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TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 16, 2012

TO: Internal File

THRU: Daron Haddock, Title V Coal Program Manager / Task Manager / Team Lead *PHH by SRS* *10/27*

FROM: Peter Hess, Environmental Scientist III, Engineering Review

RE: DRAINAGE CONTROL ADJUSTMENTS, Alton Coal Development, LLC,
Coal Hollow Mine, C/025/0005, Task ID # 4198

SUMMARY:

The Permittee submitted a response to address the deficiencies aired in the Divisions review of Task ID # 4101 on October 9, 2012. The task identification number assigned to this project as of that date is TID # 4198.

Five items were submitted to revise sections of Chapter 5 as they relate to engineering and the design of surface facilities and structures. They are;

- 1) Volume 3, Chapter 5, Drawing 5-30 of Pond #3 (also known as Figure 14) (previous submitted);
- 2) Volume 8, Chapter 8, Appendix 8-1, Pages 2, 7, and 8 (this is revised information relative to the requirement to bond for the reclamation of the groundwater intercept ditches).
- 3) Volume 3, Chapter 5, Table of Contents, Page IV. No proposed change has been identified from the approved, incorporated MRP.
- 4) Volume 3, Chapter 5, Pages 5-45 and 5-63 (discusses reclamation of groundwater collection drains and burial of HDPE collection pipes in situ);
- 5) Volume 3, Chapter 5, Drawing 5-40 Dewatering Trench Details (shows cross section of proposed drain design).

This memo will address items 1, 3, 4, and 5. Item 2 (revised bonding information) will be addressed by another Division engineer.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

Item #3 which has been submitted as part of the proposed change to the Drainage Control Adjustments amendment (Task ID # 4198) is a revised page iv (4) for the Table of Contents for Chapter 5, Engineering, as contained in Volume 3, Chapter 5 of the Coal Hollow Mine mining and reclamation plan. The revised page lists the items to follow according to each regulation of the R645 Coal Mining Rules which they address. Page iv starts with R645-301-532, addressing SEDIMENT CONTROL and follows through addressing the requirements of impoundments, roads, spoil, coal mine waste, and regraded slopes for the OPERATION PLAN portion of the MRP. Under the RECLAMATION PLAN, SECTION 540, drawings and plans, narratives, reclamation design criteria and plans, sealing and casing of underground openings, permanent features, and backfilling and grading are addressed.

This format is the same as that previously used when the permit application was submitted and approved and therefore meets the requirements of the Utah Coal Mining Rules, R645-301-120. The approved copy of page iv is identical to the one submitted as part of Task ID # 4198.

Findings:

The revised page iv as submitted under Task ID # 4198 meets the requirements of the Utah Coal Mining Rules, R645-301-120 and it should be approved.

OPERATION PLAN

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.

Disposal of Noncoal Mine Wastes

Analysis:

R645-301-542 Narratives, Maps and Plans

Item 4 of the proposed changes to the Chapter 5, Engineering section of the MRP includes two revised Pages, (5-45 and 5-63).

Page 5-45 addresses a change relative to removal of non-coal mine waste from the permit area for the 6 inch pipes which will be installed to collect the alluvial groundwater upgradient of the mining area pit highwalls. The maximum depth at which the horizontal collection pipes will be installed is 30 feet. The Permittee has proposed that these shallow gradient pipe installations be allowed to remain as backfilling and grading progresses with the reclamation of the coal recovery pits. **Only the vertical 36 inch corrugated metal pipe risers and valving will be reclaimed from the alluvial groundwater collection trench.** These items will either be sold as salvage, or hauled off-site to be disposed of in a State approved landfill site (See Page 5-45, section 528.332, discussing "final disposal of non-coal mine wastes").

Page 5-63 was submitted with the Task ID # 4198 application on October 9, 2012. The Division could not determine what the requested change was for that page. Mr. Kirk Nichols stated on October 17, 2012 via E-mail that he "had marked his copy identifying what he wanted to change, but he had never made the change before he printed the final copy for submittal".

Page 5-63 was re-submitted on October 17, 2012 with the proposed revision highlighted in red underlined text.

The proposed revision is relative to **R645-301-542.740**, Disposal of Noncoal Mine Wastes, and states that all materials used in the construction of the Alluvial Groundwater Drains **with the exception of the 6 inch poly pipe, the minus two inch drain rock, and the filter fabric material** will be removed and disposed of in a State approved solid waste disposal site.

Items to be disposed of off-site would include the 30 foot length of 36 inch corrugated metal pipe (i.e., the stand pipe) and the valving and connections for the pump system to the top of the culvert.

It is generally done that conduits for leach fields (water sewage treatment), buried electrical cables and/or conduits, and other sub-surface piping can be left in place when mine sites are reclaimed. The poly-pipe will be 20 to 30 feet or more below the ground surface upon final reclamation of the coal recovery areas and their associated adjacent areas. It will not be affected by ultraviolet radiation, and should not ever be exposed to heat. The proposed reclamation plan meets the requirements of R645-301-542 which requires a description of the reclamation plan for the alluvial groundwater collection diversions.

Findings:

The proposed reclamation plan meets the requirements of R645-301-542 which requires a description of the reclamation plan for the alluvial groundwater collection diversions.

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

R645-301-115.2, 526.220, 526.155

Analysis:

R645-301-115.2

The Permittee has committed to notifying the Division prior to the initiation of construction activities for any alluvial groundwater collection diversions such that Division personnel can observe the construction and installation process. This commitment can be found in Appendix 7-9, Coal Hollow Mine, Alluvial Groundwater Management Plan, Page 2, at the end of Paragraph 2.

Findings:

This commitment meets the requirement of **R645-301-115.2**.

R645-301-526.220, 526.221

Analysis:

This rule requires that design drawings with appropriate cross sections be submitted as part of the support facilities which will prevent water pollution, control erosion and in general be operated in a manner which is in accordance with the State of Utah coal mining permit.

Findings:

The drawings and narrative submitted within the Task ID # 4198 as a description of the alluvial groundwater collection diversions are adequate to meet the requirements of the two aforementioned regulations.

HYDROLOGIC INFORMATION

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:

General

R645-301-512.100, 512.140, 733.120 Certification of Impoundment Design(s)

Drawing 5-30 (also known as Figure 14) is a plan and cross-sections (4) depiction of the impoundment known as **Pond #3, Valley Pond**. A stage volume computations two axis graph is included along with a stage storage curve.

Drawing 5-30 has been P.E. certified by a Utah registered professional engineer, Mr. Alanson Taylor for geo-technical purposes only (i.e., the stability of the impounding embankment) (See Volume 3, Chapter 5 Engineering, Appendix F, Recommended Earthwork Specifications).

Siltation Structures: Sedimentation Ponds

Pond #3 is one of four ponds located with the disturbed area of the Coal Hollow Mine. The C1/C2 form submitted as part of the application states that the Pond #3 design has been previously submitted. A current copy of the Pond 3 plan view and cross sections with appropriate stage volume curves was received from the Permittee on 10/17/2012. This was inserted into the Task ID # 4198 application on the same day.

Findings:

The Permittee has submitted a certified design for the Pond #3 impoundment facility. It is identified as Page 15-A in Volume 3, Chapter 5.

Diversions: Miscellaneous Flows

“With the approval of the Division...any flow from undisturbed areas or reclaimed areas, after meeting the criteria for siltation structure removal, may be diverted from disturbed areas by means of temporary or permanent diversions. All diversions shall be designed to minimize adverse impacts to the hydrologic balance within the permit and adjacent areas...”

“The diversion and its appurtenant structures shall be designed, located, constructed, and maintained...”

“Temporary diversions shall be removed when no longer needed to achieve the purpose for which they were authorized. The land disturbed by the removal process shall be restored.”

Analysis:

Task ID# 4198 contains a newly submitted Drawing 5-40, **ALLUVIAL DE-WATERING TRENCH TYPICAL CROSS SECTION**. The drawing shows that the groundwater collection trench will be installed at depths ranging from 10 feet to 30 feet (30 feet is maximum depth). A “V” ditch having 1 H: 2V design is depicted. Six inch perforated poly pipe will be laid in the ditch bottom (more than one may be laid based upon a determined ground water inflow rate). Above the pipe, 2 inch minus drain rock will be placed up to the top of the alluvium. A filter fabric will be laid on top of the drain rock. Native material will then be backfilled to create a 2H:1V slope from the mining pit to the re-graded surface.

The 6 inch poly pipe will be connected on the surface, and the exposure of workmen to collapsing ditch walls will not be a concern.

Drawing 5-40 addresses the concerns previously aired by the Division under R645-301-741.

Drawing 5-40 is P.E. certified by Mr. Larry J. Adams, certification # 167590.

The alluvial groundwater collection ditches are temporary diversions and the vertical 36 inch standpipe and valving must be reclaimed in accordance with the R645 Coal Mining Rules.

Findings:

The commitments made by the Permittee in Task ID # 4198 are adequate to address the requirements of the R645 Coal Mining Rules.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Certification Requirements

Analysis:

Drawing 5-40, Detail Drawing of the ALLUVIAL DE-WATERING TRENCH TYPICAL CROSS SECTION, has been P.E. certified by Mr. Larry J. Adams, Utah certificate number 167590.

Findings:

Drawing 5-40 has been certified and meets the requirements of R645-301-512.100 and 512.140.

RECLAMATION PLAN

BACKFILLING AND GRADING

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

General

Analysis:

The Task ID # 4198 application states on Page 17, Coal Hollow Mine Alluvial Groundwater Management, that the area where the vertical standpipe and the associated valving / pump lines are removed from the trench diversion will be backfilled and re-contoured to match the surrounding area as it receives final reclamation.

Findings:

This commitment meets the requirements of the R645-Coal Mining Rules.

RECOMMENDATION:

Conditional Approval is recommended until the Permittee can submit the appropriate number of clean copies prepared for incorporation. At that time, Final Approval should be given.

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