



# Public Service Commission

## State of North Dakota

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### COMMISSIONERS

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*sent via email only*

October 4, 2022

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Mr. Jason Frye  
Environmental Specialist  
Falkirk Mining Company  
P.O. Box 1087  
Underwood, ND 58576-1087  
[Jason.Frye@nacoal.com](mailto:Jason.Frye@nacoal.com)

Dear Mr. Frye:

The Reclamation Division has conducted a technical review of the application for Revision No. 42 to Surface Coal Mining Permit NAFK-8405 submitted on March 4, 2022, by the Falkirk Mining Company. Revision No. 42 proposed to add 3,359.7 acres located in portions of Sections 1, 2, 3, and 5, T146N, R82W; and Sections 33, 34, 35, and 36 T147N, R82W, McLean County, and will expand the permit area to the north for coal mining and support activities. The revision application revises the permit's introductory, legal, financial, compliance, environmental, operations, reclamation, and wetlands information for the area being added to the permit. The revision application provides updates to areas that are currently permitted which includes: topography, post-mine probable hydrologic consequences, post-mine land uses, wetlands, surface water management, reclamation schedule, and the grading and mining sequence maps. The stand-alone groundwater hydrology and reclamation bond/cost sections have also been updated. The following items must be addressed before the Commission can take further action on this application:

### **Section 1.5.1 Permit Area Surface and Coal Interests**

1. Please verify and update the address for Gary Heidelberger. The certified letter was returned, and the green card listed Gary Heidelberger, 2588 6th St. NW, Underwood, ND 58376, as the correct address. Also, please ensure that the surface owner received all necessary documentation and notices. (PJR)

### **Section 2.1 – Cultural and Historical Resources**

2. Please update Section 2.1.2, Cultural Resources Location Map, to show the current permit boundaries and bond released tracts. (MLJ)

### **Section 2.3 – Geology**

3. Please consider adding additional information to the comment column in Section 2.3.6, Drill Hole Information, to assist in identifying the location of the drill holes. (PJR)
4. Please update Section 2.3.11, Structural Contour Map - Top of Hagel Bed, to show the current permit boundaries and bond released tracts. (MLJ)
5. Please update Section 2.3.12, Overburden Thickness Isopach Map, to show the current permit boundaries and bond released tracts. (MLJ)

6. Please update Section 2.3.13, Interburden Thickness Isopach Map, to show the current permit boundaries and bond released tracts. (MLJ)
7. Please update Section 2.3.14, Drill Hole Location and Cross-Section Reference Map, to show the current permit boundaries and bond released tracts. (MLJ)
8. Please update the Generalized Cross-Section Reference Map in Section 2.3.15, Geologic Cross-Sections, to show the current permit boundaries and bond released tracts. (MLJ)
9. In Section 2.3.15, Geologic Cross-Sections, please add titles to the values on the x & y axis for cross sections A-A', B-B', C-C', M-M', and N-N' on the map. (e.g., Elevation) (PJR)

#### **Section 2.4.1d – Eighth Addition Study Area Report**

10. The Dakota skipper narrative on page 12 of Section 2.4.1d indicates that surveys were conducted for the Dakota skipper and that no Dakota skippers were seen during the study period. Please revise this narrative to clarify if any potentially suitable Dakota skipper habitat exists in the Revision 42 addition area and clarify if the Dakota skipper surveys were completed by a USFWS permitted Dakota skipper surveyor in accordance with the 2018 Dakota skipper protocol. (GAW)
11. Please consolidate the Dakota skipper narrative information on page 14 with the information provided on page 12. A statement on page 14 indicates that no Dakota skipper observations have been made in McLean County. Please clarify if this statement is referring to records according to the USFWS Bismarck Field Office and provide a date to which this statement is valid since survey work is ongoing. (GAW)
12. The Threatened and Endangered Species narrative on page 13 of Section 2.4.1d incorrectly states the USFWS lists seven species (two avian, two mammalian, two invertebrate and one fish) as endangered. The USFWS IPaC site currently lists one bird and one fish as endangered; one mammal, two birds, and one insect as threatened; and designated critical habitat for the piping plover in McLean County. Please update the narrative so the information provided is accurate for the wildlife study reporting period and clarifies the current list of threatened and endangered species and designated critical habitat. (GAW)
13. The Threatened and Endangered Species narrative on page 13 of Section 2.4.1d includes a discussion about the least tern. Please revise the narrative to clarify that the species has been delisted. (GAW)
14. Please revise the piping plover narrative on page 14 of Section 2.4.1d to mention designated critical habitat for this species and clarify the proximity of the designated habitat to the Revision 42 addition area and the Falkirk Mine. (GAW)
15. Please revise the fourth paragraph on page 15 of Section 2.4.1d to clarify that the USFWS is in the process of up listing the Northern Long Eared Bat to Endangered status which will remove the species 4(d) rule and update the narrative such that the information provided is current and accurate. (GAW)

### **Section 2.6 – Surface Water Information and Monitoring Plan**

16. Since Sections 2.6.3a, b, c, and d are referenced in the table of contents for Section 2.6 – Surface Water Information and Monitoring Plan, and Sections 2.6.3c and d are separated by title pages, please add a title page after page 3 of Section 2.6.3 to start Section 2.6.3a – Surface Water Monitoring Sites Quality Data and after page 9 to start Section 2.6.3b – 1993-1994 Surface Water Monitoring Sites Quality Data. Also, please change the title page of Section 2.6.3d from “Section 2.6.3d – Developed Water Resource” to “Stockpond Water Quality Data” to correlate to the table of contents in Section 2.6 – Surface Water Information and Monitoring Plan. (JAR)
17. Please update Section 2.6.4, Surface Water Features & Monitoring Sites Map, to show the current permit boundaries and bond released tracts. (MLJ)
18. Please retain the original revision numbers on the page footers that were not updated with Revision 42 in Section 2.6.5, Probable Hydrologic Consequences, and Section 2.6.7, Surface Water Monitoring Plan. (JAR)
19. Please update the narrative in Section 2.6.5, Probable Hydrologic Consequences, for pit water Ponds P-E24-01 and P-W12-07 to reflect their current status as reclaimed. (JAR)
20. Please update Section 2.6.5a, Pre-Mining Watershed Map - Probable Hydrologic Consequences, to show the current permit boundaries and bond released tracts. (MLJ)
21. Please update Section 2.6.5b, Post-Mining Watershed Map - Probable Hydrologic Consequences, to show the current permit boundaries and bond released tracts. (MLJ)
22. Please identify the thick, dashed black line in the map legend as depicted in the Post-Mining Probable Hydrologic Consequences Map, Section 2.6.5b. Also, please identify what the yellow shading depicts on the Post-Mining Probable Hydrologic Consequences Map in the map legend. (JAR)
23. Please replace “National” with “North Dakota” in the first sentence of the second paragraph on page 1 of 4 in Section 2.6.7, Surface Water Monitoring Plan, since North Dakota has primacy of the NDPDES program. (JAR)
24. Please update the permit boundary in Section 2.6.9a, Post-Mining Drainages Map, to include the 8<sup>th</sup> Addition to Permit NAFK-8405. Also, with the additional area that will be added, please update Section 2.6.9(b/c/d) as necessary. (JAR/PJR)

### **Section 2.7 – Pre-Mining Land Use and Vegetation**

25. Please update Section 2.7.2, Pre-Mining Land Use, Vegetation, and Wildlife Habitat Map, to show the current permit boundaries and bond released tracts. (MLJ)
26. Please label DWR-SE36-1 in the Pre-Mining Land Use, Vegetation and Wildlife Habitat Map, Section 2.7.2, to clarify that the seasonal wetland is also a developed water resource. (GAW)
27. In Section 2.7.1, Pre-Mining Land Use and Vegetation Narrative, please update the total acres on the second page, second paragraph from 13529.2 to 13436.93 to account for the 92.3 acres that were released with Final Bond Release 3, effective May 13, 2022. (MJF/PJR)

### **Section 2.7.2a - Pre-Mining Land Use and Associated Mapping Units**

28. Please update Section 2.7.2a, Pre-Mine Land Use and Associated Mapping Units Map, to show the current permit boundaries and bond released tracts. (MLJ)
29. The native grassland mapping unit symbols and ecological site abbreviations are very difficult to interpret in the Pre-Mining Land Use and Associated Mapping Units Map, Section 2.7.2a. Please revise such that the native grassland mapping unit symbols are more prominent than the soil mapping unit numbers on areas of native grassland in Section 2.7.2a. In some instances, it appears the ecological site's symbol is underneath or otherwise obscured by the soil mapping label. (GAW)
30. Please increase the label size for Ecological Sites as they are very difficult to read in Sections 33 and 36 in Section 2.7.2a, Pre-Mining Land Use and Associated Mapping Units Map. (MJF)
31. Ecological sites depicted in the Revision 42 addition area are missing from the legend in the Pre-Mining Land Use and Associated Mapping Units map, Section 2.7.2a. For example, mapping units SL, WM, Sa, and LSb are labeled in the S½ of Section 36 but these ecological sites are not included in the legend of the map. Please revise the legend to include all mapping units present in the permit area. (PJR/GAW)

### **Section 2.7.3 – Appendices for Vegetation I – VI**

32. Tract information provided in Appendix I, Pre-Mining Land Management Information for the Revision 42, Eighth Addition area incorrectly indicates that field bindweed, *Convolvulus arvensis*, is a noxious weed. Please correct this error on each of the tracts in which the species is listed. (GAW)
33. The narrative description for the S½ of Section 36 states that the wetlands sampled had simple plant communities and relatively low quality due to the surrounding land use dominated by cropland but there is no cropland in the S½ of Section 36. Please review this statement and revise the narrative to otherwise explain why the wetlands have a simple plant community. (GAW)
34. Table 2, Summary Table of Native Grassland Acreage for the Eighth Addition, includes 0.2 acres of land not associated with an ecological site. This NA acreage surrounds a wetland, and the soil mapping units map is not legible. Please asterisk the table to clarify why this soil mapping unit cannot be assigned an ecological site. (GAW)

### **Section 2.8 - Soil Resources**

35. Paragraph nine of Section 2.8.1, Soils Narrative, erroneously states that “When Falkirk has an excess of subsoil, as shown in the submitted SPGM removal plan, subsoil lift approvals do not have to be approved through the PSC and all in place SPGM monuments will be waived and not be removed or salvaged as subsoil as this volume is negligible; in place monuments will not alter any soil balance.” Waivers from the approval process of subsoil removal and salvaging of the SPGM monuments must be granted by the Commission pursuant to NDAC 69-05.2-15-02(2)(a) after being explicitly requested in an annual SPGM removal plan. Please revise the quoted statement to indicate that subsoil lift approval waivers by the PSC can only be granted on an annual basis after being explicitly requested in an annual SPGM removal plan. (MLJ)

36. Please update Section 2.8.2, Soil Survey Map, to show the current permit boundaries and bond released tracts. (MLJ)
37. It appears that the potential SPGM respread depth associated with boring FA19108C, located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  of Section 35, incorrectly shows a respread depth of 24 inches in Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map. Based on the spoil sample analyses from Section 2.3.8, the potential respread depth for the area associated with FA19108C should be 36 inches due to three spoil samples having sodium absorption ratio (SAR) values between 12 and 20 and four additional spoil samples having a coarse texture (sandy loam or coarser). These undesirable spoil properties make up twenty percent or more of the overburden above the lowest coal seam to be mined. Please revise Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map, as necessary. (MLJ)
38. It appears that the potential SPGM respread depth associated with boring FA18095C, located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 35, incorrectly shows a respread depth of 24 inches in Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map. Based on the spoil sample analyses from Section 2.3.8, the potential respread depth for the area associated with FA18095C should be 36 inches due to three spoil samples having SAR values between 12 and 20 and four additional spoil samples having a coarse texture of sandy loam. These undesirable spoil properties make up twenty percent or more of the overburden above the lowest coal seam to be mined. Please revise Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map, as necessary. (MLJ)
39. It appears that the potential SPGM respread depth associated with boring FA18116C, located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$  of Section 34, incorrectly shows a respread depth of 24 inches in Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map. Based on the spoil sample analyses from Section 2.3.8, the potential respread depth for the area associated with FA18116C should be 36 inches due to three spoil samples having a coarse texture of sandy loam. These undesirable spoil properties make up twenty percent or more of the overburden above the lowest coal seam to be mined. Please revise Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map, as necessary. (MLJ)
40. It appears that the potential SPGM respread depth associated with boring FA18061C, located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 35, incorrectly shows a respread depth of 24 inches in Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map. Based on the spoil sample analyses from Section 2.3.8, the potential respread depth for the area associated with FA18061C should be 36 inches due to three spoil samples having a coarse texture of sandy loam. These undesirable spoil properties make up twenty percent or more of the overburden above the lowest coal seam to be mined. Please revise Section 2.8.7, Drill Hole Location, Overburden Characteristics, and Projected Respread Map, as necessary. (MLJ)

### **Section 3.1 – Operations Plans – General**

41. Please consider updating the Pit Layout and Facilities Map, Section 3.1.5, to revise labels on all necessary haul roads by adding correct labels for each leg of the haul road going into the pit areas (i.e. E5 Ramp). (PJR)
42. Please verify and revise, as necessary, the setback boundary “occupied dwelling” labels in Sections 17 and 36 on the Pit Layout and Facilities Map, Section 3.1.5. Occupied dwellings

require a 500 ft setback (NDAC 69-05.2-04-01.4); however, public buildings require a 300 ft setback (NDCC 38-14.1-07(5)). (MJF/JAR/PJR)

43. Please update Section 3.1.5, Pit Layout and Facilities Map, to show the current permit boundaries and bond released tracts. (MLJ)
44. Please update Section 3.1.6, Extended Mining Plan Topographic Map of Mine Phases, to show the current permit boundaries. (MLJ)

### **Section 3.2 – Operations – Existing Structures**

45. Please review the approval of the facilities referenced in the second paragraph of Section 3.2.1, Existing Structures Narrative, and incorporate relevant narrative into the permit since Permit NAFK-8104 has been archived. (PJR)
46. Please update Section 3.2.2, Existing Structures Map, to show the current permit boundaries and bond released tracts. (MLJ/JAR)
47. Please revise the two overlapping township and range labels in Section 3.2.2, Existing Structures Map. (PJR/MJF)

### **Section 3.3 – Operations - Blasting**

48. Please update Section 3.3.2, Blasting Map, to show the current permit boundaries and bond released tracts. (MLJ)
49. If necessary, please review and update Section 3.3.3 to include current blasting designs since electronic blasting has been or will be used in the near future for scheduled blasts. If changes are made, please incorporate the changes into other sections of Section 3.3 if necessary. (PJR)

### **Section 3.4.1 - Fugitive Dust Control Plan**

50. In the first sentence of the Fugitive Dust Control Plan, please replace the North Dakota Department of Health with the North Dakota Department of Environmental Quality. (MJF/JAR)
51. In the last sentence of the Fugitive Dust Control Plan, please replace Great River Energy with Rainbow Energy if their 12,000-gallon water truck is still available for dust suppression. (JAR/PJR/MJF)

### **Section 3.5 – Operations – Transportations Facilities**

52. Please update Section 3.5.1, Haulage Road Narrative, to provide details regarding Haul Road Section 8, Haul Road Section 9, Haul Road Section 10, Haul Road Section 11, and Haul Road Section 12. (BSM)
53. Please update Section 3.5.2, Transportation Facilities Map, to show the current permit boundaries and bond released tracts. (MLJ)

54. Please update Section 3.5.6, Haulroad Section 3, Plan and Profile, to reflect the transition of the end station of Haul Road Section 3 and the start station of Haul Road Section 12; otherwise, provide further narrative within Section 3.5.1, Haulage Road Narrative. (BSM)
55. Please update Section 3.5.21, Road Relocation and Closing Plan Map, to show the current permit boundaries and bond released tracts. (MLJ)
56. Please consider updating Section 3.5.21, Road Relocation and Closing Plan Map, to depict county road closures that will not be reclaimed as a county road. (JWE/BSM)

### **Section 3.6 - Operations – Surface Water Management**

57. Please update Section 3.6.1a, Total Water Management Plan Map, to show the current permit boundaries and bond released tracts. (MLJ)
58. Please provide the watershed area (ac) for Ponds P-E36-05 (36 acres) and P-E36-04 (112 acres) on the Total Water Management Plan Map, Section 3.6.1a. (JAR/BSM)

### **Section 4.1 – Post Mining Land Use and Revegetation**

59. Please update page 15 of Section 4.1.1, Post-Mining Use Land Narrative, or Section 4.1.2, Post-Mine Land Use Map, as the acreage is inconsistent for the Falkirk-owned replacement shelterbelts in the SE¼ of Section 12 (7.0 vs 11.1 acres) and NW¼ of Section 13 (3.9 vs 5.3 acres). Also, please update the total length of the conservation shelterbelts to 1650 feet in the NW¼ of Section 13 in Section 4.1.2, Post-Mining Land Use Map. (MJF)
60. Please update the 27.4 acres to 27.2 acres for the recreational land use tract to be consistent with the narrative in the first paragraph, of Section 4.1.1, Post-Mine Use Land Narrative. (MJF)
61. Please update Section 4.1.2, Post-Mining Land Use Map, to show the current permit boundaries and bond released tracts. (MLJ)
62. Please review and update Section 4.1.2, Post-Mining Land Use Map, to depict any wetlands missing identification labels. For example, a wetland in the SW¼ of Section 14 is not labeled. (BSM)
63. Please revise the label in the legend for Season Wetland in Section 4.1.2, Post-Mining Land Use Map, from “SW” to “W” since all seasonal wetlands are depicted as “W” in the map. (JWE)
64. The Potential Prime Farmland Landscape delineations found in Section 4.1.2, Post-Mining Land Use Map, appear to omit the added prime farmland within the mining disturbance boundary of the acreage addition of Revision 42. Please add the Potential Prime Farmland Landscape delineations for the prime farmland that will be mined, as stated in Section 2.8.5a, Prime Farmland Statement, to Section 4.1.2. (MLJ)
65. Please update Section 4.1.6a, Revegetation Success Standards Map, to show the current permit boundaries and bond released tracts. (MLJ)

66. As necessary, please update Section 4.1.1 (Post-Mining Use Land Narrative), Section 4.1.2 (Post-Mining Use Land Map), and Section 4.1.3 (Pre- and Post-Mining Land Use Acreage Comparison Table) to account for Final Bond Release 3. (MJF)
67. Please remove one of the two overlapping labels for the wetland in the SE¼ of Section 33 from Section 4.1.2, Post-Mine Land Uses Map. (MJF)

#### **Section 4.2 – Reclamation – General**

68. Please include the “Potential Prime Farmland Landscape” label in the map legend for Section 4.2.6b, Post-Mining Contour Map. It is assumed that the hatched purple polygons represent the potential prime farmland landscape as shown in Section 4.1.2, Post-Mining Land Use Map. (MLJ)
69. Please include the “Potential Prime Farmland Landscape” label in the map legends for Section 4.2.7b, Post-Mining Area Slope Map. It is assumed that the hatched purple polygons represent the potential prime farmland landscape as shown in Section 4.1.2, Post-Mining Land Use Map. (MLJ)
70. The Potential Prime Farmland Landscape delineations found in Section 4.2.6b, Post-Mining Contour Map, appear to omit the added prime farmland within the mining disturbance boundary of the acreage addition of Revision 42. Please add the Potential Prime Farmland Landscape delineations for the prime farmland that will be mined, as stated in Section 2.8.5a, Prime Farmland Statement, to Section 4.2.6b. (MLJ)
71. The Potential Prime Farmland Landscape delineations found on Section 4.2.7b, Post-Mining Area Slope Map, appear to omit the added prime farmland within the mining disturbance boundary of the acreage addition of Revision 42. Please add the Potential Prime Farmland Landscape delineations for the prime farmland that will be mined, as stated in Section 2.8.5a, Prime Farmland Statement, to Section 4.2.7b. (MLJ)
72. Please update Section 4.2.3, Grading Sequence Map, to show the current permit boundaries and bond released tracts. (MLJ)
73. Please update Section 4.2.6a, Pre-Mining Contour Map, to show the current permit boundaries and bond released tracts. (MLJ)
74. Please update Section 4.2.6b, Post-Mining Contour Map, to show the current permit boundaries and bond released tracts. (MLJ)
75. Please update Section 4.2.7a, Pre-Mining Area Slope Map, to show the current permit boundaries and bond released tracts. (MLJ)
76. Please update Section 4.2.7b, Post-Mining Area Slope Map, to show the current permit boundaries and bond released tracts. (MLJ)

#### **Section 5.1 – Pre-Mining Wetlands**

77. Due to the dynamic nature of wetlands, it appears there are possible wetlands in the 8<sup>th</sup> addition area that were deemed seasonal since the surveys were conducted in record drought years based on historical data. Therefore, please review and update as necessary the pre-mining wetlands narrative (Section 5.1.1), pre-mining wetland location map (Section 5.1.1a), and pre-mining wetland

vegetation maps (Section 5.1.1b) added with the 8<sup>th</sup> addition. Additionally, please consider comparing any data available from the U.S. Fish & Wildlife Services. If any changes are made to the sections mentioned above, please update Section 2.7.2, Pre-Mining Land Use, Vegetation, and Wildlife Map, accordingly. (PJR)

## **UNDERWOOD GROUND WATER HYDROLOGY**

### **Section 2.2.1 - Ground Water Hydrologic Setting**

1. Please review Section 2.2.1 to ensure that all information has been updated to Revision 42 information. The last paragraph states that the number of water supply wells (162) identified in the study area reflects current information approved with Revision 38. If updates are made, the table in Section 2.2.14 will also need to be updated. For example, Section 2.2.12 (Location Map – Certified Well) was updated on 2/22/22, but the sections referenced above were not updated. (PJR/MLJ)

### **Section 2.2.6 - Ground Water Monitoring Plan**

2. Please revise page 2 of Section 2.2.6, Ground Water Monitoring Plan, to include added well 219-4, since it is shown in the table on page 12 and in Section 2.2.8, Location of Monitoring Wells, Pit Progression, & Cross-Section Reference Map. (PJR)

### **Section 2.2.5 - Probable Ground Water Hydrologic Consequences**

3. Please correct the label on the Y axis for Figure 1 found on page 7 of Section 2.2.5 as it is not legible. (MLJ/PJR)

### **Section 2.2.5a - Ground Water Hydrologic Reclamation Plan**

4. The third bullet point in the Summary of Hydrologic Reclamation Plan states that stripped topsoil "...is eventually re-placed over the recontoured spoils after mining." Topsoil should **only** overlay respread subsoil, while the subsoil is respread over the recontoured spoils. Please revise the narrative in the third bullet point accordingly. (MLJ)

### **Section 2.2.14 - Water Supply Well and Spring Information**

5. The table in Section 2.2.14 has not been updated since Revision 38. With the addition of over 3,300 acres, it seems unlikely that no wells would be added into the 8<sup>th</sup> addition area. Please review and revise as necessary. (PJR)

### **Section 2.2.16 - Monitoring Well Information**

6. Please review and verify the bed screened for monitoring wells 220-1, 220-2, 220-3, 221-1, and 221-3 on page 9 of Section 2.2.16. If changes are necessary, please make sure corresponding changes are made in other appropriate sections. (e.g., Section 2.2.31, etc.) (PJR)

### **General**

7. Please review and revise all necessary maps to show the correct permit boundaries and all bond release tracts as appropriate. (PJR)

Mr. Jason Frye  
October 4, 2022  
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If you have any questions, please contact this office.

Sincerely,

A handwritten signature in black ink that reads "Zanna Brinkman". The signature is written in a cursive, flowing style.

Zanna Brinkman  
Director  
Reclamation Division

Falkirk Mine\Permits\NAFK - 8405\Revisions\No. 42\Rev42\_Tech1\_rvw\_ltr\_10-4-22