training and operational measures to minimize contamination resulting from the use of hydrocarbon products at the site.

The Permittee must clarify whether acid- or toxic-forming materials are to be present at the site. If acid- or toxic-forming materials are present, the Permittee should address how they will be handled. The Permittee should discuss (if applicable) the potential for acid- or toxic-forming materials to produce hydrologic impacts. In addition, the Permittee should provide some discussion as to how it will be determined whether acid- or toxic-forming materials are brought to the site.

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Groundwater Monitoring Plan

The application does not meet the Groundwater Monitoring Plan requirements of R645-301-724.100.

The Permittee must provide a justification for not conducting groundwater monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates that "no groundwater monitoring" is to be conducted at the site. The Division must determine whether the proposed operation produces impacts to groundwater resources within the permit and adjacent area. With the absence of groundwater data within the application and with no groundwater monitoring proposed by the Permittee, the Division is unable to make that determination.

It should be noted that the Division might waive groundwater monitoring for the purpose of obtaining baseline information if the Permittee can demonstrate that data obtained from adjacent areas is comparable to conditions found at the site.

Surface-Water Monitoring Plan

The application does not meet the Surface Water Monitoring Plan requirements of R645-301-724.200.

The Permittee must provide a justification for not conducting surface water monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates, "No streams exist within the permit or adjacent areas. Therefore, only storm water will be monitored." However, Figure 7-2, Surface Water Rights and Permitted Facility Discharge Locations", depicts a tributary to Miller Creek approximately 400 feet from the southwest sediment pond. The application identifies Miller Creek as a small perennial stream (See Page 7-5).

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Findings:

The application does not meet the Hydrologic Resource Information requirements of the State of Utah R645-Coal Mining Rules. The follow deficiencies must be addressed prior to Division approval:

Sampling and Analysis

R645-301-723: The Permittee must provide a commitment to perform all water quality analyses according to the approved methodologies outlined in R645-301-723.

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Baseline Information

R645-301-724: The Permittee should amend their water right information. According to the application on page 7-3, "The only water right field in the vicinity of the facility is for stock watering on Miller Creek." The water right (#91-3294) is depicted on Figure 7-2, *Surface Water Rights and Permitted Facility Discharge Locations*. However, according to the Utah Division of Water Rights (Dwri) Database, water right #91-3295 is located from a point at N 660 ft. W 660 Ft. from the SE corner of Section 14, T15S, R10E. Water right #91-3295 is a point-to-point diversion for the purpose of stock watering. Water rights #91-3294 and #91-3295 were located in the database utilizing the Dwri's Point of Diversion (POD) query. By utilizing a township, range, section search of the Dwri's Place of Use (POU) query, the database produced 69 entries located within T15S, R10E, and Section 14. The Permittee should amend water quality references within the text of the application to reflect additional water rights within the adjacent area as well as amend Figure 7-2.

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Probable Hydrologic Consequences

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The Division must determine whether the proposed operation produces impacts to surface water resources within the permit and adjacent area. With the absence of surface water data

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within the application and with no surface water monitoring proposed by the Permittee, the Division is unable to make that determination.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

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

Analysis:

Subsurface Water Resource Maps

The application meets the Maps, Plans and Cross Sections of Resource Information as required by R645-301-731. Figure 7-1, *Generalized Area Hydrostratigraphic Cross-Section (as adapted from Gloyn et al., 2003)*, is a cross-section that depicts the general groundwater system as identified by Utah Geological survey Bulletin 132.

Surface Water Resource Maps

The application meets the Surface Water Resource Maps requirement of R645-301-722. Figure 7-2, *Surface Water Rights and Permitted Facility Discharge Locations*, depicts the surface water resources located within and adjacent to the permit area, including a point-to-point stock watering right located on Miller Creek (Water Right #91-3294).

Well Maps

The application does not meet the Well Maps requirement of R645-301-722.400. The Permittee should provide a map that depicts the wells located within the permit and adjacent area. On page 7-3 of the application the Permittee states, "No water-supply wells or groundwater monitoring wells exist in the permit or adjacent areas". This statement appears to contradict information provided in Section 7.2.2.1. The second paragraph of page 7-2 states, "Groundwater monitoring wells and a French drain installed at the Savage Coal Terminal, located approximately 0.25 miles north of the COVOL Dry-Coal cleaning Facility, were constructed from 6 to 20 feet deep into these materials." If the groundwater information from the Savage Coal Terminal is to be cited as the baseline data for the permit application, a map should be provided that depicts the locations of the monitoring wells.

Findings:

The application does not meet the Maps, Plans and Cross Sections of Resource Information requirements of the State of Utah R645-Coal Mining Rules. The follow deficiency must be addressed prior to Division approval:

R645-301-722.400: The Permittee should provide a map that depicts the wells located within the permit and adjacent area. On page 7-3 of the application the Permittee states, "No

water-supply wells or groundwater monitoring wells exist in the permit or adjacent areas". This statement appears to contradict information provided in Section 7.2.2.1. The second paragraph of page 7-2 states, "Groundwater monitoring wells and a French drain installed at the Savage Coal Terminal, located approximately 0.25 miles north of the COVOL Dry-Coal cleaning Facility, were constructed from 6 to 20 feet deep into these materials." If the groundwater information from the Savage Coal Terminal is to be cited as the baseline data for the permit application, a map should be provided that depicts the locations of the monitoring wells.

OPERATION PLAN

SUBSIDENCE CONTROL PLAN

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

Analysis:

The application meets the Subsidence Control Plan requirements of R645-301-724. On page 5-10 of the application the Permittee states, "There will be no underground mining or subsidence at this facility. Hence, no pre-subsidence survey will be conducted, no areas need to be protected from subsidence, no subsidence control plan will be developed, no subsidence control measures will be implemented, no subsidence damage repair will be performed and no public notice of underground mining activities will be required".

Findings:

The application meets the Subsidence Control Plan requirements of R645-301-724.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

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

Analysis:

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Plans and Drawings

The application meets the Plans and Drawings requirements of R645-301-732. Figure 5-3, *Standard Road Cross-Section*, provides the cross-sections and profiles to be used and/or maintained on the COVOL site roads.

Performance Standards

The application meets the Performance Standard requirements of R645-301-742.423. The application discusses the road drainage considerations/designs on page 7-14 in Section 7.3.2.4. The road drainage facilities will incorporate diversion ditches, culverts and containment berms.

The facility will utilize three roads: an access road that leads from Ridge road into the main yard, a road around the perimeter of the main yard and a truck turnaround north of the main yard. None of the roads are located in the channel of an intermittent or perennial stream.

The design specifications for the road ditches and culverts were calculated utilizing a 100-year, 6-hour precipitation event. The diversion hydrology calculations are provided in Appendix 7-7. The Permittee generated the design storm hydrographs used in designing the drainage system of the site by utilizing HydroCAD 8.5. HydroCAD 8.5 is a software application that calculates peak flows, velocities and hydrographs for a given storm event. The Permittee utilized an average curve number of 87 for the disturbed area calculations. The curve number selected is reasonable given the conditions of the site and the soil type.

On page 5-13 of the application, the Permittee states, "No alterations or relocations of natural drainage ways are required within the permit area to accommodate the needs of transportation systems."

Findings:

The application meets the Road Systems and Other Transportation Facilities requirements of the State of Utah R645-Coal Mining Rules.

SPOIL AND WASTE MATERIALS

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

Analysis:

Disposal Of Noncoal Mine Wastes

The application meets the Disposal of Noncoal Mine Wastes requirements of R645-301-747. On page 5-14 of the application the Permittee discusses the disposal of noncoal mine waste. The application outlines that noncoal waste generated in the permit area will be temporarily stored in dumpsters and will be regularly collected to be disposed of at the East Carbon Development Company landfill. The Permittee states, "No non-coal waste is permanently disposed of within the permit area". In addition, the Permittee commits to handling any hazardous non-coal waste in accordance with the requirements of Subtitle C of the Resource Conservation and Recovery Act.

Refuse Piles

The application does not meet the Refuse Pile requirements of R645-301-746.200. The application should address how the Permittee will handle/store/dispose of refuse piles.

On page 5-5 the Permittee states, "No permanent refuse piles will be located in the permit area". On page 7-25, the Permittee states, "There are no refuse piles at the facility." These statements appear to contradict each other and should be clarified in the application.

Findings:

The application does not meet the Spoil and Waste Materials requirements of the State of Utah R645-Coal Mining rules. The following deficiency should be addressed prior to Division approval:

R645-301-746.200: The application does not meet the Refuse Pile requirements of R645-301-746.200. The application should address how the Permittee will handle/store/dispose of refuse piles.

On page 5-5 the Permittee states, "No *permanent* refuse piles will be located in the permit area". On page 7-25, the Permittee states, "There are *no* refuse piles at the facility." These statements appear to contradict each other and should be clarified in the application.

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

Analysis:

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General

The application meets the General Hydrologic Information requirements as provided for in R645-301-730. Section 7 of the application provides the general hydrologic information for the proposed site and adjacent area.

Water Rights and Replacement

The Permittee should delete the statement found on page 7-12 under the Water Rights and Replacement heading. Section 7.3.1.8. of the application states, "Since there is no surface mining at the COVOL Dry-Coal cleaning Facility, this section does not apply". The Division finds that the proposed operation falls under the requirements of R645-301-525.480 and – 731.530, which require the Permittee to replace/mitigate any State-appropriated water supply that is contaminated, diminished or interrupted.

Groundwater Monitoring

The application does not meet the Groundwater Monitoring requirements of R645-301-210. The Permittee must provide justification for not conducting groundwater monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates that "no groundwater monitoring" is to be conducted at the site. The Division must determine whether the proposed operation produces impacts to groundwater resources within the permit and adjacent area. With the absence of groundwater data within the application and with no groundwater monitoring proposed by the Permittee, the Division is unable to make that determination.

Surface Water Monitoring

The application does not meet the Surface Water Monitoring requirements of R645-301-220. The Permittee must provide justification for not conducting surface water monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates, "No streams exist within the permit or adjacent areas. Therefore, only storm water will be monitored." However, Figure 7-2, Surface Water Rights and Permitted Facility Discharge Locations", depicts a tributary to Miller Creek approximately 400 feet from the southwest sediment pond. The application identifies Miller Creek as a small perennial stream (See Page 7-5).

The Division must determine whether the proposed operation produces impacts to surface water resources within the permit and adjacent area. With the absence of surface water data within the application and with no surface water monitoring proposed by the Permittee, the Division is unable to make that determination.

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Acid- and Toxic-Forming Materials and Underground Development Waste

The application does not meet the Acid- and Toxic-Forming Materials and Underground Development Waste requirements of R645-301-731.300.

The Permittee must clarify whether acid- or toxic-forming materials are to be present at the site. If acid- or toxic-forming materials are present, the Permittee should address how they will be handled. The Permittee should discuss (if applicable) the potential for acid- or toxic-forming materials to produce hydrologic impacts. In addition, the Permittee should provide some discussion as to how it will be determined whether acid- or toxic-forming materials are brought to the site. Page 7-8 of the application states, "No acid- or toxic-forming materials are present at the COVOL Dry-Coal Cleaning Facility". The first paragraph of page 7-11 indicates, "No acid or toxic materials are disposed of at the site." The fifth paragraph of page 7-11 states, "Acid- and toxic-forming materials are not permanently stored at the COVOL Dry-Coal Cleaning Facility. In the event that acid- or toxic-forming materials are brought to the facility, they will be handled appropriately."

Water-Quality Standards And Effluent Limitations

The application does not meet the Water-Quality Standards and Effluent Limitations requirements of the State of Utah R645-Coal Mining Rules. The application provides the Utah Pollutant discharge Elimination System Permit (UPDES) cover letter and the Storm Water Pollution Prevention Plan (SWPPP) in Appendices 7-2 and 7-3 respectively. The SWPPP outlines the steps/procedures/methods to be utilized to insure that water-quality standards and effluent limitations are met. The Permittee must provide a copy of the entire UPDES permit. The cover letter was submitted, but the text of the permit was not.

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Diversions: General

The application meets the Diversions: General requirements of R645-301-742.300. The hydrologic design considerations and methods are provided in Appendix 7-5 of the application. Plate 7-2, *Site Watershed and Drainage Map Wellington Dry Coal Cleaning Facility*, depicts the drainage system to be utilized at the site as well as the watershed boundaries utilized in sizing the various components of the drainage system. Appendix 7-7 provides the hydrologic calculations for the drainage channels and associated culverts. Table 7-2 provides a summary of the drainage ditch and culvert data.

The ditch capacities and flow velocities were calculated using HydroCAD 8.5. HydroCAD 8.5 uses the Manning and continuity equations. With the post-mining land-use to remain industrial, the diversions are not slated for removal/reclamation following the cessation of operations at the site. As such, the Permittee calculated runoff values assuming permanent diversion structures. A 100-year, 6-hour precipitation event was utilized in the drainage calculations for the diversion ditches.

Beginning on page 7-22, the application provides a summary of the geometry, channel slope, peak discharge, erosion protection, maximum flow velocity and minimum depth values for each diversion ditch and culvert at the facility.

Diversions: Perennial and Intermittent Streams

The application meets the Diversions: Perennial and Intermittent Stream requirements of R645-301-742.300. No diversions of perennial or intermittent streams are planned for this operation.

Sediment Control Measures

The application meets the Sediment Control Measures requirements of R645-301-742. The sediment control measures have been designed to prevent additional contributions of sediment to streams or to runoff outside the permit area, meet applicable effluent limitations and minimize erosion to the extent possible. The structures to be used to control sediment transport at the site include diversion channels, sedimentation ponds, containment berms, silt fences and road diversions and culverts.

Siltation Structures: Sedimentation Ponds

The does not meet the Siltation Structures: Sedimentation Ponds requirements of R645-301-732.200. The design considerations for the sediment pond designs are provided in Section 3 of Appendix 7-5. Plate 7-1 provides cross sections for each of the sedimentation ponds that depict the maximum water storage elevation, maximum sediment storage stage as well as the 60% sediment cleanout stage. Table 7-1 provides a summary of the sediment pond data for both the east and west ponds. Appendix 7-6 provides the sediment storage calculations.

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The ponds are designed to work individually. The ponds respectively accept runoff from the eastern and western portions of the disturbed area. The sediment ponds were designed to contain sediment in addition to the runoff produced from the design storm event. The Universal Soil Loss Equation was utilized in determining the expected annual sediment volume reporting to each of the ponds.

The capacity of each pond was designed based on runoff and sediment storage volumes derived from the design storm event as outlined in the regulations. The ponds have been designed to completely contain the 10-year, 24-hour storm event. The spillways were designed to adequately pass the peak flow resulting from the 25-year, 6-hour precipitation event.

The Permittee should discuss where the sediment ponds discharge (if they were to discharge) ultimately reports. Upon review of the application, it's unclear as to where the discharge from the ponds will be routed. Appendices 7-5, 7-6 and 7-7 provide the AutoCAD Modeling runs and hydrologic calculations, but it doesn't appear that they address where the discharge would ultimately go if the ponds were to discharge.

Discharge Structures

The application meets the Discharge Structures requirements of R645-301-744. The Permittee provides the design considerations in Section 3 of Appendix 7-5.

Each of the sediment ponds is equipped with a swale on its downstream side that serves as a spillway. The spillways were designed to safely discharge the peak flow resulting from the 25-year, 6-hour event as required by R645-301-743.300.

Utilizing the design storm event, the peak velocity of the outflow from the eastern pond was 2.01 feet per second (fps). With the peak velocity less than 5 fps, the flow is considered non-erosive and such erosion protection is not required. The peak velocity of the outflow from the western pond was calculated to be 3.24 cfs. Again, with a peak velocity below 5 fps, erosion protection is not required.

Findings:

The application does not meet the Hydrologic Information requirements of the State of Utah R645-Coal Mining rules. The following deficiencies should be addressed prior to Division approval:

R645-301-210: The application does not meet the Groundwater Monitoring requirements of R645-301-210. The Permittee must provide justification for not conducting groundwater monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates that "no groundwater monitoring" is to be conducted at the site. The Division must determine whether the proposed operation produces impacts to groundwater resources within the permit and adjacent area. With the absence of groundwater data within the application and with

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no groundwater monitoring proposed by the Permittee, the Division is unable to make that determination.

R645-301-220: The application does not meet the Surface Water Monitoring requirements of R645-301-220. The Permittee must provide justification for not conducting surface water monitoring within the permit and adjacent area. On page 7-11, the Permittee indicates, "No streams exist within the permit or adjacent areas. Therefore, only storm water will be monitored." However, Figure 7-2, Surface Water Rights and Permitted Facility Discharge Locations", depicts a tributary to Miller Creek approximately 400 feet from the southwest sediment pond. The application identifies Miller Creek as a small perennial stream (See Page 7-5).

The Division must determine whether the proposed operation produces impacts to surface water resources within the permit and adjacent area. With the absence of surface water data within the application and with no surface water monitoring proposed by the Permittee, the Division is unable to make that determination.

R645-301-525.480 and -731.530: The Permittee should delete the statement found on page 7-12 under the Water Rights and Replacement heading. Section 7.3.1.8. of the application states, "Since there is no surface mining at the COVOL Dry-Coal cleaning Facility, this section does not apply". The Division finds that the proposed operation falls under the requirements of R645-301-525.480 and -731.530, which require the Permittee to replace/mitigate any State-appropriated water supply that is contaminated, diminished or interrupted.

R645-301-731.300: The Permittee must clarify whether acid- or toxic-forming materials are to be present at the site. If acid- or toxic-forming materials are present, the Permittee should address how they will be handled. The Permittee should discuss (if applicable) the potential for acid- or toxic-forming materials to produce hydrologic impacts. In addition, the Permittee should provide some discussion as to how it will be determined whether acid- or toxic-forming materials are brought to the site. Page 7-8 of the application states, "No acid- or toxic-forming materials are present at the COVOL Dry-Coal Cleaning Facility". The first paragraph of page 7-11 indicates, "No acid or toxic materials are disposed of at the site." The fifth paragraph of page 7-11 states, "Acid- and toxic-forming materials are not permanently stored at the COVOL Dry-Coal Cleaning Facility. In the event that acid- or toxic-forming materials are brought to the facility, they will be handled appropriately."

R645-301-732.200: The Permittee should discuss where the sediment ponds discharge (if they were to discharge) ultimately reports. Upon review of the application, it's unclear as to where the discharge from the ponds will be routed. Appendices 7-5, 7-6 and 7-7 provide the AutoCAD Modeling runs and hydrologic calculations but does not provide identify the receiving drainage from the sites sedimentation ponds.

R645-301-751: The Permittee must provide a copy of the entire UPDES permit. The cover letter from the Department of Environmental Quality was submitted in Appendix 7-2, but the text of the permit was not.

RECLAMATION PLAN

HYDROLOGIC INFORMATION

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

Analysis:

Hydrologic Reclamation Plan

The application meets the Hydrologic Reclamation Plan requirements of R645-301-760 and -761. The application provides a detailed reclamation plan in Section 5.40 of the plan. The future land-use of the site is for industrial use. The reclamation plan essentially focuses on rendering the site suitable/compatible for future industrial use.

Beginning on page 5-19 of the application, the Permittee outlines reclamation commitments. Components of the reclamation plan include: removal of any remnants of coal stockpiles, coal residue and coal processing structures and equipment. Stockpiled soil will be redistributed over the areas not intended for re-disturbance by the future site owner. Under the assumption that future uses of the property will require the existing components of the site, roads, parking areas, utilities, fencing, drainage control structures and the septic system will be left in place.

The sediment ponds and associated drainage ditches/diversions will be left in place for the future landowner.

It is anticipated that the final surface configuration of the site will be very similar to the operational phase configuration. No extensive site regarding is anticipated.

Findings:

The application meets the Hydrologic Reclamation Plan requirements of R645-301-760 and -761.

RECOMMENDATIONS:

The application should not be approved at this time.