

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

October 18, 2011

TO: Internal File

THRU: Ingrid Campbell, Team Lead *IC*

FROM: Steve Christensen, Environmental Scientist *SCC*

RE: Change to allow extraction of Longwall panel #22, West Ridge Resources, West Ridge Mine, Permit # C/007/0041 and Project #3894

SUMMARY:

The Division of Oil, Gas and Mining (the Division) received an amendment to the West Ridge Mine mining and reclamation plan (MRP). West Ridge Resources (the Permittee) proposes to add an additional 273.43 acres to the existing permit area and add an additional longwall panel to the existing mine plan. The proposed longwall panel (Panel 22) is located northeast of previously approved Panel 21.

In order to facilitate the mining of Panel 22, development mining will occur underneath the Right Fork of Grassy Trail Creek in Whitmore Canyon. No longwall mining (i.e. planned subsidence) is proposed with the amendment. Panel 22 is approximately 2,800' to 3,600' below the surface.

The amendment does not meet the hydrology requirements of the State of Utah R645-Coal Mining Rules. The following deficiencies must be addressed prior to Division approval:

R645-301-724.100: The Permittee must consult with the Division of Water Rights to determine whether or not the springs/seeps identified in the *Report of Spring and Seep Survey in the Right Fork of Whitmore Canyon Area* (Petersen Hydrologic, LLC, August 3rd, 2011, Appendix 7-6B) are State Appropriated Water Rights. If it's determined that a water right is associated with any of the springs/speeds, additional water monitoring points may be warranted as well as revisions to Appendix 7-5, *Water Rights Summary* and Map 7-3, *Water Rights*. Springs RFS-6 and RFS-11 were identified as developed/fenced springs. The discharges reported in the August 3rd, 2011 Petersen report for RFS-6 and RFS-11 were 1.03 gpm and 32.5 gpm

respectively. It appears that RFS-11 could potentially be the Section 5 Spring that was recently added to the water monitoring program.

R645-301-724.200: The Permittee must provide the historical flow data for the Left Fork of Whitmore Canyon. Historical flow data for the Right Fork of Whitmore Canyon was incorporated into the approved MRP on March 23rd, 2011 (Task ID # 3777) in Appendix 7-14. As with the Right Fork data, the corresponding historical flow data for the Left Fork should be submitted for incorporation into the MRP as well.

R645-301-724.100 and -724.200: The Permittee must provide the detailed gain-loss analysis of the Right Fork of Whitmore Canyon in the area of proposed development mining.

R645-301-724.100 and -724.200: The Permittee must address (based upon the gain/loss analysis of the Right Fork drainage) whether groundwater monitoring wells should be constructed in order to monitor/identify potential impacts to the base flow component of the Right Fork of Whitmore Canyon. Based upon the June 23rd, 2011 stakeholder meeting, it was agreed that groundwater monitoring wells would be installed. The Permittee should address how, in the absence of monitoring wells, base flow impacts to the Right Fork would be identified.

R645-301-728: The baseline information deficiencies must be addressed by the Permittee prior to a determination being made by the Division that the Probable Hydrologic Consequences Determination presented in the amendment is adequate.

R645-301-728: Based upon the underground mine workings water monitoring program to be initiated in the Right Fork of Whitmore Canyon (See R645-301-731.210 Deficiency below), the Permittee must provide a commitment that outlines when a revision to the Probable Hydrologic Consequences (PHC) Section of the approved MRP would be initiated in the event that significant volumes of water are encountered during mining activity in the Right Fork of Whitmore Canyon. The commitment must clearly identify the volume and duration of mine-water inflows that would initiate a hydrogeologic investigation and subsequent PHC revision in the approved MRP.

R645-301-731: The Permittee must provide a detailed location map for the monitoring points to be established within the mine works in the Right Fork of Whitmore Canyon watershed. The map must also depict the mine plan/panel locations.

R645-301-731: The Permittee must revise Map 7-7, *Operational Monitoring Locations*, to depict the as-built locations for the installed/rehabilitated flumes (i.e. LF-1, LF-2, RF-1 and RF-2).

R645-301-731.210: The Permittee must revise Section 731.200, *Water Monitoring* of the approved MRP to reflect additional monitoring points within the mine works underlying the Right Fork of Whitmore Canyon. The text beginning on page 7-36 should be revised with a thorough discussion of the water monitoring to be conducted within the mine works under the Right Fork of Whitmore Canyon. The revisions to Section 731.200 must clearly present/provide the following:

- 1) The locations of the monitoring points and their adequacy in detecting significant inflows of water into the mine as well as in determining the location of that inflow.
- 2) Table 7-1 *Hydrologic Monitoring Protocols and Locations* must be revised to reflect the additional water monitoring points and the frequency of sampling
- 3) A table that identifies the field and laboratory data that will be collected and submitted to the Division.
- 4) The revision to the Water Monitoring section must also provide the PHC revision commitment (See R645-301-728 Deficiency).

Division staff will verify the installation of these flow meters/monitoring points prior to mining in Panel 22.

R645-301-731.220: The Permittee must revise Table 7-1, *Hydrologic Monitoring Protocols and Locations*. The footnotes at the bottom of the Table indicate that RF-1, LF-1 and LF-2 will replace RST-1, ST-9 and ST-10 when the flumes have been installed. It is the Division's understanding that the flumes have been installed. Table 7-1 should be revised accordingly.

R645-301-731.220: The Permittee must address how continuous flow measurements (as agreed to at the June 23rd, 2011 stakeholder meeting) can be obtained given the limitations of the 2' and 3' Parshall flumes located within the Left and Right Forks of Whitmore Canyon respectively. It's the Division's understanding that the continuous flow measurements are only obtainable during higher flows. The 2' Parshall flumes (sites LF-1 and LF-2) provide accurate flow measurements down to 296 gpm (or 0.66 cfs). The 3' Parshall flume provides accurate measurements down to a minimum flow rate of 433 gpm (or 0.96 cfs). Table 7-1, *Hydrologic Monitoring Protocols and Locations* indicates that "*flows are continually monitored and will be downloaded quarterly*" for surface water monitoring sites LF-1, LF-2, RF-1 and RF-2.

R645-301-731: The Permittee must revise Map 7-6, *Hydrologic Monitoring Map (Historical Monitoring Locations)* to depict the surface water monitoring sites that will no longer be actively monitored (i.e. ST-9, ST-10 and RST-1).

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TECHNICAL ANALYSIS:

ENVIRONMENTAL RESOURCE INFORMATION

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

HYDROLOGIC RESOURCE INFORMATION

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

Analysis:

Baseline Information

The amendment does not meet the Baseline Information requirements of the State of Utah R645-Coal Mining Rules.

Additional baseline information must be provided for incorporation into the MRP relative to the Right Fork of Whitmore (the Right Fork).

On June 23rd, 2011, a meeting was conducted at the Department of Natural Resources Price Field Office. The meeting was attended by representatives of the Division, West Ridge Resources, Division of Water Rights, Sunnyside Cogeneration Association and East Carbon City. At that time, the proposed expansion of the West Ridge Mine included the relocation of Grassy Trail Reservoir.

The purpose of the meeting was to address concerns that had been raised by stakeholders regarding the potential for coal mining activity to disrupt/impact state appropriated water rights in the Right Fork of Whitmore Canyon. As a result of that meeting, it was agreed that additional hydrologic investigations and measures should be taken to insure the protection of state appropriated water rights.

The proposed measures included:

- 1) Installation and rehabilitation of measuring flumes in the upper and lower reaches of both the Right and Left Forks of Whitmore Canyon above the reservoir.
- 2) Installation of continuous measuring/recording devices at each flume.

- 3) Installation of survey elevation monitoring stations at 100' intervals along the bottom of the Right Fork drainage within the permit area.
- 4) Installation of flow meters within the underground mine water collection/pumping system sufficient to adequately assess the quantity of groundwater sources encountered in the mine workings underneath the Right Fork.
- 5) Additional ground and surface water monitoring points in the Right Fork drainage area.
- 6) Expansion of the seep and spring survey in the Right Fork to include more of the upper drainage area above Panel 22.
- 7) Completion of a detailed gain-loss analysis of the stream flow in the Right Fork within the area of proposed development mining.
- 8) Installation of ground water monitoring wells within the Right Fork drainage to evaluate/monitor potential inflows.
- 9) Evaluation of current mine-water discharge.

Due to geologic conditions, the expansion of the longwall panels into the area of the Right Fork was not feasible. As a result, longwall mining will not occur underneath the Right Fork. However, additional hydrologic investigation measures will be conducted. Based on discussions with West Ridge Resources personnel, several of the aforementioned measures have been initiated.

The Permittee has installed and/or rehabilitated the flumes located in both the Right and Left Forks of Whitmore Canyon. Two flumes have been constructed in each of the drainages (i.e. the Left and Right Forks). A 2' Parshall flume was installed at two locations with the Left Fork channel. Two 3' Parshall flumes have been installed in the Right Fork channel. According to West Ridge representatives, continuous measuring devices have been installed in the flumes. However, the continuous flow measurements are only obtainable during higher flow volumes. The 2' Parshall flume provides accurate flow measurements down to 296 gpm (or 0.66 cfs). The 3' Parshall flume provides accurate measurements down to a minimum flow rate of 433 gpm (or 0.96 cfs). The Permittee must address how continuous flow measurements can be obtained during low flow periods (See Surface Water Monitoring Discussion Below).

According to West Ridge representatives, subsidence monitoring stations have been established at 100' intervals within the Right Fork. Division staff has requested more information as to the locations of these monitoring stations (i.e. area map) as well as additional information as to the frequency, duration and method for submitting the surveying information to the Division for review.

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West Ridge representatives have indicated that flow meters (to be installed in the underground mine works in the Right Fork drainage) have been ordered. On September 29th, 2011, Mr. David Hibbs (Utah American Energy President) provided the Division with an up to date mine workings map. According to the map, it appears that mining has occurred within the Right Fork drainage with development mining for Panel 20. The need for flow meters to be installed and functioning prior to longwall operations in the Right Fork drainage was discussed with Mr. Hibbs. As part of the ground water monitoring program, water monitoring points will need to be established in the mine workings underlying the Right Fork drainage. (See Groundwater Monitoring discussion below). Division staff will need to verify the installation/function of these flow meters/monitoring points prior to longwall mining occurring in the Right Fork.

Additional ground and surface water monitoring points have been established in preparation for mining in the Right Fork watershed. Two flumes in both the Left (LF-1 and LF-2) and Right Fork (RF-1 and RF-2) of Whitmore Canyon have been added to the water monitoring program. LF-1 and LF-2 will replace surface water monitoring sites ST-9 and ST-10. RF-1 will replace RST-1. In preparation for mining activity to occur in the Right Fork drainage, surface water monitoring site RST-1 was added in late summer of 2010 (1st sample obtained on August 2nd, 2011). Water quality and quantity data has been collected on a quarterly basis since that time. However, the data for RST-1 was not formally submitted to the Division. Site RF-1 has effectively replaced RST-1 as they are in close proximity to each other. The water quality and quantity data that was obtained from RST-1 has since been submitted to the Division's Water Database (See surface water monitoring site RF-1).

In addition, to the four flumes discussed above, the Permittee established three more water monitoring points (Patterfore Stream, Section 5 Spring and Road Spring). The additional water monitoring points were established in conjunction with the Division of Water Rights, Senator David Hinkins (landowner) and the Division. The two additional spring sites and additional water monitoring site were first sampled on June 23rd, 2011. They have been sampled quarterly for quality and quantity ever since. The Permittee has submitted the acquired data in the Division's Water Database and added the monitoring points to the approved water monitoring protocol (See Table 7-1, *Hydrologic Monitoring Protocols and Locations* and Map 7-7, *Operational Monitoring Locations*).

The Permittee provided an expanded seep and spring survey as part of the amendment (See Appendix 7-6B). The extended seep and spring survey encompasses portions of Sections 31 and 31, Township 13 S, Range 14 E, and Sections 5 and 6, Township 14 S, Range 14 E (See Figure 1, *Spring and Seep Locations*). Map 7-5, *Seep/Spring Survey Map* has been revised to depict the additional seep and spring study area overlying and adjacent to Panel 22.

During the June 23rd, 2011 stakeholder meeting, it was agreed to by all parties that a detailed gain/loss analysis would be performed on the Right Fork of Whitmore Canyon. Erik

Petersen, Peterson Hydrologic LLC indicated that he would conduct the analysis during the low flow period of 2011. The purpose of the gain/loss analysis is to identify reaches of the stream where groundwater sources provide base flow. The amendment does not provide this analysis. The Permittee must provide the detailed gain-loss analysis of the Right Fork of Whitmore Canyon in the area of proposed development mining.

The installation of groundwater monitoring wells within the Right Fork drainage was discussed at the June 23rd, 2011 stakeholder meeting. It was agreed that groundwater monitoring wells would be installed above and below the proposed mining in the Right Fork drainage. The Permittee must address (based upon the gain/loss analysis of the Right Fork drainage) whether groundwater monitoring wells should be constructed in order to monitor/identify potential impacts to the base flow component of the Right Fork of Whitmore Canyon. Based upon the June 23rd, 2011 stakeholder meeting, it was agreed that groundwater monitoring wells would be installed. The Permittee should address how, in the absence of monitoring wells, impacts to the groundwater component to the Right Fork would be identified.

During the June 23rd, 2011 stakeholder meeting, stakeholders raised concerns relative to the current mine water discharge. The West Ridge Mine began to discharge encountered groundwater during the 1st quarter of 2003. Since that time, the mine water discharge has increased significantly with the maximum reported discharge occurring during the 1st quarter of 2011 (1,481 gpm). The average mine water discharge since is 561 gpm. Stakeholders are concerned that the mine has intercepted state appropriated water and are routing it to the C Canyon drainage when the flow should ultimately report to Grassy Trail Reservoir. In order to address this, the Permittee's consultant, Erik Petersen, discussed several analyses that could be conducted including age dating/tritium analysis. The Division has determined that an investigation as to the source of the mine water discharge is warranted. To that end, the Division will issue a Division Order to the Permittee or require the mine water discharge be addressed during the current mid-term permit review (Task ID #3930- Due November 1st, 2011).

The Permittee must consult with the Division of Water Rights to determine whether or not the springs/seeps identified in the *Report of Spring and Seep Survey in the Right Fork of Whitmore Canyon Area* (Petersen Hydrologic, LLC, August 3rd, 2011, Appendix 7-6B) are State Appropriated Water Rights. If it's determined that a water right is associated with any of the springs/seeps, additional water monitoring points may be warranted as well as revisions to Appendix 7-5, *Water Rights Summary* and Map 7-3, *Water Rights*. Springs RFS-6 and RFS-11 were identified as developed/fenced springs. The discharges reported in the August 3rd, 2011 Petersen report for RFS-6 and RFS-11 were 1.03 gpm and 32.5 gpm respectively. It appears that RFS-11 could be the Section 5 Spring that was recently added to the water monitoring program. The Division of Water Rights should determine if a water right is associated with RFS-11.

The Permittee must provide the historical flow data for the Left Fork of Whitmore Canyon. Historical flow data for the Right Fork of Whitmore Canyon was incorporated into the approved MRP on March 23rd, 2011 (Task ID # 3777) in Appendix 7-14. As with the Right Fork

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data, the corresponding historical flow data for the Left Fork should be submitted for incorporation into the MRP as well.

The Permittee must provide the detailed gain-loss analysis of the Right Fork of Whitmore Canyon in the area of proposed development mining.

The Permittee must address (based upon the gain/loss analysis of the Right Fork drainage) whether groundwater monitoring wells should be constructed in order to monitor/identify potential impacts to the base flow component of the Right Fork of Whitmore Canyon. Based upon the June 23rd, 2011 stakeholder meeting, it was agreed that groundwater monitoring wells would be installed. The Permittee should address how, in the absence of monitoring wells, impacts to the groundwater component to the Right Fork would be identified.

Probable Hydrologic Consequences Determination

The amendment does not meet the Probable Hydrologic Consequences Determination of the State of Utah R645-Coal Mining Rules.

The baseline information deficiencies must be addressed by the Permittee prior to a determination being made by the Division that the Probable Hydrologic Consequences Determination presented in the amendment is adequate.

Based upon the underground mine workings water monitoring program to be initiated in the Right Fork of Whitmore Canyon (See R645-301-731.210 Deficiency), the Permittee must provide a commitment that outlines when a revision to the Probable Hydrologic Consequences (PHC) Section of the approved MRP would be initiated in the event that significant volumes of water are encountered during mining activity in the Right Fork of Whitmore Canyon. The commitment must clearly identify the volume and duration of mine-water inflows that would initiate a hydrogeologic investigation and subsequent PHC revision in the approved MRP.

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:

Monitoring and Sampling Location Maps

The amendment does not meet the Monitoring and Sampling Location Map requirements of the State of Utah R645-Coal Mining Rules.

The Permittee must provide a detailed location map for the monitoring points to be established within the mine works in the Right Fork of Whitmore Canyon watershed. The map must also depict the mine plan/panel locations.

The Permittee must revise Map 7-7, *Operational Monitoring Locations*, to depict the as-built locations for the installed/rehabilitated flumes (i.e. LF-1, LF-2, RF-1 and RF-2).

Findings:

The amendment does not meet the Hydrologic Resource Information requirements of the State of Utah R645-Coal Mining Rules.

R645-301-724.100: The Permittee must consult with the Division of Water Rights to determine whether or not the springs/seeps identified in the *Report of Spring and Seep Survey in the Right Fork of Whitmore Canyon Area* (Petersen Hydrologic, LLC, August 3rd, 2011, Appendix 7-6B) are State Appropriated Water Rights. If it's determined that a water right is associated with any of the springs/speeds, additional water monitoring points may be warranted as well as revisions to Appendix 7-5, *Water Rights Summary* and Map 7-3, *Water Rights*. Springs RFS-6 and RFS-11 were identified as developed/fenced springs. The discharges reported in the August 3rd, 2011 Petersen report for RFS-6 and RFS-11 were 1.03 gpm and 32.5 gpm respectively. It appears that RFS-11 could be the Section 5 Spring that was recently added to the water monitoring program. The Division of Water Rights should determine if a water right is associated with RSF-11.

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R645-301-728: The baseline information deficiencies must be addressed by the Permittee prior to a determination being made by the Division that the Probable Hydrologic Consequences Determination presented in the amendment is adequate.

R645-301-728: Based upon the underground mine workings water monitoring program to be initiated in the Right Fork of Whitmore Canyon (See R645-301-731.210 Deficiency), the Permittee must provide a commitment that outlines when a revision to the Probable Hydrologic Consequences (PHC) Section of the approved MRP would be initiated in the event that significant volumes of water are encountered during mining activity in the Right Fork of Whitmore Canyon. The commitment must clearly identify the volume and duration of mine-water inflows that would initiate a hydrogeologic investigation and subsequent PHC revision in the approved MRP.

R645-301-731: The Permittee must provide a detailed location map for the monitoring points to be established within the mine works in the Right Fork of Whitmore Canyon watershed. The map must also depict the mine plan/panel locations.

R645-301-731: The Permittee must revise Map 7-7, *Operational Monitoring Locations*, to depict the as-built locations for the installed/rehabilitated flumes (i.e. LF-1, LF-2, RF-1 and RF-2).

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Groundwater Monitoring

The Permittee must revise Section 731.200, *Water Monitoring* of the approved MRP to reflect additional monitoring points within the mine works underlying the Right Fork of Whitmore Canyon. The text beginning on page 7-36 should be revised with a thorough discussion of the water monitoring to be conducted within the mine works under the Right Fork

of Whitmore Canyon. The revisions to Section 731.200 must clearly present/provide the following:

- 5) The locations of the monitoring points and their adequacy in detecting significant inflows of water into the mine as well as in determining the location of that inflow.
- 6) Table 7-1 *Hydrologic Monitoring Protocols and Locations* must be revised to reflect the additional water monitoring points and the frequency of sampling
- 7) A table that identifies the field and laboratory data that will be collected and submitted to the Division.
- 8) The revision to the Water Monitoring section must also provide the PHC revision commitment (See R645-301-728 Deficiency).

Division staff will verify the installation of these flow meters/monitoring points prior to mining in Panel 22.

Surface Water Monitoring

The amendment does not meet the Surface Water Monitoring requirements of the State of Utah R645-Coal Mining Rules.

The Permittee must revise Table 7-1, *Hydrologic Monitoring Protocols and Locations*. The footnotes at the bottom of the Table indicate that RF-1, LF-1 and LF-2 will replace RST-1, ST-9 and ST-10 when the flumes have been installed. It is the Division's understanding that the flumes have been installed. Table 7-1 should be revised accordingly.

The Permittee has installed and/or rehabilitated the flumes located in both the Right and Left Forks of Whitmore Canyon. Two flumes have been constructed in each of the drainages (i.e. the Left and Right Forks). A 2' Parshall flume was installed at two locations with the Left Fork channel. Two 3' Parshall flumes have been installed in the Right Fork channel. According to West Ridge representatives, continuous measuring devices have been installed in the flumes. However, the continuous flow measurements are only obtainable during higher flow volumes. The 2' Parshall flume provides accurate flow measurements down to 296 gpm (or 0.66 cfs). The 3' Parshall flume provides accurate measurements down to a minimum flow rate of 433 gpm (or 0.96 cfs). The Permittee must address how continuous flow measurements (as agreed to at the June 23rd, 2011 stakeholder meeting) can be obtained given the limitations of the 2' and 3' Parshall flumes located within the Left and Right Forks of Whitmore Canyon respectively. It's the Division's understanding that the continuous flow measurements are only obtainable during higher flow volumes. The 2' Parshall flumes (sites LF-1 and LF-2) provide accurate flow measurements down to 296 gpm (or 0.66 cfs). The 3' Parshall flume provides accurate measurements down to a minimum flow rate of 433 gpm (or 0.96 cfs). Table 7-1, *Hydrologic Monitoring Protocols and Locations* indicates that "flows are continually monitored and will be downloaded quarterly" for surface water monitoring sites LF-1, LF-2, RF-1 and RF-2.

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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:

Monitoring and Sampling Location Maps

The amendment does not meet the Monitoring and Sampling Location Map requirements of the State of Utah R645-Coal Mining Rules.

The Permittee must provide a detailed location map for the monitoring points to be established within the mine works in the Right Fork of Whitmore Canyon watershed. The map must also depict the mine plan/panel locations.

The Permittee must revise Map 7-6, *Hydrologic Monitoring Map (Historical Monitoring Locations)* to depict the surface water monitoring sites that will no longer be actively monitored (i.e. ST-9, ST-10 and RST-1).

Findings:

The amendment does not meet the Hydrologic Information requirements of the State of Utah R645-Coal Mining Rules.

R645-301-731.210: The Permittee must revise Section 731.200, *Water Monitoring* of the approved MRP to reflect additional monitoring points within the mine works underlying the Right Fork of Whitmore Canyon. The text beginning on page 7-36 should be revised with a thorough discussion of the water monitoring to be conducted within the mine works under the Right Fork of Whitmore Canyon. The revisions to Section 731.200 must clearly present/provide the following:

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R645-301-731: The Permittee must revise Map 7-6, *Hydrologic Monitoring Map (Historical Monitoring Locations)* to depict the surface water monitoring sites that will no longer be actively monitored (i.e. ST-9, ST-10 and RST-1).

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Hydrologic Reclamation Plan

The amendment meets the Hydrologic Reclamation Plan requirements of the State of Utah R645-Coal Mining Rules.

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The addition of Panel 22 does not include any additional surface disturbance. As a result, no revisions to the Hydrologic Reclamation Plan are required at this time.

RECOMMENDATIONS:

The amendment is not recommended for approval at this time.

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