

**PUBLIC SERVICE COMMISSION
Reclamation Division**

Memorandum

TO: Commissioners Kalk, Cramer and Fetch
Darrell Nitschke and Illona Jeffcoat-Sacco
FROM: *JL* *DKM* *GW*
Jim Deutsch, Dean Moos and Guy Welch
DATE: July 5, 2012
SUBJECT: Bond Release No. 3 to Surface Coal Mining Permit NAFK-8705 held by The
Falkirk Mining Company, Case No. RC-11-668

Summary

On October 26, 2011, The Falkirk Mining Company filed the application for Bond Release No. 3 to Surface Coal Mining Permit NAFK-8705 requesting release of all reclamation liabilities on 217.5 acres of land at the Falkirk Mine. The proposed bond release tract contains 195.6 acres of reclaimed cropland, 8.9 acres of reclaimed wetlands (fish and wildlife habitat), 10.4 acres reclaimed public roads, and 2.6 acres of undisturbed land. This land is subject to the current reclamation law and rules and Falkirk has demonstrated all applicable final bond release standards have been met. The Reclamation Division recommends approval of this bond release application based on the findings discussed below.

Discussion

Bond Release Application No. 3 to NAFK-8705 pertains to lands located in the W½ of Section 20, T146N, R82W, McLean County. This tract was originally permitted in 1981 under Permit NAFK-8005 but was later re-permitted and consolidated into Permit NAFK-8705. Laurance and Nancy Heger, Underwood, ND, own this property and their son, Steve, farms this land. Coal was removed from this land in the mid to late 1980's and final grading was completed in 1997. Soil was respread at depths ranging from 10 to 18 inches of topsoil and 13 to 24 inches of subsoil from 1986 through 1998. The reclaimed cropland was planted to a pre-cropland seed mixture of alfalfa and perennial grasses and managed as hayland until 1998 when portions were tilled and strip cropped. The remaining strips were broken in 2004 and, except for buffer zones around reclaimed wetlands, the areas have been managed as cropland since that time.

Falkirk has demonstrated that the revegetation performance standards have been achieved for the reclaimed cropland and wetlands as discussed below and described in the bond release application. There have been no previous bond releases on this property. Therefore, all four phases of bond release (first - backfilling and grading; second - soil respreading; third - vegetation establishment; and fourth - restoration of the premine productivity and/or other success standards) are being requested for this tract. The revegetation success standards require mine operators to demonstrate reclaimed cropland yields are equal to or greater than the

approved standard with ninety percent statistical confidence for any two years after year six of the revegetation responsibility period. The revegetation responsibility period begins when the last area was seeded and continues for at least ten years after that. Since the last portion of this tract was seeded in 1998, yield data from any two years after 2003 can be used to demonstrate revegetation success. The bond release tract consists of 2 subtracts, Subtracts 3A and 3B. A map of the bond release area is shown below, Figure 1.

Figure 1: Final Bond Release No. 3 to Permit NAFK-8705



Reclaimed Cropland

All of the cropland in Subtract 3A is being managed as cropland with annually seeded crops. The reclaimed cropland in Subtract 3B is being managed as hayland because the two reclaimed wetlands in subtract 3B make for an irregular shaped field that is quite small if a vegetative buffer zone is retained around the wetlands. Therefore, Falkirk and Mr. Heger managed Subtract 3B as hayland during the responsibility period. The cropland productivity standard is based on the productivity potential of the pre-mine soils that were present in Section 20. The unadjusted yield standard for the reclaimed cropland in Section 20 is 34 bushels of wheat per acre. This unadjusted standard was climatically adjusted through the use of annual county yield data published by the National Agricultural Statistics Service in conjunction with an average county yield calculated using data from the McLean County Soil Survey published by the Natural Resource Conservation Service. Falkirk included data in the bond release application demonstrating that the actual yields exceeded the climatically adjusted standard for two years beginning no sooner than year six of the responsibility period. The adjusted yield standards and actual yield values for 2005 and 2006 are shown in the table below.

Sample Year	Crop	Adjusted Yield Standard	Reclaimed Yield
2005	Spring Wheat	39.8 bu/acre	57.0 bu/acre
2006	Spring Wheat	28.2 bu/acre	39.8 bu/acre

Subtract 3B consists largely of reclamation that is older than that represented by Subtract 3A. Therefore, yield data from an adjacent area outside of this bond release application, Tract 4, was included as supplemental information to demonstrate that the 1986 and 1987 reclaimed areas are yielding acceptably well. The same unadjusted yield standard applies to Tract 4 and it is owned and managed by the same individuals as Subtracts 3A and 3B.

Sample Year	Crop	Adjusted Yield Standard	Reclaimed Yield
2006	Spring Wheat	28.2 bu/acre	40.0 bu/acre
2010	Spring Wheat	46.6 bu/acre	53.0 bu/acre

Reclamation success was demonstrated using whole field harvest techniques. Falkirk included Mr. Heger's GPS combine yield monitor data showing how various portions of the reclaimed land yielded. The bond release application includes a letter from the landowners indicating they agree to the bond release of Subtract 3B as a hayland tract even though it has postmine land use of cropland. The Reclamation Division requires such concurrence of the landowner since there may be additional cost (e.g., costs of breaking/plowing the hayland, picking rocks, etc.) involved with converting this hayland area to cropland. Otherwise, the mining company is responsible for ensuring that the cropland is in a condition suitable for growing annual crops at the time of final bond release. Ground cover on the reclaimed cropland and hayland was deemed adequate to control erosion and the area is not contributing suspended solids to stream flow.

Reclaimed Wetlands

Three seasonal wetlands comprising approximately 3.7, 2.1 and 3.1 acres were reclaimed within the cropland included in this bond release application. One of these wetlands was reclaimed in Subtract 3A and two were reclaimed in Subtract 3B as shown in Figure 1. These wetlands are considered fish and wildlife habitat and replace wetland acreage that existed on the area prior to mining.

Wetland soil was salvaged and replaced in the reclaimed wetland basins in an attempt to preserve the native seed bank contained in the salvaged soil. Approximately 18 inches of wetland soil was respread in the basins of reclaimed wetlands R-W20-01 and R-20-02 while about 11 inches was respread in basin of wetland R-W20-03.

Water quality analysis shows that the reclaimed wetlands are functioning as fresh water wetlands according to the prairie pothole wetland classification system developed by Stewart and Kantrud. The revegetation success standards for reclaimed wetlands are somewhat subjective in that there are no specific quantitative values, such as number of species or percent relative species composition. Performance standards require that the reclaimed wetlands exhibit vegetation zones dominated by native, perennial, emergent and submergent hydrophytes appropriate for the abiotic characteristics of the intended wetland class. Species diversity, seasonality and regenerative capacity must be similar to that listed by Stewart and Kantrud. Ground cover on the land surrounding the wetland must be adequate to control erosion to avoid sedimentation into the reclaimed basin. Reclaimed wetlands must exhibit the degree of permanence for the class for which it was designed. All or nearly all the contributing watershed must have received final grade approval and be reclaimed. No additional water can be added to the basin during the last five years of the responsibility period.

The watersheds for the three reclaimed wetlands have been reclaimed and ground cover of the annually seeded cropland and cropland that is being managed as hayland is adequate to control erosion to prevent sedimentation. Prior to construction, the Reclamation Division reviewed and approved the designs for the wetland basins which are based on the expected annual runoff yields of the watersheds. No additional water has been pumped into the reclaimed wetlands during the last five years of the responsibility period.

Wetland vegetation information has been included in the bond release application showing that the reclaimed wetlands are functioning as seasonal prairie pothole wetlands. The reclaimed wetlands are slightly different from each other because of differences in their design depths and ability to hold water. The wetlands have low-prairie, wet-meadow and shallow marsh zones. Falkirk has included aerial photographs, line drawings showing vegetation zones of the wetlands and a species list documenting the relative abundance of species present in each vegetation zone for each of the wetlands annually during the years 2007 through 2009.

Wildlife and Hydrologic Assessment

Wildlife use of the reclaimed cropland and wetlands is discussed in the bond release application and is included in Falkirk's biennial wildlife report. The postmine land uses of cropland and wetlands with grass buffer zones provide quality habitat value for many species of wildlife. The wetlands support many species of waterfowl and grass buffer zones provide cover for brood production.

Falkirk completed a surface and ground water postmine hydrologic assessment for this bond release area. No pre-mine water supplies were affected by mining related activities and the Reclamation Division concludes that there was no material damage to the hydrologic balance due to the mining and reclamation activities on this tract. Existing ground water monitoring wells will be retained on this tract for continued observations as part of the mine-wide ground water monitoring plan.

General Information

The formal final bond release inspection was conducted November 29, 2011. The surface owners and their son who farm the land, the McLean County Commissioners, and several state and federal agency representatives were invited to participate in the final bond release inspection. The surface owner's son, Steve Heger, participated in the inspection and he did not express any concerns regarding this reclaimed land and indicated that he is satisfied with this tract of land. McLean County Commissioners Ronald Krebsbach and Julie Schenfisch also participated in the bond release inspection and they also did not express any concerns with the reclaimed land or the rebuilt county and township roads. Since this bond release tract includes some federal coal that was mined, OSM concurrence of the bond release is also required. John Seiving of the OSM Casper Field Office inspected the bond release tract on May 17, 2012 and did not have any concerns. We received OSM concurrence of the bond release on June 18, 2012.

The public notice for this bond release application was published in the official county newspaper, the Washburn Leader, as well as the Bismarck Tribune, Underwood News and McLean County Independent once a week for four consecutive weeks from December 1st through December 22nd, 2011. The Dakota Resource Council (DRC) sent a letter to the Reclamation Division on January 23rd commenting on this bond release application contending that for all practical purposes the PSC had already administratively released Falkirk from all bond obligations by allowing them to calculate the bond based on worst-case reclamation cost estimates. They also questioned how the PSC safeguarded the rights of interested parties to request a hearing or informal conference given, as they alleged, we already administratively released Falkirk from their reclamation responsibilities. A letter was sent to the DRC responding to these concerns and noting that interested parties could request an informal conference or formal hearing on the bond release application. The DRC did not request an informal conference or formal hearing on this application. No other objections or other comments were received for this bond release application.

No issues were identified during the final bond release inspection that required follow-up or that would prevent final bond release approval. A few very small low areas were noted where water might periodically pond but Mr. Heger did not believe that these features were significant enough to require repair. Ground water monitoring wells were noted in and around reclaimed wetland R-W20-01 during the inspection and the bond release application was updated to clarify their presence and continued use. No concerns were raised about the reclaimed public roads.

The disturbed areas were probed to verify topsoil and subsoil respread thicknesses by Dean Moos in August 2000. The actual topsoil and subsoil respread thicknesses verified by the soil probing were similar to the approved respread thicknesses and any variations were within acceptable limits.

Falkirk is not requesting any reduction in the bond amount since this area is currently covered by a worst-case reclamation condition that still exists at the Falkirk Mine. This area is part of a consolidated bond area that includes Permit NAFK-8705 and others at the Falkirk Mine. If Bond Release No. 3 to Permit NAFK-8705 is approved, Falkirk will be released from all reclamation liabilities on the 217.5 acres of land. The bond release will become effective August 13, 2012, unless a formal hearing is requested.

Attached are a motion and award form for consideration at the July 11, 2012 Commission meeting.