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T E C H N I C A L M E M O R A N D U M

Utah Coal Regulatory Program

April 25, 2005

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor

THRU: Peter H. Hess, Environmental Scientist III/Engineering, Team Lead

FROM: David W. Darby, Environmental Scientist III/Hydrology

RE: Pace Canyon Fan Portal, Canyon Fuel Company, LLC., Dugout Mine, C/007/0039, Task ID #2193

SUMMARY:

The Division received an initial submittal for the Pace Canyon Fan Portal amendment in January 2005. This memo analyzes the review of the hydrology section submitted on March 30, 2005. Additional information concerning the stream morphology study was submitted on April 21, 2005. The proposed mining activities in Pace Canyon will disturb 2.7 acres of new area for the Dugout Mine. The area proposed for mining by Canyon Fuel Company has been mined in the past (pre-SMCRA). It was left unreclaimed. Canyon Fuel Company plans to control and contain overland flow during development, operational, and reclamation activities. The site will be reclaimed after mining operations cease.

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:

The amendment contains information and engineered designs to construct a fan portal in Pace Canyon. The amendment also provides information and design criteria to contain and control runoff from the disturbed area, and to divert undisturbed drainage away from the fan portal facilities. Maps have been certified by a registered professional engineer.

Findings:

Information provided by the Permittee meets the minimum requirements of the General resource information section.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

The permit area and adjacent lands are shown on Plate 4-1 and Plate 7-1. The disturbed area for Pace Canyon Fan is shown on Plates PC5-2 and Plate PC5-5.

Findings:

The information in the MRP meets the minimum requirements of the regulations for the Permit Area section.

HYDROLOGIC RESOURCE INFORMATION

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

Analysis:

Sampling and Analysis

The Permittee has proposed to meet this requirement by adding a stream sampling site to the current water monitoring plan, just above the propose fan portal site. Two other stream monitoring sites already exist. Stream monitoring site PC-1 is located about ½ mile above the proposed fan portal and site PC-2 is located below the fan site. Monitoring these sites should provide an indication of any difference in water quality diminution as a result of mining activity. Any water samples collected will be analyzed according to methods in either "Standard Methods for the Examination of Water and Wastewater" or 40 CFR parts 136 and 434.

Appendices 7-2 and 7-7 contain tabulated summaries of the water-quality data for springs and surface water sources on and adjacent to the mine permit area. Much of the water-quality data in the appendices was collected from other sources, and not obtained directly by the Permittee. The information is used to establish baseline information and trends.

Ground-water information

The Permittee has provided maps showing there are no groundwater sources, springs, or wells in the proposed fan portal area that may be affected. Plate 7-1 identifies three springs in the Canyon at least one to two miles above the fan portal site. These springs supply flow to the channel that flows along the south side of the fan portal site. These springs will not be impacted by development of the fan portal facility.

Baseline Cumulative Impact Area Information

The Pace Canyon fan portal lies within the permitted area and within the boundaries of the existing CIA. The Permittee states that mine water will be discharged from the fan portal directly to the stream. The volume of discharge is unknown and can change with mining conditions. Potential impacts may wash sediments downstream and widen the channel. The operator has committed to conduct a geomorphology study at six sites along Pace Canyon Creek. One site will be below the facilities to assess pre and post mining characteristics of the receiving stream channel in the event mitigation / restoration needs to be done.

Modeling

No numerical groundwater or surface water modeling was conducted for this site.

Probable Hydrologic Consequences Determination

A PHC determination prepared by Mayo and Associates in 1996 is in Appendix 7-2. The PHC determination for the MRP begins on page 741.

Adverse impacts to the hydrologic balance

The Permittee has committed to install various sediment control measures to prevent contributions of sediment to the stream. Mine water discharge has been identified as having the potential of transporting fine sediments downstream and possibly eroding the channel banks. The volume of mine water discharge is unknown at this time. Preventative measures are planned in the form of riprap to dissipate energy. Mitigation measures will be implemented if monitoring data show impacts have occurred.

Acid forming or toxic forming materials

The probable impacts from acidity, total suspended solids, and total dissolved solids were assessed by the Permittee. Information in Chapter 6 and 7 indicates there are no acid- and toxic-forming materials at the Dugout Canyon Mine to cause adverse impacts. There is no significant potential for contamination of surface and ground waters in the permit and adjacent areas (p. 7-41).

Important water quality parameters

The Permittee has analyzed baseline and operational data from surface water monitoring sites in Pace Creek. Data suggest the TDS concentration of water in Pace Creek could potentially double during lowest flow if water is discharged from the Mine to the creek. Dominant ions (sodium and bicarbonate) in the Blackhawk Formation water closely match those in Dugout Creek during periods of low stream flow (sodium, manganese, bicarbonate, and sulfate). During periods of high stream flow the dominant cation in Pace Creek is Magnesium. Use of powdered limestone or dolomite (calcium-magnesium carbonate) rather than gypsum (calcium sulfate) as rock dust in the Mine should reduce the possible chemical influence of mine-discharge water on Pace Creek.

Pace Creek is classified as class 2B (secondary contact recreation use), 3C (non-game fish and other aquatic life use), and 4 (agricultural use). If discharges occur from the Dugout Canyon Mine to Pace Creek, TDS concentration of these discharges will not exceed applicable water-quality standards. Iron and manganese concentrations in waters from the Blackhawk Formation and Pace Creek indicate that the concentration of iron and manganese in the creek should not be significantly affected by discharges from the Mine (p. 7-44).

Ground water and surface-water availability

The Permittee has evaluated potential adverse effects to the hydrologic balance from the proposed mining operations as well as the fan portal proposal. If water is discharged from the airshaft to Pace Creek, there will likely be an increase in stream flow. This will depend on the amount of water discharged from the Mine and the amount of precipitation received at the site.

Flooding or streamflow alteration

Flooding and streamflow alteration were assessed by the Permittee for streams in the permit area and this will be done for Pace Creek. The volume of flow may increase in Pace Creek if water is discharged from the Mine. The Permittee has submitted designs for a sedimentation pond and other sediment-control devices that will treat runoff prior to discharge to Pace Creek. The structures are designed to be stable. Flow routing through sediment control structures will reduce peak flows from the disturbed area. Runoff from the disturbed area will flow through a catch basin or other sediment control device prior to discharge to Pace Creek. This will minimize or preclude flooding impacts to downstream areas.

The volume of streamflow will increase in Dugout Creek if water is discharged from the Mine to the creek. Care will be taken during discharge of this water to avoid flooding of downstream areas. Potential impacts to the creek channel include displacement of fines on the channel bottom and minor widening of the channel. It is anticipated that the stream bank vegetative community will increase in density and vigor as a result of Mine-water discharges, and this vegetation will in turn minimize widening of the channel.

There is a potential that mine water will be discharged from the Mine to Pace Creek. The amount of discharge is unknown at this time. Discharges will be monitored. Geomorphology studies will be conducted on Pace Creek to determine if impacts from mine discharge take place.

Once mining ceases, the Mine will be sealed, discharges will cease, and Pace Creek will return to pre-mining discharge levels. Following reclamation, stream channels altered by mining operations will be returned to a stable state. Reclamation channels have been designed to safely pass the peak flow resulting from the 10-year, 6-hr precipitation event, so flooding in the reclaimed areas will be minimized. Interim sediment-control measures and maintenance of the reclaimed areas during the post-mining period will preclude deposition of significant amounts of sediment in downstream channels, maintain the hydraulic capacity of the channels, and control adverse off-site flooding.

Sediment yield from the disturbed area

The potential impact of mining and reclamation on sediment yield is an increase in sediment in surface waters downstream from disturbed areas. Sediment-control measures such as a catch basin and diversions will be installed to minimize this impact while the Mine is being actively operated. Silt fences and straw-bale dikes will be installed to control erosion as vegetation becomes established during reclamation. These measures will reduce the amount of erosion and control adverse impacts to the environment.

Potential Hydrocarbon Contamination

Diesel fuel, oils, greases, and other hydrocarbon products will be stored and used at the site for a variety of purposes. Diesel and oil stored in above-ground tanks at the mine surface facilities may spill onto the ground during filling of the storage tank, leakage of the storage tank, or filling of vehicle tanks. Similarly, greases and other oils may be spilled during use in surface and underground operations. The probable future extent of the contamination caused by diesel and oil spillage is expected to be small because the tanks will be located above ground and spillage during filling of the storage or vehicle tanks will be minimized to avoid loss of an economically valuable product.

The previously approved Spill Prevention Control and Countermeasure Plan (SPCC) has been modified to reflect the addition of an 8,000 gallon diesel fuel storage tank for the Pace Canyon fan portal installation. This plan is not required to be submitted as part of the MRP; however, a copy will be maintained at the Mine site as required by the Utah Division of Water Quality (p. 7-50). Construction of the facility will proceed under a construction SPCC.

Road Salting

No salting of roads will occur within the permit area. This potential impact is not a concern (p. 7-50).

Surface-Water Monitoring Plan

The Permittee has monitored hydrologic sites in Pace Canyon for baseline conditions. The data has been entered into the Utah Coal Water Monitoring Database. Surface water quality and quantity information is considered sufficient to characterize baseline conditions for the fan portal area.

Findings:

The information provided by the Permittee meets the minimum requirements of the Hydrologic Resource Information Sections of the regulations.

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:

Affected Area Boundary Maps

The Permittee has met the requirements of R645-301-521.141. Plate PC 5-5 clearly shows the boundaries of the proposed fan portal area, which is the area to be affected.

Mine Workings Maps

Plate PC5-2 shows the location of surface facilities, their elevations, and dimensions.

Monitoring and Sampling Location Maps

Elevations and locations of monitoring stations used to gather data on water quality and quantity are depicted on Plate 7-1.

Subsurface Water Resource Maps

The surface water resources adjacent to Pace Canyon are identified on Map 7-1.

Surface Water Resource Maps

Surface waters that will receive discharges from the fan portal affected areas are shown on Plate 7-1.

Well Maps

There are no gas, oil, or water wells within the proposed Pace Canyon fan portal area.

Contour Maps

Plate PC5-2 shows the existing topography and the proposed topography during mining. Plate PC 5-5 shows the topography after reclamation.

Findings:

The information provided by the Permittee meets the minimum regulatory requirements.

OPERATION PLAN

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:

Ground-water monitoring

There are no ground water sites on the Pace Canyon fan portal area. The Permittee commits that no water will be discharged prior to obtaining the necessary UPDES permit. The applicant has submitted a cover letter for the application to DEQ / DWQ for amending the in-place UPDES permit for the Dugout Canyon Mine (Appendix 7-6). The amending of the in-place permit will permit additional outfall(s) in Pace Canyon allowing Dugout Canyon to discharge to Pace Creek.

The Permittee has committed to submit all ground water monitoring data for the mine site by the end of the quarter following sampling. If analysis of any ground water sample indicates noncompliancewith the permit condition, the Permittee will notify the Division and take immediate appropriate action.

Surface Water Monitoring

Operational surface-water monitoring protocols are given on pages 7-58 of the MRP. Sites PC-1and PC-3, located above and below the disturbed areas and UPDES discharge points, are to be monitored quarterly for flow and operational field and laboratory parameters. Operational surface-water quality parameters that are to be monitored at the Dugout Canyon Mine are listed in Table 7-5 of the MRP. The Permittee elected to establish a monitoring plan consistent with operational parameters in Table 3 of Technical Directive 004 with the deletions of total alkalinity and hardness. These were not included.

For surface water, Technical Directive-004 recommends one water-quality sample at low flow every fifth year, either during the year preceding the reissue of a permit, or during the midterm review. The sample is to be analyzed for baseline parameters. In addition to the

regular monitoring, the MRP contains a commitment to collect one water sample at each sampling point during the low flow period every fifth year, during the year preceding permit renewal, which is to be analyzed for baseline parameters (p. 7-59).

Acid- and Toxic-Forming Materials and Underground Development Waste

Analyses presented in Chapters 6 and 7 of the MRP indicate that acid- and toxic-forming materials are not present within the permit area. Parameters defining acid- and toxic-forming materials will periodically be monitored as described in Chapter 6. In the event that acid- or toxic-forming materials are identified, they will be disposed of in appropriate waste-rock disposal facilities as described in Chapter 5 of the MRP.

Coal processing waste and mine development waste is disposed of in the Dugout Canyon Mine waste rock disposal facility. Waste rock will not be used during reclamation, and soil substitutes will be used only if their chemical and physical properties are determined to be adequate through appropriate analyses. As noted within the Technical Analysis, there will not be any waste rock disposal sites within the Pace Canyon fan portal facility.

Discharges Into An Underground Mine

In Section 513.600 of the MRP, the Permittee states that no discharges will occur from the surface into the underground mine workings.

Gravity Discharges From Underground Mines

No gravity discharges will be made from an underground mine in the permit and adjacent areas (p. 7-60).

Water-Quality Standards And Effluent Limitations

Discharges of water from disturbed areas will be in compliance with all Utah and federal water quality laws and regulations and with effluent limitations for coal mining contained in 40 CFR Part 434 (p. 7-90).

Diversions: General

The Permittee has developed designs to implement several diversion structures (culverts and a berm) on the surface facilities to direct and control runoff. Plate PC5-2 identifies the culverts and berms. The designs for the diversion ditches are in Appendix 7-12.

The fan portal facilities will be constructed adjacent to Pace Creek. The main channel will not be obstructed or lined with a culvert. Three culverts, PCUC-1, PCUC-2, and PCUC-3, will direct undisturbed runoff around or under the fan portal pad. Culvert PCDC-1 will be used to direct decanted flows and overflows from the catch basin to the stream channel. Another culvert will direct Mine water (UPDES) flows to the creek. The Permittee has labeled the culverts on Plate PC7-5.

Plate PC7-5 shows a berm that will run the length of the disturbed area above the canyon road. It should prevent disturbed area runoff from running onto the road or leaving the disturbed area. A berm circles the topsoil pile and contains its runoff. Any flow from fan portal area will be collected by the berm, then directed to catch basin. The Permittee submitted designs and calculations for the berm on March 30, 2005. Design calculations have been provided for the berm in Appendix 7-12.

Stream Buffer Zones

Section 731.600 of the application indicates that mining activities will take place within the 100-foot buffer zone of Pace Creek. Plate PC5-5 depicts the buffer zone for Pace Creek. The buffer zone corresponds with the disturbed area boundary adjacent to the Creek. The boundary will be established and marked with stream buffer zone signs prior to the start of construction. The signs will be maintained until reclamation is complete.

Sediment Control Measures

Measures to control sediment include the main sedimentation trap, containment berms, silt fences, straw bales, and gravel/riprap protection. The runoff and sediment control plan has been designed to ensure that the operations within the disturbed area should not cause or contribute to degradation of water-quality outside the disturbed area. Riprap calculations have been submitted along with a cross-section for PCUD-2 showing a filter and graded riprap to a depth of 1 foot. Plates PC5-2, PC7-4, and PC7-5 show the locations where riprap will be placed.

Plate 5-2 shows the location of three water bars on the dirt road bisecting the fan portal site. The water bars will divert water off the road. There will be a minimum amount of traffic on the road. It is used occasionally by ranchers and some mine personnel accessing the upper elevations for degasification well work. The low traffic frequency will result in minimal disturbance and less erosion of the road surface. One water bar will be placed above the site and will divert undisturbed runoff coming down the road into Pace Creek. Two other water bars will be placed at about 200’ intervals below the upper water bar. The runoff generated on the road could be diverted to the silt fences.

Siltation Structures: Exemptions

ASCA's are disturbed areas which cannot use retention time / settling as a means of sediment concentration reduction, (i.e., use of a pond or sediment trap is not possible). Other methods such as vegetation, silt fences or straw bales, berms, roughening, gravel or other accepted measures are used to control sediment pickup and transportation from small areas. ASCA's include outslopes of ditches and ponds, outcast slopes of roads and other small disturbed areas. The fan portal area has an outslope area below the road that does not drain to the catch basin. The permittee has committed to control runoff from this area with vegetation and silt fences / straw bales.

Discharge Structures

Culvert PCDC-1 will convey runoff from the sediment trap to Pace Creek. This culvert is the sediment trap spillway.

Hydrologic Balance Protection

Information provided by the Permittee indicates no water will be consumed for this operation. Mine water discharge has been addressed in the MRP for the Dugout Mine.

The Permittee has addressed this section by submitting plans to route and control undisturbed and disturbed runoff over the fan portal site. The Permittee has provided calculations and maps to establish design flows for the fan portal site. Plate PC7-6 identifies the undisturbed watersheds (PCWS-1, PCWS-2, PCWS-3, and PCWS-4) where runoff will accumulate and flow through culverts (PCUC-1, PCUC-2, and PCUC3) shown on Plate PC7-5.

Findings:

Information provided by the Permittee meets the minimum requirements of the regulations.

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.

Analysis:

Affected Area Maps

The Permittee has supplied several maps that show the disturbed area boundary of the proposed fan portal site.

Mining Facilities Maps

Plate PC5-2 shows the location of the proposed surface facilities.

Monitoring and Sampling Location Maps

Elevations and locations of monitoring stations used to gather operational water quality and quantity data are on Plate 7-1.

Certification Requirements

Cross sections, maps, and plans have been prepared by, or under the direction of, a certified registered professional engineer.

Findings:

The information submitted by the Permittee meets the minimum requirements of the regulations.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

During reclamation of the Pace Canyon fan portal site two drainages will be affected. The access road that traverses the disturbed area will cross both of these. The Permittee will place culverts in the road during mining operations, but remove them at reclamation, since they are considered a temporary structure. The channels will be reconstructed so that a swale will provide access and direct flow through the channel. Designs and cross-sections are shown in Appendix 7-12.

Findings:

The Permittee's submitted information meets the minimum regulatory requirements.

APPROXIMATE ORIGINAL CONTOUR RESTORATION

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

Analysis:

The fan portal area is relatively small at 2.7 acres. At mine closure, the fan portal area will be reclaimed back to approximate original contour. Channels will be recontoured and protected from erosion. Plate PC5-5 identifies the configuration of channel PCRD-1. Plate PC7-5A shows the different areas that will be stabilized via the following methods: gouging / reseeding, mulching, and riprapping. The Permittee has provided riprap calculations for the reclaimed channel PCRW5-2. Plates PC5-2, PC7-4, and PC7-5 show the locations where riprap will be placed.

Findings:

The Permittee has supplied sufficient information to meet the minimum regulatory requirements of the regulations.

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:

Ground-water monitoring

No ground water monitoring sites exist on the fan portal area.

Since the Pace Canyon intake and exhaust portals are in the lower seam and there is an in-mine connection between the two seams, the reclamation of the portal and the shaft require a discussion of any water issues with the sealing and final reclamation. The BLM feels that this information is necessary to determine the need for a hydrostatically safe mine seal. The BLM

has determined that this information can be submitted at a later time prior to sealing of the Mine. This submitted information will also be incorporated into the MRP.

Surface-water monitoring

Data will be collected from the sedimentation pond discharge point in accordance with the UPDES permit. Data will be collected under the surface water-monitoring program every year until bond release (p. 7-59). Locations of surface-water monitoring sites are on Plate 7-1.

Acid and toxic-forming materials

There are several places within the MRP text that indicate that there are no acid- or toxic-forming materials within the Dugout Canyon Mine permit area. The text locations include Chapter 6, Geology, Chapter 5, Engineering, and Chapter 7, Hydrology. It appears this is not a problem at this site.

Transfer of wells

No wells exist within the fan portal area.

Discharges into an underground mine

No discharges of surface water will be made to an underground mine in the permit and adjacent areas (p. 7-60).

Gravity discharges

No gravity discharges will be made from an underground mine in the permit and adjacent areas (p. 7-60).

Water quality standards and effluent limitations

Discharges of water from disturbed areas will be in compliance with all Utah and federal water quality laws and regulations and with effluent limitations for coal mining contained in 40 CFR Part 434 (p. 7-86).

Diversions

All corrugated metal culverts will be removed during reclamation when the Canyon is restored to its approximate original contour. Disturbed areas along stream channels will be rebuilt. The Permittee has been asked to evaluate the expected velocities where the stream

channel has been disturbed to see if they should be riprapped. The required 100-year, 6-hour design event was used to size the channels.

The overall effect of the stream reclamation will be to provide a channel that is a significant improvement over that which was left by pre-SMCRA mining. The channel design will promote riparian revegetation. It should be noted that no fish have been found in Pace Creek.

Stream buffer zones

The stream buffer zone that was established by the Permittee prior to the development of the Pace Canyon site will be maintained to keep mining activities out of the stream. The permittee will maintain the stream buffer zone markers through Phase III bond release of this site.

Sediment control measures

The sediment control measures that will be utilized during reclamation will include silt fences and straw bales. These are considered adequate when properly installed and maintained.

Siltation structures

At reclamation the Permittee will remove the sediment trap and recontour the site. The Permittee plans to use straw bales, silt fences, mulching and surface roughening to treat / capture any sediment generated during the revegetation process.

Other treatment facilities

The Permittee will use gouging, mulch, and reseeding to establish vegetation. These will control erosion and minimize the contribution of sediment to the stream channel during and after reclamation.

Discharge structures

No discharge structures or impoundments will exist at the fan portal site after it has been reclaimed.

Casing and sealing of wells

There are no wells associated with the Pace Canyon fan portal.

Findings:

Information provided by the Permittee meets the minimum requirements of the regulations.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

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

Analysis:

Affected Area Boundary Maps

The Permittee has supplied Plate PC7-5A, identifying the sediment control areas that will be utilized during reclamation. Plate PC5-5 depicts the reclamation topography and cross-section locations.

Reclamation Backfilling And Grading Maps

Plates 5-5 and Plate PC7-5A show the backfilling and grading plans.

Reclamation Facilities Maps

No facilities will be left at reclamation.

Final Surface Configuration Maps

Plates PC5-5 and Plate PC7-5A show the final surface configuration.

Certification Requirements

Cross sections, maps, and plans have been prepared by, or under the direction of, a registered professional engineer.

Findings:

Information provided by the Permittee meets the minimum requirements of the regulations.

CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

Analysis:

The addition of the Fan Portal site and associated potential of stream channel influence from mine water discharge prompt changes in the current CHIA.

Findings:

The Division will update the CHIA to include the potential affects of surface disturbance and mine water discharge to Pace Creek when approval of the amendment has been completed.

RECOMMENDATIONS:

The hydrologic portion of the Fan Portal Amendment is recommended for approval.

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