



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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October 18, 2000

TO: [REDACTED]

THRU: Paul B. Baker, Project Team Lead *PBS*

FROM: Wayne H. Western, Senior Reclamation Specialist *WHW*

RE: Permittee's Response to TA Deficiencies Received on September 21, 2000,  
PacifiCorp, Deer Creek Mine, A [REDACTED] 18 AM99C-2

**SUMMARY:**

On September 21, 2000, the Division received, from PacifiCorp, a response to the technical deficiencies that they received on May 13, 2000. The Division found several deficiencies that are listed below. A major deficiency is that PacifiCorp did not include a reclamation plan for 9<sup>th</sup> East North Meetinghouse Portals area.

**TECHNICAL ANALYSIS:**

**RECLAMATION PLAN**

**APPROXIMATE ORIGINAL CONTOUR RESTORATION**

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -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 general requirements for restoring a site to the approximate original contours are (1) the reclaimed site blends into the surrounding topography, (2) the restored drainages complement the natural drainages, (3) all post law highwalls exist are completely eliminated and (4) all pre law highwalls must be reclaimed to the extent practical. The Deer Creek mine consists of 4 separate surface facilities. This TA will address how each of those facilities will be reclaimed.

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TECHNICAL MEMO

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*Deer Creek*

The final contour map for the main Deer Creek site is Drawing DS1782D, Deer Creek Mine Disturbed Area Final Reclamation Contour Map, and the reclamation cross sections are on Drawing DS1783D and DS1784D. The reclamation contour maps shows the locations of the highwall remnants, the location of the cross sections, the refuse piles, drainage systems and the cut and fill quantities. The cross section maps show the locations of the Blind Canyon coal seam and the concrete and asphalt disposal areas.

The cross sections are not always perpendicular to the contours. Thus the cross sections show slopes that are less steep than the maximum slope angle. This is important to remember when evaluating highwall reclamation.

The main Deer Creek facilities area is considered a pre law site, because it was constructed before May 3, 1978. Because the site is pre law, the permittee only has to eliminate highwalls to the extent practical. On page 5-12 the permittee explains why highwall remnants will remain as follows:

1. Highwall remnants are proposed at the Deer Creek Mine since sufficient fill material does not exist to completely eliminate these areas. The areas are outlined on maps DS-1782-D, 1 of 1 and DS-1783-D 1 of 2, 2 of 2. The Deer Creek Mine is considered a continuously mine area (CMA). Development of the portals began before the passage of SMCRA and therefore, no spoil material was ever salvaged. Since it is impossible to completely eliminate the highwall areas, the idea is to blend these areas into the natural surroundings of the canyon to become compatible with the approved post mining land use.
2. The portion of the highwalls remaining consist of near vertical fluvial channel sand escarpments associated with the Blackhawk formation (refer to Volume 8, Geologic Section). The fill material below these areas is combination of crushed concrete and underground development wastes. Stability of these areas are presented below. A conceptual highwall elimination plan for the Deer Creek is presented in Appendix R645-301-500-D. Cut and fill estimates agree with the highwall elimination plan.

The main reasons why the Division allows highwall remnants to remain are (1) slope stability problems and (2) lack of fill material. Many highwalls in Utah are locate in steep canyon. If the permittees were to completely backfill the highwalls in some steep canyon the results would be either the slope is to steep to achieve the 1.3 safety factor or the backfill would interfere with the drainage plans. The Division reviewed the cross section and found that the permittee could eliminate the highwall remnants by placing more fill. The addition fill could be

placed without decreasing the safety factor below 1.3 or interfering with the drainage plan. See Appendix R645-301-500-E for the slope stability study. **Therefore, slope stability concerns are not the reason that the Division would allow highwall remnants to remain.**

The Division reviewed the cut and fill calculations. The permittee does not have enough fill material on the site to totally eliminate the highwalls and have the reclaimed topographies blend into the surrounding topography. The permittee could place more fill against the highwall to reduce or eliminate the highwall remnants of. If the permittee did eliminate the highwalls then they would not have enough fill to grade the rest the site so that it blended into the surrounding topography. If the permittee placed most of the fill along the highwalls then the valley floor would have to be flat. The surrounding topography is V-shaped valleys not valleys with steep slopes and a flat bottom.

The valley walls consist mostly on soil overlying bedrock. If the permittee were to get more fill on site their only option would be to use bedrock.

The highwalls are usually at the base of natural cliffs. If the permittee placed more fill along the highwalls they would not eliminate the safety hazards associated with cliffs or restore the area to the natural topography.

The surrounding area contains natural cliffs. The highwall remnants at the cliff bases will blend into the surrounding topography.

**The Division has determined the permittee has met the minimum requirements of R645-301-553.600. The permittee cannot reclaim all the highwalls because they do not have access to enough reasonably available fill material.**

On Drawing DS1784D the permittee shows the cross sections for Section A-A' and Section B-B' and the location of the sections is shown on Drawing DS1782D. Section A-A' and Section B-B' are for the spoil storage area.

The cross section for Section B-B' shows that two terraces will be left after reclamation. The terrace at elevation 7415 feet is 20 feet wide and the terrace at elevation 7375 feet is 40 feet wide. However, the contour lines on drawing DS1782 are no further apart than 10 feet. According to drawing DS1782D the terraces could be no wider than 10 feet. Similar terraces are also shown on Section A-A'. The permittee must clarify the inconsistency between the cross sections and the topographic maps regarding the terraces on the spoil storage area after reclamation.

Terraces do not blend into the surrounding topography. Therefore, the Division will not allow terraces to be part of the postmining topography unless the permittee can show that the terraces are needed.

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*Rilda Canyon*

The reclamation plans for Rilda Canyon are shown on drawing CE-10884-EM (4-1A) Rilda Canyon Final Reclamation of Surface Facilities and Access Road and the cross sections on drawing CE-10891-EM (4-4A) Rilda Canyon Access Road/Facilities Cross Sections. The cross sections show that the area will be restored to a configuration similar to the original topography. The main difference is some slopes will be less steep because the permittee needs to place excess material along the slopes.

The permittee did not show the location of the highwalls on the topographic map or cross sections. The Division needs that information in order to determine that the highwalls will be eliminated.

The slope angles are no steeper than 2H:1V, which the Division considers stable under most circumstances. The permittee did not address slope stability at the Rilda Canyon site.

*9<sup>th</sup> East Grimes Wash Portals*

The permittee states that the Grimes Wash portal area has been reclaimed. The permittee needs to include as built drawing for the area so that the Division can determine if the site has been reclaimed to the approximate original contours.

*9<sup>th</sup> East North Meetinghouse Portals*

The permittee did not include a reclamation plan for the 9<sup>th</sup> East North Meetinghouse Portals. The permittee stated in Appendix R645-301-500-B that the plan would be added when it became available. Before the Division can approve the reclamation plan the permittee must submit a detailed reclamation plan for the 9<sup>th</sup> East North Meetinghouse Portals area. The plan must contain enough information for the Division to determine that the site will be restored to the approximate original contours, adequate highwall elimination and slope stability.

**Findings:**

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

**R645-301-553.100 and R645-301-121.200**, The cross sections for Section A-A' and Section B-B' on drawing DS1784D do not match the topography on the drawing DS1782D. The cross sections show that terraces will be left after reclamation while the contour map does not. The permittee must clarify the discrepancies. If terraces are to be left, the permittee must address the issue. See the analysis section for more details.

**R645-301-553.100 and R645-301-542.200**, The permittee must show the location of the reclaimed highwalls for the Rilda Canyon site on the reclamation cross section.

**R645-301-542.200**, The permittee must give the Division detailed as built topographic maps and cross sections for the 9<sup>th</sup> East Grimes Wash Portals. The drawings must show the location of the reclaimed highwalls and other features that show that the site meets AOC requirements.

**R645-301-542.200**, The permittee must give the Division detailed topographic maps and cross sections for the 9<sup>th</sup> East North Meetinghouse Portals. The drawings must show the location of the highwalls and other features that show that the site meets the AOC requirements.

## BACKFILLING AND GRADING

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

### Analysis:

#### General requirements

##### *Deer Creek Site*

The general backfilling and grading requirements are that the site be restored to the approximate original contours; the elimination of all highwalls, spoil piles and depressions; have stable slopes; minimize erosion and water pollution both on and off the site; and support the approved postmining land use.

The Deer Creek site meets the general requirements for being reclaimed to the approximate original contour requirements. The general requirements are that the site blend into the surrounding area, the reclaimed drainages complement the natural drainages and highwalls are eliminated. Because the Deer Creek site is pre law, the Division will allow some highwall remnants to remain.

The main facilities are in steep canyons and were constructed before the enactment of SMCRA. The steep slopes and pre law development combine to prevent the permittee to restoring the site to the original configuration. However, the reclamation plan shows that the site will have a topography similar to the surrounding areas. See the final reclamation contour map and cross sections drawings (see drawings DS1782D, DS1783D and DS1784D for details). The restored channels will be in the bottom of the canyons and will complement the existing drainages.

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The portals in the main Deer Creek facilities area were constructed before the enactment of SMCRA, May 3, 1978. Because the portals are pre SMCRA, the permittee does not have to completely eliminate the highwalls to comply with the AOC requirements.

The main problem that the permittee has with highwall elimination is lack of fill material. On drawing DS1782D, Deer Creek Mine Disturbed Area Final Reclamation Contour Map, the permittee shows the cut and fill quantities. The permittee shows that 149,721 cubic yards of cut material are available and 170,834 cubic yards of fill material are needed. The permittee is faced with a shortage of fill material. How the material shortage will be met is not explained in the reclamation plan.

The cross sections that show the cut slopes are shown on drawings DS1883D and DS1784D. The highwall at station 18+00 is at the base of a cliff. The permittee could place more fill against the highwall to eliminate it but would gain almost nothing. The steep cliff above the highwall is more of a safety hazard than the highwall itself. During reclamation the contractor could feather the restored slope with the natural slope so that the transition zone would appear almost natural.

The highwall located along stations 21+00 to 23+00 are also at the base of a steep natural cliff. The permittee could place more fill at the top of the highwall to eliminate it. However, the permittee would gain little because the natural cliff is more of a safety hazard than the highwall.

The highwalls will be reclaimed with 2H:1V slopes as shown in Appendix R645-301-500D. The cross sections for the reclaimed highwall on drawings DS1883D and DS1784D have slopes less than 20°. The reason for the gentler slope is that the cross sections are not perpendicular to the strike (maximum steepness) of the slope.

The safety factors for the reclaimed highwall slopes are greater than 1.3. The permittee could increase the slope angle and eliminate more highwall remnants. If the permittee were to increase the fill used to eliminate the highwalls then they would have to decrease the fill in other areas. A lack of fill in other areas could prevent the site from blending into the surrounding areas. R645-301-553.600 allows the permittee to leave pre SMCRA highwall remnants if they do not have enough fill material. The Division has reviewed the backfilling and grading plan and determined that the permittee does not have enough material on the site to eliminate the per SMCRA highwalls.

On drawing DS1783D, Deer Creek Mine Deer Creek Canyon Final Reclamation Cross Sections, the permittee shows the location of the concrete and asphalt storage areas. The Division has been informed by the surface owner, USFS, that asphalt may be prohibited from being disposed on site. If on site asphalt disposal is prohibited then the permittee will have to develop an alternative asphalt disposal plan. The permittee must address this issue.

### *Rilda Canyon*

The breakouts at Rilda Canyon are post SMCRA. The reclamation contour map for Rilda Canyon is Map 4-1A Deer Creek Mine - Rilda Canyon Final Reclamation of Surface Facilities and Access Road (Drawing # CE-10884-EM) and the cross sections are shown on Map 4-4A Deer Creek Mine Rilda Canyon Access Road/Facilities Cross Sections (Drawing # CE-10891-EM). The permittee claims that the reclamation plan calls for the complete elimination of all highwall in Rilda Canyon. The portals and highwalls are not shown on the cross section. Therefore, the Division is unable to make a finding about highwall elimination.

The permittee did not address slope stability at Rilda Canyon. The permittee needs to show that the slopes will have a minimum safety factor of 1.3.

### *9<sup>th</sup> East Grimes Wash Portals*

The portal site was originally disturbed by coal mining activities dating back prior to 1920. Evidence of the early mining activities can be seen by the remnants of 2 partially open portals, a coal handling area south of the portals and evidence of a wooden coal chute above the Wilberg Mine fan. The permittee must show the location of the disturbed areas that do not need to be reclaimed by the permittee because they are pre-SMCRA.

The permittee states that the Grimes Wash portal area has been reclaimed. The permittee needs to include as built drawing for the area and comments about slope stability.

### *9<sup>th</sup> East North Meetinghouse Portals*

The permittee did not include a reclamation plan for the 9<sup>th</sup> East North Meetinghouse Portals. The permittee stated in Appendix R645-301-500-B that the plan would be added when it became available. Before the Division approves the reclamation plan, the permittee must submit a detailed reclamation plan for the 9<sup>th</sup> East North Meetinghouse Portals area. The plan must contain enough information for the Division to determine that the site will be restored to the approximate original contours, adequate highwall elimination and slope stability.

### *Variance From the Approximate Original Contour Requirements*

The permittee did not request a variance from the approximate original contour requirements for any disturbed areas at the Deer Creek Mine.

### *Spoil and Underground Development Waste*

The permittee does not mention spoil in the reclamation plan. However, on Map DS1782D, Deer Creek Mine Disturbed Area Final Contour Map, the permit labels the area between station 4+00 and 5+00 in Elk Canyon as a spoil storage area. The permittee needs to

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clarify in the text and on the maps whether or not spoil exists on the site. If spoil exists on the site then the permittee must state how the spoil will be handled during final reclamation.

The permittee conducted slope stability studies for the two refuse piles. The study for the refuse pile in Elk Canyon shows the reclaimed site will have a safety factor of 1.58. The study in Deer Creek shows the refuse pile will have a safety factor of 2.3. The Division reviewed the slope stability studies done by RB&C Engineering and considered them adequate to show that the reclaimed refuse piles will meet the minimum safety factor requirements.

R645-301-553.252 requires the permittee to cover all refuse piles with 4 feet of material unless the Division approve a lesser amount. On page 5-13 the permittee states that the results from chemical and physical analysis for the refuse are in given in Appendix R645-301-200A. However, Appendix R645-301-200A was not included in the submittal. The permittee committed to include the information when it became available.

On page 5-9 the permittee explains the reclamation of the refuse pile in Deer Creek as follows:

1. Suitable substitute soil as determined by the soil sampling/exploration program or barrow pit will be separated and stored in the area of the dismantled truck loadout and storage area (Area #2, see DS-1796-D in Appendix R645-301-500A). This soil will be used in areas where lesser quality soils exist and/or used as cover over the slope of the refuse pile in Deer Creek Canyon.
2. The material storage yard will be excavated and used as fill along the parameter of the material storage yard and portal area. The outslope of the refuse will also be excavated and used as fill in these areas. This will create a slope of less than 2:1.

The permittee does not show on the drawing DS1782D the location of the refuse that will be used as fill material in the material storage yard. The Division needs to know the location of the refuse that will be used as fill. By using refuse as fill the permittee is creating another refuse pile.

The permittee must also say how much clean material will be placed over the refuse. If the permittee plans to use less than 4 feet of material then they must meet the requirements of R645-301-553.252.

The other sites were brake out portals and there was no refuse associated with those site.

*Exposed Coal Seams*

The permittee shows the location of the Blind Canyon coal seam in drawings DS1783D and DS1784D. The permittee did not show the location of any rider seams at the Deer Creek site or other locations. The permittee needs to state how all coal seams including rider seams will be covered.

*Cut-and-Fill Terrances*

The permittee does not plan to use any cut-and-fill terraces.

*Previously Mined Areas*

The Division made the finding that the permittee cannot eliminate all the highwall remnants at the Deer Creek mine due to lack of fill material. See the approximate original contour section of this TA for details.

**Findings:**

Information provided in the proposed amendment is not considered adequate to meet the requirement of this section. Prior to approval, the Permittee must provide the following in accordance with:

**R645-301-542.200 and R645-301-121.200**, The permittee must state how they plan to compensate for the 21,000 cubic yard fill shortage.

**R645-301-542.00**, The permittee must make the backfilling and grading maps for the Rilda Canyon area more clear by labeling the disturbed area boundary, portals and highwalls on drawing. The Division needs this information to verify highwall elimination.

**R645-301-412.200**, The permittee must show that the landowner, U.S.F.S., has approved the on site disposal of building and road debris particularly the on site asphalt disposal.

**R645-310-553.130**, The permittee must address the slope stability requirements in the Rilda Canyon, 9<sup>th</sup> East Grimes Wash Portals and 9<sup>th</sup> East North Meetinghouse Portals. The Division does not expect the permittee to conduct an extension analysis as in Deer Creek they could site that study if they felt the sites were comparable.

**R645-310-553.300**, The permittee must address how any exposed rider coal seams will be reclaimed.

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**R645-301-542.200**, The permittee must give the Division as built drawings for the 9<sup>th</sup> East Grimes Wash Portals.

**R645-301-542.200 and R645-301-521.110**, The permittee must give the Division a reclamation plan for the 9<sup>th</sup> East North Meetinghouse Portals. The reclamation plan must also include the location of all pre law sites surrounding the 9<sup>th</sup> East North Meetinghouse Portals.

## 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:

The Deer Creek Mine has a total of 16 portals and 1 exhaust shaft. The permittee backfilled and sealed 7 portals, 4 of the sealed portals are in Deer Creek Canyon the other 3 are in Grimes Wash.

The general portal closure plan is shown on Figure 5-1. A block seal will be placed in the portal 25 feet from the entrance and then backfilled. The general portal sealing and backfilling plan is adequate for all portals in the Deer Creek site except the intake portal.

#### *Deer Creek Intake Portals and Belt Portal*

All portals except for the Deer Creek Canyon intake and belt portals are located up dip from the mined out entries. Because the portals are located up dip the permittee believes that hydraulic seals are not needed.

The Deer Creek intake and belt are located down dip from the coal seams. The Permittee does not want to place a hydrologic seal in the portal because the surrounding rock is fractured and water would seep around the seal. The Permittee will place pipes behind the seal and let the water flow through the pipe into the stream channel.

#### *9<sup>th</sup> East Breakouts Grimes Wash Canyon*

The 9<sup>th</sup> East Grimes Wash portals were developed in June 1977. The portals were used for intake ventilation from 1977 until 1990 when they were permanently sealed.

The portal site was originally disturbed by coal mining activities dating back prior to 1920. Evidence of the early mining activities can be seen by the remnants of 2 partially open portals, a coal handling area south of the portals and evidence of a wooden coal chute above the Wilberg Mine fan.

*9<sup>th</sup> East North Meetinghouse Portals*

The permittee states that they will amend Appendix R645-301-500-B, which contains information about the portal closure plan, when the information becomes available.

The permittee states that they reclaimed the Grimes Wash Canyon site in the fall of 1999. The permittee needs to give the Division as-built maps and cross section of the Grimes Wash Canyon site so that the Division can make a finding about the portal closures.

*Rilda Canyon*

The permittee states that the concrete portal liners with the two portals will be demolished and removed from the permit area for disposal at the Deer Creek Waste Rock Site. The portals will be sealed and backfilled as depicted in Figure 1, page 4-3. Backfill material will be obtained from the facility pad. The permittee's propose is consistent with the standard portal sealing procedures.

**Findings:**

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

**R645-301-551,** The Permittee must give the Division portal closure plans for North Fork Meetinghouse Canyon

**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:**

The Permittee plans to reclaim all roads at the Deer Creek mine site. They also plan to reclaim the access road for the C1 and C2 belt line. The road reclamation plan is as follows:

The remainder of the Deer Creek mine road to the Emery County road (asphalt and base) will be excavated and transported to the waste rock site for disposal. Excavation will extend approximately 410 feet past station 0+00, to the point where the county road terminates. Approximately 25,042 cubic yards of material will be cut and 21,301 cubic yards of fill will be moved in this area. A 100 foot diameter turnaround (unpaved) will be constructed at the end of the Emery County road so that vehicular traffic can exit the area properly.

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The plan meets the minimum requirements of R645-301-542.600 because (1) the road will be removed because it is not needed for the postmining land use, (2) the road bed will be reseeded according to the approved reclamation plan and (3) the asphalt rubble will be disposed at the waste rock site.

**Findings:**

The Permittee met the minimum requirements of this section.

**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:**

**Reclamation backfilling and grading maps**

*Deer Creek Canyon*

The main facilities for the mine are located in Deer Creek Drainage, Deer Drainage and Elk Canyon Drainage. Drawing DS1782D, Deer Creek Mine Disturbed Area Final Reclamation Contour Map show the reclamation contours for those areas. The map scale is 1" = 100', which is adequate for the Division to verify mass balance calculations. The map has been certified by a professional engineer and shows the highwall remnants. The map does not have the disturbed area boundaries labeled.

The cross sections are shown on Drawing DS1783D and DS1784D, Deer Creek Mine, Deer Creek Canyon Final Reclamation Cross Sections. The cross section are at a scale of 1" = 80', which is different than the base map. The permittee needs to change the scale of the cross section to the base map scale and label the disturbed area boundaries.

*Rilda Canyon*

The backfilling map for Rilda Canyon is drawing CE-10884-EM. The map shows the reclaimed contours for the site and the riprap. Drawing CE-10884-EM does not show the location of the cross sections. The map scale is 1" = 100'.

The cross sections are on drawing CE-10891-EM and do not show the location of the portals, highwalls or disturbed area boundaries. The cross section scale is 1" = 20' which is not equal to the base map scale. The Division's staff prefers to have the scales of the maps and cross sections the same when practical.

*9<sup>th</sup> East Grimes Wash Portals*

The permittee did not include backfilling and grading maps for the 9<sup>th</sup> East North Meetinghouse Portals. The permittee needs to include as-built drawing for the area.

*9<sup>th</sup> East North Meetinghouse Portals*

The permittee did not include backfilling and grading maps for the 9<sup>th</sup> East North Meetinghouse Portals. The permittee did state in Appendix R645-301-301-500-B that the reclamation plan for the area would be updated when it became available. The backfilling and grading plans must be approved by the Division before the reclamation plan can be approved.

**Reclamation facilities maps**

*Deer Creek Canyon*

The main facilities for the mine are located in Deer Creek Drainage, Deer Drainage and Elk Canyon Drainage. Drawing DS1782D, Deer Creek Mine Disturbed Area Final Reclamation Contour Map show the reclamation contours for those areas. The cross sections are shown on Drawing DS1783D and DS1784D, Deer Creek Mine, Deer Creek Canyon Final Reclamation Cross Sections. The maps and cross sections show the rip rapped drainages and energy dissipaters. No other reclamation facilities are shown.

*Rilda Canyon*

Drawing CE-10884-EM shows the location of the reclamation facilities for Rilda Canyon. Those facilities consist of riprapped channels.

*9<sup>th</sup> East Grimes Wash Portals*

The permittee needs to give the Division as-built drawings for the 9<sup>th</sup> East Grimes Wash Portal area. The drawings must show any facilities that will be left after reclamation.

*9<sup>th</sup> East North Meetinghouse Portals*

The permittee needs to give the Division drawings for the 9<sup>th</sup> East North Meetinghouse Portal area. The drawings must show any facilities that will be left after reclamation.

**Final surface configuration maps**

The backfilling and grading maps show the final surface configuration.

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**Findings:**

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

**R645-301-542.00,** The permittee must make the backfilling and grading maps for the Deer Creek area more clear by (1) show the disturbed area boundary on drawing DS1782D, DS1783D and DS1784D and (2) have the scale of Maps DS1783D and DS1784D be the same as the base map (1" = 100").

**R645-301-542.00,** The permittee must make the backfilling and grading maps for the Rilda Canyon area more clear by (1) labeling the disturbed area boundary, portals and highwalls on drawing CE-10891-EM and (2) have the scale of Map CE-10891-EM be the same as the base map (1" = 100").

**R645-301-542.00,** The permittee must submit as-built backfilling and grading maps for the 9<sup>th</sup> East Grimes Wash Portals area.

**R645-301-542.00,** The permittee must submit backfilling and grading maps for the 9<sup>th</sup> East North Meetinghouse Portals areas before the Division can approve the reclamation plan.

## **BONDING AND INSURANCE REQUIREMENTS**

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

**Analysis:**

**Determination of bond amount**

The Permittee did not include a revised reclamation cost estimate in the amendment. The Division was informed by the Permittee that a cost estimate would not be included until the reclamation plan was approved. The Division agreed with the concept since the reclamation bond estimate must be based on the approved plan.

**Findings:**

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

**R645-301-830.130**, The Permittee did not include a detailed reclamation cost estimate in the amendment. The Permittee informed the Division that the reclamation cost estimate would not be submitted until the reclamation plan was approved. The Division agreed to that procedure. Prior to final approval the Permittee must submit a detailed reclamation cost estimate.

**RECOMMENDATIONS:**

The Division should deny the application until the permittee corrects the deficiencies.