

# T E C H M E M O R A N D U M

## Utah Coal Regulatory Program

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February 2, 2009

TO: Internal File

THRU: Daron Haddock, Permit Supervisor *DRH*

FROM: James D. Smith, Environmental Scientist III – Hydrology, Team Lead *JS 02/29/09*

RE: Division Order DO-04/Modification Plan, Andalex Resources, Inc., Wildcat Loadout, C/007/0033, Task ID #2966

### SUMMARY:

This proposed amendment, referred to as the 2008 Modification Plan (Task Request Date April 30, 2008) contains:

- 1) A conceptual plan agreed upon by the Division and Andalex Resources to address Division Order DO-04, formally known as "Design Drawings and Specifications", which generally relates to the problem of wind-blown fines that have left the permit area during past operations.
- 2) An expansion of the primary coal storage pad by about 3.5 acres. The larger storage area around the radial stacker is needed to accommodate increased production from the mines that ship coal through the Wildcat Loadout.
- 3) A new equipment and material storage area of about 6 acres located on the west side of the facility, also needed due to the increased operational requirements.

The main hydrology changes involve the sedimentation ponds: three of the existing ponds will be eliminated (A, B, and D), two will be enlarged (E and F), and three new ponds will be constructed (G, H, and I). The Permanent Impoundment on the northwest side of the area and Pond C and will not be affected. There are no springs or water wells on or immediately adjacent to the facility. The sedimentation ponds discharge into two branches of a small ephemeral drainage, identified as Wildcat Wash in the UPDES permit, that lie along the east and south sides of the permit area; a middle branch that previously went through the permit area is intercepted and contained by the Permanent Impoundment. Wildcat Wash is tributary to Garley Canyon, which reaches the Price River approximately 3 ½ miles to the southeast.

The Division has identified the following deficiencies that the Permittee must address:

**R645-300-121.150**, The current operation is within 100 feet of Consumer Road (State Highway 139); when the Division first issued the Wildcat Loadout a permit in

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1989, the Division found that the loadout had been using Consumers as a coal haul road prior to August 3, 1977, and use of the road was subject to a valid existing right and there was no need for public notice. However, the current proposal is for new disturbance within 100 feet of the public (BLM) road to Drunkards Wash. This is not included in the valid existing right finding of the initial permit, and therefore the Permittee must advertise as required by R645-300-121 and include the information required by R645-300-121.150 for mine operations within 100 feet of the right-of-way of a public road.

**R645-301-512.120**, The Permittee must have the PE sign and date the PE stamp on Plates 1, 1A, 1A-a and 2, which show surface facilities. This can be done at the time clean copies are submitted, after all other deficiencies have been addressed.

**R645-301-521.163**, The Permittee must show the Proposed Disturbed Area Boundary on Plate 1-A and any other appropriate map or plan.

**R6345-301-731.730**, The Permittee needs to add the locations for WCW-2 and WCW-4 to Plate 2.

**R645-301-741**, Plate 3-G and 3-H are the same, both showing the existing depression area west of the railroad, but there is no plate showing the proposed modifications of Sedimentation Pond F. The Permittee needs to provide a plate showing the proposed modifications of Sedimentation Pond F.

**R645-301-122.200**, Appendix J (p. 2) states that Garley Spring is shown on Figure III-2 in Chapter III; this is a relict reference to the old format and this figure is no longer in the MRP and the Permittee needs to update or remove it.

**R645-301-122.200**, Appendix J (p. 4) states that surface water monitoring plan has been described in Chapter IV, Part K, section 8 of the PAP; this is a relict reference to the old format and does not match the format of the current MRP and the Permittee needs to update or remove it.

**R645-301-122.200, -532, -742**, Plate 2 shows ASCA 5, which is to be eliminated, but none of the new or retained ASCAs is shown on this or any other a map. The Permittee must show the ASCAs on an appropriate map.

**R645-301-122.200, -532, -742**, The Permittee must identify drainage area DA-40 on Plate 2 or another appropriate map.

**TECHNICAL ANALYSIS:**

**GENERAL CONTENTS**

**RIGHT OF ENTRY**

Regulatory Reference: 30 CFR 778.15; R645-301-114

**Analysis:**

On February 5, 2007, the BLM amended Andalex Resources' right-of-way, expanding it to 270 acres. Appendix B-Part A-12 contains a copy of the signed right-of-way modification. The proposed permit area corresponds with this right-of-way.

This is a non-exclusive areal right-of-way overlaps with other equally valid rights-of-way. For example, a private lease agreement between the Utah Railroad and Andalex Resources grants Andalex the right to enter and conduct loading activities on approximately 13 acres, inside the Andalex right-of-way, that the BLM has leased to the Utah Railroad (Appendix B-Parts A-2, A-3, and A-4).

**Findings:**

Right of Entry information meets the requirements of the Utah Coal Mining Rules.

**LEGAL DESCRIPTION AND STATUS OF UNSUITABILITY CLAIMS**

Regulatory Reference: 30 CFR 778.16; 30 CFR 779.12(a); 30 CFR 779.24(a)(b)(c); R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115.

**Analysis:**

The permit area is described in the copy of the right-of-way modification in Appendix B-Part A-12 and section R645-301-114, and it is shown on Plate 1A.

The application states that the Unsuitability Claims criteria do not apply.

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**Findings:**

Legal Description and Status of Unsuitability information is sufficient to meet the requirements of the Coal Mining Rules.

**PUBLIC NOTICE AND COMMENT**

Regulatory References: 30 CFR 778.21; 30 CFR 773.13; R645-300-120; R645-301-117.200.

**Analysis:**

The Division determined the application to be Administratively Complete on May 15, 2008. On May 20, 2008, the Division received a copy of the public notification to be published in the local newspaper. The notice was published in the Sun Advocate May 20, 22, 27, 29, June 3, 5, 10 and 12, 2008 (<http://www.utahlegalnotices.com>: accessed August 26, 2008).

The Division received no comments from the public.

R645-300-121.150 requires that, if the Applicant seeks a permit to mine within 100 feet of a public road, the public notice must include a concise statement describing the public road. The current operation is within 100 feet of Consumer Road (State Highway 139); when the Division first issued the Wildcat Loadout permit in 1989, the Division found that the loadout had been using Consumers as a coal haul road prior to August 3, 1977, and use of the road was subject to a valid existing right and there was no need for public notice. However, the current proposal is for new disturbance within 100 feet of the public (BLM) road to Drunkards Wash. This is not included in the valid existing right finding of the initial permit, and therefore the Permittee must advertise as required by R645-300-121 and include the information required by R645-300-121.150 for mine operations within 100 feet of the right-of-way of a public road.

**Findings:**

Public Notice and Comment are not adequate to meet the requirements of the Utah Coal Mining Rules. Before this amendment can be approved, the Permittee must address the following deficiency in accordance with:

**R645-300-121.150**, The current operation is within 100 feet of Consumer Road (State Highway 139); when the Division first issued the Wildcat Loadout permit in 1989, the Division found that the loadout had been using Consumers as a coal haul road prior to August 3, 1977, and use of the road was subject to a valid existing right and there was no need for public notice. However, the current proposal is for new disturbance within 100 feet of the public (BLM) road to

Drunkards Wash. This is not included in the valid existing right finding of the initial permit, and therefore the Permittee must advertise as required by R645-300-121 and include the information required by R645-300-121.150 for mine operations within 100 feet of the right-of-way of a public road.

## PERMIT APPLICATION FORMAT AND CONTENTS

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

### **Analysis:**

On December 9, 2004 the Division issued DO-04, titled Design Drawings and Specifications (but also known as the wind blown coal-fines issue). The Division granted successive extensions for the Permittee to respond to the Division Order (due dates were extended to March 10, 2005, December 30, 2005, May 4, 2007, and January 31, 2008). These extensions were given because of more pressing matters for both the Division and Andalex, and also because the Permittee had to wait for the BLM to grant the expanded right-of-way for the site, which required more time than anticipated.

On February 5, 2007, the BLM approved a modification to Right-of-Way U-48027 that expanded the grant from 100 acres to 270 acres (Appendix B-Part A-12). In this modification, the BLM squared-up the 270-acre configuration in part to accommodate their own administrative purposes. Plate 29, the soils map, shows both the existing and new, proposed permit area boundaries.

The Division received this proposed amendment on April 30, 2008, and the Division determined it to be Administratively Complete on May 15, 2008. In the interim between when the Division issued the DO and the Permittee finally submitted this response to DO-04, the Division approved an extensive re-formatting of the Wildcat MRP (May 17, 2006); because of that re-formatting, the Permittee has made a concerted effort in this proposed amendment to minimize changes to the text of the MRP. The Permittee has placed much of the narrative information regarding the 2008 Modification Plan in Appendix S. Appendix R contains the Sedimentation and Drainage Control Plan.

### **Findings:**

Permit Application Format and Contents are adequate to meet the requirements of the Utah Coal Mining Rules.

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## REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

### Analysis:

Section R645-301-130 of the MRP lists persons or organizations that collected and analyzed the data. Dan Guy - a registered professional, engineer - prepared the Sedimentation and Drainage Control Plan, Appendix R.

### Findings:

The Reporting of Technical Data is in compliance with the requirements of the Utah Coal Mining Program.

## MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

### Analysis:

Most maps are stamped by Dan W. Guy and David W. Hibbs, professional engineers registered in the State of Utah, but Plates 1, 1A, 1A-a and 2, which show surface facilities, have not been signed and dated. The PE's signature and a date are required on PE certified plans and drawings.

Plate 11, the soils map; Plate 12, the geology map; and Plate 29, the vegetation map, have not been stamped. The Coal Mining Rules do not require that the soils and vegetation maps be certified. The geology map would normally require certification, but because there is no coal seam to be mined at the Wildcat Loadout, this particular map does not require certification.

### Findings:

The proposed amendment does not meet the requirements of the Utah Coal Mining Rules. Before this amendment can be approved, the Permittee must address the following deficiency in accordance with:

**R645-301-512.120**, The Permittee must have the PE sign and date the PE stamp on Plates 1, 1A, 1A-a and 2, which show surface facilities. This can be done at the time clean copies are submitted, after all other deficiencies have been addressed.

## COMPLETENESS

Regulatory Reference: 30 CFR 777.15; R645-301-150.

### Analysis:

The Division determined the application to be Administratively Complete on May 15, 2008.

### Findings:

The proposed amendment meets the Completeness requirements of the Coal Mining Rules.

## ENVIRONMENTAL RESOURCE INFORMATION

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

## PERMIT AREA

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

### Analysis:

The permit area is described in section R64S-301-114 and shown on Plate 1A. Plate 29, the soils map, shows both the existing and proposed permit area boundaries.

Plate 1 shows the current Disturbed Area boundary, but Plates 1A-1 and 1A do not show the proposed Disturbed Area boundary. Plate 2 indicates the Permit Boundary is shown on the plate by a red line: the numerous changes to the mine layout are shown by red lines but there does not appear to be a red line for the Permit Boundary. Plate 13C shows the Existing Operational Area, Proposed 2008 Expansion Area, Existing Topsoil Piles, and Proposed 2008

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Topsoil Piles; it may be assumed that these constitute the total disturbed area, but it is not clear. No map was found in the submittal that shows the proposed disturbed area.

**Findings:**

The proposed amendment does not meet the requirements of the Utah Coal Mining Rules. Before this amendment can be approved, the Permittee must address the following deficiency in accordance with:

**R645-301-521.163**, The Permittee must show the Proposed Disturbed Area Boundary on Plate 1-A and any other appropriate map or plan.

**GEOLOGIC RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

**Analysis:**

The discussion of geology in the current MRP includes the area covered by the right-of-way modification and the adjacent area. The amendment does not contain any additional information.

Plate 12 is the geology map, which has been updated to show the new permit area boundary. The geology map, which is to show the outcrop and dip and strike of the coal seam to be mined, would normally require certification, but because there is no coal seam at the Wildcat Loadout, this particular map does not require certification.

**Findings:**

Geologic Resource Information is sufficient to meet the requirements of the Coal Mining Rules.

**HYDROLOGIC RESOURCE INFORMATION**

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

**Analysis:**

**Baseline Information**

No additional baseline data have been submitted. Existing data in the MRP and the Division's database are adequate to cover the right-of-way modification and the adjacent area.

**Baseline Cumulative Impact Area Information**

The current CHIA covers the right-of-way modification and the adjacent area.

**Probable Hydrologic Consequences Determination**

The PHC is in Appendix J. It has not been amended for this submittal, but it covers the area of the right-of-way modification and the adjacent area.

**Findings:**

Hydrologic Resource Information is sufficient to meet the requirements of the Coal Mining Rules.

**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:**

**Coal Resource and Geologic Information Maps**

The Permittee has submitted a new geologic map, Plate 12, based on the USGS geologic quadrangle. The geology map would normally require certification, but because there is no coal seam to be mined at the Wildcat Loadout, this particular map does not require certification.

**Monitoring and Sampling Location Maps**

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The Permittee monitors two stations in undisturbed drainages above the site and two stations in the same drainages below the site. Plate 2 shows the locations of WCW-1 and WCW-3, but not WCW -2 and WCW-4.

### **Permit Area Boundary Maps**

The existing and proposed permit boundaries are shown, respectively, on Plates 1 and 1A. Plate 29, the vegetation map, juxtaposes the existing and proposed boundaries.

### **Subsurface Water Resource Maps**

There are no subsurface water resources at the Wildcat Loadout. Plate 15 shows the location of Garley Spring, located approximately ¼ mile southwest of the permit boundary.

### **Surface and Subsurface Ownership Maps**

Plate 16 shows surface ownership of the proposed permit area and adjacent area. It is at a scale of 1 = 12,000 and has been certified by Dan Guy.

### **Surface Water Resource Maps**

Plate 15 shows the location and extent of watersheds in and adjacent to the proposed permit area. It is at a scale of 1 = 9,600 and has been certified by Dan Guy

### **Well Maps**

There are no oil or gas wells in or adjacent to the Wildcat Loadout. Conoco-Phillips bored a gas well near the southeast part of the facility, adjacent to proposed sedimentation pond G and the Trestle Road (Plate 1A): that borehole has been capped and the site has been reclaimed (section 510). Conoco-Phillips has a right-of-way corridor for a buried gas-line along the northwest side of the Trestle Road (Appendix S, 4 - **Expansion of Coal Pile Storage Area**).

There are no water wells in the right-of-way modification and the adjacent area.

### **Findings:**

The proposed amendment does not meet the requirements of the Utah Coal Mining Rules. Before this amendment can be approved, the Permittee must address the following deficiency in accordance with:

**R6345-301-731.730**, The Permittee needs to add the locations for WCW-2 and WCW-4 to Plate 2.

## **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.

### **Analysis:**

#### **Coal Mine Waste**

There is no underground development waste at the Wildcat Loadout. Waste comes from processing coal on site, where boney material and rock are removed from the lump coal product.

#### **Refuse Piles**

The coal processing waste disposal pile (MSHA I.D. number 1211-UT-09-01864-01) is on the west side of the property, as shown on Plate 1A. Appendix O contains the waste disposal plan, maps, and analysis reports (Appendix O Supplement), which show that this material is not toxic- or acid-forming.

Additional refuse material will be used in the coal pad expansion proposed as part of the 2008 Modification Plan, as shown on Plate 1A and described in Appendix S.

The Permittee has submitted an amendment to the Horse Canyon Mine - Lila Canyon Mine MRP that plans for disposal of Lila Canyon Mine refuse at Wildcat Loadout. In a separate Tech Memo, Pete Hess has covered additional requirements that the Permittee must address in order for this material to be placed at the Wildcat Loadout.

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### **Impounding Structures**

Impoundments are not to be built with Coal Mine Waste or Refuse.

#### **Findings:**

Operational Information on Spoil and Waste Materials satisfies the requirements of the Coal Mining Rules.

## **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, -300-148, -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**

Because no groundwater exists within or near the permit area, the MRP does not include any ground-water monitoring (Appendix J, p. 3).

Plate 15 shows the location of Garley Spring, the only spring in or adjacent to the Wildcat Loadout right-of-way modification. This spring lies approximately ¼ mile southwest of the permit boundary. Andalex holds the water rights to this spring. The monitoring plan does not include Garley Spring. Appendix J (p. 2) states that Garley Spring is shown on Figure III-2 in Chapter III; this is a relict reference to the old format and this figure is no longer in the MRP.

##### **Surface-Water Monitoring**

Appendix S does not mention a surface-water monitoring plan. Section R645-301-723 in Chapter 7 of the MRP contains the surface-water monitoring plan. Appendix J (p. 4) states that surface water monitoring plan has been described in Chapter IV, Part K, Section 8 of the PAP; this is a relict reference to the old format and does not match the format of the current MRP.

The Permittee monitors two stations in undisturbed drainages above the site (WCW-1 and WCW-3) and two stations in the same drainages below the site (WCW-2 and WCW-4). The

Permittee samples these four sites quarterly. The Permittee checks sedimentation pond discharges and samples the outflow (if flowing) on a monthly basis. These sites are typically dry, and many years there is no reported flow or sample collected.

Plate 2 shows the locations of WCW-1 and WCW-3, but not WCW -2 and WCW-4.

### **Acid- and Toxic-Forming Materials and Underground Development Waste**

Section R645-301-512.230 discusses Coal Mine Waste and acid- and toxic-forming materials. As the Wildcat Loadout is a processing and loadout facility, there is no underground development waste. During on-site processing, a small amount of boney material and rock is removed from the lump coal product. MSHA issued permit 1211-UT-09-01864-01 for the refuse disposal pile, which is located west of the railroad (Plate 1A). The refuse disposal plan is in Appendix O.

Analysis reports for this refuse material in Appendix O, Supplement show that it is not toxic- or acid-forming. The Permittee commits that if testing shows this material to be acid- or toxic-forming, then within 30 days after it will be buried under four feet of fill material or hauled to another approved coal processing waste disposal area. The Division will be notified if the coal processing waste is to be moved to an off-site, approved disposal area. Refuse piles will be inspected at least quarterly for stability and seepage (section R645-301-512.230).

The Permittee's hydrologic studies indicate that ground water does not exist within a "zone of impact" in and adjacent to the Wildcat Loadout. Drainage from the refuse pile reports to sedimentation Pond F via ditch D-17 (Plate 1A; section R645-301-512.230). Measures to prevent drainage from refuse materials into surface water and ground water are described in section 512.230. The refuse materials have been tested for toxic- or acid-forming characteristics and the results of these tests have been submitted to the Division.

The Permittee's test results show that this material may be used as fill within the permit area. The Permittee has used refuse material as substitute fill for the past expansion of the Wildcat Loadout and also intends to use it for the 2008 proposed expansion, as described in Appendix S.

*Additionally, some of the coal refuse material which is presently stored in the approved site on the west side of the facility may be hauled in to help build up the new coal storage pad. Use of this material is approved for such use under the currently approved plan, as described in Section R645-301-512-230, and has been done in the past. ...(After the coal pad construction is completed a detailed survey of the refuse fill areas will be completed, and a new "as-built map will be prepared of the fill areas and the main refuse pile so that a complete and accurate account of the total refuse volumes will be made.)*

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This refuse material will not be reclaimed in place; it will be reclaimed separate from ordinary fill and covered with four feet of native fill prior to redistribution of topsoil.

**Water-Quality Standards and Effluent Limitations**

Section R645-301-751 contains the Permittee's commitment that discharges of water from areas disturbed by coal processing and reclamation operations will be made in compliance with all Utah and federal water quality laws and regulations and with effluent limitations for coal mining promulgated by the USEPA as set forth in 40 CFR Part 434.

The UPDES discharge points associated with sedimentation ponds A, B, and D will be transferred to new ponds G, H and I, respectively. Existing sediment pond C will not be changed; it will flow to the new Pond I and will no longer be a UPDES discharge point. Discharge from ponds E, F, G, H and I will be in accordance with the approved UPDES Permit.

**Diversions: General**

The entire sedimentation and control plan, including impoundments, diversions and reclamation hydrology is in Appendix R, Sedimentation and Drainage Control Plan. Ditch and culvert locations are shown on Plate 2, the Minesite Drainage Plan

Culverts used as sedimentation pond overflows are sized to carry the 25-yr, 6-hr storm event. All other culverts are designed to carry the expected runoff from a 10-yr, 24-hr event. Culverts were sized using Flowmaster I, Version 3.43 (Appendix R, section 2.9).

All ditches are designed to carry the expected runoff from a 10-yr, 24-hr event. Minimum freeboard on ditches is 0.5 ft., which represents a minimum of 20% of the flow depth. Ditches that exhibit expected flow velocities greater than 5 fps, based on the 10-yr, 24-hr event, will be lined with rip-rap, belting or half-round culvert for erosion protection (Appendix R, section 2.10). Typical cross-sections and flow depths for all lined and unlined ditches are shown on Figures 3 and 4 of Appendix R.

Except for undisturbed ditch UD-2, which will remain in place because it was installed prior to the operation and has been shown to be adequate to carry a 100-yr, 6-hr precipitation event, all culverts and ditches are temporary (Appendix R, section 4.1). They will be removed as described in section 4 of Appendix R. This includes the culverts between the Upper and Lower Cells of the Permanent Impoundment.

All diversions have been designed to minimize adverse impacts to the hydrologic balance within the permit and adjacent areas, to prevent material damage outside the permit area and to assure the safety of the public.

#### **Diversions: Perennial and Intermittent Streams**

There are no perennial or intermittent streams.

#### **Diversions: Miscellaneous Flows**

All ditches and culverts are designed to carry the expected runoff from a 10-yr, 24-hr event. Many ditches and culverts near the railroad tracks, especially at the north end of the Wildcat Loadout, will remain as they are under the current MRP.

#### **Stream Buffer Zones**

There are no perennial or intermittent streams within 100 feet of the permit area.

#### **Sediment Control Measures**

Currently, straw bales, berms, and vegetation are used alone or in combination for sediment control on seven small ASCAs that treat 17.51 acres or 29 percent of the disturbed area; locations are shown on the currently approved version of Plate 2. Under the proposed revision, ASCAs 3, 4, 5, 6, and 7 will be eliminated and the areas they treat will report to new or enlarged sedimentation ponds (Appendix R, section 2.11 - Alternate Sediment Control Areas). ASCAs 1 and 2 and new ASCAs 8, 9, and 10 will treat a total of 3.62 acres. Plate 2 shows ASCA 5, which is to be eliminated, but none of the new or retained ASCAs is shown on Plate 2 or any other map. The Permittee must show the ASCAs on an appropriate map.

The Permittee will use silt fences and/or straw bales to control sediment during construction

#### **Siltation Structures: Sedimentation Ponds**

There are currently six sedimentation ponds, designated as A through F, at the Wildcat Loadout Site. Ponds A, B, and D are to be removed and replaced with three new ponds. Locations are shown on Plate 2 and each pond is detailed on Plates 3 through 7.

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A previous owner of the loadout site constructed the upper cell (a vegetated basin) of the Permanent Impoundment to capture natural drainage from the canyon west of the Wildcat Loadout. The Permittee surveyed the upper cell and, upon determining that the upper cell was inadequate to contain runoff from a 100-year, 6-hour event, built a second, lower cell. The structure is now large enough to fully contain a 100-yr, 6-hour event (section R64S-301-733.200).

Plate 3-G and 3H are the same; there is no plate showing the proposed modifications of Sedimentation Pond F.

Details on the sedimentation ponds are in Appendix P. The sedimentation ponds are designed to contain runoff from a 10-yr, 24-hr event of 1.85 in, plus a minimum of 3 years sediment storage. Reclamation designs for permanent structures are based on the 100-yr, 6-hr event of 1.91 in.

Existing sediment pond C will not be changed; however, it will flow to the new Pond I and will no longer be a UPDES discharge point. Discharge from ponds E, F, G, H and I will be in accordance with the approved UPDES Permit.

Existing sedimentation Ponds E and F will be enlarged due to the proposed site modifications; however, the embankments and overflows will not be modified. Pond E will be enlarged slightly by deepening. The designs for Pond F are not in the MRP, and how the pond will be enlarged without modifying the embankment is not clear.

Pond G-1 is designed and will be constructed to accommodate the additional disturbed area associated with phase 1 construction; however, under phase 2 construction, Pond G-1 will be enlarged into Pond G.

**Siltation Structures: Other Treatment Facilities**

There are no Other Treatment Facilities.

**Siltation Structures: Exemptions**

There are no Exempt Structures.

**Discharge Structures**

Rip-rap, culverts, concrete, or other protection will be placed at all inlets and outlets to prevent scouring (Appendix R, Sec 3.1).

Information on discharge structures is summarized in Table 24 of Appendix R. All principle spillways are sized to carry the runoff from a 25-yr, 6-hr event. Ponds E and F each has an 18 in. cmp principal overflow and an open-channel emergency spillway. Existing sediment pond C, which will flow to the new Pond I and will no longer be a UPDES discharge point, has 18 in. cmp primary and emergency spillways. Each of the new ponds will be equipped with a cmp principal overflow (24 in. for G, 12 in. for H, and 24 in. for I) and a cmp emergency overflow of the same size. Each emergency overflow will be at least 1.0 ft above the primary overflow and at least 2.0 ft below the top of the embankment (Appendix R, Sec 3.1). The Permanent Impoundment is fitted with 18 in. cmp principal and emergency overflows (Appendix R, Sec 3.4).

### **Impoundments**

In addition to the sedimentation ponds, the Upper and Lower cells of the permanent impoundment and the Depression Area retain runoff. Details on their design are in section R645-301-733.200 and Appendix R. The Permanent Impoundment and Depression Area are sized to contain the runoff from a 100-yr, 6-hr event of 1.91 in. and are fitted with a combination of principal and emergency overflows sized to carry the runoff from a 25-yr, 6-hr event (1.48 in.). The proposed amendment does not change these impoundments. For permanent structures, reclamation designs are based on the 100-yr, 6-hr precipitation event (Appendix R, section 2.1).

The Depression Area exists because no provision was made for drainage under the pre-SMCRA Utah Railway. The 2-celled Permanent Impoundment will be left in place after reclamation for wildlife enhancement (Appendix R, section 4.1).

### **Findings:**

Hydrologic Operation Information is not sufficient to meet the requirements of the Coal Mining Rules. Before this amendment can be approved, the Permittee must address the following deficiency in accordance with:

**R645-301-741**, Plate 3-G and 3-H are the same, both showing the existing depression area west of the railroad, but there is no plate showing the proposed modifications of Sedimentation Pond F. The Permittee needs to provide a plate showing the proposed modifications of Sedimentation Pond F.

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**R645-301-122.200**, Appendix J (p. 2) states that Garley Spring is shown on Figure III-2 in Chapter III; this is a relict reference to the old format and this figure is no longer in the MRP and the Permittee needs to update or remove it.

**R645-301-122.200**, Appendix J (p. 4) states that surface water monitoring plan has been described in Chapter IV, Part K, section 8 of the PAP; this is a relict reference to the old format and does not match the format of the current MRP and the Permittee needs to update or remove it.

**R645-301-122.200, -532, -742**, Plate 2 shows ASCA 5, which is to be eliminated, but none of the new or retained ASCAs is shown on this or any other a map. The Permittee must show the ASCAs on an appropriate map.

**R645-301-122.200, -532, -742**, The Permittee must identify drainage area DA-40 on Plate 2 or another appropriate map.

## **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**

Plate 29, the 2008 modification vegetation map, shows both the existing and proposed permit area boundaries.

#### **Mining Facilities Maps**

Plate 3-G and 3-H are the same; there is no plate showing the proposed modifications of Sedimentation Pond F.

#### **Monitoring and Sampling Location Maps**

Plate 2 shows the locations of WCW-1 and WCW-3, but not WCW -2 and WCW-4.

**Findings:**

The proposed amendment does not meet the requirements of the Utah Coal Mining Rules. Before this amendment can be approved, the Permittee must address the following deficiency in accordance with:

**(Repeat) R645-301-731.730**, The Permittee needs to add the locations for WCW-2 and WCW-4 to Plate 2.

## 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

Plate 8 shows the approximate configuration of the reclaimed surface and location of the reclaimed channels. Reclaimed Area Drainage Control is discussed in Appendix R, section 4.2.

The permanent impoundment (two cells) and depression area will not be reclaimed. The MRP discusses them in section R64S-301-733.200.

**Findings:**

Hydrologic Reclamation Plan information is sufficient to meet the requirements of the Coal Mining Rules.

## 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.

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**Analysis:**

Reclamation Hydrology is discussed in Appendix R, section 4.1. Upon completion of operations, all structures will be removed and the area will be recontoured as shown on Plate 8. All culverts will be removed. All ditches except UD-2 will be removed; UD-2 will remain in place as it was installed prior to the operation and has been shown to be adequate to carry a 100-yr, 6-hr event. All sediment ponds will be removed during final reclamation, and recontoured as shown on Plate 8. As sediment ponds are removed, any contaminated material will be hauled to an approved disposal site. The 2-celled Permanent Impoundment will be left in place for wildlife enhancement. The Depression Area will also remain: runoff will continue to pond against the pre-existing Utah Railway rail bed because drainage around, under, or through the railroad right-of-way was never planned or constructed.

**Reclamation Monitoring and Sampling Location Maps**

Reclamation monitoring and sampling locations and frequencies will be the same as during operation of the loadout. Details are in Section R645-301-725 of the MRP, and summarized in Table 7-5 and 7-6 in that section.

**Findings:**

The proposed amendment does not meet the requirements of the Utah Coal Mining Rules. Before this amendment can be approved, the Permittee must address the following deficiency in accordance with:

**(Repeat) R645-301-731.730**, The Permittee needs to add the locations for WCW-2 and WCW-4 to Plate 2.

**RECOMMENDATIONS:**

The Division should not approve this proposed amendment until the Permittee has adequately addressed the deficiencies identified in this Tech Memo.