

Reclamation Division  
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Memorandum

TO: Commissioners Christmann, Haugen-Hoffart, and Fedorchak  
FROM: Jonathan Emmer, Monty Johnson, and Guy Welch  
DATE: December 6, 2023  
SUBJECT: Bond Release No. 6 to Surface Coal Mining Permit NAFK-8705 held by the Falkirk Mining Company, Case No. RC-23-152

**Summary**

On March 31, 2023, the Falkirk Mining Company filed Final Bond Release No. 6 to Surface Coal Mining Permit NAFK-8705 requesting release of all reclamation liabilities on 642.2 acres in Section 36, T146N, R83W, McLean County at the Falkirk Mine. These lands are subject to current reclamation laws and rules and Falkirk has demonstrated that the reclaimed lands have met all applicable final bond release performance standards. The Reclamation Division recommends approval of this bond release application based on the findings discussed below.

**Discussion**

The bond release application contains 642.2 acres in Section 36, T146N, R83W that is owned by the North Dakota Department of Trusts Lands (NDDTL). Section 36 consists of 580.5 acres of reclaimed native grassland, 2.4 acres of reclaimed wetland, 10.8 acres of reclaimed county road and section line trails, and 48.5 acres that were not affected by mining activities.

Mining related disturbance was initiated in 1982. Coal was removed from 1984 through 1989. Haul roads, three sediment ponds, a pit water pond, and two soil stockpiles remained in place on this property many years after coal removal to support mining activities that were occurring elsewhere. A primary haul road crossed Section 36 from the northwest corner to the southeast corner. This haul road remained in place to access an ash landfill located northwest of Section 36 until 2012. While the haul road was being used, the adjacent reclaimed lands were managed with prescribed grazing beginning in 1997. Portions of this tract were seeded in 1990 through 1993, 2004, 2006 through 2008, and 2012. The reclaimed grassland was respread with 10 to 18 inches of topsoil. Most of the tract received 13 inches of topsoil which might be advantageous for the invasion of non-native cool season grasses. The gently sloping (<6 percent) post-mining topography most closely resembles a loamy ecological site.

This bond release application is comprised of three subtracts as shown below. Subtract 6A consists of 591.1 acres. There have been no previous stages of bond release on subtract 6A. Subtract 6B consists of 2.6 acres, and third and fourth stage bond release is being requested for this tract. Subtract 6C, 48.5 acres, was not affected by mining activities. All four stages of bond release are being requested on 591.1 acres and third and fourth stage bond release is being requested on 2.6 acres. The bond release stages are as follows: the first stage is backfilling and grading, the second stage is soil resspreading, the third stage is successful vegetation establishment, and the fourth stage is a demonstration of revegetation success.

Falkirk has demonstrated that the revegetation performance standards have been achieved as discussed below and described in the bond release application. Vegetation establishment has been successful and actual topsoil and subsoil resspread depths have been verified by Reclamation Division staff. The



**Native Grassland**

Mining companies must demonstrate that reclaimed native grassland yields are as good as or better than pre-mine native grassland yields during any two years after year six of the ten-year revegetation responsibility period. The productivity standard is calculated using the Natural Resources Conservation Service (NRCS) ecological site yields of the pre-mine native grassland and these values are climatically adjusted annually using native grassland reference areas. The native grassland ground cover standard is developed using reference areas and a value that the USDA Agriculture Research Service determined to be sufficient to control erosion. The native grassland species diversity and seasonality standards require that at least five native grass species be present on the reclaimed tract using ground cover or production data. The relative composition of all warm-season grasses must be at least 15%. Four native grass species must each contribute at least 3% relative live basal cover or at least 5% by weight during the years sampling data were used for final bond release purposes. Of these four species, at least two must be warm-season species and at least one must be a cool-season grass. For each sampling year that is used to prove reclamation success, the permittee must show that a fifth native grass species is present, and a species list must show that at least three native forb species are present.

The reclaimed grassland was seeded with six species of native grass: western wheatgrass, green needlegrass, blue grama, sideoats grama, switchgrass, and little bluestem. Vegetation sampling data from 2021 and 2022 were used to demonstrate revegetation success as summarized in the tables below. The productivity and cover standards were developed using the pre-mine soil mapping units and corresponding native grassland ecological sites that existed on the tract prior to mining.

**Production**

**Section 36**

<b>Year</b>	<b>Reclaimed Yield (lbs/acre)</b>	<b>Yield Standard (lbs/acre)</b>	<b>Achieved</b>
2021	1,119	1,050	Yes
2022	3,198	2,309	Yes

**Ground Cover**

**Section 36**

<b>Year</b>	<b>Reclaimed Cover</b>	<b>Cover Standard</b>	<b>Achieved</b>
2021	99.1%	90.7%	Yes
2022	99.0%	90.5%	Yes

**Diversity and Seasonality Standards**

Five native grass species must be present and four must each contribute at least 3% of the relative live basal cover or at least 5% of the relative composition by weight (production). Of these four species, at least two must be warm-season species and at least one must be a cool-season species. Cover or production data must show the relative composition of all warm-season species to be at least 15%. The sampling data or a species list must show at least three native forbs are present.

**Section 36**

<b>Seasonality</b>	<b>Standard</b>	<b>2021</b>	<b>2022</b>	<b>Achieved</b>
% Warm Season Composition	15	16.0	18.5	Yes
No. Cool Season Species >3%	1	2	2	Yes
No. Warm Season Species >3%	2	3	3	Yes

<b>Diversity</b>	<b>Standard</b>	<b>2021</b>	<b>2022</b>	<b>Achieved</b>
Total Number Species Present	5	5	5	Yes
No. Species >3% Composition	4	4	4	Yes
At least 3 native forbs	3	Yes	Yes	Yes

A comprehensive species list in the bond release application shows that at least three native forbs are growing in the reclaimed native grassland.

The permanence standard is achieved by the established vegetation's continued persistence in the reclaimed area. This reclaimed native grassland is fenced, and livestock water support facilities have been installed to support the intended post-mine land use. These reclaimed lands were initially hayed and then managed with prescribed grazing beginning in 1997. The livestock watering facilities include a replacement well and a pipeline water delivery system that provides water to four tire stock tanks located near the center of the section. The tract is fenced by quarter sections and each quarter section is fenced diagonally to create a total of eight grazing cells.

**Wetland**

Reclaimed wetland R-36-01 was designed to be a seasonal wetland 2.4 acres in size which was the wetland acreage in Section 36 prior to mining. The entire contributing watershed has been reclaimed for agricultural purposes. Wetland performance standards require that the wetland basin exhibit the capacity to hold water. This is demonstrated by the establishment of hydric vegetation in the wetland basin. Reclaimed wetlands should develop vegetation zonation characteristic in their intended wetland class. Reclaimed wetland R-36-01 is a seasonal wetland, meaning it was designed to hold water seasonally and may become dry during the summer months. Ground cover of the lands surrounding the wetland must be vegetated adequately to control erosion to avoid sediment from flowing into the wetland basin.

The bond release application includes wetland vegetation and water quality sampling data that demonstrates reclaimed wetland R-36-01 has developed into a fresh water seasonal wetland. This wetland has low prairie, wet meadow, and shallow marsh zones. The shallow marsh zone supports species such as common cattail, water plantain, and curley dock. The wet meadow zone is dominated with reed canarygrass and the low prairie zone is supporting quackgrass, Kentucky bluegrass, and other species. This wetland has been managed with the adjacent native grassland and cattle utilize the wetland vegetation. This wetland was holding a minimal amount of water when inspected in August of 2023.

**County Road No. 16 and Section Line Trails**

A portion of County Road No. 16 was affected by mining activities and it has been restored to its original location on the section line between Section 36, T146N, R83W and Section 1, T145N, R83W. The McLean County Superintendent of Highways, James Grey, has provided a letter indicating the County's satisfaction regarding the reclaimed portion of this road. Reclaimed section line trails provide access along the north and west sides of Section 36. A drainageway on the east side of Section 36 may periodically hinder vehicular travel along the section line on the east side of Section 36. The section line trails, and the road ditches associated with County Road No. 16 are well established with vegetation,

principally smooth brome grass, that provides excellent protection from erosion. There are no revegetation performance standards for reclaimed roads, but non-surfaced areas should be vegetated adequately to control erosion.

### **Developed Water Resources**

A replacement water well for livestock production was drilled and developed on the bond release tract. This well is screened in the Hensler Sand aquifer. The livestock production well was drilled inside of the bond release tract in the NW<sup>1</sup>/<sub>4</sub> of the SW<sup>1</sup>/<sub>4</sub> of Section 36. An overhead powerline along the west side of the SW<sup>1</sup>/<sub>4</sub> provided electricity for the well. An underground pipeline water delivery system transports water to the stock tanks located near the center of Section 36.

### **Hydrologic Assessment and Wildlife**

Falkirk has completed surface and groundwater post-mine hydrologic assessments for the bond release and adjacent area. The reports show that there was no material damage to the hydrologic balance outside of the permit area and no significant negative impacts were observed to the surface and groundwater resources within the bond release tract. The bond release application contains a wildlife summary report that concludes that the pre-mining grassland and wetland habitats have been restored. The biennial wildlife report includes the results of annual sharp-tailed grouse leks and grassland breeding bird surveys and general observations of large and small mammals, predators, raptors, and northern harrier.

### **General Information**

The formal bond release inspection was conducted on August 22, 2023. Participants of the bond release inspection included Reclamation Division staff, Falkirk Mining Company staff, four ND Department of Trust Lands staff, PSC Commissioner Randy Christmann, Jerry Reinisch of the U.S. Fish & Wildlife Service, and John Schumacher of the ND Game and Fish Department. The McLean County Commissioners, the Office of Surface Mining (OSM) Casper Field Office, ND Department of Environmental Quality, NRCS State Biologist and NRCS Turtle Lake District Conservationist were invited but declined the offer to participate in this inspection. OSM and state agencies were provided a copy of this bond release application.

The Reclamation Division has verified that the reclaimed native grassland has been established with a diverse mix of grass species. The seeded native species are present but have been largely displaced by non-native invasive cool season grasses, namely smooth brome grass, Kentucky bluegrass, and crested wheatgrass. Smooth brome grass, Kentucky bluegrass, crested wheatgrass, and alfalfa appear to be the dominant species established and intermediate wheatgrass is prevalent in some of the later plantings. The undisturbed native grassland on this tract, which is primarily in the southeast corner, is also dominated by smooth brome grass and Kentucky bluegrass. The established vegetation has yielded exceptionally well this year and is providing excellent ground cover and protection from erosion. Cattle rotationally grazed this tract in 2023 and utilization levels were generally light when inspected on August 22, 2023. Utilization was heavier near the water tanks where cattle concentrate.

The reclaimed seasonal wetland was holding a small amount of water in the deepest portion of the pool area when inspected in August of 2023. This wetland is managed with the adjacent grassland, and cattle have moderately utilized the wetland vegetation. Reed canary grass, a wet meadow zone species, is the dominant species established in this wetland. The wet meadow zone comprises a large portion of this wetland. The wet meadow zone transitions into a shallow marsh zone where water plantain, smart weed, spikerush, river bulrush, and common cattail were observed. The low prairie zone was supporting smooth brome grass, Kentucky bluegrass, and other species.

County road No. 16, a gravel road, passes along the south side of the bond release tract and the ditches are established with a dense stand of vegetation, primarily smooth brome grass. The section line trails on the west and north sides of the section were driven and are suitable for vehicular travel. These corridors also supported a dense stand of herbaceous vegetation, primarily smooth brome grass, intermediate wheatgrass, and big bluestem. A drainageway, where water may periodically pond, may hinder vehicular travel along the east section line.

The Reclamation Division verified actual soil respread thicknesses with a truck-mounted soil probe in October of 2000 and September of 2023. The topsoil and subsoil respread thicknesses in all locations appeared adequate.

Notice of the bond release application was published in the official county newspaper, the McLean County Independent, and the Bismarck Tribune weekly from July 20, 2023 through August 10, 2023. No objections to this bond release application were received.

Falkirk is not requesting any reduction in the bond amount since this area is currently covered by a worst-case reclamation condition that exists at the Falkirk Mine. This area is part of a consolidated bond area that includes Permits NAFK-8705, NAFK-8405, and NAFK-9503 at the Falkirk Mine. If Bond Release No. 6 to Permit NAFK-8705 is approved, the Falkirk Mining Company will be released from all reclamation liabilities on 642.2 acres. If Bond Release No. 6 is approved on December 13<sup>th</sup>, the bond release will become effective January 15, 2024, unless a formal hearing is requested.