

FALKIRK MINE

July 31st, 2026

Mr. Jonathan Emmer
Reclamation Director
ND State Public Service Commission
600 East Boulevard, Dept. 408
Bismarck, ND 58505-0480

RE: Request for Variance on the SE¼ of Section 23, Permit NAFK-8405

Dear Mr. Emmer:

The Falkirk Mining Company (Falkirk) is requesting a variance to the 10-year liability period for a portion of a proposed bond release in the SE¼ of Section 23, Township 146 North, Range 82 West. The proposed bond release area is native grassland, owned by Chad and Jennifer Berg SE¼ of Section 23, Township 146 North, Range 82 West (See attached maps). The variance area being requested is a reclaimed access road that is 1.5 acres. This road was used to access pit water pond P-E24-01. The access road was respread and reclaimed in 2017 and seeded to native grassland seed mix in 2018 making 2026 year nine of revegetation. The total area of disturbance is approximately 19.5 acres in the proposed bond release area. The remaining acres outside of the variance areas were reclaimed in 1995, 2008, and 2013 through 2016 (See Revegetation Period Initiated Map for locations). The access road accounts for 7.8 percent of the disturbance area for the proposed bond release area, or 7.7 percent of the entire area.

The native grassland in the SE¼ of Section 23 of the proposed bond release area exceed the bond release standards. The loamy reference area was used to calculate the productivity standard of 2,957 lbs/acre in 2024 and 2,618 lbs/acre in 2025. The production data from the reclaimed native grassland in SE¼ of Section 23 was 4,083 lbs/acre in 2024 and 3,585 lbs/acre in 2025. The loamy reference area was used to calculate the weighted cover value of 90.9% in 2024 and 90.9% in 2025. The cover data collected from the native grassland in the SE¼ of Section 23 was 96.1% in 2024 and 97.2% in 2025. The total cover is based on basal hits of perennial species. In 2024 and 2025, the reclaimed native grassland had five native grass species that were present using cover data. The reclaimed native grassland in 2024 had two cool season grasses and two warm season grasses. In 2025, two cool season grasses and three warm season grasses meet the three percent relative basal cover threshold. The relative composition of all warm season grasses in 2024 was 15.4% relative cover and 2025 it was 16.0% relative cover. The species list contained 16 native forbs in 2024 and 2025. This data provides that the production, cover, diversity, and seasonality standards for the reclaimed native grassland in the SE¼ of Section 23 were met in 2024 and in 2025. This data included the variance

Mr. Jonathan Emmer

June 30th, 2026

Page 2

area in the sampling (See attached field maps). Falkirk would like to release the proposed bond release area in the SE¼ of Section 23 from Falkirk's Permit NAFK-8405.

Regards,

THE FALKIRK MINING COMPANY



Tanner Jochim

Environmental Specialist

TJ

Attachments

cc: Johnathan Emmer
Monty Johnson
Guy Welch
Warren Swenson
Jeff Roerick
Preston Ripplinger
Taylor DeVries
Brandon Myran
Steve Burke

Falkirk Mine

2801 1st Street SW

Underwood, ND 58576

P: 701.442.5751 F: 701.250.2473

NACoal.com

The Falkirk Mining Company, a subsidiary company of The North American Coal Corporation

 A NACCO COMPANY

NAFK-8405 Section 23

Falkirk Mine

2024 Reclaimed Grassland Production

Plot #	Native						Introduced								Plot Total
	<i>Big Bluestem</i>	<i>Blue Grama</i>	<i>Green Needlegrass</i>	<i>Sideoats Grama</i>	<i>Switchgrass</i>	<i>Western Wheatgrass</i>	<i>Crested Wheatgrass</i>	<i>Intermediate Wheatgrass</i>	<i>Kentucky Bluegrass</i>	<i>Smooth Brome</i>	<i>Quackgrass</i>	<i>Alfalfa</i>	<i>Black Medick</i>	<i>Yellow Sweetclover</i>	
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4	137.9	0.0	0.0	0.0	0.0	148.3
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	118.4	0.0	10.8	0.0	0.0	134.5
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	104.8	0.0	12.3	0.0	0.0	123.3
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.6	0.0	0.0	15.2	13.3	0.0	0.0	95.2
5	0.0	0.0	18.3	47.7	0.0	12.2	0.0	0.0	13.5	0.0	24.5	0.0	6.1	0.0	122.3
6	0.0	0.0	0.0	52.5	0.0	0.0	0.0	0.0	12.5	0.0	47.5	0.0	8.8	3.8	125.1
7	24.2	2.4	14.5	46.0	3.6	8.5	0.0	0.0	9.7	0.0	12.1	0.0	0.0	0.0	121.1
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	25.2	28.0	14.0	0.0	0.0	0.0	93.4
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	21.5	32.3	24.8	19.4	0.0	0.0	107.7
10	0.0	0.0	0.0	0.0	0.0	10.2	0.0	27.9	0.0	25.1	18.6	11.1	0.0	0.0	92.9
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.8	38.5	0.0	0.0	0.0	4.1	0.0	101.3
12	0.0	0.0	0.0	0.0	0.0	0.0	50.0	21.9	26.0	0.0	0.0	0.0	6.2	0.0	104.1
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6	31.3	25.5	0.0	0.0	3.5	0.0	115.9
14	0.0	0.0	0.0	0.0	0.0	0.0	26.6	34.8	28.4	0.0	0.0	0.0	1.8	0.0	91.7
15	0.0	0.0	0.0	0.0	0.0	0.0	23.9	47.8	21.0	0.0	0.0	0.0	2.9	0.0	95.6
16	0.0	0.0	0.0	0.0	0.0	0.0	41.5	49.8	27.7	0.0	0.0	19.4	0.0	0.0	138.4
17	0.0	0.0	14.6	0.0	0.0	2.4	0.0	12.2	58.5	0.0	0.0	34.1	0.0	0.0	121.9
18	0.0	0.0	0.0	0.0	0.0	3.4	17.0	28.3	58.9	0.0	0.0	0.0	5.7	0.0	113.3
19	0.0	0.0	0.0	0.0	0.0	0.0	25.2	20.2	15.1	0.0	0.0	34.3	2.0	4.0	100.9
20	0.0	0.0	0.0	14.1	0.0	0.0	0.0	106.0	0.0	21.2	0.0	0.0	0.0	0.0	141.3
Total	24.2	2.4	47.5	160.4	3.6	36.8	184.2	565.7	409.8	493.2	156.7	154.8	41.0	7.8	2288.2
Mean															114.41
Std. Dev															17.56
% Weight	1.1%	0.1%	2.1%	7.0%	0.2%	1.6%	8.1%	24.7%	17.9%	21.6%	6.8%	6.8%	1.8%	0.3%	

Sample Size And Adequacy:

Method 1
Standard Error As A Percentage Of The Mean Method:
 Using: $n = s^2 \div (0.06x)^2$
 Standard Deviation (s) = 17.56
 Mean Cover (x) = 114.41
 Calculated Required Sample Size (n) = 6.5
 7<20 Thus adequate number of samples were taken.

Method 2
Two-Stage Sampling Technique:
 Using: $n = t^2 s^2 \div d^2$
 t Distribution, Used 20 for n (t) = 1.328
 Standard Deviation (s) = 17.56
 10% of Sample Mean (d) = 11.44
 Calculated Required Sample Size (n) = 4.2
 5<20 Thus adequate number of samples were taken

Production Conversion: Sample Mean (X) x Conversion Factor g/m² to lbs/ac = Production
 114.4 g per 0.25m² x 35.69 =

4083 lbs/acre Average Production

Notes:

1. Production sampling was conducted on July 27, 2024.
2. Production was measured by clipping a 1/4 meter frame by species.
3. Clippings 1-3: 2008 Seeding, Clipping 4: 2013 Seeding, Clippings 5-7: 2014 Seeding, Clippings 8-9: 2016 Seeding, Clipping 10: 2018 Seeding, Clipping 11-19: 1995 Seeding, and Clipping 20: 2015 Seeding

NAFK-8405 Section 23

Falkirk Mine

2025 Reclaimed Grassland Production

Plot #	Native							Introduced							Plot Total
	<i>Big Bluestem</i>	<i>Blue Grama</i>	<i>Green Needlegrass</i>	<i>Sideoats Grama</i>	<i>Switchgrass</i>	<i>Western Wheatgrass</i>		<i>Crested Wheatgrass</i>	<i>Intermediate Wheatgrass</i>	<i>Kentucky Bluegrass</i>	<i>Smooth Brome</i>	<i>Alfalfa</i>	<i>Yellow Sweetclover</i>		
1	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	66.8	61.7	0.0		128.5
2	0.0	0.0	0.0	0.0	0.0	0.0		0.0	11.4	0.0	57.2	45.7	0.0		114.3
3	42.9	1.1	14.7	19.2	0.0	0.0		0.0	0.0	16.9	0.0	18.0	0.0		112.8
4	0.0	0.0	0.0	0.0	0.0	0.0		0.0	50.2	8.0	0.0	42.1	0.0		100.3
5	37.6	0.0	16.1	19.3	5.4	4.3		0.0	0.0	0.0	0.0	14.0	10.7		107.4
6	41.9	0.0	22.1	16.5	0.0	3.3		0.0	0.0	0.0	0.0	15.4	11.0		110.3
7	30.5	0.0	0.0	29.5	0.0	5.5		0.0	0.0	0.0	0.0	34.9	8.7		109.1
8	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	50.5	43.0	14.0		107.4
9	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	57.0	64.3	0.0		121.3
10	0.0	2.6	11.3	7.0	10.5	6.1		0.0	7.9	8.7	0.0	18.3	14.8		87.3
11	0.0	0.0	0.0	0.0	0.0	0.0		20.4	35.8	2.4	0.0	22.8	0.0		81.4
12	0.0	0.0	0.0	0.0	0.0	1.6		18.0	29.0	0.0	0.0	29.8	0.0		78.3
13	0.0	0.0	0.0	0.0	0.0	3.0		0.0	68.9	0.0	0.0	26.6	0.0		98.4
14	0.0	3.8	0.0	0.0	0.0	0.0		11.4	39.6	3.0	0.0	18.3	0.0		76.1
15	0.0	0.0	0.0	0.0	0.0	0.0		12.4	48.1	0.0	8.3	14.1	0.0		82.9
16	0.0	0.0	0.0	6.6	0.0	0.0		0.0	50.6	1.9	0.0	34.7	0.0		93.7
17	0.0	0.0	0.0	0.0	0.0	0.0		0.0	47.9	5.2	7.3	43.8	0.0		104.2
18	0.0	0.0	0.0	7.5	0.0	0.0		29.9	28.0	1.9	0.0	26.1	0.0		93.3
19	0.0	0.0	0.0	0.0	0.0	0.0		0.0	45.0	2.4	6.4	26.5	0.0		80.4
20	0.0	0.0	0.0	9.7	0.0	0.0		0.0	82.8	0.0	29.2	0.0	0.0		121.8
Total	152.9	7.6	64.2	115.3	15.8	23.7		92.1	545.1	50.5	282.7	600.0	59.3		2009.2
Mean															100.46
Std. Dev															15.79
% Weight	7.6%	0.4%	3.2%	5.7%	0.8%	1.2%		4.6%	27.1%	2.5%	14.1%	29.9%	3.0%		

Sample Size And Adequacy:

Method 1
Standard Error As A Percentage Of The Mean Method:
 Using: $n = s^2 \div (0.06x)^2$
 Standard Deviation (s) = 15.79
 Mean Cover (x) = 100.46
 Calculated Required Sample Size (n) = 6.9
 7<20 Thus adequate number of samples were taken.

Method 2
Two-Stage Sampling Technique:
 Using: $n = t^2 s^2 \div d^2$
 t Distribution, Used 20 for n (t) = 1.328
 Standard Deviation (s) = 15.79
 10% of Sample Mean (d) = 10.0
 Calculated Required Sample Size (n) = 4.4
 5<20 Thus adequate number of samples were taken

Production Conversion: Sample Mean (X) x Conversion Factor g/m² to lbs/ac = Production
 100.5 g per 0.25m² x 35.69 =

3585 lbs/acre Average Production

Notes:

1. Production sampling was conducted on July 17, 2025.
2. Production was measured by clipping a 1/4 meter frame by species.
3. Clippings 1-3: 2008 Seeding, Clipping 4: 2013 Seeding, Clippings 5-7: 2014 Seeding, Clippings 8-9: 2016 Seeding, Clipping 10: 2018 Seeding, Clipping 11-19: 1995 Seeding, and Clipping 20: 2015 Seeding

NAFK-8405 Section 23
Falkirk Mine
2024 Native Grassland Basal Cover

[illegible]

NAFK-8405 Section 23
Falkirk Mine
2024 Native Grassland Basal Cover

[illegible]

NAFK-8405 Section 23
Falkirk Mine
2024 Native Grassland Basal Cover

	Native					Introduced									
Frame	Big Bluestem	Blue Grama	Green Needlegrass	Sideoats Grama	Western Wheatgrass	Crested Wheatgrass	Intermediate Wheatgrass	Kentucky Bluegrass	Smooth Brome	Quackgrass	Alfalfa	Yellow Sweetclover	Perennial Litter	Bare	Total Cover
101	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
102	0	0	0	0	0	0	1	0	0	0	0	0	9	0	10
103	0	0	0	0	0	0	0	0	0	0	0	0	7	3	7
104	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
105	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
106	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
107	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
108	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
109	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
110	0	0	0	0	0	0	1	0	0	0	0	0	9	0	10
111	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
112	0	0	0	0	0	0	1	0	0	0	0	0	8	1	9
113	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
114	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
115	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
116	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
117	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
118	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
119	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
120	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
121	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
122	0	0	0	0	0	0	0	0	0	0	0	0	7	3	7
123	0	0	0	0	0	0	1	0	0	0	0	0	8	1	9
124	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
125	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
126	0	0	0	0	0	0	1	0	0	0	0	0	9	0	10
127	0	0	0	0	0	0	0	0	1	0	0	0	8	1	9
128	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
129	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
130	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
131	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
132	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
133	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
134	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
135	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
136	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
137	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
138	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
139	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
140	0	0	0	0	0	0	1	0	0	0	0	0	8	1	9
141	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
142	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
143	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
144	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
145	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
146	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
147	0	0	0	0	0	0	1	0	0	0	0	0	9	0	10
148	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
149	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
150	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10

NAFK-8405 Section 23
Falkirk Mine
2024 Native Grassland Basal Cover

	Native					Introduced									
	Big Bluestem	Blue Grama	Green Needlegrass	Sideoats Grama	Western Wheatgrass	Crested Wheatgrass	Intermediate Wheatgrass	Kentucky Bluegrass	Smooth Brome	Quackgrass	Alfalfa	Yellow Sweetclover	Perennial Litter	Bare	Total Cover
Frame															
151	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
152	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
153	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
154	0	0	0	0	0	0	0	0	0	0	1	0	7	2	8
155	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
156	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
157	0	0	0	0	0	0	0	0	0	0	1	0	9	0	10
158	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
159	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
160	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
161	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
162	0	0	1	0	0	0	0	0	0	0	0	0	9	0	10
163	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
164	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
165	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
166	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
167	0	0	0	0	0	0	0	0	0	0	0	0	7	3	7
168	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
169	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
170	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
171	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
172	0	0	0	0	0	0	1	0	0	0	0	0	9	0	10
173	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
174	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
175	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
176	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
177	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
178	0	0	0	0	1	0	0	0	0	0	0	0	8	1	9
179	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
180	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
181	0	0	0	0	0	1	0	0	0	0	0	0	9	0	10
182	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
183	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
184	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
185	0	0	0	0	0	0	0	0	0	0	1	0	9	0	10
186	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
187	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
188	0	0	0	0	0	0	0	1	0	0	0	0	9	0	10
189	0	0	0	1	0	0	0	0	0	0	0	0	9	0	10
190	0	0	0	0	0	0	0	0	0	0	0	1	9	0	10
191	0	0	0	0	0	0	0	0	0	0	0	0	7	3	7
192	0	0	0	0	0	0	1	0	0	0	0	0	8	1	9
193	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
194	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
195	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10
196	0	0	0	1	0	0	0	0	0	0	0	0	9	0	10
197	0	0	0	0	0	0	1	0	0	0	0	0	9	0	10
198	0	0	0	0	0	0	0	0	0	0	0	0	8	2	8
199	0	0	0	0	0	0	0	0	0	0	0	0	9	1	9
200	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10

NAFK-8405 Section 23
Falkirk Mine
2024 Native Grassland Basal Cover

	Native					Introduced									
<i>Frame</i>	<i>Big Bluestem</i>	<i>Blue Grama</i>	<i>Green Needlegrass</i>	<i>Sideoats Grama</i>	<i>Western Wheatgrass</i>	<i>Crested Wheatgrass</i>	<i>Intermediate Wheatgrass</i>	<i>Kentucky Bluegrass</i>	<i>Smooth Brome</i>	<i>Quackgrass</i>	<i>Alfalfa</i>	<i>Yellow Sweetclover</i>	<i>Perennial Litter</i>	<i>Bare</i>	<i>Total Cover</i>
Total	3	1	3	8	5	8	15	15	9	4	7	1	1845	76	1924
Mean															9.62
Std. Dev															0.73
% Cover															
Absolute	0.2	0.1	0.2	0.4	0.3	0.4	0.8	0.8	0.5	0.2	0.4	0.1	92.3	3.8	96.2
Relative	3.8	1.3	3.8	10.1	6.3	10.1	19.0	19.0	11.4	5.1	8.9	1.3			100.0

Relative Cover and Total Cover without Yellow Sweetclover

	Native					Introduced									
	<i>Big Bluestem</i>	<i>Blue Grama</i>	<i>Green Needlegrass</i>	<i>Sideoats Grama</i>	<i>Western Wheatgrass</i>	<i>Crested Wheatgrass</i>	<i>Intermediate Wheatgrass</i>	<i>Kentucky Bluegrass</i>	<i>Smooth Brome</i>	<i>Quackgrass</i>	<i>Alfalfa</i>		<i>Perennial Litter</i>	<i>Bare</i>	<i>Total Cover</i>
Total	3	1	3	8	5	8	15	15	9	4	7		1845	77	1924
% Cover															
Absolute	0.2	0.1	0.2	0.4	0.3	0.4	0.8	0.8	0.5	0.2	0.4		92.3	3.9	96.1
Relative	3.8	1.3	3.8	10.3	6.4	10.3	19.2	19.2	11.5	5.1	9.0				

Sample Size And Adequacy:

Two-Stage Sampling Technique:

Using: $n = t^2 pq \div d^2$

t Distribution, Used 200 for n (t) = 1.289

% Average Cover (p) = 96.2

100 - p (q) = 3.8

Absolute Mean Error (d) = 10

Calculated Required Sample Size (n) = 6.1

7<200 Thus adequate number of samples were taken

Notes:

1. Cover sampling was conducted on July 27, 2024.
2. Frames 1-30: 2008 Seeding, Frames 31-40: 2013 Seeding, Frames 41-70: 2014 Seeding, Frames 71-90: 2016 Seeding, Frames 91-100: 2018 Seeding, Frames 101-190: 1995 Seeding, and Frames 191-200: 2015 Seeding

NAFK-8405 Section 23
Falkirk Mine
2025 Native Grassland Basal Cover

	Native					Introduced								
	Big Bluestem	Green Needlegrass	Sideoats Gramma	Switchgrass	Western Wheatgrass	Crested Wheatgrass	Intermediate Wheatgrass	Kentucky Bluegrass	Smooth Brome	Alfalfa	Yellow Sweetclover	Perennial Litter	Bare	Total Cover
Frame														
1	0	0	0	0	0	0	0	0	0	0	0	10	0	10
2	0	0	0	0	0	0	0	0	0	0	0	10	0	10
3	0	0	0	0	0	0	0	0	1	0	0	9	0	10
4	0	0	0	0	0	0	0	0	0	0	0	10	0	10
5	0	0	0	0	0	0	0	0	0	0	0	10	0	10
6	0	0	0	0	0	0	0	0	0	0	0	10	0	10
7	0	0	0	0	0	0	0	0	1	0	0	9	0	10
8	0	0	0	0	0	0	0	0	0	0	0	10	0	10
9	0	0	0	0	0	0	0	0	0	1	0	9	0	10
10	0	0	0	0	0	0	0	0	0	0	0	10	0	10
11	0	0	0	0	0	0	0	0	0	0	0	10	0	10
12	0	0	0	0	0	0	1	0	0	0	0	9	0	10
13	0	0	0	0	0	0	0	0	0	0	0	10	0	10
14	0	0	0	0	0	0	0	0	0	0	0	10	0	10
15	0	0	0	0	0	0	0	0	1	0	0	9	0	10
16	0	0	0	0	0	0	0	0	0	0	0	10	0	10
17	0	0	0	0	0	0	0	0	0	1	0	9	0	10
18	0	0	0	0	0	0	0	0	0	0	0	10	0	10
19	0	0	0	0	0	0	0	0	0	0	0	10	0	10
20	0	0	0	0	0	0	0	0	0	0	0	10	0	10
21	0	0	0	0	0	0	0	0	0	0	0	10	0	10
22	0	0	0	0	0	0	0	0	0	0	0	10	0	10
23	1	0	0	0	0	0	0	0	0	0	0	9	0	10
24	0	0	0	0	0	0	0	0	0	0	0	10	0	10
25	0	0	0	0	0	0	0	0	0	1	0	9	0	10
26	0	0	0	0	0	0	0	0	0	0	0	10	0	10
27	0	0	1	0	0	0	0	0	0	0	0	9	0	10
28	0	0	0	0	0	0	0	0	0	0	0	10	0	10
29	0	0	0	0	0	0	0	1	0	0	0	9	0	10
30	0	0	0	0	0	0	0	0	0	0	0	10	0	10
31	0	0	0	0	0	0	0	0	0	0	0	10	0	10
32	0	0	0	0	0	0	0	0	0	0	0	10	0	10
33	0	0	0	0	0	0	1	0	0	0	0	9	0	10
34	0	0	0	0	0	0	0	0	0	0	0	10	0	10
35	0	0	0	0	0	0	1	0	0	0	0	9	0	10
36	0	0	0	0	0	0	0	0	0	0	0	10	0	10
37	0	0	0	0	0	0	0	0	0	0	0	10	0	10
38	0	0	0	0	0	0	0	0	0	1	0	9	0	10
39	0	0	0	0	0	0	0	0	0	0	0	10	0	10
40	0	0	0	0	0	0	0	0	0	0	0	10	0	10
41	0	0	0	0	0	0	0	0	0	0	0	10	0	10
42	0	0	0	0	0	0	0	0	0	0	0	10	0	10
43	0	0	0	0	0	0	0	0	0	1	0	9	0	10
44	1	0	0	0	0	0	0	0	0	0	0	9	0	10
45	0	0	0	0	0	0	0	0	0	0	0	10	0	10
46	0	0	0	0	0	0	0	0	0	0	0	10	0	10
47	1	0	0	0	0	0	0	0	0	0	0	9	0	10
48	0	0	0	0	0	0	0	0	0	0	0	10	0	10
49	0	0	1	0	0	0	0	0	0	0	0	9	0	10
50	0	0	0	0	0	0	0	0	0	0	0	10	0	10

NAFK-8405 Section 23
Falkirk Mine
2025 Native Grassland Basal Cover

[illegible]

NAFK-8405 Section 23
Falkirk Mine
2025 Native Grassland Basal Cover

[illegible]

NAFK-8405 Section 23
Falkirk Mine
2025 Native Grassland Basal Cover

	Native					Introduced								
Frame	Big Bluestem	Green Needlegrass	Sideoats Grama	Switchgrass	Western Wheatgrass	Crested Wheatgrass	Intermediate Wheatgrass	Kentucky Bluegrass	Smooth Brome	Alfalfa	Yellow Sweetclover	Perennial Litter	Bare	Total Cover
151	0	0	0	0	0	0	0	0	0	1	0	9	0	10
152	0	0	0	0	0	0	0	0	0	1	0	8	1	9
153	0	0	0	0	0	0	0	0	0	0	0	10	0	10
154	0	0	0	0	0	0	1	0	0	0	0	9	0	10
155	0	0	0	0	0	0	0	0	0	0	0	9	1	9
156	0	0	0	0	0	0	0	0	0	0	0	10	0	10
157	0	0	0	0	0	0	0	0	0	0	0	9	1	9
158	0	0	0	0	0	0	0	0	0	0	0	8	2	8
159	0	0	0	0	0	0	0	0	0	0	0	10	0	10
160	0	0	0	0	0	0	0	0	0	0	0	10	0	10
161	0	0	0	0	0	0	0	0	0	0	0	10	0	10
162	0	0	0	0	0	0	1	0	0	0	0	9	0	10
163	0	0	0	0	0	0	0	0	0	0	0	10	0	10
164	0	0	0	0	0	0	0	1	0	0	0	9	0	10
165	0	0	0	0	0	1	0	0	0	0	0	9	0	10
166	0	0	0	0	0	0	0	0	0	0	0	10	0	10
167	0	0	0	0	0	0	0	0	0	0	0	10	0	10
168	0	0	0	0	0	0	0	0	0	0	0	10	0	10
169	0	0	0	0	0	0	0	0	0	1	0	9	0	10
170	0	0	0	0	0	0	0	0	0	0	0	10	0	10
171	0	0	0	0	0	0	0	0	0	0	0	10	0	10
172	0	0	0	0	0	0	0	0	0	0	0	10	0	10
173	0	0	0	0	0	1	0	0	0	0	0	9	0	10
174	0	0	0	0	0	0	0	0	0	0	0	10	0	10
175	0	0	0	0	0	1	0	0	0	0	0	9	0	10
176	0	0	0	0	0	0	0	0	0	0	0	10	0	10
177	0	0	0	0	0	0	0	0	0	0	0	10	0	10
178	0	0	0	0	0	0	0	0	0	0	0	10	0	10
179	0	0	0	0	0	0	1	0	0	0	0	9	0	10
180	0	0	0	0	0	0	0	0	0	0	0	10	0	10
181	0	0	0	0	0	0	0	0	0	0	0	10	0	10
182	0	0	0	0	0	0	0	0	0	0	0	10	0	10
183	0	0	0	0	0	0	1	0	0	0	0	9	0	10
184	0	0	0	0	0	0	0	0	0	1	0	9	0	10
185	0	0	0	0	0	0	0	0	0	0	0	10	0	10
186	0	0	0	0	0	0	0	0	0	0	0	10	0	10
187	0	0	0	0	0	0	1	0	0	0	0	9	0	10
188	0	0	0	0	0	0	0	1	0	0	0	9	0	10
189	0	0	0	0	0	0	0	0	0	0	0	10	0	10
190	0	0	0	0	1	0	0	0	0	0	0	9	0	10
191	0	0	0	0	0	0	0	0	0	0	0	10	0	10
192	0	0	0	0	0	0	1	0	0	0	0	9	0	10
193	0	0	0	0	0	0	0	0	0	0	0	9	1	9
194	0	0	0	0	0	0	0	0	0	0	0	10	0	10
195	0	0	0	0	0	1	0	0	0	0	0	9	0	10
196	0	0	0	0	0	0	0	0	0	0	0	10	0	10
197	0	0	0	0	0	0	0	0	0	0	0	10	0	10
198	0	0	0	0	0	0	1	0	0	0	0	9	0	10
199	0	0	0	0	0	0	0	0	0	0	0	10	0	10
200	0	0	0	0	0	0	0	0	0	0	0	10	0	10

NAFK-8405 Section 23
Falkirk Mine
2025 Native Grassland Basal Cover

	Native						Introduced								
<i>Frame</i>	<i>Big Bluestem</i>	<i>Green Needlegrass</i>	<i>Sideoats Grama</i>	<i>Switchgrass</i>	<i>Western Wheatgrass</i>		<i>Crested Wheatgrass</i>	<i>Intermediate Wheatgrass</i>	<i>Kentucky Bluegrass</i>	<i>Smooth Brome</i>	<i>Alfalfa</i>	<i>Yellow Sweetclover</i>	<i>Perennial Litter</i>	<i>Bare</i>	<i>Total Cover</i>
Total	4	3	5	3	4	0	6	19	6	6	19	2	1869	54	1946
Mean															9.73
Std. Dev															0.68
% Cover															
Absolute	0.2	0.2	0.3	0.2	0.2		0.3	1.0	0.3	0.3	1.0	0.1	93.5	2.7	97.3
Relative	5.2	3.9	6.5	3.9	5.2		7.8	24.7	7.8	7.8	24.7	2.6			100.0

Relative Cover and Total Cover without Yellow Sweetclover

	Native						Introduced								
	<i>Big Bluestem</i>	<i>Green Needlegrass</i>	<i>Sideoats Grama</i>	<i>Switchgrass</i>	<i>Western Wheatgrass</i>		<i>Crested Wheatgrass</i>	<i>Intermediate Wheatgrass</i>	<i>Kentucky Bluegrass</i>	<i>Smooth Brome</i>	<i>Alfalfa</i>		<i>Perennial Litter</i>	<i>Bare</i>	<i>Total Cover</i>
Total	4	3	5	3	4		6	19	6	6	19		1869	56	1946
% Cover															
Absolute	0.2	0.2	0.3	0.2	0.2	0.0	0.3	1.0	0.3	0.3	1.0		93.5	2.8	97.2
Relative	5.3	4.0	6.7	4.0	5.3	0.0	8.0	25.3	8.0	8.0	25.3				

Sample Size And Adequacy:

Two-Stage Sampling Technique:

Using: $n = t^2 pq \div d^2$

t Distribution, Used 200 for n (t) = 1.289

% Average Cover (p) = 97.3

100 - p (q) = 2.7

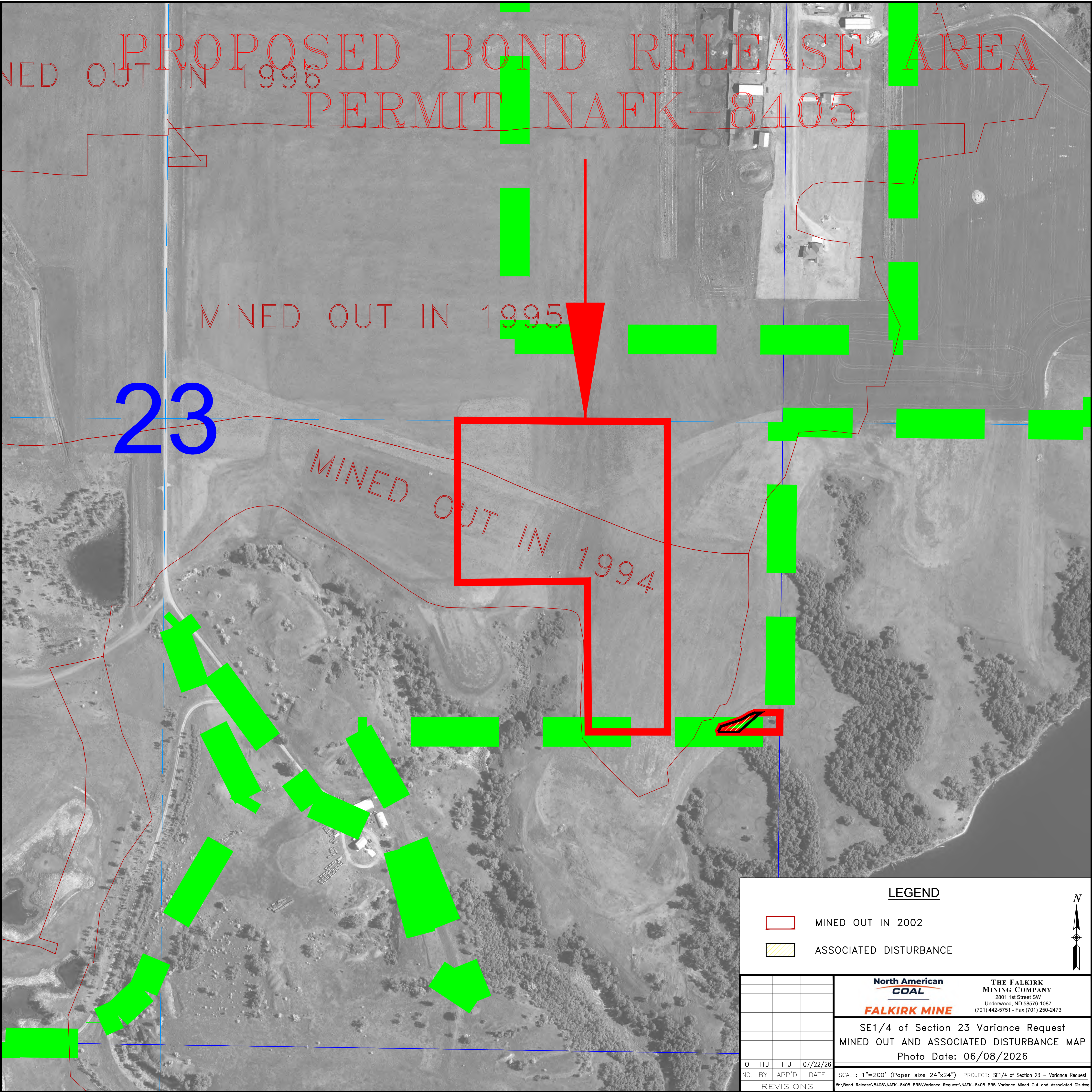
Absolute Mean Error (d) = 10

Calculated Required Sample Size (n) = 4.4

5 < 200 Thus adequate number of samples were taken

Notes:

1. Cover sampling was conducted on July 17, 2025.
2. Frames 1-30: 2008 Seeding, Frames 31-40: 2013 Seeding, Frames 41-70: 2014 Seeding, Frames 71-90: 2016 Seeding, Frames 91-100: 2018 Seeding, Frames 101-190: 1995 Seeding, and Frames 191-200: 2015 Seeding



MINED OUT IN 1996

PROPOSED BOND RELEASE AREA

PERMIT NAFK-8405

MINED OUT IN 1995

23

MINED OUT IN 1994

LEGEND

MINED OUT IN 2002

ASSOCIATED DISTURBANCE

0	TTJ	TTJ	07/22/26
NO.	BY	APP'D	DATE
REVISIONS			

North American
COAL

FALKIRK MINE

THE FALKIRK MINING COMPANY
2801 1st Street SW
Underwood, ND 58576-1087
(701) 442-5751 - Fax (701) 250-2473

SE1/4 of Section 23 Variance Request
MINED OUT AND ASSOCIATED DISTURBANCE MAP
Photo Date: 06/08/2026

SCALE: 1"=200' (Paper size 24"x24") PROJECT: SE1/4 of Section 23 - Variance Request
W:\Bond Release\8405\NAFK-8405 BR5\Variance Request\NAFK-8405 BR5 Variance Mined Out and Associated Dis.dwg

PROPOSED BOND RELEASE AREA
PERMIT NAFK-8405

23

2013

2018

2014 2008 2008

2014 2008

2016

1995

Variance Area
(1.5 acres)

2015

LEGEND



YEAR REVEGETATION PERIOD INITIATED



0	TTJ	TTJ	07/22/26
NO.	BY	APP'D	DATE
REVISIONS			

FALKIRK MINE

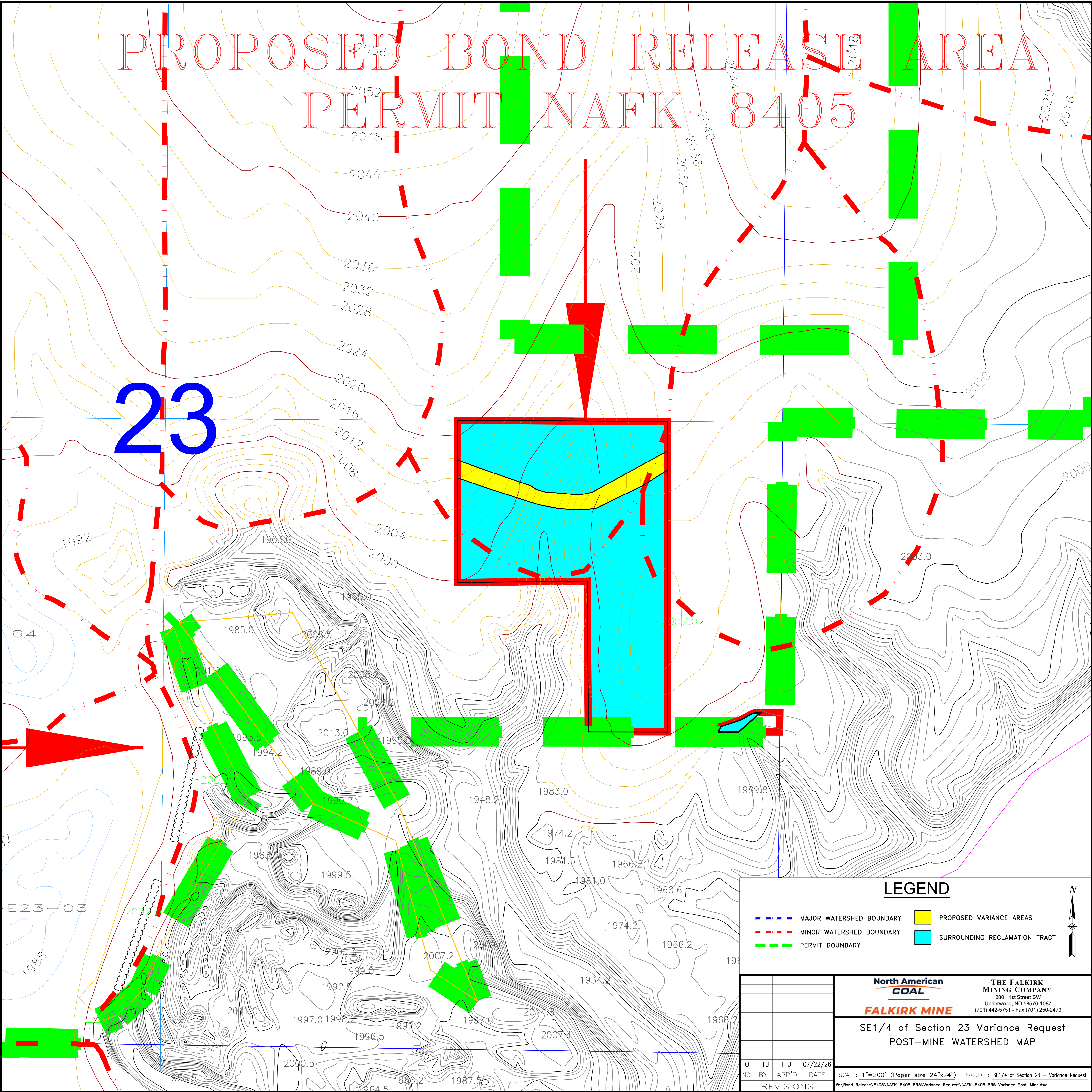
THE FALKIRK MINING COMPANY
2801 1st Street SW
Underwood, ND 58576-1087
(701) 442-5751 - Fax (701) 250-2473

SE1/4 of Section 23 Variance Request
REVEGETATION PERIOD INITIATED MAP
Photo Date: 06/08/2026

SCALE: 1"=200' (Paper size 24"x24") PROJECT: SE1/4 of Section 23 - Variance Request
W:\Bond Release\8405\NAFK-8405 BR5\Variance Request\NAFK-8405 BR5 Variance Reveg.dwg

PROPOSED BOND RELEASE AREA
PERMIT NAFK-8405

23



LEGEND

- MAJOR WATERSHED BOUNDARY
- MINOR WATERSHED BOUNDARY
- PERMIT BOUNDARY
- PROPOSED VARIANCE AREAS
- SURROUNDING RECLAMATION TRACT

2801 1st Street SW Underwood, ND 58576-1087 (701) 442-5751 - Fax (701) 250-2473			
SE1/4 of Section 23 Variance Request POST-MINE WATERSHED MAP			
0 TTJ TTJ 07/22/26		SCALE: 1"=200' (Paper size 24"x24") PROJECT: SE1/4 of Section 23 - Variance Request	
NO. BY APP'D DATE		W:\Bond Release\8405\NAFK-8405 BR5\Variance Request\NAFK-8405 BR5 Variance Post-Mine.dwg	
REVISIONS			