



April 28, 2016

Sent via electronic mail

Mr. Bryce West
Peabody Energy-Big Sky Coal Company
Big Sky Coal Mine Area A
701 Market Street
St. Louis, MO 63101

Permit ID: C1983004CR
Revision Type: Bond Release
Permitting Action: Determination
Subject: Acceptability Determination for SL8, Final Bond Release

Dear Bryce:

The Department of Environmental Quality (DEQ) received Bond Release Application SL8 (SL8) on May 21, 2014. DEQ reviewed the application and inspected the application area with regard to Final bond release. SL8 is a request for full release of bond and liability on approximately 442 acres at the Big Sky Coal Mine Area A (Area A). Big Sky Coal Company (BSCC) notified individuals and agencies consistent with 82-4-232(6)(a), MCA, and a public notice of the application was published weekly in the Forsyth Independent Press, beginning October 29, 2015, and ending November 12, 2015. No objection, comment, or request for hearing or informal conference concerning the application was received.

Pre-1989 Bond Release Requirements

Bond release application SL8 consists of "Pre-1989" areas, or areas that were mined, used, disturbed, or redisturbed for coal mining after May 3, 1978, were permanently reclaimed before January 12, 1989, and have not been redisturbed since. Pre-1989 areas are subject to the bond release requirements in place from 1978 to 1989. The relevant statutes and rules for these areas are contained in Title 82, Chapter 4, Part 2, MCA, and ARM Title 26, Chapter 4, Subchapters 3 through 13 as they read on January 12, 1989. Pre-1989 areas are not subject to Phase IV bond release criteria adopted on January 13, 1989.

With the approval of previous bond release Applications 10, 60, and 80, DEQ concluded that the applicable ten-year responsibility period had been met and a permanent diverse cover was established within the application #SL8 area in accordance with the Phase III bond release requirements of 82-4-235(3), MCA and ARM 26.4.1116(5)(c).

Per 82-4-232(6)(b), MCA, and ARM 26.4.1114(1), DEQ must consider the following in its review of the Pre-1989 bond release application:

- whether the permittee has met the criteria for release of the bond;

April 28, 2016

Page 2 of 5

- the degree of difficulty in completing any remaining reclamation restoration or abatement work ; and
- whether pollution of surface and subsurface water is occurring, the probability of continuance or future occurrence of such pollution, and the estimated cost of abating such pollution.

Field Inspections

Pursuant to ARM 17.24.1113(1) and to confirm that the requirements for final bond release had been met, DEQ conducted inspections of the lands specified in SL8. On July 30, 2015, a vegetation-specific inspection was conducted by Michael Glenn (DEQ) to observe vegetation establishment during peak growth and inspect for signs of increased erosion. A formal inspection was conducted on October 22, 2015. Individuals participating in the inspection were Michael Glenn and Martin Van Oort (DEQ), Reg Hoff (BSCC), Frank Bartlett and Neal Ruebush (Office of Surface Mining Reclamation and Enforcement, OSMRE) and Doug McRae (landowner).

Results of the field inspections supported the conclusion of previous Phase III bond release application 80 that a diverse, effective, and permanent vegetative cover had been established within the bond release area. No signs of increased erosion were observed. Trash items (t-posts and long bolts) were observed remaining in reclamation; a maintenance item was created requiring their removal and the work was completed by the operator.

Hydrologic Demonstration Report

DEQ performed an in-office review of the BSCC "Hydrologic Demonstration Report, Area A Bond Release, Big Sky Mine" (Hydrologic Demonstration Report).

Surface water and groundwater monitoring programs at Area A have met permit obligations pursuant to ARM 17.24.314, ARM 17.24.645, and ARM 17.24.646. Monitoring results from Area A are the primary basis for assessment of mining impacts on water resources. Hydrologic monitoring was not required by statute prior to enactment of the Montana Strip and Underground Mining Reclamation Act (MSUMRA) in 1978, thus there is very limited baseline data for Area A. Although the majority of existing hydrologic information was collected after mining operations began, the data sets developed over the last 40 years of monitoring provide insight into baseline conditions based on observed water quality and quantity trends. Upgradient groundwater quality data from all monitored units are representative of baseline water quality, as areas up gradient of mining have not been impacted by mine activity.

Historic and current surface and groundwater uses in and adjacent to Area A include domestic, livestock, wildlife, commercial, and industrial. The anticipated postmine uses of water in the area are limited to livestock and wildlife.

A summary of the probable hydrologic consequences described in the Area A permit was presented in the Hydrologic Demonstration Report submitted with SL8. For each of the predicted impacts in the permit, the actual impacts have been as predicted or less than

predicted. Each prediction is restated below with DEQ conclusions for these predictions as they apply to the SL8 area following *in italics*.

1. The stratigraphic section from the base of the McKay coal will be displaced.
This impact occurred as predicted.
2. Declines in groundwater levels will occur in aquifers penetrated by mining.
This impact occurred as predicted.
3. Potential declines in groundwater levels might occur in aquifers underlying those mined.
There is no evidence this impact has occurred.
4. Postmine groundwater flow rates and patterns will be similar to premine conditions.
All evidence indicates that postmine groundwater flow rates and patterns are returning to a condition similar to premine.
5. Spoils will have greater vertical hydraulic conductivities and similar horizontal hydraulic conductivities compared to the geologic strata in place prior to mining and adjacent to mined areas.
This prediction has not been confirmed by aquifer testing, but monitoring data indicate it is likely reasonable.
6. Spoils groundwater quality will have different chemical characteristics (higher concentrations of total dissolved solids (TDS), calcium, magnesium, and sulfate compared to the undisturbed aquifers).
AND
7. The levels of TDS (indicator analyte) in spoils groundwater will increase compared to TDS levels in groundwater from undisturbed strata.
These impacts have occurred as predicted.
8. The chemical qualities of spoils groundwater discharges will be comparable to that of the spoils at the mine area.
Monitoring data indicate that discharges of spoil groundwater are limited and are diluted relative to water quality in the spoil itself.
9. The water supply from four springs and one well might be affected.
AND
10. The supply of water from springs and wells sourced by groundwater from disturbed strata may be impacted.
The water supply from one spring in the Application SL8 area has been eliminated, no other springs or wells have been impacted.
11. Springs and wells outside of the mine area that obtain water from aquifers within the disturbed strata may be impacted.

AND

12. Impacts to wells and springs will be limited to those located relatively close to mining.

No springs outside the mine area have been impacted.

13. The postmine surface runoff and channelized drainage hydraulic function will approximate premine conditions.

Monitoring data and postmine modeling indicate that this prediction has occurred as predicted.

The results of monitoring and runoff modeling conducted by BSCC indicate that there have been no adverse impacts to surface water quantity or quality as a result of SL8 mining. Monitoring of surface water quality indicates no changes from the pre-mine condition.

One spring, located within the SL8 mining area has been eliminated, and may or may not reestablish in the future. This impact was predicted in the original permit application. The beneficial use supported by this spring, livestock drinking water, has been replaced by other water sources in the area, thus this use has not been impacted. There is no evidence any other springs have been impacted by SL8 area mining.

Monitoring of groundwater levels in monitoring wells indicates that water level recovery in the mine spoil and adjacent coal and overburden is generally occurring as predicted. Water level recovery in the Rosebud coal and overburden north of the SL8 area is delayed by ongoing drawdown from active mining at the nearby Rosebud Mine. No water quantity impacts down gradient from the mine have been observed. No exceedances of numeric water quality standards attributable to SL8 mining have been observed. No beneficial uses of groundwater have been impacted by reduced water quantity.

As predicted in the permit, water quality in the mine spoil is generally higher in dissolved solids than pre-mining and upgradient concentrations in the coal and overburden. No changes in groundwater quality attributable to SL8 mining have been observed in groundwater in the alluvium, overburden, Rosebud coal, or McKay coal. One sub-McKay well has shown minor increases in TDS, which could be potentially attributed to SL8 area mining, but pre-law mining and natural water quality variations are also potential contributors to this change in water quality. No exceedances of numeric water quality standards attributable to SL8 mining have been observed. Groundwater in all geologic units in the Big Sky mine area remains equally suitable for its listed beneficial uses as it was in the pre-mine condition.

The conclusion of the analysis is that Big Sky Mine has met the predictions established in their permit regarding impacts to the hydrologic balance. No material damage to the hydrologic balance is identified from SL8 mining and no future material damage is expected.

April 28, 2016

Page 5 of 5

Based upon the field inspections and the review of the application, DEQ has determined that, subject to final OSMRE concurrence, the permittee has fulfilled the requirements for bond release pursuant to ARM 17.24.1116 and 82-4-235(3)(a), MCA on approximately 442 acres, as depicted in the May 21, 2014, application.

Monetary release of \$229,788 in bond is being sought at this time. A total bond of \$1,788,530.72 remains in place for SMP C1983004CR. ARM 17.24.1116(5) requires that bond held may not be less than that necessary for DEQ to ensure completion of all reclamation and liability requirements. Release of the requested portion of the total liability under this application is consistent with that requirement.

Please feel free to contact Melissa Sjolund at 406-444-2885 with questions regarding this letter.

Sincerely,



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Coal and Opencut Mining Bureau
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C: Jeff Fleischman, OSMRE
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FC: 620.411 (SL8)

Gilbert, Sharona

From: Gonitzke, Whitney
Sent: Thursday, April 28, 2016 4:06 PM
To: bwest@peabodyenergy.com
Cc: jfleischman@osmre.gov; lmittchell2@osmre.gov; fbartlett@osmre.gov;
jruebush@osmre.gov; jcochran4@peabodyenergy.com; erhoff@rangeweb.net;
jstark@catenaconsulting.com; DEQCoal; Sjolund, Melissa
Subject: SL8 Acceptability Correspondence
Attachments: SL8_AcceptabilityDetermination.pdf

Please see the attached electronic communication.
Have a good afternoon.

Whitney Gonitzke
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1371 Rimtop Drive
Billings, MT 59105
P: 406-247-4430

