INTERWEST MINING COMPANY
A SUBSIDIARY OF PACIFICORP

June 11, 2019

Utah Coal Program
Utah Division of Oil, Gas, and Mining
1594 West North Temple, Suite 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Subject: **Amendment to Deer Creek Mine MRP, PacifiCorp, Deer Creek Mine C/015/0018, Emery County, Utah, Task #5925.**

PacifiCorp, by and through its wholly-owned subsidiary, Interwest Mining Company, "Interwest," as mine operator, hereby submits clean copies of an amendment to the Deer Creek Mine MRP, to reflect hydrologic monitoring transitioning from post mine closure to reclamation, Annual Report reference:

- Volume 9, Hydrologic Section Appendix A-2 (replace entire section)

This submittal includes a revision to Volume 9 Hydrologic Section Appendix A-1, removing the Annual Report reference. The required C2 form is also included with this submittal.

If you have any questions concerning this submittal, please contact Dennis Oakley at 435-687-4825.

Sincerely,

Kenneth S. Fleck

Kenneth Fleck
Geology and Environmental Affairs Manager

Cc: file

Encl. Volume 9 Hydrologic Section Appendix A-1
C2 Form

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APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: PacifiCorp

Mine: Deer Creek Mine **Permit Number:** C/015/0018

Title: Amendment to Deer Creek Mine MRP, PacifiCorp, Deer Creek Mine C/015/0018, Emery County, Utah.

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☒ Replace	☐ Remove	Volume 9, Hydrologic Section Appendix A-2 (replace entire section)
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.	Received by Oil, Gas & Mining RECEIVED JUN 13 2019 DIV OF OIL, GAS & MINING

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HYDROLOGIC MONITORING PROGRAM
DEER CREEK MINE

I. MONITORING LOCATIONS – DEER CREEK MINE

A. Surface Water Hydrology (for maps refer to Deer Creek and Wilberg/Cottonwood Mine: Volume 9 Map HM-1A, Deer Creek Volume 12 R645-301-700: Hydrologic Monitoring Map MFS1851D Mill Fork Lease for East Mountain locations listed below)

1. Huntington Creek Drainage System

a. ***Deer Creek*** (refer to Deer Creek and Wilberg/Cottonwood Mines: Volume 9 Map HM-1A)

(1) DCR01 - Above the mine:
(Approximately 600 feet upstream from the mine facility.) 200 feet North, 800 feet West of the Southeast corner of Section 10, Township 17 South, Range 7 East.

(2) DCR04 - Near C1/C2 Belt Intersection:
(Approximately 5,000 feet downstream from the mine facility.) 300 feet North, 2000 feet East of the Southeast corner of Section 2, Township 17 South, Range 7 East.

(3) DCR06 - @ Huntington Creek Confluence:
(Approximately 15,000 feet downstream from the facility) 1400 feet north, 1100 feet east of the southeast corner of Section 6, Township 16 South, Range 7 East.

b. ***Rilda Canyon*** (refer to Deer Creek and Wilberg/Cottonwood Mines: Volume 9 Map HM-1A)

(1) RCF-1 - Rilda Canyon - Right Fork:
(Approximately 4000 feet upstream from the Right and Left fork convergence.) 400 feet South, 200 feet West of the Northeast corner of Section 30, Township 16 South, Range 7 East.

(2) RCLF1 - Rilda Canyon - Left Fork, below Rilda Canyon Portals: (Approximately 200 feet upstream from the

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Right and Left fork convergence.) 2400 feet North, 2100 feet West of the Southeast corner of Section 29, Township 16 South, Range 7 East.

(3) RCLF2 - Rilda Canyon - Left Fork, above Rilda Canyon Portals: (Approximately 1600 feet upstream from the Right and Left fork convergence.) 1600 feet North, 2300 feet West of the Southwest corner of Section 29, Township 16 South, Range 7 East.

(4) RCF3 - Rilda Canyon - Below NEWUSSD springs: 2550 feet South, 1000 feet East of the Northeast corner of Section 28, Township 16 South, Range 7 East.

(5) RCW4 - Rilda Canyon: (Approximately 1000 feet upstream from the confluence with Huntington Creek.) 850 feet North, 1900 feet West of the Southeast corner of Section 26, Township 16 South, Range 7 East.

3. **Reclamation Monitoring:** Following final reclamation, backfilling and grading, hydrologic monitoring will be conducted at points immediately above and below the reclaimed sites.

B. UPDES Monitoring Locations – Deer Creek Mine (refer to HM-1A)

a. ***Deer Creek Mine***
UPDES UT0023604
001- Sediment Pond – Deer Creek Canyon
002- Mine Discharge – Deer Creek Canyon
003- Mine Discharge – Huntington Creek

C. Post Mine Closure Monitoring Locations – Deer Creek Mine

a. **Deer Creek Mine**
Rilda Canyon Pipeline – terminus of pipeline DCDRCP (refer to HM-1A)

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b. **Deer Creek Mine**
Rilda Canyon Pipeline – integrity evaluation meters (refer to Volume 11, R645-301-500 Engineering Section, Appendix I, Design Drawings Deer Creek Mine Water Relief Pipeline 2016 Rilda Canyon for location of upper and lower vaults – meter locations)
1. DCDRCP – Meter 1: located near the Rilda Canyon Portals
2. DCDRCP – Meter 2: located near the Huntington Power Plant Raw Water Pond

II. MONITORING SCHEDULE – DEER CREEK MINE
(See enclosed monitoring schedules for operational, baseline, and reclamation monitoring)

A. Field Measurements

Field Measurements collected during quality sampling: Listed below are the sites which will be monitored by PacifiCorp in accordance with the guidelines established by DOGM; i.e.

- Date and Time
- Flow
- pH
- Temperature
- Conductivity
- Dissolved oxygen (perennial streams only)

Surface Monitoring

Surface monitoring locations will be field monitored quarterly for all field parameters.

1. Huntington Canyon Drainage

a. Deer Creek

(1) DCR01
(2) DCR04
(3) DCR06

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b. Rilda Canyon

(1) RCF1
(2) RCLF 1
(3) RCLF 2
(4) RCF3
(5) RCW4

Groundwater Monitoring

1. Post Mine Closure – Deer Creek Mine Drainage
   a. Rilda Canyon Pipeline – terminus of pipeline DCDRCP
   b. Rilda Canyon Pipeline – integrity evaluation meters – flow only (refer to Volume 11, R645-301-500 Engineering Section, Appendix I, Design Drawings, Water Relief Pipeline 2016 Rilda Canyon for location of upper and lower vaults – meter locations)
      1. DCDRCP – Meter 1: located near the Rilda Canyon Portals
      2. DCDRCP – Meter 2: located near the Huntington Power Plant Raw Water Pond

UPDES Monitoring

1. Deer Creek

UPDES sites 001, 002 and 003 will be monitored as specified in the individual permits.

Reclamation Monitoring

Surface Water Resources: (see enclosed summary of operational, baseline, and reclamation monitoring schedules)
Surface monitoring locations will be field monitored monthly for flow and all field parameters quarterly until bond release.

Post Mine Closure:
Post Mine Closure monitoring locations will be field monitored monthly for flow including all field parameters until bond release.

UPDES: Sites will be monitored as specified in the individual permits.

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B. Quality Sampling (Laboratory Measurements)

1. Surface Water Hydrology: Water samples will be collected and analyzed quarterly (one sample at low flow and high flow) during the first or second week of the quarter. Parameters analyzed are those listed in the DOGM Guidelines for Surface Water Quality (see Table 1-Surface Water Quality Parameter List). Quarterly sampling was initiated during March 1988 and will continue throughout the year; i.e., June, September, and December. Baseline analysis was performed in 2016 and will be repeated every five years there-after.

a. Huntington Creek Drainage

(1) Deer Creek

(a) DCR01
(b) DCR04
(c) DCR06

(2) Rilda Canyon

(a) RCF1
(b) RCLF 1
(c) RCLF 2
(b) RCF3
(c) RCW4

Reclamation Monitoring - Surface Water Hydrology: Water samples will be collected and analyzed quarterly (one sample at low flow and high flow) during the first or second week of the quarter. Parameters analyzed are those listed in the DOGM Guidelines for Surface Water Quality (see Table 1-Surface Water Quality Parameter List). Sampling will be conducted on a quarterly basis until bond release. Baseline analysis will be performed on the 5th and 9th years following reclamation. In no case will baseline sampling time frame exceed 5 years converting from operational to reclamation monitoring.

a. Post Mine Closure Rilda Canyon Pipeline – terminus of pipeline DCDRCP: One water sample will be collected and analyzed per location monthly. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water Quality (see Table 2-Ground Water Quality Parameter List).
Baseline analysis was performed in 2016 and will be repeated every five years thereafter.

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Reclamation Monitoring - Groundwater Hydrology:

a. Post Reclamation Monitoring: PacifiCorp commits to conduct annual surveys to identify new discharge locations within and below sealed portals. If discharge occurs, one water sample will be collected and analyzed per location quarterly. Parameters analyzed are those listed in the DOGM Guidelines for Groundwater Water Quality (see Table 2-Ground Water Quality Parameter List). Baseline analysis will be performed on the 5th and 9th year.

3. UPDES Monitoring Sites

a. Deer Creek Mine

UPDES sites will be monitored as specified in the individual permits.

III. ANNUAL REPORTS

All hydrologic data collected regarding reclamation monitoring will be submitted to the Utah State Division of Oil, Gas and Mining on a quarterly basis.

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