



GARY R. HERBERT  
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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

June 16, 2017

Karin Madsen, Resident Agent  
UtahAmerican Energy, Inc.  
P.O. Box 910  
East Carbon, Utah 84520-0910

Subject: New Storage Pad/New BLM ROW, UtahAmerican Energy, Inc., Horse Canyon Mine, C/007/0013, Task #5448

Dear Ms. Madsen:

The Division has reviewed your application. The Division has identified deficiencies that must be addressed before final approval can be granted. The deficiencies are listed as an attachment to this letter.

The deficiencies authors are identified so that your staff can communicate directly with that individual should questions arise. The plans as submitted are denied. Please resubmit the entire application.

If you have any questions, please call me at (801) 538-5325.

Sincerely,

Daron R. Haddock  
Coal Program Manager

DRH/sqs

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**Technical Analysis and Findings**  
**Utah Coal Regulatory Program**

**PID:** C0070013  
**TaskID:** 5448  
**Mine Name:** HORSE CANYON MINE  
**Title:** NEW STORAGE PAD/NEW BLM ROW

**General Contents**

**Maps and Plans**

*Analysis:*

The application does not meet the State of Utah R645 requirements for Maps and Plans. The following deficiency must be addressed prior to final approval:

*Deficiencies Details:*

R645-301-121: Please edit descriptions within the List of Plates in chapter 5 table of contents to maintain consistency. (i.e. change naming conventions of Plate 5-7D-1, Plate 5-7D-2, and Plate 5-7D-3 within the List of Plates to reflect the actual plate names).

jeatchel

**Environmental Resource Information**

**General**

*Analysis:*

The current MRP meets the State of Utah R645 requirements for General Requirements.

The following pages of Chapter three include minor grammatical cext changes: 5, 6, 8, 9, 13, 15, 22, and 27.

jhelfric

**Fish and Wildlife Resource Information**

*Analysis:*

The current MRP meets the State of Utah R645 requirements for Fish and Wildlife Resource Information.

Plates 3-1A, (Raptors), 3-1B, (Big Horn Sheep/Pronghorn Antelope, 3-1C, Elk), and 3-1D, (Deer) have been updated to include the additional surface disturbance of the ROW and storage area.

## Soils Resource Information

### Analysis:

The application meets the requirements of soils environmental resource, because Appendix 2-3 provides the soil inventory and Salvageable Soils Map: Appendix A2 illustrates the soils to be disturbed.

Soils to be salvaged are mapped as Strych Bouldery fine sandy loam (SBG), Strych Very bouldery fine sandy loam (VBJ) and Strych Extremely bouldery sandy loam (XBS) map units. After boulder removal, the Permittee should recover 48 inches of topsoil and subsoil from the SBG soil; 30 inches of topsoil and subsoil from the VBJ soil; and 12 inches from the XBS soil. Of the recovered soil, the upper 12 - 18 inches is described as topsoil.

pburton

## Land Use Resource Information

### Analysis:

The current MRP amendment meets the State of Utah R645 requirements for Land Use Resource Information.

The activities described in the ROW and additional storage area will not alter the pre or postmining land uses. Minor grammatical text changes have been made to the following pages of chapter 4: 2, 3, and 9.

SHPO concurrence for the area, (Current surface facilities disturbed) where the ROW and additional storage area are located was granted on February 5, 2007.

jhelfric

## Operation Plan

### Mining Operations and Facilities

#### Analysis:

The application does not meet the State of Utah R645 requirements for Mining Operations and Facilities. The following deficiency must be addressed prior to final approval:

#### Deficiencies Details:

R645-301-521: Although maps and cross sections adequately describe layout and location of new storage pad and access roads, a narrative is missing describing the specifications of the new storage pad. (i.e. is the long term plan for this pad to be constructed of gravel, asphalt, or reinforced concrete?)

jeatchel

### Fish and Wildlife Protection and Enhancement Plan

#### Analysis:

The current MRP meets the State of Utah R645 requirements for Fish and Wildlife Protection and Enhancement Plan.

The addition of the BLM Right of Way, (ROW) and storage pad will not require mitigation or changes to the current Fish and Wildlife protection and enhancement plan. No wildlife closure periods are also recommended as the construction activities will be located within the confines of the current disturbed area.

jhelfric

### Topsoil and Subsoil

#### Analysis:

The application meets the requirements of R645-301-230, soils handling operation plan. Boulder and topsoil removal is described in the MRP Section 232. Record keeping and as-builts are described in Section 232.500. Interim seeding of the topsoil pile is described in Section 234.230. Seeding of incidentally disturbed areas (new ROW and access road) is described in Section 331.

Section 232.100 states that approximately 5,000 CY of topsoil will be salvaged prior to construction of the 3.02 acre access road and storage yard depicted on Dwg 5-2. Subsoil to a depth of 30 inches will be used as fill in construction of the access road (Section 232.500 and personal communication with P.J. Jensen, 5/24/2017).

The soil survey Salvageable Soils Map: Appendix A2 states that 48 inches of topsoil and subsoil might be recovered from the access road map unit SBG soils; 30 inches of topsoil and subsoil from the storage yard map unit VBJ; and 12 inches from map unit XBS might be recovered. Upon completion of the topsoil salvage, as-built Dwg 2-3a will be updated to indicate: Total Permit Area, Undisturbed Area, Total Disturbed Area, Area Disturbed to Date, Area Still to be disturbed, as well as the disturbed status and volume of topsoil and subsoil salvaged from the storage yard and drainage control projects, and will show the disturbed and undisturbed land within the 2.5 acres of UTU-91789 ROW. Drawing 2-3a will be updated upon completion of topsoil and subsoil salvage (MRP Section 232.500 and personal communication with P.J. Jensen, 6/01/2017).

This application adds BLM Right of Way UTU-91789 West of the County Road and South of pond 2. The ROW is 60 ft w X 1,300 ft long with 150 ft x 200 ft extra at the South end for dam improvements. Most of the ROW is designated as undisturbed on Plates 5-2, 7-5, and 8-1. Topsoil will be recovered in widening the road West of Pond 2. A small disturbance South of Pond 1 will be incidental to dam repair and no topsoil will be salvaged. Interim seeding of this and all areas disturbed incidentally by these operations will be seeded per MRP Section 331 and as discussed with P.J. Jensen on 6/1/2017.

At the end of 2016, the disturbed acres were 31.88 and plans for 1.09 acres disturbance within UDA-1 and UDA-2 were planned for drainage control. The drainage control project will generate 2,604 CY of topsoil and the storage yard will generate 5,000 CY of topsoil. The topsoil pile currently stores 65,746 CY (Chap 2, p. 6). The new volume is stated to be 71,645, which does not account for the 2,604 salvaged from the drainage control (personal communication with P.J. Jensen, 6/1/2017). Division calculations indicate that approximately 73,000 CY will be stored in the topsoil pile at the completion of both projects.

*Deficiencies Details:*

pburton

## Road System Plans and Drawings

*Analysis:*

The application meets the State of Utah R645 requirements for Road Systems Plans and Drawings.

*Deficiencies Details:*

Narrative in chapter 7 as well as Plates 5-2 and 8-1 satisfy the requirements outlined in R645-301-521.100 and R645-301-534 for Road System Plans and Drawings.

jeatchel

## Hydrologic Diversion General

*Analysis:*

In the surface water control plan, the Permittee proposes to slope all areas to drain to surface ditches/culverts for runoff to be carried to two sediment ponds. The sedimentation and control plan is presented in Appendix 7-4. Design of drainage control structures is presented in Section 2 of Appendix 7-4.

All undisturbed culverts, UC-1 and UC-1a, are designed for 100 year – 6 hour precipitation event which is oversized for a temporary diversion. Currently, UC-1 is used to control the majority of the undisturbed site runoff. The Permittee proposes to construct a new 60" culvert (UC-1a) from the inlet location of UC-1 and under the Sediment Pond #1, then attaching UC-1 near the spillway structures. At final reclamation, all sections of the culvert will be removed. Design Summary for UC-1/UC-1a is presented in Table 10, construction details in Figure 44 and 4A, and design narrative is discussed on pages

10-11 of Appendix 7-4.

Disturbed area culvert calculations and design criteria are presented in Table 9.

All ditches are designed to carry a 10 year – 6 hour precipitation event. Table 8 provides the ditch design summary and Figure 3 provides the typical cross-section design. Ditches will be designed with 2H:1V slope. Ditches expecting flows greater than 5fps will be lined with riprap to prevent erosion. Ditches are temporary and will be reclaimed.

On Page 30 in Chapter 7 the Permittee describes the climate of Lila Canyon as normally dry with flow only in response to precipitation runoff or snowmelt. This is used as justification to implement the

aumarva

## Hydrologic Sediment Control Measures

### Analysis:

The application does not meet the State of Utah R645 requirements for Sediment Control Measures.

The Permittee provides design storm calculations and simulations in Appendix 7-10 and are also discussed on Page 24 of the MRP. Specifics for the sedimentation and drainage control plan are provided in Appendix 7-4. Design parameter specifics are provided in Section 2 or Appendix 7-4.

The Watershed Map and Proposed Sediment Control maps are presented in Plates 7-2 and 7-5, respectively. The sediment control map clearly presents existing sediment controls and newly proposed features for the site. However, there is little information on how mine discharge will be handled. Diversion ditches for the mine water are not identified on Plate 7-5 and it is unclear how mine discharge will reach DD-11a. As reported on page 12 of Appendix 7-24, DD-11a is equipped to accommodate mine discharge at a rate of 1.5 cfs (690 gpm). The permittee must provide a narrative and maps of the expected flow for how mine water will be handled. Also, Plate 7-5 must include UPDES Permit locations for Sediment Pond #1 and Mine Discharge into Grassy Wash.

The Permittee plans to divert runoff from the site into a diversion weir. Under the assumption described on page 30 of Chapter 7 in the MRP that Lila Canyon Drainage is normally dry, flowing only in response to precipitation runoff or snow melt. The Permittee proposes to allow drainage to by-pass sediment pond #1 during dry conditions, and divert runoff and disturbed area surface drainage to the sediment pond only during times of precipitation or times of active runoff. Plan view of the diversion weir is presented in Plate 7-6a with a narrative description on page 30 of Chapter 5. However, the permittee does not provide enough information regarding how this diversion weir will be operated or how it will be implemented during various climatic and runoff scenarios. Originally, the The Permittee must also provide a detailed drawing and engineering specifications for the diversion weir.

### Deficiencies Details:

The application does not meet the State of Utah R645 requirements for Hydrologic Sediment Control Measures. The following deficiencies must be addressed prior to final approval:

R645-201-741: The Permittee must provide a more detailed site-specific plan that outlines how mine water will be handled. The map must clearly identify where mine water is day-lighting and the diversions used to move mine water through the site to the UPDES discharge location. The UPDES discharge points for the sediment pond and mine water must also be clearly labelled on the map. The Permittee must also provide a narrative for their diversion.

R645-301-742.111: The Permittee plans to predominantly divert water through Gate #1 of the diversion weir where the water will run through several disturbed ditches prior to discharging to stream via UC-1. The permittee must provide additional narrative explaining why the proposal includes routing undisturbed runoff and mine water through disturbed ditches instead of directly discharging undisturbed water to the stream. As per R645-301-742.111, the Permittee must prevent to the extent possible to avoid additional contributions of sediment to stream flow.

R645-301-742.314, R645-731: The Permittee must provide engineering design criteria and control of water for the diversion weir proposed. Including, but not limited to, engineering drawings, calculations, and operational design. The permittee must also provide narrative of how the diversion system will be implemented, including during various climatic and runoff scenarios of expected/normal conditions and during unexpected/rare conditions.

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## Hydrologic Siltation General

### Analysis:

The application meets the State of Utah 645 requirements for the Siltation Structures: General.

The Permittee has proposed the construction of two sediment ponds for this site. All disturbed area runoff will be directed to these ponds for final treatment before discharging. No other siltation structures are proposed. Plan details are presented in Appendix 7-4.

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## Hydrologic Siltation Sedimentation

### Analysis:

The application meets the State of Utah R645 requirements for Siltation Structures: Sedimentation Ponds.

The permittee proposes to construct two sediment ponds for this site. The ponds are considered temporary and will be removed at final reclamation. The sediment ponds are sized to contain and treat runoff from all of the disturbed area and any contributing undisturbed area for a 10 year – 24 hour precipitation event. Both ponds are to be equipped with a decant, a culvert principal spillway, and an emergency culvert spillway constructed to safely pass a 25 year- 6 hour precipitation event per R645-301-742.223. Sediment Pond #1 spillway will discharge into to UC-1, then into an engineered discharge structure, and finally into Right Fork of Lila Canyon. Sediment Pond #2 spillways will discharge into an engineered discharge structure then into the Middle Fork of Lila Canyon. Discharge structures are to be designed with a rip-rap apron to prevent scouring and erosion (see page 10-11 of App 7-4 and Figure 4A for construction details of UC-1 outlet.

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## Hydrologic Discharge Structures

### Analysis:

The application does not meet the State of Utah R645 requirements for Hydrologic Discharge Structures.

The amendment provides in Table 8 of Appendix 7-4 summary calculations of the diversions. All diversions with a calculated peak velocity greater than 5 fps are to be equipped with rip rap. Figure 3 provides a typical disturbed ditch cross-section for the calculations presented in Table 8. However, this drawing is not sufficient given that various ditch configurations exist. The Permittee must provide drawings for each unique sizing and control measures, such as riprap.

The permittee provides sufficient detail of the discharge structure at UC-1 and the outlet protection in Figures 4 and 4A. Design information is provided in Table 10 and Section 2.10 on page 10 of Appendix 7-4.

### Deficiencies Details:

The application does not meet the State of Utah R645 requirements for Hydrologic Discharge Structures. The following deficiency must be addressed prior to final approval:

R645-731: The permittee must provide a cross-section plan for each uniquely sized diversion.

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## Hydrologic Ponds Impoundments Banks Dams

### Analysis:

The application meets the State of Utah R645 requirements for Ponds, Impoundments, Banks, Dams, and Embankments.

The amendment contains a detailed narrative in Appendix 7-4, starting on page 42. Calculations, cross-sections, and maps of the proposed sediment ponds are also included in this section. The size and configuration of the sedimentation ponds are adequate for the intended purposes with designs build to contain runoff from a 10 year-24 hour precipitation event.

Additional design details for the ponds are presented on Plate 7-5, Plates 7-6a for Sediment Pond 1 and Plate 7-6b for Sediment Pond #2.

aumarva

## Maps Affected Area

### Analysis:

The amendment meets the State of Utah R645 requirements for Affected Area Maps.

### Deficiencies Details:

Narrative in chapter 7 as well as Plates 5-2 and 8-1 satisfy the requirements outlined in R645-301-521 for Affected Area Maps.

jeatchel

## Maps Facilities

### Analysis:

The application meets the State of Utah R645 requirements for Facilities Maps.

### Deficiencies Details:

Narrative in chapter 7 as well as Plates 5-2 and 8-1 satisfy the requirements outlined in R645-301-521 for Facilities Maps.

jeatchel

## Maps Monitoring and Sampling Locations

### Analysis:

The application does not meet the State of Utah R645 requirements for Maps of Monitoring and Sampling Locations.

The Permittee presents Plate 7-4 for Water Monitoring Locations. This map includes both Permit Area A (Horse Canyon) and Permit Area B (Lila Canyon) monitoring locations. The location of water monitoring locations in relation to newly proposed surface disturbance is unclear. The permittee must provide a map that clearly identifies water monitoring and sampling locations with surface area disturbance boundary and key elements identified.

### Deficiencies Details:

The application does not meet the State of Utah R645 requirements for Maps Monitoring and Sampling Locations. The following deficiency must be addressed prior to final approval:

R645-300-121.120: The Permittee must provide a clear map indicating sampling locations with the current Lila Canyon surface disturbance identified. This map should include mine discharge points, portals, Lila Canyon Road, and sedimentation pond locations for reference.

aumarva

## Reclamation Plan

### Hydrological Information Reclamation Plan

### Analysis:

The application meets the State of Utah R645 requirements for Hydrologic Reclamation Plan.

The permittee provides a narrative of reclamation phases in Section 4 of Appendix 7-4. During Phase 1 of reclamation, the permittee proposes to remove all drainage controls except the sediment ponds, UC-1/1a, reclaimed ditches RD-1 and RD-2 (to be installed during reclamation), and temporary silt fences and straw bales.

At Phase II Bond Release, the permittee plans to have all upstream sediment controls removed, including RD-1 and RD2. The permittee plans to leave a portion of UC-1 in place as a permanent drainage control beneath the road. This section is

adequately sized with plans to equip with an inlet section and rip-rapped high wall. Both sediment ponds will be removed, regarded, and reseeded. The embankment for Sediment Pond #1 will remain. Post-mining hydrology is presented in Plate 7-7.

The permittee plans to construct a channel at an approximate 4% grade to intercept the inlet of the UC-1 culvert at its intersection of the road. Details of this construction are provided in narrative form in Section 4.2 of Appendix 7-4 and in Figure 4, a general layout of undisturbed culvert.

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## Revegetation Timing

### *Analysis:*

The current MRP meets the State of Utah R645 requirements for Revegetation Timing.

Chapter 3, Table 3-3, (Time Table of Reclamation) has been updated to account for eight years of additional mining and mining related activities.

jhelfric

## Bonding and Insurance General

### *Analysis:*

The amendment does not meet the State of Utah R645 requirements for General Bonding and Insurance. The following deficiency must be addressed prior to final approval:

### *Deficiencies Details:*

R645-301-820.111 and R645-301-820.112 - Please provide updated bond revision calculations adjusting for the addition of new storage pad and associated roads.

jeatchel