



# Public Service Commission

## State of North Dakota

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March 3, 2011

Mr. D. Randall Crooke  
Environmental Manager  
Falkirk Mining Company  
P.O. Box 1087  
Underwood, ND 58576-1087

Dear Mr. Crooke:

The Reclamation Division has conducted a technical review of the applications for Revision No. 27 and Renewal No. 5 to Surface Coal Mining Permit NAFK-8405. The following items need to be addressed before further action will be taken on these applications:

### **Renewal Application**

1. Please add a statement to the renewal application attachment in Section 1.1.1 that sufficient bond for the permit area will continue in full force for the renewal period and that liability insurance will be provided for the renewal period. NDAC 69-05.2-11-03(5)(d) and (e). (BEB)

### **Section 1.0 – Introductory Information**

2. The address for Ruth & Walter Olson, Life Estate has changed from what is currently provided in the permit. Based on information provided to us, the new address is 1567 13<sup>th</sup> Ave. NW, Turtle Lake, ND 58565-9462. Please revise the applicable sections of the permit. (BEB)
3. Please update Section 1.3.2 to include the Marshal Mine, LLC, which is listed in Sections 1.1.6 and 1.3.3. (SAS)
4. The assignment listings in Section 1.5.1 for Anne Byrne Lewis and James S. Hill in Tract 7B both link to assignment number 255696 rather than the listed 264588. Please review and correct. (SAS)

5. The assignment listing for Robert B. Bolinske in Tract 35 links to assignment number 255696 rather than the listed 264588. Please review and correct. (SAS)

### **Section 2.2 – Ground Water Hydrology of the Underwood Coal Field (stand-alone)**

6. The Preface to the Underwood Ground Water Hydrology document states that due to the pervasiveness of newly collected data for revisions to this document, tables and maps incorporating new information will not be specifically marked as to what data is added. While we agree that every map and table does not need to show the revised information when submitted, the Revision Instructions List provided with each revision must at least note any added or deleted monitoring wells, certified wells, operational wells or any other significant changes or data additions made to the tables and maps, similar to procedures used by Falkirk with all other revision applications. For example, the Monitoring Well Location Map, Section 2.2.8, provides the locations of over 400 monitoring wells and unless otherwise specifically noted in the revision application, determining the changes to this single map could take several hours without some sort of summary of the changes; however; updates to Potentiometric Surface Maps, for example, are self explanatory and requires no additional explanation. Please revise the preface narrative to state that changes made to the document have been adequately addressed or identified and provide the location of those changes. NDAC 69-05.2-11-02(4)(a). (BEB)
7. Please add the list of changes to Section 2.2 being made with Revision No. 27 to the Revision Instructions List that is located at the beginning of the document (there is no section number). It was also noted that updates to the document with Revision No. 23 to NAFK-8405 were not provided in the Revision Instructions List either, but rather the bookmark in this section for Revision No. 23 brings up the list of changes to the document with Revision No. 13 to NAFK-9601. Please update the Revision Instructions List to make the list current. (BEB)
8. Narrative in the second paragraph of the Ground Water Monitoring Plan, Section 2.2.6, describes collection and reporting of water level and water quality data up to, or through 2005 and 2006. Please revise the narrative to reflect the most current dates of data collection and reporting information that is now provided in the document. (BEB)
9. Narrative in the second paragraph that provides information about the Annual Ground Water Monitoring Report in Section 2.2.6 describes the pending 2004 annual report and the anticipated hydrologic predictions of mining activities and ground water response south of Underwood. Please consider eliminating the entire second paragraph from this section. (BEB)
10. Please provide the named screened unit of destroyed Monitoring Well 111-1 in the Monitoring Schedule of Section 2.2.6. If elevation correlation with nearby surrounding wells still results in questionable interpretation, label the screened unit on the table as undetermined or unknown or similar language so information concerning this well isn't grouped together with any of the other identified hydrostratigraphic units. (BEB)

11. Please change ground water Monitoring Wells 109-1, 109-2, and 109-3 from Active status to Destroyed status in the Monitoring Schedule of the Ground Water Monitoring Plan, Section 2.2.6, and other tables as necessary because these wells were mined-through in 2009. The Location of All Wells Map, Section 2.2.8, has the wells correctly labeled as Inactive/Destroyed. (BEB)
12. Please consider changing the name of Section 2.2.8 from *Location of All Wells, Pit Progression...* to *Location of All **Monitoring** Wells, Pit Progression...* to differentiate Falkirk's Monitoring Well Location Map from the Certified Wells and the Operational Wells Location Maps. (BEB)
13. Monitoring Wells CCS 560, CCS 561, CCS 562, CCS 563, and CCS 564 are listed in the Monitoring Schedule, Section 2.2.6; the Monitoring Well Information table, Section 2.2.16; the Location of Monitoring Wells, Section 2.2.20a; and, Construction Details of Monitoring Wells, Section 2.2.20b, as being Active wells; however, no data has been submitted to the Reclamation Division for these Non-Falkirk wells for many years, if ever. Please change the status of these wells on the tables to Inactive. Please note that changes made to the Monitoring Schedule regarding the number of Active/Inactive/Destroyed wells with this revision application will need to be reflected in the Monitoring Schedule Summary on the last page of Section 2.2.6. (BEB)
14. Monitoring Well 092-2 was destroyed some time ago, but the Location of All Wells Map, Section 2.2.8, and the Location Map of Current Monitoring Wells Map, Section 2.2.21, both depict the well as being Active. Please revise the maps accordingly. (BEB)
15. A note in the legend of the Certified Wells Location Map, Section 2.2.12, states that the operational wells are listed in Section 2.2.11; however, this section has been vacated with Revision No. 27. Please revise the note to state that additional listings for operational wells are now located in Section 2.2.14. (BEB)
16. Please change the name of Section 2.2.14 from Well Certifications to Water Supply Well and Spring Information to correspond with the section table heading and more accurately reflect the content of the section. (BEB)
17. The well completion reports in Section 2.2.18 indicate that Monitoring Well 112-1 is screened in the Hagel A seam and that Monitoring Well 112-3 is screened in the Sheet Sand. However, this is contradictory to other information in the permit and corroborated by reviewing the measured water levels of the screened zones. Please revise the well completion report (schematic) in Section 2.2.18 to provide the correct well number or screened zone information. (BEB)
18. Please revise the location information in the Well Completion Reports of Section 2.2.18 to place Monitoring Wells 116-1 and 116-2 in **T146N** as opposed to T145N, to place the 117-series of monitoring wells in **T146N, R81W** as opposed to T145N, R82W, to place the 118-series of monitoring wells in **T146N, R81W** as opposed to T145N, R81W, to

place the 119-series of monitoring wells in **T146N, R81W** as opposed to T146N, R82W, and to place the 125-series of monitoring wells in **T146N, R82W** as opposed to T142N, R82W as is currently depicted in the report section. Simply scratching out the erroneous location information on the original forms and replacing with hand written location information will be adequate. (BEB)

19. The Well Completion Report for Monitoring Well 203-1 indicates the screened zone as being the Hagel Interval and it appears this should be changed to indicate the Sheet Sand as the screened interval. Please review and correct as necessary. (BEB)
20. The Well Completion Report for Monitoring Well 86-4 lists the screened interval as being 25-28.05 feet and the Construction Details Table indicates the screened interval as being from 81.3-91.2 feet. Please address the discrepancy. (BEB)
21. Please provide a cross-section location inset on the Hydrostratigraphic Cross-Section Map, Section 2.2.28, to provide the physical location of the cross-section, or add (and label) the cross-section transect to the Cross-Section Reference Map, Section 2.2.8. (BEB)
22. Please label what the dashed-red line represents on the 2010 Potentiometric Surface Maps. (BEB)
23. Please incorporate the measurement units in the heading or in a footnote for the parameters listed in the Trace Metals Analyses spreadsheet, Section 2.2.33. (BEB)

### **Section 3.0 – Operations Plans**

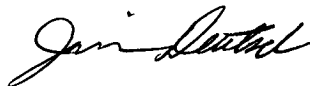
24. In Section 3.1.1, in the second to last sentence in the first paragraph of page 2, states that material removed from the box cuts will be placed in the pit, please indicate that some of this material was placed in a stockpile as well. Please correct. (MSK)
25. In Section 3.1.2, the last paragraph of page two states that the mine will operate 6 days a week. Falkirk employees have indicated that the mine intends on working 7 days a week, year round. Please correct. (MSK)
26. In Section 3.1.2, the first full paragraph on page 2 states that only the 125 cubic yard dragline will be used to remove overburden; however, the 204 shovel is also being used to pre-bench overburden which is quite considerable in areas. Please update the narrative accordingly. (MSK)
27. Please update Section 3.1.4, List of Major Equipment, if necessary. (MSK)

### **Section 4.0 – Reclamation Plans**

28. Please revise the post-mining topography of the cropland in the SW $\frac{1}{4}$  of Section 14 and the NW $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 11 so that none of the reclaimed cropland in these tracts has slopes greater than 9 percent. In addition, to reduce the erosion potential, please place the steepest slopes on the south side of the hill in the SW $\frac{1}{4}$  of Section 14 at the upper reaches of the hill rather than in the middle of the slope. The Post-Mining Land Use Map, Section 4.1.2; Post-Mining Contour Map, Section 4.2.6b; and, the Post-Mining Area Slope Map, Section 4.2.7b, will need to be revised accordingly. NDAC 69-05.2-21-02. (GAW)
29. Please revise the legend on the Post-Mining Land Use Map, Section 4.1.2, to indicate that the temporary wetlands are depicted with red lines that contain a bench mark symbol rather than a TW as indicated in the legend. NDAC 69-05.2-05(2). (GAW)
30. Please depict the pre-cropland vegetation buffer zones around the created seasonal and more permanent wetlands that are surrounded by cropland on the Post-Mining Land Use Map, Section 4.1.2. [Guidelines Document Section II-H-8] (GAW)
31. In Section 4.2.1, Reclamation Procedures Narrative, please provide the Material Balance Calculations, and include a "Post-Mining Development Map" which shows the cuts/fills and how the proposed post-mining topography is achievable pursuant to NDAC 69-05.2-09-11(3). (MSK)
32. In Section 4.2.3, Grading Sequence Map, please update the variance areas and the appropriate narrative in Section 4.2.2 to reflect the variance granted on February 10, 2011. (MSK)
33. On the Post-Mining Contour Map, Section 4.2.6b, please modify to show the section numbers for Sections 22, 23, 27, 26 and 34 which are currently hidden. (MSK)

If you have any questions, please contact this office.

Sincerely,



James R. Deutsch  
Director  
Reclamation Division

cc: McLean County Auditor