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PUBLIC SERVICE COMMISSION



FALKIRK MINE

March 26, 2008

FROM DIRECTOR - RECLAMATION DIV.

Date: _____

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Mr. James R. Deutsch
Reclamation Director
ND State Public Service Commission
600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505

RE: Technical Review Responses (3) to Bond Release 2-2006 for Permit NAFK-8705

Dear Mr. Deutsch:

Falkirk submits the following responses to the review items of the application for Bond Release Application No. 2 for Permit NAFK-8705 noted in your November 7, 2007 letter.

Attachment ii – General Information

- 1. The second paragraph on page 6 of Attachment ii indicates that Subtracts 2A-1 and 2A-2 comprise 160 acres that is owned by the USFWS. However, the Metes and Bounds Map, Attachment II, and the Aerial Photo Base Map indicate that Subtracts 2A-1 and 2A-2 comprise 166.41 acres. Please make the necessary corrections. (GAW)*

Please see updated page 6.

- 2. The second paragraph under general information states that Subtract 2B is owned by The Falkirk Mining Company and is part of a buffer for the existing ash pit located to the west along the Section 31/32 line. The existing ash pit and Section 31/32 line is located to the east of this subtract. Please revise. (BEB)*

Please see updated page 6.

- 3. The fourth paragraph on page 7 of Attachment ii states that Falkirk has included as part of the release application a metes and bounds description...and farmstead design plan map. The farmstead design plan map wording appears to have been included in error, perhaps from Bond Release No. 1 to Permit NAFK-8705. Please review and edit accordingly. (GAW)*

Please see updated page 7.

4. ***Please add a discussion in the narrative about the presence of surface settling features on the fish and wildlife habitat grassland and that water temporarily ponds in features as can be seen on the aerial photography included in Attachment IX. Please characterize (number of features, size, total acreage involved) the settling features and discuss if they are detrimental to the approved post-mine land use and how they may impact the hydrology of the created wetlands. NDCC 38-14.1-24 (3) and NDAC 69-05.2-12-12 (11). (GAW/JRD)***

Please see updated page 7.

5. ***The McLean County Superintendent of Highways letter in Attachment ii is for reclaimed county roads that are in T145N rather than T146N. Please include correspondence from the McLean County Superintendent of Highways showing that the County is satisfied with the reclaimed county roads included in this bond release application. (GAW)***

Please see updated page 8.

6. ***During the bond release inspection, the culvert under the reclaimed county road located along the south edge of the bond release tract appeared to be at an elevation higher than the adjacent reclaimed land to the north, particularly the ditch bottom. Please include documentation clarifying that the culvert is functioning as intended to allow runoff to drain from the bond release tract to the grassed waterway located south of the reclaimed road. (GAW/BEB)***

Please see letter from the McLean County Superintendent of Highways on page 8 stating their approval that the roads have been built to county standards.

7. ***In Attachment ii or VIII, please state and provide documentation showing that the USFWS has agreed to allowing their property (Tracts 2A-1 and 2A-2) to be sampled with Falkirk owned property (Tract 2B) for the purposes of demonstrating final bond release revegetation success. (GAW)***

Please see letter added on page 55.

Attachment VII – Reclamation History

8. ***The 50-acre Subtract 2A-2 still shows that Falkirk is requesting all 4 bond release stages even though the table states that the area has received 2nd stage release. Please make the necessary corrections. (SAS)***

Please see updated page 47.

9. *Statements in the liability period paragraph and below the native dense nesting cover seed mixture on page 48 of Attachment VII indicates that the introduced dense nesting cover seed mixture was “eradicated” on Subtract 2A-2 prior to reseeding in 1995. However, if seeded introduced species are still present and if any of these species are being used to demonstrate revegetation success, then the term “eradicated” should not be used. It is unlikely that one herbicide application and two disking operations would “eradicate” the perennial introduced species that were seeded and established. (GAW)*

Please see updated page 48.

10. *Canada thistle was abundant in much of the area of reclaimed Wetland R-W31-04 during the bond release inspection on September 5, 2007. Please discuss control measures taken in the fall of 2007 to control this state listed noxious weed. (GAW)*

Canada thistle, a common species found during the drawdown phase of wetlands, was present during the inspection. It was requested that Falkirk spray the area. The area was not sprayed earlier in the year due to the fact that it would have a negative impact on the surrounding wetland vegetation species, and the thistle would not be present when water levels returned to normal. However, Falkirk had a contractor spray the Canada thistle around reclaimed Wetland R-31-04 with Milestone herbicide on September 25, 2007. The majority of the wetland vegetation was dormant. Therefore, any damage to the wetland species would be minimal. Falkirk has observed great success with fall applications to control Canada thistle. The herbicide effectively controls Canada thistle and there are no grazing restrictions for any type of livestock or wildlife. The herbicide has a very low toxicity to birds, fish, mammals and aquatic invertebrates.

Attachment VIII – F & W Grasslands Data

11. *In Table 5, page 55 of Attachment VIII, please correctly line up the year column with the species relative cover percentage values. (SAS)*

The case for including Kentucky bluegrass has been removed. Therefore, so has the referenced table.

12. *We understand that Falkirk has yield data from the fish and wildlife habitat grassland that shows that the seeded species comprise at least 60% of the total composition during the last few years of the responsibility period. Please include that data in the application since the diversity and seasonality standard has not been achieved using*

cover data. The language, tables and graphs making the case that Kentucky bluegrass should be counted towards meeting the diversity and seasonality standard should then be removed from the bond release application if they are no longer needed. (GAW)

Please see updated narrative, grassland yield data tables, and seeded species graph.

- 13. Please include the ground cover sampling data from the overflow native grassland reference area site since information from the site is being included in Table 4, page 54 of Attachment VIII, to make the case that Kentucky bluegrass should be counted towards meeting the composition standard. (See above item as this may not be necessary). (GAW)**

The case for including Kentucky bluegrass has been removed.

- 14. The wording “Relative Composition Based on Cover” is written on the left side of the chart on page 59 which shows the Reclaimed Cover compared to the Standard. The chart actually shows the total cover (live plus litter) of the reclaimed land, not relative values. Please review and correct. (GAW)**

Please see updated chart on page 59.

Attachment IX – F & W Wetlands Data

- 15. In Attachment IX, F & W Wetlands Data, please indicate if all or nearly all of the contributing watersheds of both reclaimed wetlands have received final grade approval. If portions of the watersheds have not received final grade approval, include a map showing the areas that have and have not received grade approved. (GAW)**

Please see updated Attachments IX and XIa. Updated Attachment XIa shows the area in yellow hatch that hasn't received final grade approval.

Attachment XI – Hydrologic Assessment

- 16. The first paragraph of the Ground Water Hydrologic Assessment indicates that the report was completed to support final bond release by addressing NDAC 69-05.2-16-01(1)(a) and (b). Please note that post-mining hydrologic assessment is needed to demonstrate that several hydrologic protection performance standards have been met including: NDCC 38-14.1-24(8), NDAC 69-05.2-14, NDAC 69-05.2-16-16, NDAC**

69-05.2-01-02(90), NDAC 69-05.2-16-17, NDAC 69-05.2-09-16, NDAC 69-05.2-16-13 and NDAC 69-05.2-16-15. As these items are addressed in the application, the proper rules citation will be appreciated. (BEB)

Please see addition to page 168.

- 17. The monitor well numbers are not legible on the following maps/locations because the well location is super-imposed on the well number or two well numbers are super-imposed on each other: the W½ of Section 30 and the E½ of Section 25 on Map 1, and within the W½ of Section 6 on Map 2. Please make these well numbers and locations clearly legible on the appropriate maps. (BEB)***

Please see updated Maps 1 and 2.

- 18. The first paragraph under Ground Water Monitoring on page 169 describes that ground water monitoring has been conducted in the Underwood Coal Field for the last 17 years (1989-2006), which contradicts with previous narrative indicating that ground water quality and quantity has been monitored in the Underwood Coal Field since 1976. Please revise or explain. (BEB)***

Please see updated paragraph on page 170.

- 19. In the discussion of Table 1 under the Summary of Results - Underwood Coal Field, please combine the third and fourth sentences of the second paragraph, or rephrase the third sentence, to indicate that the water level readings impacted by mining have been statistically summarized rather than saying they were deleted as currently written. (BEB)***

Please see updated summary.

- 20. Several areas of analyses provided within the bond release application discuss vertical recharge to the base of spoils, most of which is attributed to wetland establishment. Please discuss whether or not adjacent monitor well data provides an indication of ground water discharge by lateral migration to Coal Lake Coulee and/or the Weller Slough/Samuels Slough complex. (BEB)***

Please see additions to ground water flow subsections under the General Hydrogeology and Ground Water Quality and Quantity Specific to Bond Release Area sections.

- 21. Falkirk indicates that head values within the base of spoils are expected to rise to a position between the pre-mining potentiometric surface of the Hagel A Bed and the***

Coleharbor Sands. Please indicate if there is an expected interface zone or elevation at which level a lateral discharge component will contribute to ground water movement through and discharge from the reclaimed hydrologic system. (BEB)

Please see additions to ground water flow subsections under the General Hydrogeology and Ground Water Quality and Quantity Specific to Bond Release Area sections.

- 22. As the submitted data substantiates, please provide a definitive statement in the bond release submittal that there has been no material damage, meaning any permanent and unmitigated degradation of the hydrologic environment outside the bond release area as required in NDAC 69-05.2-16-01(1)(a). (BEB)***

Please see added paragraph on page 179.

- 23. We understand that ownership of production Well 122-1, which is screened in the Hensler Sand at a depth of 300 to 320 feet, will be transferred from Falkirk Mine to the USFWS subsequent to final bond release. To properly document the proposed transaction, please provide a joint written request for the transfer in conformance with NDAC 69-05.2-16-16. Also, please indicate if this well was drilled prior to 1997 and provide a short explanation of the sudden 40-foot drop in water level elevation during the 6-month span between November, 1997 and May, 1998. (BEB)***

Please see pages 176 and 180.

- 24. Please indicate why the post-mining base of spoils reclamation Well RP-19, which was located adjacent to and directly southeast of the bond release tract, was removed from service. This monitor well was apparently installed in September, 1986 and removed one year later in September, 1987 with only three rounds (quarters) of water quality sampling completed prior to removal. (BEB)***

Please see update page 177.

- 25. Please provide a water quality assessment of reclamation Well RP-20C which is situated in the same nest of wells as RP-20A and RP-20B and are located directly south of, and adjacent to, the bond release tract. Reclamation Well RP-20B (base of spoils) is highlighted in the bond release application as demonstrating only a slight upward shift in TDS compared to pre-mine Well 203-2 (the last measurement for RP-20B was 1279 mg/l, and 630 mg/l for Well 203-2). We concur that this increase falls within the expected and acceptable range, but a two-fold increase in TDS should not be referred to as a "slight" upward shift. In addition, the last water quality analysis for RP-20C, which is also screened in the base of spoils, has a TDS measurement of***

4867 mg/l, which represents an increase of almost eight-fold. Please address this increase and include the data in the application and assessment. (BEB)

Please see additions to paragraphs five and six under Monitoring Wells Adjacent to Bond Release Area subsection on page 177.

- 26. Monitor Well RP-20A, which is screened in the Sheet Sand below the Hagel B, is highlighted in the bond release application to compare the pre-mine water quality to a post-mining reclamation monitor well located adjacent to the bond release tract. It should be noted in the narrative that an annual water quality sample for this well has not been obtained since 2001 because of an obstruction in the well, although water level measurements have been successfully obtained. A comparison of the last pre-mining water level and the most recent post-mining water level indicates an increase in water elevation of 18 feet, which demonstrates that water availability in the Sheet Sand has not been compromised by mining operations and reclamation. Also, please indicate if there are any other reclamation wells located hydrologically down-gradient (south or southwest) of RP-2A in which water quality comparative analysis (pre-mine versus post-mine) of the Sheet Sand aquifer can be made and included in the bond release application. (BEB)***

Please see addition to paragraphs six, seven and eight under Subsection Monitoring Wells Adjacent to Bond Release Area on pages 177-178.

Attachment XI – Hydrologic Assessment - Surface Water Probable Hydrologic Consequences Analysis

- 27. We recommend the heading of this section be changed to Surface Water Post-Mining Hydrologic Assessment. An analysis of the permit PHC is only one aspect of a surface water bond release assessment that needs to be addressed for final bond release. An assessment of the baseline state, PHC determination and the incorporated Hydrologic Reclamation Plan (HRP), hydrologic balance performance standards under the reclamation law and rules NDCC 33-16-23, Standards of Water Quality for the State of North Dakota are all components that demonstrate successful surface water bond release criteria are met. (BEB)***

Please see updated heading and added narrative to the Surface Water Post-Mining Hydrologic Assessment to address this.

- 28. Please provide a brief summary of the number of NDPDES discharge points that were required for surface water control of the bond release tract, the years of their***

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control, and violations (if any). Successful operation and termination of NDPDES discharge points is evidence that effects on surface water resources by mining discharges were minimized during mining operations and reclamation. (BEB)

Please see the added narrative to the Surface Water Post-Mining Hydrologic Assessment to address this.

29. Please discuss how settling features that pond water on reclaimed lands impact the post-mining surface and ground water hydrology of the area. (JRD & GAW)

Settling features on reclaimed land form temporary wetlands which store a small amount of water for a short period of time. As a result, they have minimal impact to the surface and ground water hydrology of the area. This is covered in Attachment ii - General Information on page 7.

Sincerely,

THE FALKIRK MINING COMPANY



Joe Clarke
Environmental Manager

JWC/JJE/dge

cc: Lauren Hunze, McLean County Auditor