

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

May 17, 2005

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor

THRU: Dana Dean, Co-Lead

FROM: Wayne H. Western, Environmental Scientist III, Co-Lead

RE: Lila Canyon Extension, UtahAmerican Energy, Inc., Horse Canyon Mine, C/007/0013, Task ID #2159

SUMMARY:

UtahAmerican Energy (UEI, the Permittee) proposes to increase the permit area to 5,992.07 acres with 40.77 acres of surface disturbance for the facilities site. The project is in T16S R14E Sections 10, 11, 12, 15, 14, 13, 22, 23, 24, 26, and 25, and in T16S R15E Sections 19 and 30.

UEI proposes to develop new surface facilities near the mouth of Lila Canyon in order to mine coal in six federal leases. The federal leases are contained within the "North Block Logical Mining Unit" as approved by the United States Bureau of Land Management (BLM) January 1, 1994.

TECHNICAL MEMO

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 PAP includes a general description of the existing, pre-mining environmental resources within the proposed permit area and adjacent areas that UEI may affect or impact by underground mining activities. The Division addresses the specific requirements for Environmental Resource Information in other sections of the TA. The three main general areas of concern are:

- The lands subject to surface coal mining operations over the estimated life of those operations and the size, sequence, and timing of the subareas or which it is anticipated that individual permits for mining will be sought.
- The nature of cultural historic and archeological resources listed or eligible for listing on the National Register of Historic Places and known archeological sites within the proposed permit and adjacent areas.
- A description of the existing, premining hydrologic resources within the permit area and adjacent areas.

In Section 521 of the permit and on Plate 1-1 and Plate 1-2, UEI described the lands subject to coal mining and reclamation. The Horse Canyon Mine is in the Book Cliffs coalfield in Emery County near East Carbon and Sunnyside, Utah on the western slope of the Tavaputs Plateau. The 7.5 Minute Quadrangle maps that cover the permit area are Cedar and Lila Point, produced by the Geological Survey of the U.S. Department of the Interior. The Lila Canyon Project facilities site is five miles east of State Highway 6.

The existing Mining and Reclamation Plan (MRP) for Horse Canyon is referred to as Part A and the application for Lila Canyon Extension is referred to as Part B. The permit area for Horse Canyon Part A contains 1,327.75 acres and the proposed permit area for Lila Canyon Extension Part B consists of 4,664.32 acres. The combination of Horse Canyon Part A and Lila Canyon Extension Part B would bring the total new permit area to 5,992.07 acres.

UEI discussed the cultural and historical resources in Section 411.140 of the PAP. UEI gave the Division enough information to analysis those resources. The Division's detailed analysis of those resources is in the Historic and Archeological Resource Information section of Environmental Resource Information section of the TA.

UEI gave a general description of the existing hydrologic resources in Section 720 of the PAP. The information contained in Section 720 is adequate for the Division to evaluate the existing hydrological resources. In the Hydrologic Resource Information section of the Environmental Resource section of the TA, the Division discusses the premining hydrologic resources in detail.

In the PAP, there are some grammatical changes that need to be made they include:

- Remove the double negative in Section 513.100 of the PAP.
- Cite the correct reference in Section 513.500 (30 CFR 75.1711 instead of 30 CRF 75.1771).
- In Section 513.700 of the PAP UEI must clarify, that no surface mining will be conducted within 500 feet of an active underground coal mine.
- In Section 513.800, UEI must clarify the plans for fights coal mine waste fires have been approved by the Division and MSHA.

Findings:

Information provided in the application meets the minimum General Environmental Resource Information requirements of the Regulations.

R645-301-121.200, To make the PAP clear and concise UEI must 1) remove the double negative in Section 513.100 of the PAP, 2) cite the correct reference in Section 513.500 (30 CFR 75.1711 instead of 30 CRF 75.1771), 3) in Section 513.700 of the PAP UEI must clarify that no surface mining will be conducted within 500 feet of an active underground coal mine, 4) in Section 513.800 UEI must clarify the plans for fights coal mine waste fires have been approved by the Division and MSHA.

PERMIT AREA

TECHNICAL MEMO

Analysis:

The permit area is divided in two parts: the Horse Canyon Mine (Part A) and the Lila Canyon Extension (MRP - Part B). Total acreage for the two parts is 5,992.07 acres. The permit area for Part A, is 1,327.75 acres and the area for MRP - Part B, is 4,664.32 acres. UEI shows the permit boundary on several maps including Plate 1-1, Permit Area Map.

Table 1-1 shows federal coal leases encompass 5,544.01 acres. The permit area (5,992 acres) is not the same as the federal lease boundaries. Table 4-2 breaks out the acreage of private, state and federal ownership within Parts A and B of the permit area. Table 4-2A breaks out the private, state and federal acres of coal ownership within Parts A and B of the permit area.

Plate 5-5, Mine Map, shows mining of reserves from 2005 to 2019, a 14-year life-of-mine. Table 3-3 shows that reclamation will begin in 2020.

The surface facilities for MRP- Part B Lila Canyon will be located in SE $\frac{1}{4}$ SW $\frac{1}{4}$, Sec 15, T.16 S., R.14 E. The area is located upon an alluvial/colluvial bench at an elevation of 5,800 to 6,500 ft., where the two forks of Lila Canyon converge. The perimeter of the disturbed area contains approximately 42.6 acres. The actual disturbance for construction of pads, silos, coal processing structures, and parking will take approximately 25.3 acres, leaving 17.3 acres of undisturbed islands within the disturbed area. UEI illustrates the disturbed area boundary on several maps including Plate 1-2, Disturbed Area Map.

UEI must be consistent when describing the disturbed acreage:

- In Section 116.100, UEI states that there will be 42.6 surface acres within the disturbed area boundaries but only 25.3 acres will be disturbed.
- In Section 322.220, UEI states that the actual disturbed area is approximately 40.77 acres.
- In Section 330, UEI states that only 40.77 acres are within the surface disturbance area.
- In Section 333, UEI states that less than 40.77 acres of habitat will be lost.
- In Section 411.110, UEI states that 42.6 acres will be within the surface disturbance area and then 25.06 actual disturbed acres.
- In Section 542.200, UEI states that 42.6 acres will be within the surface disturbance area and 25.3 acres will be disturbed.

- In Section 731, UEI states that there will be 48 acres of surface disturbance.
- In Section 741, UEI states that there will be 39.81 acres of disturbance with and additional 10 acres in the transportation corridor.

On March 28, 2005, Wayne Western of the Division talked with Jay Marshall of UtahAmerican. Mr. Marshall stated that the disturbed area footprint contain 42.6 acres but the total disturbed area (topsoil removal would be 25.3 acres.)

UEI must be consistent with the life-of-mine:

- In Section 341.100, UEI states that the life-of-mine will be twenty years. They also refer to Table 3-3, which give a 14-year life-of-mine.
- On Plate 5-5, UEI shows that the life-of-mine is 14 years.

In Section 521.141 of the PAP, UEI states that Plate 5-1 and Plate 5-2 show the disturbed area boundaries. Plate 5-1 shows the permit boundary and Plate 5-2 shows the disturbed area boundary. UEI must clarify the statement.

Findings:

The information in this section of the PAP is not adequate to meet the requirements of this section of the Regulations. Before approval, UEI must provide the following in accordance with:

R645-301-121.200, UEI must list the correct number of acres within the disturbed area boundary, the acres that will be disturbed and the acres . For example (1) in Section 116.100, UEI states that there will be 42.6 surface acres within the disturbed area boundaries but only 25.3 acres will be disturbed, (2) in Section 322.220, UEI states that the actual disturbed area is approximately 40.77 acres, (3) in Section 330, UEI states that only 40.77 acres are within the surface disturbance area, (4) in Section 333, UEI states that less than 40.77 acres of habitat will be lost, (5) in Section 411.110, UEI states that 42.6 acres will be within the surface disturbance area and then 25.06 actual disturbed acres, (6) in Section 542.200, UEI states that 42.6 acres will be within the surface disturbance area and 25.3 acres will be disturbed, (7) in Section 731, UEI states that there will be 48 acres of surface disturbance and (8) in Section 741, UEI states that there will be 39.81 acres of disturbance with and additional 10 acres in the transportation corridor. **In addition**, in Section 521.141 of the PAP UEI states that Plate 5-1 and Plate 5-2 show the disturbed area boundaries. Plate 5-1 shows

TECHNICAL MEMO

the permit area boundaries and Plate shows the disturbed area boundaries. UEI must show the approximate location of the disturbed area boundaries on Plate 5-1 and state in Section 521.141 that the permit/affected area is shown on Plate 5-1.

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

UEI did not include adequate affected area boundary maps. UEI must include a map that shows all areas they propose to affect over the estimated total life of the coal mining and reclamation operations, with a description of size, sequence, and timing of the mining of subareas for which they anticipate that additional permits will be sought. The Division has concerns about the lease by application that UEI has on adjacent lands.

The Division did a search on Google using Lila Canyon; the first item that came up was a May 1, 2002 article in *Coal Age Magazine* about the lease-by-application (LBA.) The Division considers that information public and common. The Division wants that information in the MRP so they can anticipate future permitting activities.

UEI did not include a statement of all lands, interest in lands, options, or pending bids on interests held or made by UEI for lands contiguous to the area described in the permit application. UEI must include a statement about the lease by application on adjacent areas. That information is needed so that the Division will know about possible future expansion.

Existing Structures and Facilities Maps

Existing structure means a structure or facility used in connection with or to facilitate coal mining and reclamation operations for which construction began prior to January 21, 1981. The requirement for existing structures and facilities maps are:

- The location of all buildings in and within 1000 feet of the proposed permit area. No such structures exist within the Lila Canyon area.
- The location of surface and subsurface man-made features within, passing through, or passing over the proposed permit area. The only man-made features within the Lila Canyon area are a 60" culvert, and 48" culvert and Little Park road. The culverts are located in the disturbed area and will be replaced. See Plate 5-1A, Pre Mining

Contours. The existing roads, powerlines and railroads in and around the Lila Canyon area are shown on Plate 5-1

- The location and size of existing areas of spoil, waste, coal development waste, and noncoal waste disposal, dams, embankments, other impoundments, and water treatment and air pollution control facilities within the proposed permit area. No such structures exist.
- The location of each sedimentation pond, permanent water impoundment, coal processing waste bank and coal processing waste dam and embankment. No such structures exist.

Existing Surface Configuration Maps

UEI met the minimum requirements for supplying the Division with existing surface topographic maps and cross sections. Plate 5-1A shows the existing surface configuration for the Lila Canyon disturbed area. The map is at a scale of 1-inch equals 100 feet and the contour lines are on 5-foot intervals. The contour lines extend more than 100 feet beyond the disturbed area boundaries.

UEI gave the Division a series of cross sections and profiles that show the pre-disturbed topography at the Lila Canyon Mine site. The series consists of Plate 5-7-A-1 through 5-7-A-4, Plate 5-7-B-1 through 5-7-B-3 and Plate 5-7C. Those cross-sections and profiles show 5-foot evaluation intervals.

Plate 5-3, Subsidence Control Map, shows the existing topography of the Lila Canyon Extension area. The contour lines appear to be taken off a USGS topographic map. The Division considers the contours on Plate 5-3 adequate to show the pre-mining topography in the Lila Canyon Extension.

Mine Workings Maps

UEI met the minimum requirements for showing previously mined areas in and around the proposed permit boundaries at the Horse Canyon Mine. Plate 5-1, Previously Mined Areas, shows the location of the known mine workings in the Horse Canyon permit area. The old mine workings include the Horse Canyon project and the old Book Cliffs Mine. UEI shows the approximate dates when each of the subareas of the Horse Canyon Mine and adjacent areas were worked. The area had mining activities from the 1940s to the 1980s

In section 521.111 UEI gives a narrative of mining activity that occurred in the area. The Book Cliff Mine engulfed many small mines. The exact locations of the small mines are not

TECHNICAL MEMO

known so UEI showed previously mined area associated with the Book Cliff Mine. So the exact location of each prospect was not shown

On Plate 5-1, UEI shows the location of exploration entries in permit area "B," Lila Canyon. Those exploration entries are most likely a breakout for the Geneva Mine. A fan was located at the breakout to assist in ventilation.

Jay Marshall, who is a registered professional engineer in the State of Utah, certified Plate 5-1.

See Plate II-2 in the Horse Canyon section of the mine plan for a detailed mine map of the Horse Canyon project. The exploration entries are shown on Plate II-2.

Permit Area Boundary Maps

Plate 1-1, Permit Area Map shows the permit boundaries as Permit Area A- the Horse Canyon project, and Permit Area B- the Lila Canyon Extension.

On Plate 1-2 UEI shows the disturbed area boundaries. The plate also has UTM coordinates to help the Division locate the disturbed area in relationship to the permit boundaries.

However, the permitted and disturbed area boundaries are not shown consistently on each map. The permitted and disturbed areas shown on Plate 1-2 and on Figure 1 Appendix 5-7 are different. On Figure 1 Appendix 5-7, the culvert under the County road is shown within the permitted and disturbed areas.

Surface and Subsurface Manmade Features Maps

The location of all buildings in and within 1,000 feet of the proposed permit area, with identification of the current use of the buildings. The location of surface and subsurface manmade features within, passing through, or passing over the proposed permit area, including, but not limited to, major electric transmission lines, pipelines, and agricultural drainage tile fields. Each public road located in or within 100 feet of the proposed permit area.

UEI does not have any maps titled Surface and Subsurface Manmade Features. UEI is required to show the following:

- The locations of all buildings in and within 1,000 feet of the proposed permit area, with identification of the current use of the buildings. There are no such buildings.

- The location of surface and subsurface manmade features within, passing through, or passing over the proposed permit area, including, but not limited to, major electric transmission lines, pipelines, and agricultural drainage tile fields. Those features are shown on Plate 5-1 and Plate 5-1A.
- Each public road located in or within 100 feet of the permit area. Those features are shown on Plate 5-1 and Plate 5-1A.

Contour Maps

UEI submitted several plates showing the contour of the land on and adjacent to the proposed permit area.

Plate 5-1A shows the pre-mining contours for the disturbed area. Several maps, including Plate 5-3 show contours for the entire Lila Canyon area. The contours for Plate 5-3 are based on contours from USGS topographic maps and accurately represent the pre-mining contours for the Lila Canyon Extension.

A qualified, registered, professional engineer prepared, or directed the preparation of, Plates 5-1A and 5-3 and certified them.

Findings:

The information in this section of the PAP is not adequate to meet the requirements of this section of the Regulations. Before approval, UEI must provide the following in accordance with:

R645-301-521.141 and R645-301-121.200, UEI must include areas of possible future expansion on the affected area maps. UEI has a lease by application for adjacent areas. The Division did a search on Google using Lila Canyon; the first item that came up was a May 1, 2002 article in *Coal Age Magazine* about the lease-by-application. The Division considers that information public and common. UEI must also clarify the statement in Section 521.141 of the PAP that there are no additional subareas requiring additional permits regarding the LBA.

R645-301- 112.800, UEI must include a statement of all lands, interest in lands, options, or pending bids on interests held or made by UEI for lands contiguous to the area described in the permit application. The Division needs a statement about the lease by application on adjacent areas. That information is needed so that the Division will know about possible future expansion.

TECHNICAL MEMO

R645-301-521.163, and R645-301-521.190, UEI must revise all maps that show the disturbed area boundaries and the surface facilities. Figure 1 in Appendix 5-7 was not revised to show the changes in the disturbed area boundaries, for example the culvert under the County Road is shown to be within the permitted and disturbed area. The disturbed area boundaries near the coal stacking tube and main haul roads are different.

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

UEI proposes to develop surface facilities and mine portals near Lila Canyon. They will construct the Lila Canyon Project in, T. 16 S. R.14 E Section 15, S1/2. See Plate 5-5 for the Lila Canyon Extension workings.

UEI chose to develop the new mine facilities at the Lila Canyon site rather than use the existing facilities at the Horse Canyon site for the following reasons:

- Development of the Horse Canyon site would entail disturbance of reclaimed ground.

UEI partially reclaimed the Horse Canyon mine site and received Phase II bond release (Section 528.110). Division records indicate that UEI did the reclamation in 1990 and 1991, with Phase I bond release granted on February 5, 1997. The Division sent a decision document for Phase II bond release of 51.56 acres to the Office of Surface Mining for their concurrence on October 19, 1999. UEI still has 22.7 acres to reclaim for a total of 74.26 acres within the permit area. On November 10, 1999, the Division granted Phase II bond release on the condition that UEI remove a sediment pond and culvert. The Division granted final approval of the Phase II bond release on September 6, 2002. Within the 22.7 acres, several buildings at the site remain standing and negotiations are underway for post-mining use of the buildings by a second party. At Phase II bond release, all the backfilling, grading, topsoil placement, drainage controls and vegetation have been completed. The only remaining items are that the site meets the vegetation success standards and complies with the general performance standards.

- The existing Horse Canyon facilities are not suitable for a large-scale longwall operation.

The Horse Canyon Mine was not originally designed to produce 4,500,000 tons of coal per year (Section 520). The Division was not able to obtain complete annual production figures for the Horse Canyon Mine, but in 1969, the mine produced 843,362 tons of coal. The information on Plate 5-1 suggests that coal production between 1970 and 1980 was on a similar scale.

- The Horse Canyon Mine workings are not in operational condition.

Some of the main pillars were pulled during retreat mining and other areas are underwater. While reopening portals and shoring up old mine workings may be an option, such an alternative would be expensive. In addition, the travel time from the Horse Canyon portals to the Lila Canyon Expansion area would result in long travel times for both miners and equipment.

The Division does not have the resources to independently verify that using the Horse Canyon facilities would be uneconomical nor has UEI given the Division detailed economic data to support the claim. UEI has offered some good reasons why they should develop the Lila Canyon facility. The Division does not have a compelling reason to deny the development of Lila Canyon facility.

The average gradient of the Lila Canyon Extension site is 10%. The gentle slope of the area reduces many of the problems of reclaiming mine sites developed in steep canyon areas.

Access to the lower Sunnyside seam at this location requires tunneling from the base of the cliffs upwards at 12% through a sandstone rock-slope for a distance of approximately 1,200 feet. UEI refers to these inclined portals as rock-slopes in the PAP. They will drive the ventilation portal from the underground workings to the surface. See Plate 5-2 for the locations.

While UEI could construct a road to the outcrop, reclamation of the road to the standards in the R645 rules would be difficult if not impossible. Development of the rock slope tunnels increases UEI's ability to reclaim the site.

UEI will use the rock material from the two access tunnels and the portal face-up areas to create a pad for surface facilities. UEI will construct other cut/fill pads from subsoils. The amount of bank rock material that UEI will remove to construct the rock slopes is 16,650 bank cubic yards. UEI assumes a swell factor of 1.5; therefore, the loose cubic yards of material would be 25,000 cubic yards. See Appendix 5-7 for information about the volume calculations.

The material from the rock slopes is by definition underground development waste and coal mine development waste. Coal mine waste is defined as coal processing waste and underground development waste. R645-301-536 requires that all coal mine waste be placed

TECHNICAL MEMO

within approved portions of the permit area. UEI will place the material from the rock slopes in a refuse pile.

Because the material from the rock slope will not contain coal, or material that is combustible or acid or toxic forming, the Division will allow UEI to use that material as structural fill. Fill for other areas of the disturbed area will come from subsoils.

UEI will initially conduct mining by room-and-pillar methods in the Lower Sunnyside Coal Seam. They estimate production in the first year to be 200,000 tons, increasing to 1,000,000 to 1,500,000 tons per year in the second through the fifth year. If demand increases, UEI will install longwall equipment and production could peak at 4,500,000 tons per year.

In the PAP, UEI proposed to construct mine access portals, a ventilation portal, an elevated conveyor, a coal storage pile and reclaim system, a crusher, a truck loop and truck loadout, a warehouse and storage yard, an office, parking and bathhouse facilities, a substation, water storage and water treatment facilities (leach field), a topsoil storage pile and a sediment pond.

To support the new center of activity at Lila Canyon, Emery County will upgrade the existing County Road #126 from State Highway 6 to a corral and from this point will upgrade unimproved roadway RS 2477 from the corral to the Lila Canyon Extension surface facilities (Appendix 1-4).

Findings:

The information in this section of the PAP is adequate to meet the requirements of this section of the Regulations.

EXISTING STRUCTURES:

Regulatory Reference: 30 CFR 784.12; R645-301-526.

Analysis:

An existing structure means a structure or facility used in connection with, or to facilitate, coal mining and reclamation operations, for which construction began before January 21, 1981. A structure constructed before January 21, 1981 does not have to meet the design criteria of structures constructed after that date. However, existing structures do have to meet the performance standards. Note: in the Environmental Section of this TA, existing structures in the Lila Canyon Extension refers to structures that exist before the Division issues a permit.

In Section 526.110 of the PAP, UEI describes three existing structures, which are:

- A 60” CMP culvert. In Section 526.112 of the PAP, UEI states that the replacement of the culverts will be done as part of the construction of the surface facilities. In Section 526.112 of the PAP, UEI states that the culverts will be replaced as needed with the construction of the surface facilities. In Section 526.114 of the PAP, UEI states that the culvert will be removed upon construction of the sediment pond. In Section 526.115 of the PAP, UEI states that the County will modify or reconstruct the culverts. If the County will remove/replace the culverts as part of upgrading the road then that operation is independent of construction of the sediment pond. In Appendix 5-4, Existing Lila Canyon Road (County Road 126) UEI states that all work done the road will be implemented and controlled by the Emery County Road Department. If the County will remove/replace the culverts in connection with the mine facilities construction then UEI needs to state that the operation will be coordinated between themselves and the County. UEI states on Plate 7-6 that “portion of culver within RS-2477 ROW will be replaced by the County and will remain after reclamation.” However, the right-of-way is not shown on Plate 7-6.
- A 48” CMP culvert. UEI states in Section 526.112 of the PAP that the 48” culvert will be replaced as needed with the construction of the surface facilities. In Section 526.114 and other sections, UEI states that the culvert will be replaced during the construction of the sediment pond. Both Plate 5-2 and Plate 7-5 show that the 48” culvert will be removed but not replaced. UEI must clarify what will happen to the 48” culvert.
- The Little Park Road. The road is a public road and does not have to be permitted.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the Regulations. Before approval, UEI must provide the following in accordance with:

R645-301-526.115 and R645-301-121.200, UEI must clarify whether the existing 48” culvert will be removed or replaced. If the 48” culvert is replaced then UEI must show its location on Map 5-2 and Map 7-5. UEI must clarify the statements about when the culverts will be removed. If the County will remove/replace the culverts as part of upgrading the road then that operation is independent of construction of the sediment pond. If the County will remove/replace the culverts in connection with the mine facilities construction then UEI needs to state that the operation will be coordinated between themselves and the County. In addition, UEI must show the right-of-way for the County road. The Division needs the division between the County’s responsibility and UEI’s responsibility clearly shown.

TECHNICAL MEMO

RELOCATION OR USE OF PUBLIC ROADS

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

Analysis:

There is only one public road in the Lila Canyon Extension area, the Little Park Road. UEI will not relocate Little Park Road. They will use the road for access to subsidence and water monitoring points. UEI has no plans to relocate or upgrade Little Park Road.

There are several Jeep trails and wheel tracks within the Lila Canyon Extension area. The Division does not consider the Jeep trails and wheel tracks to be roads because they were not engineered and do not receive maintenance.

Emery County will upgrade and pave the existing County Road #126 (2.63 miles) and RS2477 roadway from State Highway 6 to the Lila Canyon Extension surface facilities (Appendix 1-4, Agreement between Emery County and UEI dated October 19, 1999).

The permitting status of the road was questioned by the Division when an article entitled “Utah DOGM Office Clears Way to Process Lila Canyon Permit,” was published in the Sun Advocate, Thursday February 28, 2002. The press release stated that UEI planned to build a 4.7-mile road from the mine site to a Union Pacific rail line. A public notice placed in both the Sun Advocate and the Emery County Progress in April 2002, subsequently clarified that Emery County would construct and improve the 4.7-mile road from the mine site to U.S. Highway 6.

UEI does plan to tie the bypass culvert into Emery County’s culvert under the County Road 126. Emery County will install the culvert under the road and has consented to allow mining operations within 100 feet of the public road. To protect the public, Emery County requires a 6-foot chain link fence between the disturbed area and the Lila Canyon Road (see Appendix 1-4, letter from the Emery County Road Department dated January 10, 2001). The Division believes that the fence will offer the public protection from the hazards associated with the mining and reclamation facilities that are located within 100 feet of County road.

Findings:

The information provided in the PAP meet the minimum regulatory requirements for this section of the regulations.

COAL RECOVERY

Regulatory Reference: 30 CFR 817.59; R645-301-522.

Analysis:

As part of the federal mine plan approval process, and to meet the requirements of the federal leases, the BLM required UEI to submit a resource recovery and protection plan (R2P2). The BLM staff analyzed the R2P2 for maximum economic recovery and found that UEI met that requirement.

The BLM based the R2P2 determination on the assumption that UEI will mine within a logical mining unit (LMU). UEI shows the location of the LMU on Plate 5-4.

UEI based the mine plan on the assumption that all the coal in the LMU is marketable. The coal in the Lila Canyon Expansion is higher in sulfur than coal in the surrounding area. If the sulfur value exceeds contract specification, UEI may be unable to market the coal. Should that occur UEI would have to modify the mine plan and some coal would not be mined.

Expansion of the mine to the west is impossible because the coal outcrops on the western escarpments. To the north are the old Horse Canyon Mine workings. UEI has looked at the potential for reworking the area and determined that there are no recoverable resources. Deep cover limits expansion to the east. The economic cut off to coal based on depth of cover varies within the area from 2,500 feet to 3,000 feet of cover. Therefore, significant expansion to the east is limited at this time due to economics and technology.

Expansion to the south could be possible. UEI needs to discuss the possibility of expanding the operation to the south. The Division needs that information as a heads up for future permitting activities.

The Division staff reviewed the mine plan and found that all significant coal reserves within the permit area LMU that could be recovered, will be recovered. The Division bases their findings on several factors including technical analysis from other agencies, such as the BLM.

Coal will be recovered using a continuous miner during the first five years. If conditions warrant, longwall methods could be employed.

Section 522 discusses the use of barrier pillars to isolate the Horse Canyon Mine from the new Lila Canyon Extension, to ventilate, to provide independent escape routes, to protect escarpments, and to possibly retain large quantities of mine water.

Federal leases cover 5,544 acres of coal reserves (Table 1.1, page 11, Chapter 1), but Horse Canyon Parts A and B will mine through 5,163 Federal lease acres according to Table 4.2A, Chapter 4.

TECHNICAL MEMO

UEI estimated the first year's production to be 200,000 tons, increasing in the second through fifth years to between 1,000,000 and 1,500,000 tons. Plans project the utilization of longwall mining to generate as much as 4,500,000 tons a year (Section 523). An increase of this size would require modification of the MRP.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the Regulations. Before approval, UEI must provide the following in accordance with:

R645-301-522, UEI must discuss the potential for expanding the mine. The Division is interested in future plans for expanding to the south and east. UEI has submitted a lease by application to the BLM for additional leases in the area. The Division did a search on Google using Lila Canyon; the first item that came up was a May 1, 2002 article in *Coal Age Magazine* about the lease-by-application. The Division considers that information public and common.

SUBSIDENCE CONTROL PLAN

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

Analysis:

General

Plate 5-3, Subsidence Control Map, shows the location of renewable resources that subsidence could damage such as water rights, seeps and springs. The map also shows the location of the underground mine workings, and the angle-of-draw. Plate 5-5, Mine Map, shows the projected mine workings in the Lila Canyon Extension. Both Plate 5-3 and Plate 5-5 have a scale of 1:12,000 and UEI had professional engineer certify the maps.

In Section 525.110 of the PAP, UEI stated that the location of eagle nests could be shown on Plate 5-3. The Division instructed to remove the location of all eagle nests from the maps that are accessible to the public and place that information on maps that are included in the confidential file. UEI must remove the reference to the eagle nest in Section 525.110 of the PAP.

UEI stated that the angle-of-draw in the permit area would be 21.5 degrees. In the MRP, UEI listed U.S. Geologic Survey Professional Paper 332, *Some Engineering Geologic Factors Controlling Coal Mine Subsidence in Utah and Colorado*, as a reference. The author's findings were that in Utah and Colorado the average angle of draw is 21.5 degrees. The Division and

other government agencies usually accept a 21.5 angle-of-draw until information from the subsidence monitoring program can be used to determine the actual angle-of-draw.

Plate 5-5, Mine Map, shows the schedule for mining and the location of first mining areas, partially mined area, full extraction areas, and main entries that UEI will protect. The R2P2 contains additional information on locations of pillars, entries, extraction ratios, and measures taken to prevent or minimize subsidence and related damage.

Renewable Resources Survey

UEI conducted a survey and found that no structures exist within the area of projected subsidence. UEI did find that some renewable resources including seeps and springs exist in the area of projected subsidence.

Plate 5-3, Subsidence Control Map is at a scale of 1:12,000. The map shows the location of the springs and water rights. The location of the water rights came from the water right descriptions, which lists the locations to the nearest quarter section. Plate 5-3 shows the maximum extent of subsidence at a 21.5 degree angle-of-draw.

UEI showed the location of the Little Park Road and some Jeep trails that branch off the main road on Plate 5-3. Part of Little Park Road lies within the subsidence zone.

The Division has observed that subsidence usually does not cause damage to dirt roads. The damage to dirt roads is usually minor and mostly consists of tension cracks. In the past, UEIs in Utah have easily repaired roads damaged by subsidence.

R645-301-525.200 lists those areas where underground coal mining and reclamation activities cannot be conducted beneath or adjacent to. The protected areas include public buildings and facilities, churches, schools, and hospitals. In addition, areas with impoundments of 20 acre-feet or more of water are included unless UEI can prove that subsidence will not damage the structure. Aquifers that are an important source of a public water supply are also included. The subsidence survey found that no public buildings, public facilities, churches, schools, hospitals, impoundments, bodies of water with 20 acre-feet or more storage capacity, or aquifers that are a significant source of a public water system are located within the potential subsidence area.

The Division can suspend underground mining as stipulated in R645-301-525.220, which regulates damage to urbanized areas, major impoundments, and perennial streams. None of those items are located in the proposed subsidence zone.

TECHNICAL MEMO

In Chapter 7 of the PAP, UEI lists the location of each State appropriated water right, the amount of water associated with the right, and the water use. The Division will rely on this information to resolve any problems involving water replacement issues.

In Section 727 of the PAP, UEI states the following:

Any State-Appropriated water supply that may be damaged by mining operations will either be repaired or replaced. As soon as practical, after proof of damage by mining in Lila Canyon, of any State-Appropriated water supply, UEI will replace the water. Water replacement may include sealing surface fractures, piping, trucking water, transferring water rights, or construction of wells. The preferable method of replacement will be sealing of surface fractures effecting the water supply. As a last resort UEI will replace the water by transferring water rights or construction of wells.

The Division concurs with the water replacement program. The first option should be to restore any water lost. UEI proposes to do that by sealing cracks, piping, or trucking water. When repairs are not possible, UEI commits to replacing water either by drilling wells or, as a final option, transferring water rights.

In Chapter 3 of the PAP, UEI stated that the two threatened or endangered species in or around the Lila Canyon Extension are the bald eagle and black-footed ferret. While there have been no sightings of bald eagles within the Lila Canyon Extension within the past three years the area has the potential for supporting bald eagles.

There is one active and one tended nest within a ¼ mile of the surface facilities. The close proximity of the surface facilities to the nests makes their future use unlikely. Mitigation will consist of a prey base off-site vegetation treatment project approved by the USFWS, UDWR, and BLM. However, if either of these nests or any future nest is lost because of mining activities (subsidence), UEI is committed to working with the Division, who will then consult with USFWS and UDWR for mitigation requirements.

The Division has received some public comments about the potential for subsidence to damage snake dens. DWR and BLM wildlife biologists, in consultation with the Division, have determined than any loss of snake dens to subsidence would be random and a minor impact to the population of snakes. For all wildlife issues, see the Operation Plan, Fish and Wildlife Information section of this TA.

R645-301-525.130 requires UEI to provide copies of the water rights survey and any technical assessment or engineering evaluation to the property owner, the water conservancy district, if any, where the mine is located and to the Division. The State Water Rights Division told UEI that there are no water conservancy districts in or around the Lila Canyon Extension.

UEI stated in Section 525.130 of the PAP that all State appropriated water rights are owned either by the BLM or the Operator (Permittee.) UEI stated that they gave the BLM the survey when UEI gave the BLM a copy of the PAP. The Division does not consider a copy of the PAP adequate notification of the water right survey. The PAP is in seven volumes and there is nothing that red flags the water survey. Therefore, the Division does not consider that the BLM has been properly notified. UEI could either give the BLM a copy of the water right survey or a letter stating that the water right survey was included in the PAP.

Subsidence Control Plan

In Section 525.310 of the PAP, UEI said that they would prevent subsidence from occurring on the escarpments by only conducting first mining in the area. However, UEI showed on Map 5-5 an area of partial mining. UEI must describe the area of partial mining and what UEI is protecting.

Description of Coal Mining Method

Coal mining will begin in Section 15, T. 16 S., R. 14 E., in the Lower Sunnyside Coal Seam. Development of the Lower Sunnyside Coal Seam will be down dip toward the east. Two 1,200-foot tunnels will access the coal seam. UEI will drive the tunnels upward from the cliffs at a 12% grade. UEI will develop the ventilation fan portal from the underground workings to the surface. See Plate 5-2 for the location of the portals and Plate 5-5 for the mine workings.

UEI will conduct initial mining by the room-and-pillar method. Production in the first year will be around 200,000 tons, and around 1,000,000 to 1,500,000 tons per year during the second to fifth year. If demand increases, UEI will install longwall equipment and production could peak at 4,500,000 tons per year. The estimated life-of-mine is 20 years.

Plate 5-3 shows the areas where subsidence could occur, while Plate 5-5 shows the timing and sequence of mining. That information is sufficient for the Division to determine what areas will subside, and when.

Mine Map

Plate 5-5, Mine Map, shows the schedule for mining, and the location of first mining areas, full extraction areas, and main entries that will be protected.

Plate 5-5 shows the underground workings and the areas where first mining only will be utilized to protect escarpments and the raptor nests that may exist on the escarpments. The areas to be protected from subsidence are confined to the western edge of the underground mine.

TECHNICAL MEMO

Physical Conditions

In Section 525.430 of the PAP UEI list the following physical conditions:

- The coal seam is approximately 12.5 feet thick.
- Coal extraction will be 10.5 feet.
- Depth of cover ranges from 1,500 feet to 2,300 feet.
- The rocks overlaying the coal seam are sandstones and mudstones with some thin bands of coal.

In Section 525.120 of the PAP UEI list the following physical conditionsL

- The coal seam is approximately 12.5 feet thick.
- Coal extraction will be 10.5 feet.
- Depth of cover ranges from 0 feet to 2,300 feet.
- The rocks overlaying the coal seam are sandstones and mudstones with some thin bands of coal.

UEI also states in Section 525.100 of the PAP that mining will take place in areas with less than 1,000 of cover, including part of Little Park Wash.

UEI must be accurate about the amount of cover.

Subsidence Monitoring

UEI will initiate subsidence monitoring in an area before any second mining begins in that area. The subsidence-monitoring plan will consist of the following:

- Aerial subsidence monitoring
- A 200-foot grid
- 12-16 control points
- Six of these points outside the subsidence zone
- Accuracy of plus or minus 6 inches horizontally and vertically
- A map of subsided areas
- Annual surveys in active subsidence areas

Subsidence monitoring will continue for five years after mining stops, or until subsidence is complete. If, for three years in a row, the subsidence is measured to be less than 10 percent of the highest subsidence year, subsidence will be determined to be complete, and no additional monitoring for that area will be required.

UEI will conduct a ground for each panel no earlier than six months after mining in the panel ceased but no more than twelve months. They will note any cracks observed and report them to the Division.

The two main objectives of the subsidence monitoring program are to determine 1) when subsidence starts and stops, and 2) if any damage has occurred. The aerial monitoring program, which measures ground movement, is the best way to determine when subsidence begins and ends. Ground surveys are useful to determine if any subsidence damage has occurred. UEI should pay particular attention to any stream channels with less than 1000 feet of cover to the coal.

Subsidence Control Measures

UEI plans to use subsidence control methods in the Lila Canyon Extension, to protect the escarpments and to keep subsidence within the permit boundary. To protect the escarpment, UEI will leave barrier pillars and only allow first mining within 200 feet of the outcrop barrier. This will protect the escarpments.

To prevent subsidence outside the permit area, UEI will have an area of partial mining as shown on Map 5-5. UEI needs to explain:

- Define the term partial mining and how it differs from first mining.
- Why partial mining will prevent subsidence, including supporting technical information.
- In Section 525.452 of the PAP, UEI states that support pillars are not anticipated to control subsidence. UEI must explain clarify that statement with respect to the partially mined area.

Anticipated Subsidence Effects

The main panels of the Horse Canyon Mine (Permit Area A), in which past operators have conducted retreat mining, have dimensions of approximately 1,200 feet wide by 4,000 feet long. The cover (h) in these areas is approximately 2,000 feet. Using the methods described in the National Coal Board's *Subsidence Engineers' Handbook* the S/m ratio for this geometry would be 0.55 where "S" is the maximum subsidence and "m" is the seam extraction thickness. For an average seam extraction thickness of 12 feet, the total subsidence would be 6.6 feet. However, as described on page V-12 of the Horse Canyon MRP (Part A), the major impacts of subsidence are due to extension strains and not to total vertical subsidence. The prediction of average extension strain is accomplished with the use of the formula:

$$+E = 0.75 S/h \text{ where } S = \text{Subsidence and } h = \text{depth of cover}$$

The solution of this equation for the Horse Canyon Mine configuration discussed above

TECHNICAL MEMO

produces a predicted, average extension strain of 2.5×10^{-3} which is less than that the limiting strain of 5×10^{-3} for protecting surface waters and groundwater resources. Thus, it is unlikely that the gradual compression expected over much of the subsidence area will have any deleterious effects on the overlying renewable surface resources. As reported in Chapter V of the Horse Canyon MRP (Part A), the cover thickness of over 2,000 feet is also much greater than the limiting thickness of 450 feet.

A cantilever effect of symmetrical subsidence on either side of thick pillars can greatly enhance the amount of extensive strain. The Horse Canyon MRP (Part A) indicates in Chapter V that Dunrud demonstrated this effect at the Geneva (Horse Canyon) mine over the barrier pillar separating the Geneva and Book Cliff mines. A nearly vertical break line occurred over the pillar with the appearance of large surface fissures hundreds of feet long and as much as 3 feet wide. The cover thickness in this area was about 900 feet. Such features would obviously have the greatest effect on the surface and groundwater resources in the area.

The pace at which subsidence occurs depends on many controls including the type and speed of coal extraction, the width, length and thickness of the coal removed, and the strength and thickness of the overburden. Observations of subsidence by Dunrud over the Geneva and Somerset Mines indicate that the subsidence effects on the surface occurred within months after mining was completed, and the maximum subsidence was essentially completed within 2 years of the finishing of retreat mining as reported in Chapter V of the Horse Canyon MRP (Part A).

In the 1992 annual subsidence report for the Horse Canyon Mine, UEI reported subsidence features outside of the Horse Canyon permit area, but within the area underlain by workings of both the Book Cliffs Coal Mine and the Geneva Coal Mine. The surface subsidence features were observed in Sections 9, 10, 15 and 16, T. 16 S. R.14 E. Those areas have cover averaging 800 feet but do not exceed 1,000 feet of cover. UEI noted a number of the subsidence features including:

- Open jointing and fissuring related to cliff face retreat and spalling.
- Swarms of fissures related to extensional ground movements above, or adjacent to, the property-boundary barrier pillar between the Book Cliffs and Geneva Mines. The fissures are generally parallel to sub-parallel to the barrier pillar and are developed primarily along existing regional joint sets. Individual fissures can reach hundreds of feet in length and as much as three feet in width. Vertical displacement on the order of a few inches has been observed at some localities.
- Modifications in vegetation and soil structure were often associated with fissure development. Fallen trees were observed along several fissures and cryptogamic soil communities had been disrupted locally.
- At one or two locations, cool air was felt emanating from the larger fissures.

The 1992 annual subsidence survey showed that the only subsidence related activity noted within the Horse Canyon permit area was cliff spalling that occurred in 1958. Close examination of the outcrop areas and soil covered slopes directly above, and to the north of, the area of cliff failure did not reveal any evidence of mine subsidence features.

Most of the area UEI plans to subside in the Lila Canyon Extension has greater than 1,000 feet of cover. In areas with more than 1,000 feet of cover, no surface subsidence features are anticipated with the exception of ground lowering.

In areas with less than 1,000 feet of cover, subsidence features could include tension cracks, fissures, sinkholes, and ground lowering. In the southwest part of the permit area, the cover drops to less than 500 feet. Parts of Little Park Wash, an ephemeral stream, are located in the shallow cover area.

Should subsidence damage Little Park Wash the most likely causes would be cracks, fissures, or sinkholes. Should Little Park Wash be damaged UEI could most likely make repairs by hand. If equipment is needed, UEI could access most areas by Jeep trails.

Minimize Damage to Non-commercial and Occupied Buildings

No non-commercial or occupied buildings exist within the proposed subsidence zone.

Replacement of Adversely Affected State-Appropriated Water Supplies and Mitigation to Material Damage of Land and Protected Structures

UEI states in Section 727 of the PAP, the methods that they will use to replace any loss of State appropriate water. The methods include:

- Repairing subsidence damage.
- Hauling/piping water to effected area.
- Transfer of water rights
- Drill additional wells.

Those methods are similar to those used by other mines to replace water losses. Therefore, the Division considers those methods acceptable.

Repair of Damages

UEI committed to restore surface lands to the extent technologically and economically feasible. While the use of heavy equipment in some areas is not practical, there are alternatives that others have used to reclaim mines in Utah and that have been quite successful. Those

TECHNICAL MEMO

methods include manual labor and the use of explosives. The Utah Abandoned Mine Lands (AML) Program has used explosives in wilderness areas to eliminate hazards caused by mining.

Since no structures exist within the subsidence zone, UEI does not have to address how they will repair damage to buildings and other related structures.

Two items that are of concern to the Division are roads and streams. All dirt roads in the Lila Canyon tract are in areas with over 1,000 feet of cover or where mining will not take place. If subsidence damage should occur to the roads, UEI has committed to repair the damage by regrading the road. Since the roads will be accessible to earthmoving equipment, the Division finds the commitment adequate.

The Division is concerned that subsidence could damage the ephemeral streams located in areas of less than 1,000 feet of cover. Part of Little Park Wash, an ephemeral stream, has less than 1,000 feet of cover. Based on experience in the area, subsidence could cause cracks, fissures, or sinkholes to form. Should those features occur, UEI would most likely be able to repair the damage using hand methods. If hand methods prove to be impractical, UEI could have the option of moving equipment into the area. Jeep trails, which cover most of the area, could be used to move equipment in if necessary.

In Section 727 of the PAP, UEI stated:

Any State-Appropriated water supply that may be damaged by mining operations will either be repaired or replaced. As soon as practical, after proof of damage by mining in Lila Canyon, of any State-Appropriated water supply, UEI will replace the water. Water replacement may include sealing surface fractures, piping, trucking water, transferring water rights, or construction of wells. The preferable method of replacement will be sealing of surface fractures effecting the water supply. As a last resort UEI will replace the water by transferring water rights or construction of wells.

Rebuttable Presumption of Causation by Subsidence

UEI has used an angle of draw of 21.5° in its subsidence calculations. The rebuttable presumption of causation for damage within the angle-of-draw, means that if damage to non-commercial buildings or occupied residential dwellings occurs as a result of earthen movement, the assumption exists that the mining caused the damage, unless UEI can prove otherwise. R645-301-525.541 assumes an angle-of-draw of 30° unless UEI can demonstrate that another angle-of-draw is more appropriate. Since there are no non-commercial buildings or occupied residential dwellings in the area the 30° angle-of-draw, rebuttable presumption does not apply.

Adjustment of Bond Amount for Subsidence Damage

The Division does not bond for subsidence damage that has not yet occurred, except for conditions outlined in R645-301-525.550. The general practice to protect buildings and other structures is for UEI to purchase liability insurance, see R645-301-525.520, R645-301-525.530, and R645-301-830.500. Additional bond will be required, when subsidence-related material damage has occurred to land, structures, or facilities or where contamination, diminution, or interruption to a water supply has occurred.

UEI has 90 days to repair the damage before the Division can require additional bond. The Division may increase the 90-day period up to one year if subsidence is not completed within 90 days.

Performance Standards For Subsidence Control

UEI will comply with all provisions of the approved subsidence control plan.

Notification

UEI is required to notify the water conservancy district, if any, and the owners and all occupants of surface properties and structures above the underground workings. The notification will include the specific areas where mining will occur and the location or locations where UEI's subsidence control plan may be examined

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the Regulations. Before approval, UEI must provide the following in accordance with:

R645-301-525.430, UEI must accurately state the depth of cover thought out the MRP. In Section 525.430 of the PAP, UEI stated that the depth of cover ranges from 1,500 feet to approximately 2,300 feet. In Section 525.120 of the PAP, UEI stated that the depth of cover ranges from 0 feet to approximately 2,300 feet.

R645-301-525.130, UEI must show that all property owners in, and around, the Lila Canyon Extension received copies of the water rights survey. The Division does not consider giving the BLM a copy of the PAP adequate notification. UEI must either give the BLM a separate copy of the water right survey or send the BLM a letter stating that the survey was conducted and where in the PAP to find the information.

R645-301-525.450, UEI must (1) Define the term partial mining and how it differs from first mining (Map 5.5) and (2) Why partial mining will prevent subsidence, including supporting technical information.

TECHNICAL MEMO

R645-301-121.200, UEI must remove the statement about to eagle nest being on Map 5-3. Text and maps with that show the location of eagle nests must be placed in confidential file.

R645-301- 525.310, R645-301.252.420 and R645-301-525.452, UEI must state in Section 525.310 and 525.420 of the PAP what areas that they are protecting from subsidence with the use of partial mining and why. In addition, UEI must clarify the statement in Section 525.452 of the PAP about not using support pillars in light of the partially mined area.

SLIDES AND OTHER DAMAGE

Regulatory Reference: 30 CFR Sec. 817.99; R645-301-515.

Analysis:

The requirements for slides and other damage consist of two parts. The first part requires that at any time a slide occurs, which may have a potential adverse effect on public, property, health, safety, or the environment, the person who conducts the underground mining activities shall notify the Division by the fastest available means and comply with any remedial measures required by the Division. In section 515.100 of the PAP, UEI commits to phone the Division if a slide occurs (Section 515) and inform them of the slide and proposed remedial plan. The Division will then determine the adequacy of the remediation plan. UEI has also committed to report any potential hazards found during impoundment inspections.

The second requirement is that the PAP will incorporate a description of notification when potential impoundment hazards exist. The requirements for the description are: If any examination or inspection discloses that a potential hazard exists, the person who examined the impoundment will promptly inform the Division of the finding and of the emergency procedures formulated for public protection and remedial action. If UEI cannot formulate or implement adequate procedures, the Division will be notified immediately. The Division will then notify the appropriate agencies that other emergency procedures are required to protect the public. In section 515.200 of the PAP, UEI commits to notify the Division of any impoundment hazards they discover during an inspection and the methods that will be used to remedy the situation.

Findings:

UEI meets the minimum regulatory requirements for slides and other damage.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

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

Analysis:

Road Classification System

Plate 5-2 shows the location of all roads that UEI will use for coal mining and reclamation activities within the disturbed Lila Canyon area. The roads within the disturbed area boundary include the Mine Facilities Road/Truck Loadout Road, the Slope Access Road/Portal Access Road and the Coal Pile Road. The Division classifies all of the roads in the disturbed area as primary roads. The Division classified the roads as primary roads because UEI will use the roads to transport coal and/or they will be used frequently for more than six months.

Plans and Drawings

Roads

UEI must give the Division adequate plans and drawings for each road that they will construct in the disturbed area.

Mine Facilities Road/Truck Loadout Road

- A registered professional engineer must certify all maps, cross sections, and profiles. UEI must show all culverts and ditches on Plate 5-2, Surface Area.
- In Section 542.600 of the PAP, UEI give the reclamation plan for the roads. All roads within the disturbed area boundary will be reclaimed during final reclamation.
- In Appendix 5-4 on an unnumbered drawing, UEI shows the main facilities road. The map needs to be labeled, a scale given and other pertinent information given in the legend. In addition, UEI must also show the correct disturbed area boundaries. See the disturbed area boundary near DC-7.

Portal Access Road

- A registered professional engineer must certify all maps, cross sections, and profiles. In Appendix 5-4 Section New Slope Access/Portal Access Road Main Mine Road, UEI shows cross sections and a profile for what appears to be the Portal Access Road. In addition, that section of Appendix 5-4 was not certified by a registered professional engineer.
- UEI must show the location of each cross section on a plat map in Appendix 5-4.

TECHNICAL MEMO

- In Section 542.600 of the PAP, UEI gave the reclamation plan for the roads. All roads within the disturbed area boundary will be reclaimed during final reclamation.

Coal Pile Road

UEI must include certified designs for the coal pile road. A general commitment to provide as-builts and evaluated the slopes as disturbed or undisturbed after construction is not comply with the regulations.

Performance Standards

UEI must ensure that each road will meet the performance standards outlined above in the Minimum Regulatory Requirements for Road Systems and Other Transportation Facilities.

In meeting regulatory requirements, UEI has provided the following information:

- Appendix 5-5 has information about slope stability for the roads. UEI states that they performed a slope stability analysis for the worst-case scenario for the embankments and cut slopes. UEI must show the location of the cut slope and embankment that they analyzed and explain why those cross sections represent the worst-case scenario.
- UEI must show the ditches and drainage system for each road. In addition UEI must show how they will prevent or minimize erosion
- Primary roads have been located in the pad area. UEI has designed the pad area to minimize erosion, insofar as is practicable. In addition, the roads are located on stable surfaces.
- UEI does not propose to have any temporary fords in perennial or intermittent streams.
- The primary roads will have adequate drainage controls.
- The road base shown for the primary roads in Appendix 5-4 will be 8-inch road base gravel. Other mines have used that type of material and the Division considers it adequate.

Primary Road Certification

The road plans and cross-sections are located in Appendix 5-4 and on Plate 5-2. A registered professional engineer must certify the plans according to the Division's standards. Those standards include each map, cross section and profile must be certified along with the text.

A qualified registered professional engineer shall also certify the actual construction or reconstruction of primary roads in a report to the Division. UEI must provide those reports, called as-builts, to the Division upon completion of the road.

Other Transportation Facilities

In section 520 of the PAP and on Plate 5-4, UEI describes and shows the conveyors they will use at the Lila Canyon facility. The main conveyor will transport coal to the surface. The main conveyor belt is 60 inches wide, extends 320 feet from the portal, and has a belt speed of 700 feet per minute. Since UEI plans to leave the ground beneath the conveyor as undisturbed, due to the steepness and remoteness of the area, UEI will totally enclose the conveyor.

The coal will move from the main conveyor to the stacking tube. From there, the coal will feed into a reclaim tunnel and load onto the reclaim tunnel conveyor (48 inches wide and 280 feet long, covered where above ground). Next, the coal will go to the crusher.

From the crusher the loadout conveyor will transport the coal to the loadout bin. The loadout conveyor is 48 inches wide, 210 feet long and has a belt speed of 500 feet per minute. UEI will cover the aboveground portion of the conveyor.

From the loadout bin, the truck conveyor will transport the coal to trucks for over-the-road transport. The truck conveyor is 48 inches wide, 50 feet long and UEI will cover all aboveground sections.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the regulations. Before approval, UEI must provide the following in accordance with:

R645-301-527.200 and R645-301-527.210, UEI must show 1) the location of each culvert and ditch on Plate 5-2, 2) show each ditch on the cross sections in Appendix 5-4 and 3) In Appendix 5-4 on an unnumbered drawing, UEI must label the map, include a scale, given other pertinent information given in the legend and show the correct disturbed area boundary (See DC-7.)

R645-301-512.200, R645-301-521.170 and R645-301-527.200, For the Portal Access Road UEI must 1) Have that portion of the text in Appendix 5-4 that specifically describes the road certified and each map, profile and cross section certified by a licensed professional engineer and 2) Include a plate map that shows the location of each cross section and profile. For the Mine Facilities Road/Truck Loadout Road all maps UEI must certify each profile and cross section. For the Coal Pile

TECHNICAL MEMO

Road UEI must submit detailed engineering designs. The commitment to provide as-builts and evaluate whether a slope is disturbed or undisturbed does not comply with the regulations. As a general comment the names of the roads in Appendix 5-4 must be consistent with the names used throughout the MRP.

SPOIL AND WASTE MATERIALS

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

Analysis:

Disposal Of Noncoal Mine Wastes

Noncoal waste can be classified as non-hazardous or hazardous and includes recyclable materials, asphalt and concrete. Non-hazardous waste consists of garbage that UEI will dispose of by placing in dumpsters. UEI will have the non-hazardous waste shipped to a state licensed disposal site, most likely East Carbon Development Corporation (ECDC.) UEI will send hazardous waste, as defined by Resource Conservation and Recovery Act (RCRA), to a state licensed disposal site - most likely ECDC. See Section 528.330 of the PAP for more details about hazardous waste disposal.

The Division will allow UEI to dispose of concrete debris on site. The on-site disposal of concrete will be done by placing the concrete in areas that will be backfilled and graded, as shown on Plate 5-6.

The PAP indicates in Section 542.640 that a minimum of two feet of cover will be placed over sand and gravel road surfacing materials and asphalt will be disposed off-site. Concrete will be buried by four feet of cover.

In Section 528.334 of the PAP UEI commits to ship all hazardous waste as defined by 3001 of the Resource Conservation and Recovery Act to a facility approved to accept such waste.

Coal Mine Waste

Appendix 5.7 describes 25,000 loose cubic yards of underground development waste generated from portal development. Additional refuse will come from the operation of the screening plant and the mine itself. Appendix 5.7 indicates that there is room at the refuse disposal facility for storage of an additional 19,500 cubic yards of mine waste.

In section 528.320 of the PAP, UEI states that coal mine waste will consist of coal processing waste, and underground development waste. The underground development waste consists of three subcategories: rock slope material, underground development waste that contains coal, and reject material from the coal crushing operation. The location of the coal mine waste storage facilities (refuse pile) is shown on many maps and cross sections including: Map 5-2, Surface Area; Figure 1, Appendix 5-7; and Figure 2, Appendix 5-7. The location of the coal mine waste is cross-hatched on the cross-sections and labeled.

UEI will construct the coal mine waste disposal site (refuse pile) as follows:

- Ground Preparation: UEI will remove vegetation and topsoil from the site and store it in the designated topsoil piles. Next, they will remove the subsoil and fill the site with coal mine waste. UEI will divide the refuse pile into two sections, the first one will be used for rock slope material, and the second section will be used for underground coal mine waste and reject material from the crusher.
- Placement of Coal Mine Waste (Refuse): UEI states in Appendix 5-7 that coal mine waste will be placed into the cells. UEI will construct the section of the refuse pile that contains only structural fill by placing the material in the cell, compacting it and then covering the area with four feet of non acid-, non toxic-forming material.
- Coal Processing Waste Testing: UEI will test the material from the rock slopes during the initial startup, at the $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ marks, and at the end of the project. Material from the crusher or coal sections of the mine will be tested every 6,000 tons.
- Spreading and Compaction: UEI states that compaction will take place using a wheeled loader during the filling operation. They will place the material in lifts with a maximum thickness of 12 inches.
- Drainage: UEI will grade the subsoil to allow proper drainage and to prevent the impoundment of water.

The main design criterion for coal mine waste disposal areas are as follows:

The coal mine waste must be disposed of in a way that minimizes the adverse effects of leachate and surface-water runoff on surface and ground water quality and quantity. The Division does not anticipate that UEI will encounter significant amounts of acid or toxic-forming material. If UEI does encounter significant amounts of acid or toxic-forming materials, the 4 feet of material placed over the coal mine waste will limit any leachate from coming in contact with surface water. There are no water resources underneath the coal mine waste. Therefore, groundwater resources will not be damaged from leachate from the coal mine waste disposal site.

UEI must construct the coal mine waste disposal facility (refuse pile) to ensure mass stability and prevent mass movement during and after construction. The coal mine waste disposal facility has a static safety factor of 16.19. The minimum required static safety factor is 1.5. UEI based the stability calculations on cross section 8+00 (Figures 1 and 2, Appendix 5-7).

TECHNICAL MEMO

After final grading, UEI will cover the coal mine waste disposal area (refuse pile) with 4 feet of non acid-, non toxic-forming material. The 4-foot cover will be adequate to protect vegetation from any acid or toxic materials.

The coal mine waste storage facility will be located within the disturbed area of the Lila Canyon Extension. Access to the site will be restricted to mine personnel during normal mining operations. In the event of the mine going into temporary cessation, the 4 feet of cover, and cell construction methods will protect the public from hazards associated with the site.

UEI does not anticipate that any coal mine waste will be disposed of outside the permit area, nor do they anticipate placing coal mine waste from another operation in the Horse Canyon Permit area. If the need arises, UEI must modify the MRP.

A registered professional engineer (P.E.) designed the coal mine waste disposal facility. The Division will require P.E. certified as-built drawings when UEI finishes construction of the site.

UEI has committed to notify the Division in the event of a potential hazard at the coal mine waste disposal site. See the section on slides and other damage in this TA for details on how UEI will handle emergencies.

In Appendix 5-7, UEI estimates that there will be 25,000 loose cubic yards of underground development waste generated from portal construction. UEI expects an insignificant amount of additional refuse to come from the operation of the screening plant and the mine itself. Appendix 5-7 indicates that there is room at the refuse disposal facility for storage of an additional 19,500 cu yards of mine waste.

Refuse Piles

The Coal Mine Rules' definition of terms are found in R645-100-200 as follows:

- A refuse pile is a surface deposit of coal mine waste that does not impound water.
- Coal mine waste means coal processing waste and underground development waste.
- Coal processing waste means earth materials that are separated from the product coal during cleaning, concentrating, or the processing or preparation of coal.
- Underground development waste means waste-rock mixtures of coal, shale, claystone, siltstone, sandstone, limestone, or related materials that are excavated, moved, and disposed of from underground workings in connection with underground coal mining and reclamation activities.

Coal processing waste will be limited to materials from the crusher. UEI will not dispose of material separated from the coal during the crushing process underground. The coal processing waste will be disposed of in the refuse pile shown on Plate 5-2 and described in Appendix 5-7.

UEI plans to generate 16,650 bank cubic yards of material during the construction of the rock slopes that lead from the surface facilities area to the coal seam. UEI assumes that the loose material will take up 1.3 times the in-place volume. Therefore, a disposal site with the capacity for approximately 25,000 cubic yards of coal mine waste is necessary. Because the material from the rock slopes is not expected to contain coal or acid- or toxic- forming materials, UEI proposes to use the 25,000 cubic yards of material for structural fill.

UEI will not use refuse material from the crushing process or from material taken from within the section of the mine that has coal as structural fill. To distinguish the two types of refuse, UEI refers to one as rock slope material. See Section 536.300 in the PAP for details.

The Utah coal rules do not have any specific requirements for the use of refuse as structural fill. The rules do specifically state that refuse can be used for structural backfill in underground mines (R645-301-536.700) and to construct dams and embankments (R645-301-536.800.) The Utah coal rules (R645-301-536.900) also state that refuse piles must meet the requirements of 30 CFR 77.214 and 30 CFR 77.215.

The Division received comments that the use of coal mine waste for structural fill would violate the regulations. While the regulations do not specifically state that coal mine waste can be used for structural fill the material can be used in the construction of dams and embankments. Therefore, the Division determined that coal mine waste can be used for structural fill as long as all other regulations are fulfilled.

The Division received some public comments that placement of coal mine waste with dump trucks would violate R645-301-528.320 because of the prohibition of placement of coal mine waste by end or side dumping. In *A Dictionary of Mining, Mineral, and Related Terms* compiled and edited by Paul W. Thrush and Staff of the Bureau of Mine published 1968 the term end dumping is defined as:

Process in which earth is pushed over the edge of a deep fill and allowed to roll down the slope.

The placement of coal mine waste in the refuse pile will be do in a controlled manner and the material would not roll down the slope. The use of dump truck is common in Utah for the transportation and placement of coal mine waste in refuse piles. Neither the OSM nor the Division has ever had any concerns about the use of dump trucks for moving and placing coal mine waste.

TECHNICAL MEMO

UEI shows the location of the refuse pile on Plate 5-2. UEI labeled the material from the rock slopes that they will use for structural fill, and marked it differently than the coal processing waste. In Appendix 5-7, UEI states that they will place 25,000 cubic yards of rock slope material in the refuse pile as structural fill and that up to 19,473 cubic yards of coal processing waste can be disposed of in the refuse pile. Section 520 (Refuse Piles) gives the refuse-pile capacity as 44,400 yd³.

UEI needs to list the amounts of rock slope material and coal processing waste material separately in Table 1, Appendix 5-7. Note that all structural fill will be placed between cross sections 4+00 and 8+00 on Figure 1 Appendix 5-7.

Appendix 5-7 contains detailed information on the construction of the refuse pile/coal mine waste disposal facility. Figure 1, Appendix 5-7 shows the location of the refuse pile and the division between the rock slope material and coal waste in plan view. The profiles show the pre-mining, operational, and reclaimed stages of the refuse pile. Figure 2, Appendix 5-7 shows the cross-sections for the refuse pile.

The profiles and cross-sections show how UEI will construct the refuse pile. UEI will salvage the top 18 inches of pre-disturbed ground as topsoil, then remove the subsoil.

On Figure 1, Appendix 5-7, UEI shows that they will place coal mine waste in the refuse pile. However, on Figure 2, Appendix 5-7, UEI shows that they will place slope rock material in the entire refuse pile. Because UEI will handle the rock slope material differently than the material with coal, UEI must distinguish between the two types of materials in the cross-sections and profiles.

On Figure 2, Appendix 5-7, UEI shows that they will cover the slope rock (coal mine waste) with 18 inches of topsoil and 30 inches of fill material, totaling 48 inches of cover. .

Section 528.320 distinguishes the coal-free coal mine waste, which UEI will use as structural fill, from the material that will go into an apparently separate refuse pile. However, the PAP makes it clear that these two areas are adjacent and adjoining and will be treated as one area or structure, especially during reclamation.

Figure 1, Appendix 5-7 shows that UEI will divide the refuse pile into two sections. The western section will be rock slope material, used to create a structural fill. The eastern section has the capacity for 19,437 cubic yards of coal mine waste (see Appendix 5-7). UEI outlines the testing of coal mine waste in Appendix 5-7. UEI will test all rock slope material five times. UEI will only use rock slope material as structural fill. The testing will take place during the initial start up, at the ¼ mark, the ½ mark, the ¾ mark, and near completion. UEI will test other coal mine waste, generated during operations from the crusher and

underground development, containing coal every 6,000 cubic yards.

UEI will treat and dispose of all coal mine waste as if the material were acid- or toxic-forming. All coal mine waste will be disposed of under four feet of material.

Impounding Structures

UEI will not construct any impoundments from coal mine waste. The only impoundment structure at the Lila Canyon site is the incised sediment pond.

Burning And Burned Waste Utilization

Appendix 5-3 Coal Mine Waste Fire Extinguishing Plan cannot be approved by the Division because:

- In areas where the refuse has not been covered, UEI must have a plan to remove the burning material from the pile and spread it. Soil may be mixed with the burning refuse to help reduce the temperature.
- In areas where the refuse has been covered, water cannot be employed due to the potential for stream explosions.
- UEI must identify soil material that can be used for fighting fires. On-site subsoils are already committed for use as final reclamation cover over the mine waste cannot be used to fight fires.
- UEI must show that MSHA has approved the coal mine waste extinguishing plan.

Return of Coal Processing Waste to Abandoned Underground Workings

UEI does not propose to dispose of coal mine waste underground.

Excess Spoil:

UEI does not anticipate the generation of any excess spoil.

Findings:

The information provided does not meet the minimum acceptable requirements of the Regulations. Before approval, UEI must provide the following in accordance with:

- R645-301-528.323.1** UEI must update the coal mine waste fire extinguishing plan so that
- 1) In areas where the refuse has been covered, water cannot be employed due to the potential for stream explosions,
 - 2) In areas where the refuse has been covered,

TECHNICAL MEMO

water cannot be employed due to the potential for stream explosions, and 3) UEI must identify soil material that can be used for fighting fires. On-site subsoils are already committed for use, as final reclamation cover over the mine waste cannot be used to fight fires.

R645-301-513.800, UEI must show that MSHA has approved the mine waste fire-extinguishing plan

SUPPORT FACILITIES AND UTILITY INSTALLATIONS

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

Analysis:

UEI refers to the new support facilities in the following sections of the PAP: Section 520, Plate 5-2, the appendices of Chapter 5, and in the bond calculations. Appendix 5-4, New Facility Design, shows the design for the roads. Appendix 5-7 has the designs for the refuse pile. UEI showed the location of the structures on Plate 5-2.

In Section 520 of the PAP subsection Sewer Tank & Drain Field, UEI states that designs for the sewer tank and drain field can be found in Appendix 5-4. However, Appendix 5-4 does not contain any designs for the sewer tank and drain field. The Permittee must include a design for those structures in Appendix 5-4.

Plate 5-8 is a detailed map with cross-sections that shows the coal handling facilities. Those facilities consist of a truck loadout, a scale, a 48-inch conveyor from the loadout bin to the truck loadout, a 48-inch conveyor from the loadout bin to the crusher, a 48-inch reclaim conveyor, a stacking tube, and a 60-inch conveyor from the mine.

UEI will construct the buildings, support structures, and mine facilities using standard building materials such as steel, wood and concrete and will use standard construction techniques for the construction and demolition of the facilities. UEI will accomplish reclamation of the surface facilities by removing the structures. When possible, they will salvage machinery and steel building components. UEI will ship all building debris, with the exception of concrete, off site

UEI is required to construct and maintain support facilities to:

- Control or prevent erosion, siltation, water pollution, and damage to public or private property. On Plate 5-2, UEI shows undisturbed diversion ditch UC-2. The ditch is to

transport flow from the South Fork of Lila Wash underneath the sediment pond and to prevent materials within the disturbed area from entering the flow.

UC-2 does not begin at the disturbed area boundary but rather 100 feet within the disturbed area boundary. UEI must extend the culvert to the permit area boundary.

- Minimize damage to fish, wildlife, and related environmental issues such as minimizing additional contributions of suspended solids to streamflows.
- Minimize damage to oil, gas, and water wells; oil, gas, and coal-slurry pipelines; railroads, and other utilities.

All support facilities will be located within the disturbed area. Runoff from the disturbed area will report to the sedimentation pond for treatment before being discharged. For additional details on erosion, siltation, and water pollution see the Hydrology section of this TA. Fish and wildlife issues are discussed in detail in the Fish and Wildlife Protection Plan section of this TA.

UEI must be consistent with the naming and description of each support facility. Some of the facilities and structures listed on pages 8 and 9 do not have the same names as the facilities and structures listed on pages 9 through 18. Examples include but are not limited to:

- On page 8, UEI list “Under Ground Power Lines” but on page 11 those facilities are referred to as “Power Lines and Power Poles”.
- On page 9, UEI lists the sewer tank #9 and the drain field #10 as two separate items but on page 11 they are listed as one item.
- The names of the conveyors on page 9 are not consistent with those on pages 12 and 13.

UEI must state what will happen to each facility and structure during reclamation. If a structure of facility will remain in place after reclamation UEI must state so. For example, the Permittee must state if underground powerlines and pipes will be removed or left in place.

In addition, UEI must include enough information about the each facility for the Division to determine the reclamation cost. UEI can include the information in Section 520 of the PAP or in the bond calculations. Examples of missing information include but are not limited to:

- Fuel Tanks
- Powder and Cap Magazines
- Chain Like Fence
- Guard Rails

TECHNICAL MEMO

UEI states in Section 520 of the PAP that several structures have not been designed. Such structures include but are not limited to:

- Coal Stacking Tube
- Escape Tunnel
- Reclaim Tunnel

While detailed designs are not needed prior to permit issuance, the Division does need enough information about each structure and facility for a general description and for a reclamation cost estimate.

In Appendix 7-4, UEI describes the construction methods for the sediment pond. In section 3.1 e of Appendix 7-4 (page 25), UEI states that fill will be placed in lifts not to exceed 15” and compacted prior to placement of next lift. Compaction of all fill materials shall be at least 95%. UEI must show that they will have equipment that can compact a 15” lift to 95% compaction.

On Figure 1 Appendix 5-7, UEI shows UC-1 (undisturbed culvert.) However, UEI does not show UC-1 on any other maps or mention UC-1 within the text.

In Section 526.300 of the PAP, UEI states that the designs for the septic tank and drain field are in Appendix 5-4. However, Appendix 5-4 does not contain designs for the septic tank or drain field.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the regulations. Before approval, UEI must provide the following in accordance with:

R645-301-526, UEI must state how they will reclaim each structure. For example EUI must state how they will reclaim underground facilities such as powelines and pipes. The Division needs that information for bonding. Will the structure be left in place or reclaimed. UEI must also include each facility in Section 520 of the PAP. Missing items include but not limited to; 1) fuel tanks, 2) powder and cap magazines, 3) chain link fences and 4) guard rails. UEI must include basic design information for each structure. Items for which basic design information is needed include but not limited to; 1) coal stacking tube, 2) escape tunnel, and 3) reclaim tunnel

R645-301-526.221, UEI must design culvert UC-2 so that the culvert begins at the undisturbed boundary. The design change is needed to prevent materials from

within the disturbed area from entering into the flow from the South Fork of Lila Wash. UEI must correctly show the surface facilities on Figure 1 Appendix 5-7, for example UEI shows UC-1 but does not mention it anywhere else and UEI did not show UC-2.

R645-301-121.200, UEI states in Section 520 subsection Sewer Tank & Drain Field that designs for those facilities are in Appendix 5-4, however Appendix 5-4 does not contain any design information for the sewer tank or drain field. UEI must either include the information in Appendix 5-4 or remove the reference. In addition on several pages in Appendix 5-4 UEI states that “See Appendix 5-4 and Plate 5-2 for additional information.” The appendix must not refer to itself. In Appendix 7-4 section 3.1 e, UEI must list the type of equipment that can compact a 15” lift to 95% or modify the designs. The compaction equipment that the Division is aware of can only compact lift of up to 6 inches. UEI must also refer to each structure by only one name. Examples of structures referred to by more than one name include but not limited to; 1) on page 8, UEI list “Under Ground Power Lines” but on page 11 those facilities are referred to as “Power Lines and Power Poles”, 2) On page 9, UEI lists the sewer tank #9 and the drain field #10 as two separate items but on page 11 they are listed as one item and 3) The names of the conveyors on page 9 are not consistent with those on pages 12 and 13.

R645-301-526.300 and R645-301-121.200, UEI must include designs for the septic tank and drain field in Appendix 5-4.

SIGNS AND MARKERS

Regulatory Reference: 30 CFR Sec. 817.11; R645-301-521.

Analysis:

UEI committed to place signs and markers as required by the Utah Coal Rules. Those Rules require that signs and markers for underground coal mines:

- Be posted, maintained, and removed by the person who conducts the coal mining and reclamation operations.
- Be of a uniform design that can be easily seen and read, be made of durable material, and conform to local laws and regulations.
- Be maintained during all activities to which they pertain.
- Be displayed at each point of access from public roads to areas of surface operations and facilities on permit areas.

TECHNICAL MEMO

- Show the name, business address, and telephone number of UEI who conducts coal mining and reclamation operations and the identification number of the permanent program permit authorizing coal mining and reclamation operations.
- Be maintained until after the release of all bonds for the permit area.
- Clearly mark the perimeter of all areas affected by surface operations or facilities before beginning mining activities.
- Be erected to mark buffer zones as required under R645-301-731.600 and be clearly marked to prevent disturbance by surface operations and facilities.
- Be erected to mark where topsoil or other vegetation-supporting material is physically segregated and stockpiled as required under R645-301-234.

Findings:

UEI has met the minimum requirements of the signs and markers section of the regulations.

USE OF EXPLOSIVES

Regulatory Reference: 30 CFR Sec. 817.61, 817.62, 817.64, 817.66, 817.67, 817.68; R645-301-524.

Analysis:

R645-301-524.220 allows UEI to submit a specific blasting plan separate from the PAP. UEI has opted to submit a detailed blasting plan if and when they propose to blast.

Findings:

UEI has met the minimum regulatory requirements for the use of explosives.

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 1-1, Permit Area Map, shows the location of the entire Horse Canyon Permit area. The area includes permit area A, which is the Horse Canyon project, and permit area B, which is the Lila Canyon Extension. The map does not show any areas of potential future expansion. In

the past, UEI has indicated that they might seek additional reserves to the south. The permit section of the environmental part of this TA addresses those deficiencies.

Mining Facilities Maps

Plate 5-2 shows the surface facilities for the Lila Canyon Extension. UEI did not show the location of some culverts on Plate 5-2. That deficiency is addressed in the road section of the TA.

UEI must show the correct contours in the sediment pond and topsoil area. Problems with the contours in the sediment pond area are:

- Some contours show the premining topography while others show the sediment pond.
- The contours cross, with the exception of cave or overhangs crossing contours are impossible.
- The contours do not show that the pond is a depression. UEI should use hachures.
- The contour lines in the sediment pond are black indicating that they are on 25 foot intervals, gray contours lines represent 5 foot intervals. UEI must use the correct contour shade.

Problems with the contours in the topsoil area are:

- Most of the contours are the same as the premining contours.
- The rectangular black contour (5875 feet) crosses many of the gray contour lines.

In Section 521.163 of the PAP UEI states:

All areas within the permit boundary has been bonded.

The proposed bond only covers the disturbed area. UEI needs to clarify what areas will be bonded.

UEI must show the location of each culvert on Plate 5-2. Culvert location is important especially when the map is used during an inspection and bond calculations. UEI stated in a letter to the Division dated March 1, 2005 that showing the culverts on Plate 5-2 would make the map confusing. Other permittees routinely show the location of culverts on surface facilities maps and the maps are not confusing.

Mine Workings Maps

TECHNICAL MEMO

Plate 5-5 shows the projected mine workings for the Lila Canyon Extension. The only openings are the two rock tunnels and the ventilation portal. UEI shows the timing and sequence of the mining operation on the map.

Monitoring and Sampling Location Maps

Certification Requirements

Findings:

The information in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, UEI must provide the following in accordance with:

R645-301-521.150, UEI must show the proper contours of the sediment pond and topsoil storage area on Map 5-2. The contours of the sediment pond 1) show the premining contours overlaid on the operational contours (show only operational contours), 2) the contours cannot touch unless there is an underground opening or an overhang, 3) the contours do not show that the pond is a depression (label the contours or use hachures) and 4) the contours lines for the sediment pond are black indicating a 25 foot spacing instead of gray indicating a 5 foot spacing. The contour lines for the topsoil pile 1) and show the premining contours overlaid on the operational contours (show only operational contours), 2) the contours cannot touch unless there is an underground opening or an overhang.

R645-301-521.163 and R645-301-121.200, UEI must clarify that they propose to only bond for the disturbed area or adjust the bond accordingly.

R645-301-527.200 and R645-301-527.210, UEI must show the location of each culvert on Plate 5-2. The Division needs the location of each culvert shown of the surface facilities map to conduct routine inspections. Any confusion caused by the clutter of showing the culverts is off set by have to use multiply maps in an inspection.

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:

UEI gave the reclamation plan for the sediment pond and culvert in Appendix 7-4. In Appendix 7-4, UEI refers to the undisturbed culvert that will go under the County road as UC-1. In other sections of the PAP UEI refers to the culvert as UC-2.

The reclamation plan entails removing the culvert to within six feet of the road embankment, establishing a channel to the culvert, armoring the embankment with filter gravel and rip rap and then seeding the area. UEI needs to clarify if the work will be done on the County right-of-way and who will do the work.

UEI did not state in the main text of the PAP that the reclamation plan for the sediment pond is in Appendix 7-4. In order to avoid confusion, UEI must refer to Appendix 7-4 in the reclamation section of the PAP for the reclamation of the sediment pond and culvert.

Findings:

The information in the proposed amendment is not considered adequate to meet the requirements of this section. Before approval, UEI must provide the following in accordance with:

R645-301-121.200, UEI must clarify the PAP by 1) state in the engineering section of the PAP that the reclamation plan for the sediment pond is in Appendix 7-4, 2) clearly show the section of culvert that the County will install (six feet from the road embankment) and the operational and reclamation maps, 3) who will place rip rap and vegetate the pond embankment when the pond is reclaimed and 4) refer to the culvert as UC-2 instead of UC-1 in Appendix 7-4.

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 definitions of Approximate Original Contour (AOC) are contained in the Surface Mining Control and Reclamation Act (SMCRA) and the Utah coal rules. The objectives of post-mining backfilling and grading is to return the site to a configuration resembling the topography of the land prior to mining, and to blend the site into the drainage pattern of the surrounding

TECHNICAL MEMO

terrain. At the same time, UEI must meet reclamation performance standards including: controlling erosion; establishing mass stability; and establishing permanent, diverse, and effective vegetative cover.

The Division intended Technical Directive 002 to reconcile the specific performance standard requirements of the regulatory program with the general definitions of AOC in a way that accomplishes the objectives of SMCRA.

Final Surface Configuration

UEI did not request a variance from AOC. The Division reviewed all the pre-mining and post-mining topographic maps and cross sections to determine if the post-mining topography, excluding elevation, closely resembles its pre-mining configuration. The Division's findings were as follows:

- UEI showed the pre-mining topography shown on Plate 5-1A and the post-mining topography on Plate 5-6. One difference between the pre-mining and post-mining topography is that the post-mining contours were usually smoother. However, pocking and other surface roughening techniques tend to make the post-mining surface look more natural after a few years.
- Plate 5-1A and Plate 5-6 show the before and after contours for the topsoil storage area and the sediment pond. The post-mining contours on Plate 5-6 are not consistent with cross section 4+00 on Plate 5-7A-2. On the map, UEI showed that they would remove the sediment pond; while on the cross-sections UEI showed that the pond would stay. In Section 732.210 of the PAP, UEI states that they will remove the sediment pond. The Division also addressed the deficiency in the map section of the TA.
- The cross-sections shown on Plate 5-7A-1 through Plate 5-7A-4 show that pre-mining and post-mining contours will be similar between cross section 0+00 and 14+00. The major changes will occur in the area of the main mine facilities. The area in and around the reclaimed refuse pile will be higher than the pre-mining topography. The reason for the increase in elevation is that coal mine waste will be disposed of in that area. The increase in elevation is minor and will not interfere with surface flows.
- UEI showed pre-mining and post-mining cross-sections on Plate 5-7B-1 through Plate 5-7B-3 for cross sections 16+00 to 26+00. The concrete disposal area will have an elevation slightly lower than the pre-mining elevation as shown on cross-section 18+00. The reason for the elevation decrease is the pre-mining slopes do not meet the minimum safety factor requirements (safety factor of 1.3) therefore; the area cannot be restored to the pre-mining contours. The post-mining contours do meet the minimum safety factor

requirements and blend into the surrounding area. UEI will leave cut slopes from the road embankment as shown in cross-section 16+00.

- Figure 2 of Appendix 5-7 shows detailed cross-sections of the pre-mining, operational and post-mining refuse-pile area. The reclaimed refuse pile will be a slight mound. The mound will not impound any water. See the profile on Figure 1 of Appendix 5-7 for details.
- Three critical areas for final surface configuration are the portal areas. UEI is required to eliminate all highwalls. Because the Lila Canyon Extension will be developed after the passage of SMCRA, the Division cannot allow any highwalls to remain after reclamation. Plate 5-9 showed detailed cross-sections for all portal areas. The pre-mining contours for the rock slope portals showed the face up areas to be a cliff. Therefore, UEI is required to backfill the areas to form cliffs. UEI will construct the ventilation fan portal on a natural slope and restore it to the approximate pre-mining configuration.

All Highwalls to be eliminated

UEI states the following in Section 553.120:

“Minor highwalls may be created with the development of the rock slope portals. Upon completion of mining, these entries will be sealed as per Closure for Mine Openings Appendix 5-6, and highwalls will be eliminated during the reclamation phase of the operation. During reclamation, suitable materials will be placed against the portals. This material will be shaped to eliminate the highwall and to bring the slope back to the approximate original contour.”

Plate 5-9 shows the pre-mining, operational and post-mining cross sections for all portals. The two portals that provide access to the mine via the rock tunnel will have highwalls or face-ups that are approximately the same height as the openings, which is 6 feet. The highwalls may be slightly taller because UEI may need to remove loose rock. Since the portal face up areas are in a nearly vertical cliff, UEI will eliminate the highwall by backfilling against the portal face-up.

The fan portal will have a 17-foot highwall. UEI will have to remove some of the cliff when they construct the fan facility, because it will be in a high cliff. Equipment access to the fan portal will be limited. Therefore, UEI will airlift equipment to and from the site to reclaim the highwall.

Safety is a major concern with highwalls. Since the Lila Canyon highwalls are in an existing cliff, the existence and reclamation of the highwalls will not create additional safety hazards. The steep cliffs above the two lower reclaimed portals will prevent people, livestock, and wildlife from traveling over the highwall areas. People, livestock, and wildlife traveling

TECHNICAL MEMO

over the upper reclaimed highwall will face the same hazards as found on any other slope in the area.

Because UEI will restore the highwall areas to approximate pre-mining topography, the Division finds that the highwall elimination plans meets the minimum requirements of R645-301-553.120.

Hydrology

General concerns with hydrology are that UEI restore drainages, control sediment, and prevent hazardous and toxic discharges. The Division considers that UEI will meet those conditions when they meet the hydrologic reclamation requirements.

A specific concern that the Division has with regards to backfilling and grading is the stream profile of the restored section of the Right Fork of Lila Wash. The Division concern is that the change in stream gradient shown on cross section 4+00 on Plate 5-7A-2. The difference in the before and after stream elevation at cross section 4+00 is 15 feet. Therefore, the Division needs a stream profile for the Right Fork of Lila Wash.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the regulations. Before approval, UEI must provide the following in accordance with:

R645-301-542.200, UEI must give the Division a stream profile for the disturbed section of the Right Fork of Lila Wash. The Division is concerned about how the change in the stream gradient could affect the reclaimed channels stability.

R645-301-542, UEI must be consistent on all maps and cross sections about the final surface configuration of the sediment pond area. Examples of inconsistencies include but are not limited to; 1) Map 5-6 shows that the minimum elevation of the reclaimed sediment pond will be between 5,845 ft. and 5840 ft. while on Map 5-7A-2 the minimum elevation of the sediment pond is 5,830 ft., 2) Map 5-5-6 shows the minimum elevation of the area as 5,845 ft. while cross section B-B' on Map 7-6 shows the minimum elevation at 5,830 ft.

BACKFILLING AND GRADING

Analysis:

General

The AOC section of this TA discusses AOC and highwall elimination issues in detail. No excess spoil piles will be associated with the site. No major depressions will be present after reclamation, see Plate 5-6, Post Mining Topography.

In the reclamation section of Chapter 5 of the PAP, UEI must include amount of material that will be moved during reclamation. In addition, UEI must divide the material into topsoil, coal mine waste, noncoal mine waste (concrete) and general backfill material. UEI must also include reference and calculations about how the volumes were determined.

Slope Stability:

The slope stability requirements are in R645-301-553.130, which states that the post-mining slope will not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and prevent slides.

In Appendix 5-5 UEI discusses slope stability for the Lila Canyon Extension. In Table 1 they list the summary of the laboratory test results. The laboratory reports are included at the end of the appendix.

UEI assumed that all the backfilled and graded slopes, as well as cut slopes, would be in homogenous material. When the Division visited the site they saw that the slopes usually did not consist of homogeneous material; rather the slopes consisted of bedrock covered with soil. Therefore, the assumption about homogeneous soil is not valid.

UEI assumed that all failures would be circular. Slopes that consist of bedrock and a thin soil covering seldom have circular failures. Therefore, UEI must look at noncircular failures.

The Division also noticed the following deficiencies in Appendix 5-5:

- The Division could not find the slope stability analysis for the refuse pile. In Appendix 5-7 UEI states that the safety factor is 16.19 but does not show the stability analysis in Appendix 5-7 or Appendix 5-5.
- In Appendix 5-5 pages 16-18, UEI discusses the reclaimed slopes along profile E-E' on Plate 5-7C. On pages 17 and 18, UEI shows the stability analysis. The safety factors are shown on safety contour drawings but not clearly stated or marked in the text. UEI must either clearly label the safety factor or state so in the appendix.

TECHNICAL MEMO

- The safety factor for the steeper cut-slopes on page 19 is 1.28. R645-301-553.130 requires that the minimum safety factor is 1.3 or greater. While 1.28 does round up to 1.3 the Division cannot accept a design for a slope with a 1.28 safety factor because 1.28 is less than 1.3.
- The safety factor for the steep cut slopes on page 21 show that under saturated condition the safety factor is 0.99. A safety factor of less than 1 means that the slope will fail. Since the Permittee included an analysis of a saturated slope the Division assumes that they anticipate saturated conditions.

Post-Mining Land Use:

The post-mining land use finding is in the post-mining land use section of the TA. The reclaimed contours will be compatible with the post mining land use. The post-mining land uses are wildlife habitat, grazing, and incidental recreation, which are identical to the pre-mining land uses. The post-mining land use is in accordance with the BLM's management plans. See Appendix 4-2 of the PAP for a BLM post-mining land-use approval letter.

Settled and Revegetated Fills:

The variances from AOC and other requirements for existing spoil or underground development waste do not apply to the Lila Canyon Extension since those materials are not present on the site before permit issuance.

Spoil Disposal:

Spoil is overburden removed during coal mining and reclamation. Overburden is all of the material that overlies a coal deposit, with the exception of topsoil. The only spoil that UEI will generate at the Lila Canyon Extension will be at the fan portal. UEI will use that spoil as backfill at the fan portal site. The proper compaction of spoil is a performance standard that UEI must meet during reclamation.

Disposal of Coal Mine Waste and Underground Development Waste:

The Division and UEI consider the material from the rock slope tunnels to be coal mine waste; therefore, that material must be disposed of in a refuse pile. In addition to the rock slope material, mine development waste and reject material from the crushing process are also potential sources of coal mine waste.

The reclamation plan for the refuse pile is in Appendix 5-7. The refuse pile will meet the requirements of R645-301-553.250 because:

- The reclaimed slopes will meet the AOC requirements and will support the post-mining land use. UEI will construct no terraces on the out slopes of the refuse pile. The grade of the out slopes will not be steeper than 3H: 1V; see Figure 2 of Appendix 5-7 for details.
- UEI will cover all refuse material with a minimum of 4 feet of material; see Figure 2 of Appendix 5-7 for details.
- The slopes in and around the reclaimed refuse pile will have very gentle slopes with a stability factor greater than 16.19 (see Appendix 5-7). The minimum safety-factor requirement is 1.3. Thus, the slopes of the reclaimed refuse pile are considered stable.

Exposed Coal Seams and Acid- and Toxic-Forming Materials and Combustible Materials:

The only exposed coal will be at the fan portal area. The cross section of the reclaimed fan portal on Plate 5-9 shows that the coal seam will be backfilled by more than 4 feet of fill materials.

Previously Mined Areas

There are no known previously mined areas in the disturbed area boundaries for the Lila Canyon site.

Special Provisions for Steep Slope Mining

Neither backfilling and grading on steep slopes, nor special provisions for steep slope mining are considered for this TA because Lila Canyon Extension area is not considered a steep slope mine. Special provisions for steep slope mining would apply if UEI planned to get a variance from AOC requirements. Since UEI did not apply for an AOC variance, they are not required to address these requirements.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the regulations. Before approval, UEI must provide the following in accordance with:

R645-301-553.130 and R645-301-121.200, UEI must show that all reclaimed areas and cut slopes will be in soil only or they must do safety factor calculations with a bedrock/soil interface. The profiles in Appendix 5-5 show that the slopes consist only of soil. The Division saw that the slopes in Lila Canyon consist of bedrock with a few feet of soil cover. While circular failure is unlikely in bedrock noncircular failure can occur along the bedrock/soil interface. Therefore, UEI must submit additional failure analysis based on noncircular failures. In addition

TECHNICAL MEMO

UEI must also clearly show or state the safety factors for the reclaimed slopes on pages 16-18 of Appendix 5-5. The safety factors on the safety factor contour diagram are not clearly labeled. Also, UEI must include slope stability analysis for the refuse pile. In Appendix 5-7 UEI state that the safety factor is 16.19 but does not provide a reference.

R645-301-553.130, UEI must revise the designs for the steeper cut slopes on pages 19-21 of Appendix 5-5 because the safety factor is less than 1.3. In the stability analysis, UEI showed that the safety factor was 1.28. While 1.28 does round up to 1.3, 1.28 is less than 1.3. Therefore, UEI will have to revise the designs not just round up the current safety factor. For example if UEI could show that part of the cut slope was in bedrock, then the safety factor would most likely increase. In addition, on page 21 of Appendix 5-5 the UEI shows that the steep slope will have a safety factor of 0.99 under saturated conditions. Since failure will occur if the safety factor is less than 1.00, the slope will fail when it is saturated. Since UEI, include the saturated condition they must assume that such conditions will exist.

R645-301-542.200, UEI must include the amount of materials that will be moved during reclamation. In addition those material must be subdivide into topsoil, noncoal waste (concrete), coal mine waste and general backfill. UEI must also provide reference and calculations to show where the volumes came from. The Division needs that information in order to determine the bond amount.

MINE OPENINGS

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

Analysis:

UEI committed in Section 529 of the PAP to seal all underground openings when no longer needed. See Appendix 5-6 for the portal-sealing plan. The portal-sealing plan meets Division and MSHA requirements. In addition, UEI will seal all wells when no longer needed.

As part of the performance standards, the Division will require UEI to barricade and fence mine entries that are temporarily inactive in the permit area. UEI must post warning signs around the entries and periodically inspect and maintain the barricades.

Findings:

UEI meets the minimum mine openings requirements of the regulations.

ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

Analysis:

Reclamation

UEI has committed to reclaim all roads within the disturbed area boundaries. UEI will remove and bury the road surfaces (road base gravel) on site and cover it with a minimum of two feet of material. UEI will bury concrete under four feet of material. UEI stated that they would dispose of the asphalt off site, see 542.640 of the PAP

Retention

UEI states in section 642.600 of the PAP that there will be no roads left in the disturbed area after reclamation.

Findings:

Information provided in the PAP is adequate to meet the requirements of this section 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

Plate 1-1, Permit Area Map, shows the affected areas for the Horse Canyon Mine. The areas include Part A, the Horse Canyon Project and Part B, the Lila Canyon Extension.

Bonded Area Map

TECHNICAL MEMO

The Division bonds for activities that will occur within the disturbed area boundaries. Several maps show the disturbed area boundaries, including Plate 1-2 Disturbed Area Map and Plate 5-2, Surface Area

Reclamation Backfilling And Grading Maps

Several maps and cross-sections will be used during backfilling and grading. The general cross-sections are on Plate 5-7A-1 through Plate 5-7A-4 and Plate 5-7B-1 through Plate 5-7B-3. Cross-sections on Figure 1 and Figure 2 in Appendix 5-7 show the final backfilling and grading plan for the refuse pile. Plate 5-6 shows the post-mining contours.

The final configuration of the sediment pond is not consistent in the PAP. UEI must submit cross sections that show final reclamation of the sediment pond. The post-mining contours on Plate 5-6 are not consistent with cross section 4+00 on Plate 5-7A-2. On the map, UEI showed that they would remove the sediment pond; while on the cross-sections UEI showed that the pond would stay. In Section 732.210 of the PAP, UEI states that they will remove the sediment pond.

In addition, the information on Plate 7-6 must also be made consistent with the rest of the information in the PAP. For example cross section B-B' shows that the minimum depth of the reclaimed sediment pond is 5,830ft. In addition many of the number on Plate 7-6 as too small to be legible.

In Section 542.310 of the PAP, UEI states that the reclamation contours are on Plate 5-2 and Plate 7-7. Plate 5-2 shows the operational contours and Plate 7.7 only shows the contours on 25-foot intervals. Plate 5-3 shows the reclamation contours. UEI must change the reference in Section 542.310 of the PAP and include 5-foot contours on Plate 7.7.

Reclamation Facilities Maps

In Section 542.320 of the PAP, UEI states that there will not be any surface facilities left after final bond release.

Final Surface Configuration Maps

Plate 5-6 shows the contours within and for at least 100 feet outside the disturbed area boundaries. The contour intervals are 5-foot. In addition, the cross sections are on 200 foot intervals. The Division considers the Plate 5-6 adequate to show the final surface configuration.

Reclamation Surface And Subsurface Manmade Features Maps

The reclamation surface and subsurface manmade features map, Plate 5-3, show the following:

- Plate 1-1 shows that there are no buildings within 1,000 feet of the proposed permit area.
- Plate 1-1 shows the location of each public road within 100 feet of the proposed permit area. Plate 5-6 show the location of the public roads within 100 feet of the Lila Canyon Project disturbed area.
- With the exception of the culvert under the County road no other surface or subsurface manmade feature as scheduled to remain after final reclamation. See Plate 5-6.

Certification Requirements.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the regulations. Before approval, UEI must provide the following in accordance with:

R645-301-542, UEI must modify Plate 7-6 so that it shows detailed information about the premining, operational and reclamation contour information about the sediment pond area. Specific items are 1) all numbers and letters must be legible (cross section B-B' C-C' and D-D'), 2) the map must contain a profile that shows the premining, operational and reclamation elevations and 3) the information on Map 7-6 must be consistent with the information on Map 5-7A-2 (cross section 4+00 and cross section B-B' show different configurations for the reclaimed pond area.) Information provided in the PAP is not adequate to meet the requirements of this section of the regulations. Before approval, UEI must provide the following in accordance with:

R645-301-121.200, UEI must change the reference in Section 542.310 of the PAP so that reclamation maps are listed instead of operational (Plate 5-2 is an operational map while Plate 5-3 is a reclamation map). In addition, UEI must show the 5-foot contours on Plate 7.7.

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

TECHNICAL MEMO

General

Form of Bond

UEI submitted a rider to the bond in 2003 for the Lila Canyon Extension for \$1,556,000. The Division will evaluate the bond after they approve the reclamation plan.

The Division will allow UEI to submit a bond separately after the Division has determined the bond amount, which can be done only after the TA has been completed. Before the Division issues a permit, UEI must post a bond; see the requirements of R645-301-820. Upon receipt of the bond, the Division then makes a finding about whether or not the bond is in the proper form; see R645-301-860 for the requirements for the proper form of the bond. The Division cannot issue the permit until UEI has posted an adequate bond.

Determination of Bond Amount

UEI did not give the Division enough information to determine the reclamation cost. UEI did not give the Division enough information about the structures and facilities in order to determine reclamation cost estimates. Missing items include but are not limited to:

- Fuel Tanks
- Powder and Cap Magazines
- Chain Link Fence
- Guard Rails
- Coal Stacking Tube
- Escape Tunnel
- Reclaim Tunnel

UEI must include detailed cost estimates for the reclamation of the fan portal. Those calculations must include the cost of airlifting equipment on and off the site and the special techniques for revegetation.

UEI did not bond for subsidence. The regulations do not require a Permittee to bond for subsidence unless damage occurs to either structures or facilities protected under R645-301-525.500 or when contamination, diminution or interruption to a water supply protected under R645-301-731.530 occurs. UEI did obtain subsidence insurance.

Terms and Conditions for Liability Insurance

UEI is required to submit a certificate issued by an insurance company authorized to do business in Utah to demonstrate that UEI has a public liability policy in force for the coal mining and reclamation activities in the permit area. The policy will provide a minimum insurance

TECHNICAL MEMO

coverage for bodily injury and property damage of \$300,000 for each occurrence and \$500,000 aggregate.

UEI has an ACCORD form in Appendix 8-2 and 8-3 from the Federal Insurance Company stating the policy limits. However, the policy expiration date is June 1, 2004. The Division will require an updated ACCORD form prior to issuing the approval for the Lila Canyon Extension.

Since the Horse Canyon Mine has a valid permit, UEI is required to have insurance at all times. The amounts of the policy are as follows:

- General aggregate limit \$3,000,000
- Products/completed operations aggregate limit \$1,000,000
- Advertising injury and personal limit \$1,000,000
- Each occurrence \$1,000,000
- Medical expense limit \$10,000

The policy amounts are adequate to meet the minimum regulatory requirements.

UEI must maintain the policy in full force during the life of the permit or any renewal thereof, including the liability period necessary to complete all reclamation operations. The policy will include a rider requiring that the insurer notify the Division whenever substantive changes are made in the policy, including any termination or failure to renew. The ACCORD form, in Appendix 8-2 and Appendix 8-3, states that the issuing company will notify the Division at least 45 days before cancellation.

UEI also has subsidence coverage included with \$250,000 property damage deductible under the general liability policy.

Findings:

Information provided in the PAP is not adequate to meet the requirements of this section of the regulations. Before approval, UEI must provide the following in accordance with:

R645-301-830.140, UEI must include enough information about each structure and facility in order for the Division to determine the demolition cost. Items that need addition information include but are not limited to 1) fuel tanks, 2) powder and cap magazines, 3) chain link fence, 4) guard rails, 5) coal stacking tube, 6) escape tunnel and 7) reclaim tunnel. In addition UEI must also include the cost must include airlifting equipment on and off the fan portal site.

TECHNICAL MEMO

R645-301-830.140, UEI must have documentation showing that they are properly insured before the Division will approve the Lila Canyon Extension. The ACCORD in Appendix 8-2 showed that the insurance policy expired on June 1, 2004.

RECOMMENDATIONS:

The Division should deny the application until all of the above mentioned deficiencies have been adequately addressed.

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