Casey and Julie Voigt v. Coyote Creek Mining Company, LLC

Case No. RC-23-348

PSC Reclamation Division Memorandum

**Voigt Exhibit 39**

58 RC-23-348 Filed 12/27/2023 Pages: 91
Exhibit 39 – Johnson Memorandum dated 09/30/22
Casey and Julie Voigt
Derrick Braaten, Braaten Law Firm

**Public Service Commission**
**Reclamation Division**

**Memorandum**

To: Zanna Brinkman, Jonathan Emmer, Jack Schuh

From: Monty Johnson

Date: September 30, 2022

Subject: MLJ response to "Comments of Casey and Julie Voigt, Objection to Mine Plan, and Request for Informal Hearing

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Casey and Julie Voigt (Voigts) have requested an informal hearing before the Public Service Commission (PSC) in a letter submitted to the PSC by Braaten Law Firm on August 29, 2022, regarding Coyote Creek Mining Company's Revision 12 to Permit NACC-1302. The Voigts made specific objections to the revisions made to Sections 2.5.4 and 2.5.7 to NACC-1302, among other revisions outside of my expertise. The following is a copy of the specific objections to Sections 2.5.4 and 2.5.7 with my response to each item.

1. *Sections 2.5.4, 2.5.7*
   a. *According to CCMC, "the projected respread thicknesses in the SE4NW4, NE4SW4, and the SW4SW4 Sec. 25 were corrected to 36" based on overburden Sample analyses. They were inadvertently labeled as 48" respread areas."*
      i. *The Voigts have not been made aware of any "overburden sample analyses" that justify this revision, nor has CCMC explained the source of its figures for the available topsoil and available subsoil in Section 2.5.4.2 – Soil Respread Depth Table.*

**Response to 1(a)(i):**

The projected Suitable Plant Growth Material (SPGM) thicknesses in the SE¼NW¼, NE¼SW¼, and the SW¼SW¼ of Section 25 are based on the physical and chemical properties (soil texture and sodium absorption ratio (SAR)) of overburden samples CC12020C, CC12018C, and CC12015C, respectively. All three samples were sampled in June of 2012, and the laboratory reports are listed in Permit NACC-1302 Section 2.1.7 – Overburden Sample Analyses. The laboratory reports were included in Section 2.1.7 in the original permit application and have remained unchanged in subsequent permit revisions, including Revision 12. The three samples appear to justify a projected 36-inch SPGM respread in the samples' respective locations based on Coyote Creek's proposed mining methods described in Section 2.5.4 – Soil Volume Methods and Section 3.1.1.3 – Mining Methods Narrative. In general, Section 2.5.4 and Section 3.1.1.3 state that Coyote Creek will use their truck-shovel fleet to remove the overburden that is greater than 85 feet above the target coal seam to be mined. The overburden material removed by the truck-shovel fleet is then hauled to an adjacent fill area where it is placed on top of the spoil created by the dragline and used for the final grading of the graded spoil surface. Because the overburden removed by the truck shovel-fleet is used to achieve the final graded spoil surface, option 2c in Policy Memorandum No. 17 To Mine Operators is used to project the pre-mining SPGM thicknesses in 40-acre increments. The projected respread thickness for the area represented by each drill hole will be specified based on the most undesirable material occurring in twenty percent or more of the overburden removed by the truck-

shovel fleet. The example worksheets used to calculate the projected SPGM thicknesses in the SE¼NW¼, NE¼SW¼, and the SW¼SW¼ of Section 25 will be submitted as an exhibit.

Coyote Creek does in fact explain the source of its figures for the available topsoil and available subsoil in Section 2.5.4.2 – Soil Respread Depth Table. This explanation can be found in Section 2.5.4 – Soil Volume Methods under the Soil Inventory Calculations section.

ii. *It is clear that the depths of soil respreading were not "inadvertently labeled" as the entire table is being revised to reduce the amounts of topsoil and subsoil being respread based on what CCMC has represented it has available. The obvious concern and primary question is how CCMC determined what amount is "available" and why it is now proposing to respread subsoil and topsoil contrary to the table is previously utilized at N.D.A.C. § 69-05.2-15-04(4).*

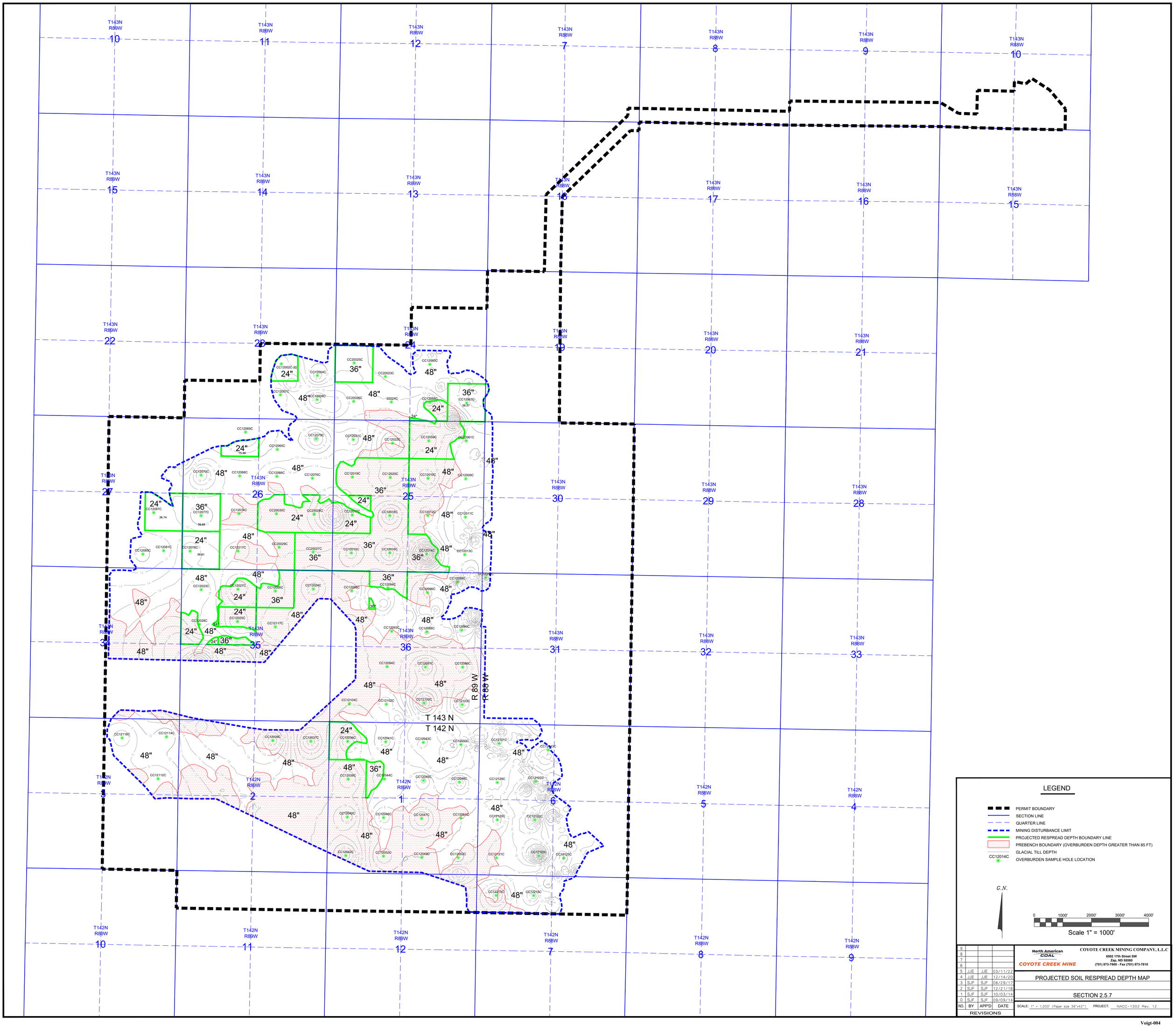
**Response to 1(a)(ii):**

It's unclear what table is being referenced in the statement "*It is clear that the depths of soil respreading were not "inadvertently labeled" as the entire table is being revised to reduce the amounts of topsoil and subsoil being respread based on what CCMC has represented it has available".* The Soil Volume Table in Section 2.5.4.1 and the Soil Respread Depth Table in Section 2.5.4.2 have remained unchanged since Revision 1 in December 2014 and Revision 5 in June 2016, respectively. The amount of SPGM available was determined based on a professional soil survey conducted by Prairie Soil Consulting found in Section 2.5.2 – Soil Report, and a further explanation can be found in Section 2.5.4 – Soil Volume Methods. Coyote Creek is not proposing to respread subsoil and topsoil contrary to the table in NDAC 69-05.2-15-04(4). Coyote Creek still must respread SPGM in accordance with NDAC 69-05.2-15-04(4) and Policy Memorandum No. 17 To Mine Operators.

*iii.* *CCMC proposed to conduct its respreading operation based on the provisions of N.D.A.C. § 69-05.2-15-04(4) and made calculations based on soil chemistry regarding what amount of subsoil and soil would need to be respread to successfully reclaim the land. CCMC has not explained how significantly reducing the amount of suitable plant growth material being respread is going to achieve the same success with reclamation as its prior plans. Without a compelling justification, CCMC should not be allowed to so significantly reduce the amount of suitable plant growth material being respread across the mine*

**Response to 1(a)(iii):**

The only item that Coyote Creek has made changes to in Revision 12 regarding SPGM respread are the projected respread depths in the SE¼NW¼, NE¼SW¼, and the SW¼SW¼ of Section 25. Just because Coyote Creek has projected a certain SPGM respread thickness does not mean that the actual required respread thickness will be the same as projected. The actual SPGM respread thickness will be determined based on graded spoil properties in accordance with NDAC 69-05.2-15-04(4) and Policy Memorandum No. 17 To Mine Operators.




| NO. | BY | APP'D | DATE |
|---|---|---|---|
| 9 | | | |
| 8 | | | |
| 7 | | | |
| 6 | | | |
| 5 | JJE | JJE | 03/11/22 |
| 4 | JJE | JJE | 12/14/20 |
| 3 | SJF | SJF | 06/29/17 |
| 2 | SJF | SJF | 12/21/16 |
| 1 | SJF | SJF | 10/03/14 |
| 0 | SJF | SJF | 09/09/14 |

REVISIONS

North American COAL
COYOTE CREEK MINE

COYOTE CREEK MINING COMPANY, L.L.C
6502 17th Street SW
Zap, ND 58580
(701) 873-7800 - Fax (701) 873-7810

PROJECTED SOIL RESPREAD DEPTH MAP

SECTION 2.5.7

SCALE: 1" = 1,000' (Paper size 36"x42")  PROJECT: NACC-1302 Rev. 12

Top of Coal 121.25' − 85' (depth removed by dragline) = 36.25'

36.25' falls into 35-40' sample interval (0-40' removed by truck shovel fleet)

↓

40' ÷ 5 = 8 sample intervals above dragline removal depth

8 intervals × 20% = 1.6 → 2 intervals of least desirable material

- Only 1 interval has an SAR > 20 and no interval has coarse texture of Sandy loam, loamy sand, or sand. More than one interval has an SAR 12-20.

36" projected respread

AGVISE LABORATORIES

604 Highway 15 West
P.O. Box 510
Northwood, ND 58267

(701) 587-6010
FAX (701) 587-6013

email: agvise@polarcomm.com
Homepage: www.agvise.com

Coyote Creek
204 County Rd 15
Beulah, ND 58523

Date Sampled: 06/28/12
Date Received: 07/06/12
Date Reported: 08/14/12

Site: CC12015C

| Ref# | Lab# | Depth | EC | Cat/EC | Ca | Mg | Na | SAR | pH | Texture | Sand | Silt | Clay | Sat. Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13251511 | 36042 | 0-5 1 | 5.43 | 14.95 | 14.6 | 27.0 | 39.5 | 8.67 | 7.9 | CLAY LOAM | 33 | 30 | 37 | 75.9 |
| 13251512 | 36043 | 5-10 2 | 8.09 | 15.37 | 22.7 | 39.3 | 62.3 | 11.19 | 7.9 | CLAY | 23 | 26 | 51 | 102.9 |
| 13251513 | 36044 | 10-15 3 | 2.34 | 9.18 | 1.3 | 2.4 | 17.8 | 13.05 | 8.2 | CLAY | 9 | 12 | 79 | 156.7 |
| 13251514 | 36045 | 15-20 4 | 1.90 | 10.55 | 1.2 | 1.8 | 17.0 | 13.91 | 8.0 | CLAY | 11 | 32 | 57 | 109.5 |
| 13251515 | 36046 | 20-25 5 | 1.83 | 8.14 | 0.7 | 1.0 | 13.2 | 14.21 | 8.4 | CLAY | 5 | 32 | 63 | 160.1 |
| 13251516 | 36047 | 25-30 6 | 1.64 | 10.53 | 0.9 | 1.1 | 15.3 | 15.46 | 8.3 | CLAY | 3 | 28 | 69 | 176.2 |
| 13251517 | 36048 | 30-35 7 | 2.64 | 8.56 | 1.3 | 1.3 | 20.1 | 17.79 | 8.2 | CLAY | 5 | 22 | 73 | 151.3 |
| 13251518 | 36049 | 35-40 8 | 2.90 | 11.71 | 1.6 | 1.5 | 30.9 | 25.11 | 7.6 | CLAY | 23 | 30 | 47 | 85.4 |
| 13251519 | 36050 | 40-45 | 1.60 | 9.99 | 0.4 | 0.4 | 15.2 | 24.46 | 8.7 | CLAY | 9 | 34 | 57 | 211.4 |
| 13251520 | 36051 | 45-50 | 1.57 | 9.86 | 0.4 | 0.3 | 14.9 | 26.45 | 8.8 | SILT LOAM | 21 | 52 | 27 | 127.8 |
| 13251521 | 36052 | 50-55 | 1.91 | 10.43 | 0.4 | 0.3 | 19.2 | 31.88 | 8.8 | SILTY CLAY LOAM | 19 | 52 | 29 | 110.7 |
| 13251522 | 36053 | 55-60 | 2.07 | 9.32 | 0.4 | 0.3 | 18.6 | 31.07 | 8.5 | LOAM | 23 | 50 | 27 | 122.4 |
| 13251523 | 36054 | 60-65 | 1.60 | 10.48 | 0.3 | 0.3 | 16.2 | 29.28 | 8.9 | CLAY LOAM | 21 | 48 | 31 | 124.7 |
| 13251524 | 36055 | 65-70 | 1.82 | 9.20 | 0.3 | 0.3 | 16.1 | 28.73 | 8.9 | SILTY CLAY LOAM | 13 | 50 | 37 | 147.8 |
| 13251525 | 36056 | 70-75 | 2.00 | 10.34 | 0.4 | 0.4 | 19.9 | 31.53 | 8.7 | CLAY | 3 | 30 | 67 | 136.3 |
| 13251526 | 36057 | 75-80 | 2.89 | 11.53 | 0.8 | 0.8 | 31.7 | 35.67 | 7.5 | CLAY | 33 | 22 | 45 | 66.8 |
| 13251527 | 36058 | 80-85 | 1.68 | 10.31 | 0.3 | 0.3 | 16.8 | 31.65 | 8.6 | CLAY | 7 | 40 | 53 | 136.0 |
| 13251528 | 36059 | 85-90 | 1.54 | 10.07 | 0.3 | 0.3 | 15.0 | 28.74 | 8.8 | SILTY CLAY LOAM | 17 | 48 | 35 | 157.9 |
| 13251529 | 36060 | 90-95 | 1.53 | 7.75 | 0.2 | 0.2 | 11.4 | 25.35 | 9.1 | SILTY CLAY LOAM | 15 | 50 | 35 | 182.8 |
| 13251530 | 36061 | 95-100 | 1.45 | 10.79 | 0.3 | 0.3 | 15.0 | 27.17 | 8.6 | SILTY CLAY LOAM | 15 | 46 | 39 | 167.5 |
| 13251541 | 36062 | 100-105 | 1.94 | 8.56 | 0.3 | 0.2 | 16.1 | 31.48 | 9.0 | LOAM | 29 | 44 | 27 | 144.0 |
| 13251542 | 36063 | 105-110 | 1.64 | 10.40 | 0.3 | 0.4 | 16.3 | 27.55 | 8.9 | CLAY LOAM | 29 | 40 | 31 | 143.2 |
| 13251543 | 36064 | 110-115 | 2.00 | 10.02 | 0.3 | 0.3 | 19.4 | 33.75 | 8.7 | SILTY CLAY | 9 | 44 | 47 | 115.3 |
| 13251544 | 36065 | 115-120 | 1.91 | 11.11 | 0.5 | 0.4 | 20.3 | 30.39 | 8.5 | CLAY | 11 | 20 | 69 | 124.5 |
| 13251545 | 36066 | 120-121.25 | 1.50 | 10.54 | 0.4 | 0.3 | 15.1 | 25.36 | 7.8 | CLAY | 37 | 10 | 53 | 109.9 |
| 13251546 | 36067 | 132-137 | 1.73 | 10.36 | 0.3 | 0.3 | 17.3 | 32.28 | 8.3 | CLAY LOAM | 27 | 38 | 35 | 103.0 |

↳ Top of coal 121.25'

AGVISE LABORATORIES

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email: agvise@polarcomm.com
Homepage: www.agvise.com

Top of coal 110' - 85 (depth removed by dragline) = 25'
• 0-25' removed by truck shovel fleet.
25' ÷ 5 = 5 sample intervals above dragline removal depth
5 intervals # × 20% = 1 interval of least desirable material
- no intervals (0-25') have an SAR > 20 or coarse texture of sandy loam, loamy sand, or sand. More than one interval has SAR 12-20

36" projected respread

Coyote Creek
204 County Rd 15
Beulah, ND 58523

Date Sampled: 06/27/12
Date Received: 07/06/12
Date Reported: 09/06/12

Site: CC12018C

| Ref# | Lab# | Depth | EC | Cat/EC | Ca | Mg | Na | SAR | pH | Texture | Sand | Silt | Clay | Sat. Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14366661 | 35843 | 0-5 1 | 3.74 | 14.50 | 22.9 | 17.1 | 14.3 | 3.19 | 7.8 | CLAY | 19 | 26 | 55 | 81.9 |
| 14366662 | 35844 | 5-10 2 | 4.10 | 12.90 | 4.4 | 13.8 | 34.7 | 11.48 | 8.3 | CLAY | 5 | 26 | 69 | 105.0 |
| 14366663 | 35845 | 10-15 3 | 3.82 | 11.99 | 3.2 | 7.5 | 35.1 | 15.17 | 8.3 | CLAY | 5 | 26 | 69 | 127.3 |
| 14366664 | 35846 | 15-20 4 | 2.56 | 8.17 | 1.3 | 1.8 | 17.8 | 14.41 | 8.1 | CLAY | 3 | 14 | 83 | 143.9 |
| 14366665 | 35847 | 20-25 5 | 4.39 | 12.31 | 7.8 | 8.5 | 37.7 | 13.23 | 7.9 | SILTY CLAY | 15 | 42 | 43 | 107.6 |
| 14366666 | 35848 | 25-30 | 2.88 | 10.60 | 1.7 | 2.3 | 26.6 | 19.02 | 8.4 | LOAM | 31 | 48 | 21 | 59.2 |
| 14366667 | 35849 | 30-35 | 2.70 | 10.15 | 0.9 | 1.0 | 25.4 | 25.67 | 8.5 | SILTY CLAY LOAM | 19 | 46 | 35 | 91.7 |
| 14366668 | 35850 | 35-40 | 2.67 | 10.11 | 0.7 | 0.7 | 25.6 | 30.21 | 8.3 | CLAY | 11 | 40 | 49 | 106.7 |
| 14366669 | 35851 | 40-45 | 2.24 | 10.34 | 0.4 | 0.4 | 22.4 | 36.06 | 8.5 | SILTY CLAY LOAM | 13 | 48 | 39 | 107.1 |
| 14366670 | 35852 | 45-50 | 2.83 | 7.79 | 0.3 | 0.3 | 21.4 | 37.63 | 8.6 | SILTY CLAY LOAM | 17 | 50 | 33 | 94.1 |
| 14366671 | 35853 | 50-55 | 2.48 | 10.09 | 0.3 | 0.4 | 24.3 | 41.15 | 8.4 | CLAY | 15 | 34 | 51 | 93.5 |
| 14366672 | 35854 | 55-60 | 2.55 | 10.12 | 0.5 | 0.4 | 24.9 | 37.69 | 8.5 | CLAY | 11 | 36 | 53 | 101.2 |
| 14366673 | 35855 | 60-65 | 3.19 | 10.39 | 0.6 | 0.6 | 32.0 | 41.50 | 7.8 | CLAY | 13 | 18 | 69 | 87.6 |
| 14366674 | 35856 | 65-70 | 2.41 | 10.39 | 0.4 | 0.3 | 24.3 | 41.02 | 8.4 | CLAY | 15 | 30 | 55 | 116.4 |
| 14366675 | 35857 | 70-75 | 1.91 | 10.35 | 0.2 | 0.2 | 19.3 | 41.69 | 8.6 | CLAY LOAM | 21 | 42 | 37 | 121.3 |
| 14366676 | 35858 | 75-80 | 2.19 | 9.19 | 0.3 | 0.3 | 19.5 | 34.19 | 8.5 | SILTY CLAY | 9 | 42 | 49 | 108.2 |
| 14366677 | 35859 | 80-85 | 1.74 | 10.59 | 0.3 | 0.5 | 17.6 | 27.33 | 8.7 | SILTY CLAY LOAM | 19 | 46 | 35 | 99.0 |
| 14366678 | 35860 | 85-90 | 1.52 | 10.27 | 0.2 | 0.4 | 15.0 | 28.29 | 8.9 | LOAM | 41 | 32 | 27 | 104.7 |
| 14366679 | 35861 | 90-95 | 1.45 | 10.75 | 0.5 | 0.8 | 14.2 | 17.25 | 8.6 | SILTY CLAY LOAM | 19 | 46 | 35 | 149.0 |
| 14366680 | 35862 | 95-100 | 1.79 | 8.46 | 0.4 | 0.5 | 14.2 | 21.15 | 8.7 | CLAY LOAM | 25 | 40 | 35 | 134.0 |
| 14366681 | 35863 | 100-105 | 1.52 | 10.13 | 0.4 | 0.5 | 14.5 | 21.95 | 8.6 | CLAY | 15 | 36 | 49 | 97.8 |
| 14366682 | 35864 | 105-109 | 2.04 | 10.20 | 0.5 | 0.5 | 19.8 | 27.63 | 8.5 | CLAY | 7 | 20 | 73 | 92.0 |
| 14366683 | 35865 | 121-126 | 4.25 | 11.41 | 2.2 | 1.5 | 44.7 | 32.58 | 6.7 | CLAY | 14 | 11 | 75 | 122.0 |

Top of coal ~ 110'

Top of coal 107' − 85 (depth removed by dragline) = 22'

22' falls into 20-25' sample interval (0-25' removed by truck shovel fleet)

25' ÷ 5 = 5 sample intervals above dragline removal depth

5 intervals × 20% = 1 interval of least desirable material

- no intervals (0-25') have an SAR > 20 or coarse texture of sandy loam, loamy sand, or sand. More than one interval has an SAR 12-20

36" projected respread

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Coyote Creek
204 County Rd 15
Beulah, ND 58523

Date Sampled: 06/28/12
Date Received: 07/06/12
Date Reported: 09/06/12

Site: CC12020C

| Ref# | Lab# | Depth | EC | Cat/EC | Ca | Mg | Na | SAR | pH | Texture | Sand | Silt | Clay | Sat. Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13251671 | 36158 | 0-5 1 | 2.50 | 10.80 | 6.6 | 7.4 | 13.0 | 4.92 | 7.9 | CLAY LOAM | 43 | 22 | 35 | 59.6 |
| 13251672 | 36159 | 5-10 2 | 2.50 | 11.15 | 1.5 | 3.9 | 22.4 | 13.55 | 8.4 | CLAY | 15 | 32 | 53 | 79.3 |
| 13251673 | 36160 | 10-15 3 | 4.35 | 12.70 | 4.9 | 8.6 | 41.8 | 16.09 | 7.0 | CLAY | 17 | 36 | 47 | 85.3 |
| 13251674 | 36161 | 15-20 4 | 4.19 | 11.46 | 4.2 | 5.9 | 37.9 | 16.84 | 7.9 | SILTY CLAY LOAM | 19 | 42 | 39 | 111.2 |
| 13251675 | 36162 | 20-25 5 | 3.35 | 10.74 | 2.0 | 3.0 | 31.0 | 19.56 | 8.1 | SILTY CLAY | 13 | 42 | 45 | 130.9 |
| 13251676 | 36163 | 25-30 | 2.24 | 10.09 | 0.7 | 1.1 | 20.8 | 22.03 | 8.5 | SILTY CLAY LOAM | 19 | 50 | 31 | 133.8 |
| 13251677 | 36164 | 30-35 | 5.60 | 13.06 | 2.1 | 3.1 | 68.0 | 42.39 | 8.6 | LOAM | 41 | 34 | 25 | 112.5 |
| 13251678 | 36165 | 35-40 | 2.48 | 10.78 | 0.9 | 0.9 | 25.0 | 26.63 | 8.4 | CLAY LOAM | 23 | 44 | 33 | 127.7 |
| 13251679 | 36166 | 40-45 | 2.40 | 9.43 | 0.4 | 0.6 | 21.6 | 30.42 | 8.6 | SILTY CLAY LOAM | 17 | 52 | 31 | 132.5 |
| 13251680 | 36167 | 45-50 | 2.97 | 7.40 | 0.5 | 0.5 | 21.0 | 30.20 | 8.8 | CLAY LOAM | 21 | 44 | 35 | 127.3 |
| 13251681 | 36168 | 50-55 | 1.97 | 9.65 | 0.3 | 0.3 | 18.3 | 31.35 | 9.0 | LOAM | 41 | 34 | 25 | 130.2 |
| 13251682 | 36169 | 55-60 | 1.64 | 11.47 | 0.4 | 0.3 | 18.1 | 30.81 | 9.0 | LOAM | 41 | 36 | 23 | 115 |
| 13251683 | 36170 | 60-65 | 2.82 | 10.93 | 0.8 | 0.7 | 29.3 | 33.21 | 8.0 | CLAY | 15 | 26 | 59 | 136.5 |
| 13251684 | 36171 | 65-70 | 2.36 | 10.63 | 0.5 | 0.4 | 24.1 | 35.48 | 8.5 | CLAY | 13 | 34 | 53 | 126.1 |
| 13251685 | 36172 | 70-75 | 1.63 | 10.07 | 0.3 | 0.3 | 15.8 | 28.54 | 9.0 | CLAY LOAM | 23 | 40 | 37 | 164.5 |
| 13251686 | 36173 | 75-80 | 1.93 | 9.30 | 0.4 | 0.4 | 17.2 | 29.01 | 8.8 | SILTY CLAY LOAM | 13 | 48 | 39 | 168 |
| 13251687 | 36174 | 80-85 | 2.00 | 10.57 | 0.4 | 0.3 | 20.4 | 34.76 | 8.7 | CLAY | 7 | 36 | 57 | 144.2 |
| 13251688 | 36175 | 85-90 | 1.77 | 10.31 | 0.3 | 0.3 | 17.7 | 32.22 | 8.8 | SILTY CLAY | 15 | 42 | 43 | 176.3 |
| 13251689 | 36176 | 90-95 | 1.75 | 10.44 | 0.3 | 0.3 | 17.7 | 31.96 | 8.8 | SILTY CLAY LOAM | 19 | 44 | 37 | 150 |
| 13251690 | 36177 | 95-100 | 2.06 | 8.64 | 0.3 | 0.3 | 17.2 | 32.66 | 8.7 | CLAY | 15 | 40 | 45 | 140.8 |
| 13251692 | 36178 | 100-105 | 1.86 | 10.42 | 0.3 | 0.3 | 18.8 | 35.66 | 8.6 | CLAY | 5 | 28 | 67 | 139 |
| 13251693 | 36179 | 105-107 | 1.00 | 11.87 | 0.3 | 0.6 | 11.0 | 16.33 | 8.5 | CLAY | 5 | 22 | 73 | 131 |
| 13251694 | 36180 | 118-123 | 1.73 | 10.39 | 0.3 | 0.4 | 17.3 | 29.39 | 7.7 | Not enough sample | | | | 127.8 |

Top of coal
107'

Policy Memorandum No. 17 To Mine Operators

DATE: March 8, 1995 (Revised)
(Original Issue Date January 20, 1987)

TO: All Mine Operators and Lignite Energy Council

FROM: Commissioners Wefald, Hagen and Reinbold

SUBJECT: Suitable Plant Growth Material (SPGM) Removal and Redistribution under NDAC Chapter 69-05.2-15, as revised January 1, 1987

This policy memorandum provides guidance to mine operators for SPGM removal and redistribution under the revised requirements of North Dakota Administrative Code (NDAC) 69-05.2-15, as amended effective January 1, 1987. Under the amended chapter, mine operators have the opportunity to select one of two options in their handling of SPGM which must be specified in the permit:

1. The first option is to save and respread all available SPGM. The availability of suitable plant growth materials is determined by a pre-mining soil survey to a depth of five feet conducted by a professional Soil Classifier. Using topsoil and subsoil quality criteria defined in NDAC Section 69-05.2-08-l0, the Soil Classifier identifies the vertical and lateral (areal) extent of SPGM. Specifications for the removal and redistribution of all SPGM under this practice are in NDAC Chapter 69-05.2-15 and Policy Memorandum No. 5 to Mine Operators. However, the Commission may require the saving of other suitable strata under procedures in Policy Memorandum No. 3 to Mine Operators.

   The replaced SPGM thicknesses will be checked by Reclamation Division staff no later than at the time bond release is requested for replacement of SPGM. The required SPGM thickness at this time will be based on the premine soil survey inventory thickness with an adjustment for any net compaction plus any difference between the premine inventory and what was actually removed. Any significant variation in the amount of SPGM removed from that indicated in the soil survey must be accounted for and documented by the mining company at the time of soil removal. This variation must also be noted in grade approval requests and bond release applications for SPGM respread.

2. The second option as first allowed by the January 1, 1987, amended rules, requires the saving of all topsoil and a sufficient amount of subsoil to respread a specific thickness over the graded spoil based on the spoil properties. The properties which must be

considered are sodium adsorption ratio (SAR), saturation percentage (SP) and texture. The specific parameters of graded spoil and redistribution thicknesses of SPGM are in NDAC Section 69-05.2-15-04(4)(a)(2) of the amended rules.

Since the total SPGM respread thicknesses are tied to the graded spoil properties, the amount of SPGM to be removed prior to mining will be based on the premine overburden sample analyses. However, at the present time, there is no model for accurately predicting postmining graded spoil properties from the premine overburden data. Until a suitable model is developed, the proposed SPGM replacement thicknesses for the permit area will be determined by the Commission prior to permit approval according to the following procedures using available overburden sample results:

a) If one coal seam will be mined and the overburden will be removed with a dragline, the respread thickness for the area represented by each drill hole will be specified based on the most undesirable material (i.e. that requiring the greatest thickness of replaced SPGM) occurring in twenty percent or more of the overburden above the coal seam to be mined. Example - if the overburden thickness down to the coal seam is eighty feet and four of the sixteen five-foot overburden segments have SAR's greater than twenty, the respread thickness will be 48 inches. However, depending on the distribution of the least desirable material and site specific SAR values, variations from this procedure may be considered on a case by case basis.

b) If more than one coal seam will be mined and the interburden will be removed with a dragline, the respread thickness for the area represented by each drill hole will generally be specified based on the most material occurring in twenty percent or more of the interburden between the two lowest coal seams to be mined. Example - if two coal seams will be mined with an interburden thickness of thirty feet and two of the six five-foot interburden segments have SAR's greater than twenty, the respread thickness will be 48 inches. However, depending on the site specific interburden thickness and stripping methods, this procedure may be modified on a case by case basis.

c) If scrapers or truck/shovel operations are to be used to remove some or all of the overburden, the respread thickness will be specified based on the site specific stripping procedures as well as the overburden characteristics.

More specific example determinations using the procedures specified by a) and b) are attached.

The amount of SPGM removed must take into account any net compaction that may occur during the soil handling process. Example - if the required replacement thickness is 36 inches and the net compaction of the replaced soils is ten percent, 40 inches must be initially removed in order to achieve the 36 inch replacement thickness. The mine operator must assure that sufficient SPGM is salvaged to meet the specified replacement thicknesses.

The amount of SPGM to be removed from all areas to be disturbed must be specified in the mining and reclamation plans contained in the approved permit or in the annual soil handling plan. The annual soil handling plan must include a map depicting the areas

(and soil mapping units) to be stripped of soil, the removal depths and volumes, the current and projected topsoil and subsoil balances, and any required comparative analyses of the soil material in the removal areas.

Sufficient soil material must normally be saved as operations proceed so that at any given time sufficient SPGM is available for respreading the required thicknesses over all disturbed areas. For example, if 300 acres are disturbed at a mine and the premine overburden data shows that 36 inches of SPGM must be respread, sufficient topsoil and subsoil must be available in stockpiles to achieve this thickness over the 300 acres (provided a sufficient amount is available based on the soil survey for the 300 acres). However, if the quality of inventoried subsoil varies significantly within a permit area, exceptions to this practice may be approved on a case by case basis to allow for the saving and respreading of better quality subsoil and/or substitute material.

If the soil survey shows that there is not a sufficient amount of SPGM available to meet the required replacement thickness, other suitable strata to the extent available must be saved to achieve the required thickness.

Graded spoil sampling will be required until an acceptable model to accurately predict postmine graded spoil properties from premine overburden data is developed. Exceptions will be made if the SPGM replacement thickness is 48 inches. Once final grading has been completed in an area, final graded spoil samples must be taken to determine the physical and chemical properties of the spoil. These samples must be taken to a 12 inch depth on a grid with approximately 400 foot intervals. If grade approval areas tend to be narrow strips (i.e., less than 400 feet wide), an alternate sampling scheme may be approved by the Reclamation Division to ensure that each grade approval area is adequately sampled.

It is recommended that at least 3 or 4 samples be randomly collected around each grid point and then combined into a composite sample for analyses. The composite samples must be analyzed for SAR, SP and texture (including percent sand, silt and clay) and the results submitted to the Commission with grade approval requests. The grade approval requests must include a map showing the location of grid points where the composite sample was taken. From these data the Commission will determine and specify the SPGM replacement thickness (or thicknesses if the spoil properties vary within a grade approval area). However. this sampling requirement may be modified or dropped by the Commission if premine data show that overburden properties are generally uniform throughout an area.

There may be situations where the graded spoil sampling demonstrates that excess subsoil has been removed and stockpiled (based on predictions from the premine overburden data). In these situations, the excess subsoil may be respread on other areas (assuming the landowner is the same or mixing agreements exist) and the amount of subsoil to be removed from other areas to be disturbed may be correspondingly reduced. If the graded spoil sampling shows that insufficient subsoil has been removed and stockpiled, additional subsoil or other material must be saved and respread to the extent available within the same land ownership (or others if mixing agreements exist) to achieve the necessary thickness.

The option for respreading SPGM based on graded spoil characteristics also applies to areas that were disturbed as of January 1, 1987 that had not been respread with SPGM. However, if this option was selected, the appropriate permits must have been revised to incorporate plans to respread SPGM based on the graded spoil properties.

In general, the replaced SPGM thicknesses will not be checked until both the subsoil and topsoil have been respread. However, if requested, the Commission will check the replaced subsoil thickness prior to topsoil replacement. If such a request is made, the operator must recognize that some delays in topsoil respreading are likely to occur.

Finally, it must be noted that, as specified by NDAC 69-05.2-15-04(4)(a)(2)(a), the minimum thickness of SPGM at any one location must be within 6 inches of the total average thickness required for that particular area. The average respread thickness for a particular tract must not be less than the required thickness.

Please note that the option for respreading SPGM based on the graded spoil properties does not apply to prime farmlands. Sufficient topsoil and subsoil must be saved for redistribution on reconstructed prime farmlands to achieve the 48 inch minimum thickness (or lesser thickness if the original prime farmland soil profile contains a horizon which inhibits root penetration) required by NDAC Section 69-05.2-26-04(2).

| Bruce Hagen<br>Commissioner | Susan E. Wefald<br>President | Leo M. Reinbold<br>Commissioner |
|---|---|---|

Attachments

**Examples of SPGM replacement thicknesses determined according to procedure (a)**

| Sample Segment | Example 1 SAR | Example 2 SAR | Example 3 SAR |
|---|---|---|---|
| 0-5' | 1 | 1 | 1 |
| 5-10' | 2 | 1 | 1 |
| 10-15' | 4 | 2 | 1 |
| 15-20' | 4 | 5 | 3 |
| 20-25' | 5 | 3 | 4 |
| 25-30' | 9 | 7 | 5 |
| 30-35' | 10 | 5 | 2 |
| 35-40' | 13 (SP<95) | 11 | 6 |
| 40-45' | 11 | 8 | 10 |
| 45-50' | 17 (SP>95) | 10 | 9 |
| 50-55' | 15 (SP>95) | 9 | 15 (SP<95) |
| 55-60' | 18 (SP>95) | 16 (SP>95) | 11 |
| 60-65' | 27 | 14 (SP>95) | 14 (SP<95) |
| 65-70' | 32 | 22 | 21 |
| 70-75' | 25 | 19 (SP>95) | 16 (SP>95) |
| 75-80' | 34 | 30 | 25 |
| 80' | Coal | Coal | Coal |

In each of these examples 20% of the overburden thickness is 16 feet; therefore, the 4 least desirable five-foot overburden segments will be used to specify the respread thickness.

Example 1 - The 4 least desirable segments have SAR's greater than 20; therefore, the required SPGM respread thickness will be 48 inches.

Example 2 - The 4 least desirable segments are two with SAR's greater than 20 and two with SAR's between 12 and 20 with an SP greater than 95: the required SPGM respread thickness will be 42 inches.

Example 3 - The 4 least desirable segments are two with SAR's greater than 20, one with an SAR between 12 and 20 with a SP greater than 95, and the other a SAR between 12 and 20 with a SP less than 95; the required SPGM respread thickness will be 36 inches.

**Examples of SPGM replacement thicknesses determined according to procedure (b)**

| | Example 1 | Example 2 | Example 3 |
|---|---|---|---|
| Sample Segment | SAR | SAR | *SAR* |
| 0-51’ | 1 | 2 | 1 |
| 5-10’ | 1 | 1 | 1 |
| 10-15' | 3 | 4 | 2 |
| 15-20' | 2 | 7 | 1 |
| 20-25’ | 7 | 12 (SP<95) | 4 |
| 25-30' | 6 | 16 (SP<95) | 13 (SP<95) |
| 30-35’ | 15 (SP>95) | 22 | 20 (SP>95) |
| 35-40’ | Coal | Coal | Coal |
| 40-45' | 18 (SP>95) | 19 (SP<95) | 6 |
| 45-50' | 13 (SP>95) | 15 (SP<95) | 8 |
| 50-55’ | 17 (SP>95) | 16 (SP>95) | 11 |
| 55-60’ | 29 | 18 (SP>95) | 9 |
| 60-65' | 19 (SP>95) | 15 (SP>95) | 11 |
| 65-70' | 35 | 24 | 22 |
| 70’ | Coal | Coal | Coal |

In each of these examples the interburden thickness is 30 feet with 20% of that equaling 6 feet; therefore, the 2 least desirable five-foot interburden segments will be used to specify the respread thickness. Also, these examples assume all samples have either a medium or fine texture.

Example 1 - The 2 least desirable interburden segments have SAR's greater than 20; therefore the required SPGM respread thickness will be 48 inches.

Example 2 - The 2 least desirable interburden segments are one with a SAR greater than 20 and the other a SAR between 12 and 20 with SP greater than 95; the required SPGM respread thickness will be 42 inches.

Example 3 - The 2 least desirable interburden segments are one with a SAR greater than 20 and the with other a SAR less than 12; the required SPGM respread thickness will be 24 inches.

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Section 2.5.4 - Soil Volume

Soil Inventory Calculations

Pre-mine SPGM volumes were inventoried for each landowner within the permit area. Volumes were calculated by multiplying the acres of each map unit by landowner, as shown in Section 2.5.3, by the depth of topsoil and subsoil in that map unit, as found in Table 4 of Section 2.5.2 and then multiplying by a conversion factor of 134.444 to convert the volume to cubic yards. Cubic yards were totaled for each landowner and reported in Section 2.5.4.1. This provides an inventory of the soils available in the entire permit area, whereas Section 2.5.4.2 provides volumes for each landowner within the mining disturbance limit. A mixing agreement was secured for all landowners within the main body of the permit area. Surface owners include CCMC, Schulte, State of ND, Swenson, Unruh, Voigt, both Winklers, and the Young Paine Trust. No mixing agreements are in place for landowners of the Revision 1 haulroad corridor, which are the lands north of County Road 12. Surface owners include Gunsch, Otter Tail et al, Schwalbe, and the State of ND.

Soil Respread Calculations

All topsoil and subsoil will be salvaged and used to respread the reclaimed lands. Based on experience at other mine sites, it can be assumed that because of soil compaction during handling, 90% of the bank soil volumes would be available. This factor is conservative; that is, soils may be less compacted during handling, but not more compacted. A comparison of projected available SPGM and the calculated required SPGM for respread can be found in Section 2.5.4.2. The projected respread depth based on available soils by landowner can also be found in Section 2.5.4.2. After activities commence, respread depths will be recalculated based on actual soil salvage and disturbance boundaries, and results will be presented annually to the NDPSC in a soils handling plan.

The required respread volume is based on NDAC 69-05.2-15, and Policy Memorandum 17 to Mine Operations from the North Dakota Public Service Commission (NDPSC). Refer to Section 2.5.7 for the Projected Soil Respread Depth Map. Overburden sample holes were placed in the permit area at an approximate spacing of one hole per 40 acres and are shown on the map within the mining disturbance limit. The projected respread depths for each quarter-quarter section was calculated from the overburden quality of the sample hole drilled in that location. Analysis of the cores in five-foot intervals is used to determine the projected respread thickness according to the following table (from NDPSC regulations):

| Spoil Properties | | Total Redistribution Thickness |
|---|---|---|
| Texture | Sodium Adsorption Ratio (SAR) | (Topsoil Plus Subsoil) Average in Inches (Centimeters) |
| Medium* | <12 | 24 (61) |
| Coarse** | <12 | 36 (91) |
| *** | 12-20 | 36 (91) |
| *** | >20 | 48 (122) |

* Loam or finer
** Sandy loam or coarser
*** Not applicable

Where overburden depths are less than 85 feet above coal, respread depths were calculated by identifying the best sample from the worst 20% of samples at each borehole location. Where overburden depths are greater than 85 feet above coal, a different method will be utilized to calculate projected respread depths. Overburden up to 85 feet in depth is typically spoiled by the dragline using a simple side casting method. When overburden depths exceed 85 feet, a truck-shovel pre-bench fleet will normally remove any overburden greater than 85 feet above coal. Pre-bench material is usually hauled across the active pit and placed on spoils created by the dragline. Because of this mining method, where pre-benching operations occur, the projected respread thickness will be based on the best sample from the worst 20% of samples of the overburden removed by the pre-bench fleet. This depth from the surface will be determined by subtracting 85 feet from the total depth of overburden, which would account for the overburden removed by the dragline. The 85 foot cover limit line is shown on the Projected Soil Respread Depth Map of Section 2.5.7. Holes have not been drilled on tracts with unleased Federal Coal, so these areas were assumed to require the maximum 48 inch respread depth. Since most of the land surrounding these tracts requires 48 inches, it is likely that this will be the actual depth required. Overburden depths for the Upper Beulah bed can be found in Section 2.1.12.

On November 1, 2020, Coyote Creek Mining Company obtained the Federal coal leases for the SW4 of Section 24, T143, R89W and the SE4 of Section 26, T143, R89W. Revision 11 contains updated plans to mine these two Federal coal tracts. Overburden samples were collected on the two federal coal tracts and respreads thickness were projected based on the overburden quality.

Results

A table summarizing the results can be found in Section 2.5.4.2. None of the land has sufficient SPGM available to meet the respread requirements, as calculated from the Projected Soil Respread Depth Map in Section 2.5.7. However, three factors offset this: less soil may be needed for successful revegetation than is projected, actual required respread depths based on graded overburden quality will likely be less than is projected because of special overburden handling, and deep lift

subsoil will be salvaged to supplement subsoil inventories. First, somewhat less soil may be necessary to meet reclamation success standards than the 47 inches required in Section 2.5.4.2, especially given the lower productivity associated with many of the shallow lift soils. It is expected that approximately 40 inches is needed to adequately cover the sodic spoil that is found throughout the permit area beneath the glacial till. Secondly, there is a significant amount of glacial till within the mining disturbance limit, as shown in Section 2.5.7. Ten feet of till is found over almost the entire area and it ranges in thickness, up to more than 30 feet. This material is non-sodic and through special handling, can be utilized to cover the sodic spoil. The prebench boundary is also shown in Section 2.5.7. Prebench material from these areas will be removed using a hydraulic excavator or scrapers capable of taking variable and shallow lifts, so that glacial till can be placed at the surface of graded spoil. It is anticipated that this will result in more opportunities for reduced respread depths than what is predicted in Section 2.5.7, since calculations used to predict respread depth in prebench areas included overburden from the entire depth of prebench, whereas in real life, prebench operations can selectively handle the better till material. Finally, deep lift sampling was conducted so that all available suitable material can be identified and an adequate amount salvaged.

Haulroad Corridor North of County Road 12

Typically, all available SPGM would be salvaged from associated disturbance areas such as the haulroad corridor and all material would be respread according to NDAC 69-05.2-15-04(4)(b). This would result in adequate respread depths since it would mimic the pre-mine conditions. However, because subsoil stockpiles will be part of the haulroad fill, additional subsoil loss is being assumed at the overburden-subsoil interface and at the surface of the haulroad as a result of potential contamination. Even with this loss, SPGM volumes are expected to be adequate for reclamation success because as shown on the second page of Section 2.5.4.2, soils are quite deep in this area.

However, to assure compliance with NDAC 69-05.2-15-04(4)(b), the haulroad corridor will be sampled by surface owner tract during reclamation to assess overburden quality for use as other suitable strata as required by NDAC 69-05.2-08-11. This material will be used to supplement subsoil that is degraded and unavailable for subsoil respread during haulroad reclamation because of subsoil comingling with overburden and road surfacing material. The use of other suitable strata to supplement subsoil required by NDAC 69-05.2-08-11 will be considered a subsoil substitute as defined by NDAC 69-05.2-15-02(5)(c).

North-South Haulroad Corridor

From approximately Station 23+00 to Station 27+00, the North-South Haulroad will be built out of subsoil as described on page 1 of Section 3.2.4. However, it is assumed that approximately six inches of subsoil will be lost to contamination at the subsoil-overburden interface and an additional six inches of subsoil will be lost to contamination at the surface of the road. This loss will be accounted for in the annual soils handling plan and supplemented with additional subsoil material that will be salvaged and stockpiled from elsewhere on the mine. This will provide compliance with NDAC 69-05.2-15-04(4)(b), which addresses the respread of areas of associated disturbance. The same methods will be used for the County Road 12 detour route, since it is assumed that some subsoil loss will occur from contamination by road surfacing material

at the surface of the detour.

Deadhead Trail Corridors

Portions of deadhead trails will be built out of subsoil as shown in Section 3.1.3 and Section 3.1.1.8.8. However, in like manner to haulroad subsoil fill sections, it is assumed that approximately six inches of subsoil will be lost to contamination at the subsoil-overburden interface and an additional six inches of subsoil will be lost to contamination at the surface of the trail. This loss will be accounted for in the annual soils handling plan and supplemented with additional subsoil material that will be salvaged and stockpiled from elsewhere on the mine. This will provide compliance with NDAC 69-05.2-15-04(4)(b), which addresses the respread of areas of associated disturbance.

Section 2.5.4.2 - Soil Respread Depth Table

| Section | Landowner | Acres of Mining Disturbance | Available TS (cy) | Available SS (cy) | Total Available SPGM with 10% Shrinkage (cy) | Required Respread based on Section 2.5.7 (cy) | Excess/ Deficit (cy) | Respread Thickness based on Available SPGM (in) | Respread Thickness based on Section 2.5.7 (in) |
|---|---|---|---|---|---|---|---|---|---|
| T143N,R88W,SEC.30-E2E2 | CCMC | 0 | NA | NA | NA | NA | NA | NA | NA |
| T143N,R89W,SEC.34-PartN2SE4 | Schulte, A | 0 | NA | NA | NA | NA | NA | NA | NA |
| T142N,R88W,SEC.6-W2,W2E2 | State of ND | 363 | 601,616 | 1,013,336 | 1,453,457 | 2,340,758 | (887,302) | 30 | 48 |
| T142N,R89W,SEC.12-N2N2 | State of ND | 18 | 28,757 | 76,250 | 94,507 | 113,922 | (19,415) | 40 | 48 |
| T143N,R89W,SEC.24-SE4 | State of ND | 123 | 256,572 | 436,006 | 623,320 | 694,760 | (71,440) | 38 | 42 |
| T143N,R89W,SEC.26-N2,SW4 | State of ND | 402 | 840,841 | 1,340,374 | 1,963,094 | 2,355,700 | (392,606) | 36 | 44 |
| T143N,R89W,SEC.36-N2,SW4 | State of ND | 401 | 732,250 | 848,251 | 1,422,451 | 2,590,431 | (1,167,980) | 26 | 48 |
| | | 1,307 | 2,460,036 | 3,714,217 | 5,556,828 | 8,095,571 | (2,538,743) | 32 | 46 |
| T143N,R89W,SEC.34-S2SE4 | Swenson, J & D | 14 | 14,395 | 25,647 | 36,037 | 90,612 | (54,575) | 19 | 48 |
| T142N,R89W,SEC.2 | Unruh, S, S & S | 394 | 515,335 | 496,318 | 910,488 | 2,545,065 | (1,634,578) | 17 | 48 |
| T142N,R89W,SEC.3-E2 | Unruh, S, S & S | 123 | 118,157 | 113,856 | 208,811 | 792,945 | (584,134) | 13 | 48 |
| T142N,R89W,SEC.11-N2NW4,N2NE4 | Unruh, S, S & S | 0 | NA | NA | NA | NA | NA | NA | NA |
| T143N,R89W,SEC.23-S2SW4,SE4 | Unruh, S, S & S | 102 | 247,804 | 450,147 | 628,156 | 661,334 | (33,177) | 46 | 48 |
| T143N,R89W,SEC.26-SE4 | Unruh, S, S & S | 159 | 437,380 | 542,781 | 882,145 | 1,026,022 | (143,877) | 41 | 48 |
| T143N,R89W,SEC.27-E2 | Unruh, S, S & S | 107 | 140,338 | 285,296 | 383,070 | 571,338 | (188,268) | 27 | 40 |
| T143N,R89W,SEC.34-NE4,PartN2SE4 | Unruh, S, S & S | 176 | 297,139 | 331,914 | 566,147 | 1,134,694 | (568,547) | 24 | 48 |
| | | 1,061 | 1,756,151 | 2,220,312 | 3,578,817 | 6,849,945 | (3,271,128) | 25 | 48 |
| T142N,R88W,SEC.6-E2E2 | Voigt, C & J | 3 | 8,172 | 19,038 | 24,489 | 21,785 | 2,704 | 54 | 48 |
| T142N,R89W,SEC.1 | Voigt, C & J | 619 | 864,826 | 923,780 | 1,609,745 | 3,866,485 | (2,256,740) | 19 | 46 |
| T143N,R88W,SEC.19-W2 | Voigt, C & J | 3 | 5,207 | 3,817 | 8,121 | 16,795 | (8,673) | 21 | 44 |
| T143N,R88W,SEC.30-W2,W2E2 | Voigt, C & J | 32 | 66,411 | 115,397 | 163,628 | 208,636 | (45,008) | 38 | 48 |
| T143N,R88W,SEC.31 | Voigt, C & J | 24 | 41,733 | 66,936 | 97,802 | 153,137 | (55,336) | 31 | 48 |
| T143N,R89W,SEC.24-SW4,S2NE4 | Voigt, C & J | 144 | 332,852 | 569,389 | 812,017 | 926,526 | (114,509) | 42 | 48 |
| T143N,R89W,SEC.25 | Voigt, C & J | 637 | 1,457,480 | 2,337,184 | 3,415,197 | 3,747,739 | (332,541) | 40 | 44 |
| T143N,R89W,SEC.36-SE4 | Voigt, C & J | 159 | 389,531 | 436,933 | 743,818 | 1,024,079 | (280,260) | 35 | 48 |
| | | 1,621 | 3,166,212 | 4,472,474 | 6,874,818 | 10,458,810 | (3,583,992) | 32 | 48 |
| T142N,R88W,SEC.7-N2NW4 | Winkler, et. al. | 79 | 77,715 | 116,158 | 174,486 | 510,009 | (335,523) | 16 | 48 |
| T142N,R88W,SEC.7-N2NE4 | Winkler, P & B | 11 | 9,988 | 3,796 | 12,406 | 73,855 | (61,449) | 8 | 48 |
| T143N,R89W,SEC.35 | Young Paine Trust | 323 | 692,316 | 849,684 | 1,387,800 | 1,811,927 | (424,127) | 32 | 42 |
| TOTAL | | 4,417 | 8,176,813 | 11,402,289 | 17,621,192 | 27,890,729 | (10,269,537) | 30 | 47 |

| Revision 1 Haulroad Corridor[1] | Landowner | Acres of TS Disturbance | Available TS with 10% Shrinkage (cy) | Average TS Thickness (in) | Acres of SS Disturbance | Available SS with 10% Shrinkage (cy) | Average SS Thickness (in) | Respread Depth based on Available SPGM (in) |
|---|---|---|---|---|---|---|---|---|
| T143N,R88W,SEC.18-PartN2,PartSW4 | Gunsch, R & J | 37 | 79,285 | 16 | 30 | 112,063 | 28 | 43 |
| T143N,R88W,SEC.7-PartSE4SE4 | Schwalbe, D & C | 2 | 4,138 | 15 | 1 | 1,894 | 27 | 42 |
| T143N,R88W,SEC.8-PartS2S2 | State of ND | 28 | 59,337 | 16 | 24 | 102,592 | 32 | 48 |
| T143N,R88W,SEC.9-PartS2S2 | Otter Tail, et. al. | 31 | 67,530 | 16 | 26 | 114,487 | 33 | 50 |
| T143N,R88W,SEC.10-Part of All | Otter Tail, et. al. | 43 | 89,856 | 15 | 38 | 85,555 | 17 | 32 |
| | | 74 | 157,385 | 16 | 63 | 200,042 | 24 | 39 |

NOTES:

1. All subsoil will be salvaged in the haulroad corridor north of County Road 12. However, it is assumed that some subsoil will be lost as a result of contamination at overburden interfaces and at the road surface. There are no mixing agreements in place. The haulroad corridor will be sampled by surface owner tract during reclamation to assess overburden quality for use as other suitable strata as required by NDAC 69-05.2-08-11 as described in Section 2.5.4.

# COYOTE CREEK MINING COMPANY, L.L.C.

6502 17th Street SW
Zap, ND 58580
(701) 873-7800 • Fax (701) 873-7810

*A SUBSIDIARY OF THE NORTH AMERICAN COAL CORPORATION*


March 24, 2022

Ms. Zanna Brinkman
Director Reclamation Division
Public Service Commission
600 East Boulevard Avenue
Department 408
Bismarck, ND 58505-0480

Dear Ms. Brinkman:

Enclosed is the 2022 Soils Handling Plan for Coyote Creek Mine.

Coyote Creek Mine has a mixing agreement with all surface owners within the main body of the permit area. There is no mixing agreement with the surface owners within the Revision 1 haulroad addition, so calculations for this area are shown separately. Soils from Section 30 were handled separately from the main body of the permit area so calculations from this area are shown separately.

Consistent with what is shown in Permit NACC-1302, salvaging deep lift and other suitable strata is necessary to meet required respread thicknesses. With the addition of deep lift subsoil and other suitable strata, it is projected that there will be an excess of subsoil of 4.3%. CCM requests the ability to waive approximately 50,000 cubic yards of subsoil to maintain an excess of 3.4%. Coyote Creek Mine currently has 407,834 CY excess subsoil and anticipates that number to climb as we look to the next few years. Due to the current and projected excess, and in accordance with NDAC 69-05.2-15-02(2)(a), Coyote Creek requests to continue to waive both the NDPSC approval of subsoil removal operations and salvage of SPGM monuments.

Thank you for your consideration. Should you have any questions, feel free to contact me.

Sincerely,

COYOTE CREEK MINING COMPANY, L.L.C.

Jason Sailer P.E.
Mining Engineer

JRS
Enc.

**2022 COYOTE CREEK MINE SOILS HANDLING PLAN**
**Shop-Office Disturbance and Dedicated Piles in E2SE4 Section 30**

**SPGM Stockpile Inventory (02/01/22)**

| TS | | SS | |
|---|---|---|---|
| Pile Number | Volume (CY) | Pile Number | Volume (CY) |
| 1[1] | 50,660 | 2 | 13,811 |
| 3 | 2,749 | 4 | 15,151 |
| Veneer[2] | 847 | | |
| Total | 54,256 | | 28,962 |

**Acres Disturbed (02/01/22)**

| CCMC | TS Crop | TS Native | SS Crop | SS Native |
|---|---|---|---|---|
| | 2.37 | 19.88 | 4.53 | 19.42 |
| | 2.34 | | | |
| | 6.51 | | | |
| Subtotal | 11.22 | 19.88 | 4.53 | 19.42 |

| Voigt | | | | |
|---|---|---|---|---|
| | | 1.30 | | 1.09 |
| Subtotal | 0.00 | 1.30 | 0.00 | 1.09 |

| | | | | |
|---|---|---|---|---|
| Total | 11.22 | 21.18 | 4.53 | 20.51 |
| Total by Material | | 32.40 | | 25.04 |

**Respread Thickness Calculations (02/01/22)**

**Topsoil**

| | Pile No. | CY Salvaged | Crop (ac) | Native (ac) | Respread Thickness Crop (in) | Respread Thickness Native (in) |
|---|---|---|---|---|---|---|
| CCMC | 1, Veneer | 51,507 | 11.2 | 19.9 | 12.9 | 12.0 |
| Voigt | 3 | 1,529 | 0.0 | 1.3 | NA | 8.7 |
| Subtotals | | 53,036 | 11.2 | 21.2 | | |

Thickness calculations are based on pile volumes available to each landowner, since TS was piled separately by owner.

**Subsoil**

| | CY Salvaged | Crop (ac) | Native (ac) | Respread Thickness Crop (in) | Respread Thickness Native (in) |
|---|---|---|---|---|---|
| CCMC | 28,628 | 4.53 | 19.42 | 8.5 | 8.5 |
| Voigt | 334 | 0.00 | 1.09 | NA | 2.3 |
| Subtotals | 28,962 | 4.53 | 20.51 | | |

Voigt subsoil thickness of 2.3" determined by soil survey; CCMC thickness determined by uniform respread of the remaining subsoil on SS-2 and SS-4 after Voigt lands at the shop-office facility are respread.

**Summary**

| | Crop Respread Thickness | | | Native Respread Thickness | | |
|---|---|---|---|---|---|---|
| | TS | SS | **Total** | TS | SS | **Total** |
| CCMC | 12.9 | 8.5 | **21.4** | 12.0 | 8.5 | **20.5** |
| Voigt | NA | NA | **NA** | 8.7 | 2.3 | **11.0** |

Voigt subsoil inventory will be supplemented by future soil salvage in other parts of the mine.
CCMC subsoil inventory will be supplemented by future soil salvage in other parts of the mine if other landowner needs are met. Alternatively, lands will be sampled during reclamation to assess overburden quality for use as other suitable strata as required by NDAC 69-05.2-08-11.

Notes

1. Voigt requested that Sec 30 CCMC topsoil not be mixed with his because of concerns about Canada thistle in the seedbank. Although not required, CCMC attempted to follow this request. Therefore, TS-1 was salvaged from and will only be respread on CCMC lands.

2. A temporary 3" veneer of topsoil was respread on 2.1 acres in Section 30, to stabilize long term slopes at the substation and near the shop-office. The veneer will be salvaged and respread during final reclamation. Topsoil in the veneer came from CCMC lands.
3. A small area (0.48 acres TS and 0.69 acres SS) in the E2SE4 Section 30, located north of the substation, was stripped in 2015 and hauled to piles on the west side of Coyote Creek because of poor access to the existing piles north of the office. Because soil from that area wasn't handled separately and stockpiled locally, it wasn't included in the calculations for the shop-office soil balance area.

**2022 COYOTE CREEK MINE SOILS HANDLING PLAN**
**Haulroad North of County Road 12**

**SPGM Stockpile Inventory (02/01/22)**

**Gunsch**

| TS | | SS | |
|---|---|---|---|
| Pile Number | Volume (CY) | Pile Number | Volume (CY) |
| 17 | 68,637 | 14 | 31,922 |
| 19 | 13,166 | 16 | 62,178 |
| Total | 81,803 | | 94,100 |

**Ottertail**

| | | | |
|---|---|---|---|
| 11 | 42,281 | 8 | 63,141 |
| 27 | 22,662 | 24 | 23,913 |
| 29 | 35,954 | 26 | 58,519 |
| 31 | 12,862 | | |
| 37 | 22,044 | | |
| Total | 135,802 | | 145,573 |

**Schwalbe**

| | | | |
|---|---|---|---|
| 21 | 2,898 | 34 | 921 |

**State Sec 8**

| | | | |
|---|---|---|---|
| 23 | 31,544 | 18 | 47,885 |
| 25 | 21,884 | 22 | 31,995 |
| Total | 53,427 | | 79,881 |

| Grand Total TS | Grand Total SS |
|---|---|
| 273,930 | 320,474 |

**Acres Disturbed (02/01/22)**

**Gunsch**

| | TS R/W | TS Native & Tame | SS R/W | SS Native & Tame |
|---|---|---|---|---|
| | 0.95 | 40.73 | 0.68 | 4.30 |
| | | | | 27.17 |
| Subtotal | 0.95 | 40.73 | 0.68 | 31.47 |

**Ottertail**

| | | | | |
|---|---|---|---|---|
| | | 76.22 | | 6.87 |
| | | | | 34.40 |
| | | | | 0.81 |
| | | | | 22.79 |
| Subtotal | 0.00 | 76.22 | 0.00 | 64.87 |

**Schwalbe**

| | | | | |
|---|---|---|---|---|
| | | 2.11 | | 0.39 |
| | | | | 0.15 |
| Subtotal | 0.00 | 2.11 | 0.00 | 0.54 |

**State Sec 8**

| | | | | |
|---|---|---|---|---|
| | | 28.24 | | 23.67 |
| | | 0.02 | | 0.01 |
| Subtotal | 0.00 | 28.26 | 0.00 | 23.68 |

| | | | | |
|---|---|---|---|---|
| Total | 0.95 | 147.32 | 0.68 | 120.56 |
| Total by Material | | 148.27 | | 121.24 |

**Respread Thickness Calculations (02/01/22)**

**Topsoil**

| | CY Salvaged | R/W (ac) | Native (ac) | Respread Thickness | |
|---|---|---|---|---|---|
| | | | | R/W (in) | Native (in) |
| Gunsch | 81,803 | 0.95 | 40.73 | 6.00 | 14.8 |
| Ottertail | 135,802 | - | 76.22 | - | 13.3 |
| Schwalbe | 2,898 | - | 2.11 | - | 10.2 |
| State Sec 8 | 53,427 | - | 28.26 | - | 14.1 |

**Subsoil**

| | CY Salvaged | R/W (ac) | Native (ac) | Respread Thickness | |
|---|---|---|---|---|---|
| | | | | R/W (in) | Native (in) |
| Gunsch | 94,100 | 0.68 | 31.47 | 12.00 | 22.0 |
| Ottertail | 145,573 | - | 64.87 | - | 16.7 |
| Schwalbe | 921 | - | 0.54 | - | 12.7 |
| State Sec 8 | 79,881 | - | 23.68 | - | 25.1 |

**Summary**

| | R/W Respread Thickness | | | Native Respread Thickness | | |
|---|---|---|---|---|---|---|
| | TS | SS | **Total** | TS | SS | **Total** |
| Gunsch | 6 | 12.00 | **18.00** | 14.8 | 22.0 | **36.8** |
| Ottertail | - | - | **-** | 13.3 | 16.7 | **29.9** |
| Schwalbe | - | - | **-** | 10.2 | 12.7 | **22.9** |
| State Sec 8 | - | - | **-** | 14.1 | 25.1 | **39.2** |

Lands will be sampled during reclamation to assess overburden quality for use as other suitable strata as required by NDAC 69-05.2-08-11.

**2022 COYOTE CREEK MINE SOILS HANDLING PLAN**
**Main Body of NACC-1302, CCMC/Mixing Agreement Lands, 2/01/22**

**1) Determine SPGM Available for Respread**

**SPGM Stockpile Inventory (As of 02/01/22)**

| TS | | SS | |
|---|---|---|---|
| Pile Number | Volume (CY) | Pile Number | Volume (CY) |
| 5 | 3,181 | 6 | 577,101 |
| 9 | 498,039 | 10 | 88,332 |
| 13 | 743,014 | 12 | 1,189,993 |
| 15 | 56,537 | 20 | 1,582,742 |
| 33 | 432,963 | 28 | 6,287 |
| 35 | 4,991 | 30 | 10,445 |
| 39 | 366,499 | 32 | 8,945 |
| 41 | 368,235 | 36 | 987,312 |
| 43 | 17,539 | 38 | 499 |
| 45 | 6,429 | 40 | 6,148 |
| 47 | 793 | 42 | 339,769 |
| 49 | 93,489 | 44 | 18,713 |
| 51 | 48,089 | 46 | 15,582 |
| 53 | 98 | 48 | 12,606 |
| | | 50 | 14,474 |
| | | 52 | 235,114 |
| | | 54 | 93,970 |
| Total | 2,639,896 | | 5,188,032 |

**2) Determine SPGM Respread Thickness Required by Disturbance Type (Assoc. vs Mining) and Surface Owner (As of 02/01/22)**

**2A) Associated Disturbance:** The amount of redistributed SPGM in associated disturbance areas must be based on the amount removed (NDAC 69-05.2-15-04).
Calculations in Section 2A determine **total** respread thickness on areas of associated disturbance. A unique topsoil thickness will not be calculated for associated versus mining disturbance areas.

**2A-1) Voigt Associated Disturbance - Crop (As of 02/01/22)**

| TS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| 5 | 0.10 | 67 |
| 7 | 0.79 | 743 |
| 15 | 1.37 | 2,763 |
| 16 | 0.02 | 43 |
| 18 | 4.90 | 11,858 |
| 22 | 6.97 | 20,616 |
| 28 | 0.75 | 2,823 |
| 30 | 0.01 | 40 |
| 32 | 2.00 | 8,604 |
| | 16.91 | 47,558 |
| Weighted Avg TS (in): | | 20.9 |

| SS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| 0 | 0.78 | - |
| 6 | 0.74 | 597 |
| 10 | 1.88 | 2,528 |
| 12 | 0.00 | - |
| 30 | 0.01 | 40 |
| 38 | 5.92 | 30,245 |
| 40 | 0.00 | - |
| 42 | 4.44 | 25,071 |
| 44 | 0.02 | 118 |
| 45 | 0.53 | 3,206 |
| | 14.32 | 61,805 |
| Weighted Avg SS (in): | | 32.1 |

**Total (in):** **53.0**

**2A-2) Voigt Associated Disturbance - Native (As of 02/01/22)**

**TS**

| Inches | Acres | CY |
|---|---|---|
| 0 | 9.63 | - |
| 3 | 8.08 | 3,259 |
| 4 | 5.23 | 2,813 |
| 5 | 1.61 | 1,082 |
| 6 | 11.26 | 9,083 |
| 7 | 30.26 | 28,478 |
| 8 | 3.48 | 3,743 |
| 9 | 5.98 | 7,236 |
| 12 | 14.44 | 23,296 |
| 15 | 30.43 | 61,367 |
| 16 | 37.88 | 81,484 |
| 18 | 14.19 | 34,340 |
| 19 | 2.46 | 6,284 |
| 20 | 2.16 | 5,808 |
| 21 | 3.5 | 9,882 |
| 22 | 45.97 | 135,969 |
| 27 | 6.91 | 25,083 |
| 28 | 7.95 | 29,927 |
| 30 | 4.59 | 18,513 |
| 31 | 12.77 | 53,222 |
| 32 | 4.99 | 21,468 |
| 38 | 1.03 | 5,262 |
| | 264.80 | 567,598 |

Weighted Avg TS (in): 15.9

**SS**

| Inches | Acres | CY |
|---|---|---|
| 0 | 40.77 | - |
| 5 | 3.54 | 2,380 |
| 6 | 6.12 | 4,937 |
| 7 | 0.00 | - |
| 8 | 4.11 | 4,421 |
| 10 | 3.68 | 4,948 |
| 12 | 15.94 | 25,716 |
| 13 | 5.02 | 8,774 |
| 15 | 4.42 | 8,914 |
| 16 | 0.41 | 882 |
| 17 | 0.13 | 297 |
| 18 | 0.50 | 1,210 |
| 21 | 0.06 | 169 |
| 22 | 1.93 | 5,708 |
| 28 | 0.42 | 1,581 |
| 30 | 4.15 | 16,738 |
| 32 | 4.88 | 20,995 |
| 35 | 0.23 | 1,082 |
| 38 | 25.27 | 129,101 |
| 40 | 10.88 | 58,510 |
| 42 | 6.12 | 34,557 |
| 44 | 6.92 | 40,936 |
| 45 | 15.37 | 92,988 |
| 50 | 7.39 | 49,677 |
| 60 | 0.35 | 2,823 |
| | 168.61 | 517,345 |

Weighted Avg SS (in): 22.8

**Total (in): 38.8**

**2A-3) State Associated Disturbance - Native (As of 02/01/22)**

**TS**

| Inches | Acres | CY |
|---|---|---|
| 0 | 1.52 | - |
| 3 | 4.66 | 1,880 |
| 4 | 0.00 | - |
| 5 | 1.28 | 860 |
| 6 | 3.85 | 3,106 |
| 7 | 4.71 | 4,433 |
| 13 | 0.00 | - |
| 15 | 0.12 | 242 |
| 16 | 0.30 | 645 |
| 18 | 5.79 | 14,012 |
| 20 | 0.09 | 242 |
| 21 | 7.51 | 21,203 |
| 22 | 1.83 | 5,413 |
| 24 | 0.00 | - |
| 28 | 0.06 | 226 |
| 30 | 0.56 | 2,259 |
| 31 | 9.09 | 37,885 |
| 35 | 10.06 | 47,338 |
| 38 | 0.49 | 2,503 |
| | 51.92 | 142,246 |
| Weighted Avg TS (in): | | 20.4 |

**SS**

| Inches | Acres | CY |
|---|---|---|
| 0 | 4.93 | - |
| 5 | 0.84 | 565 |
| 6 | 1.04 | 839 |
| 8 | 0.30 | 323 |
| 10 | 1.92 | 2,581 |
| 12 | 0.51 | 823 |
| 13 | 0.93 | 1,625 |
| 15 | 0.84 | 1,694 |
| 18 | 0.09 | 218 |
| 22 | 0.22 | 651 |
| 30 | 0.39 | 1,573 |
| 38 | 0.34 | 1,737 |
| 39 | 0.14 | 734 |
| 40 | 0.64 | 3,442 |
| 42 | 0.68 | 3,840 |
| 45 | 0.10 | 605 |
| 50 | 0.04 | 269 |
| | 13.95 | 21,518 |
| Weighted Avg SS (in): | | 11.5 |

**Total (in):** **31.9**

**2B) Mining Disturbance** - Soil respread thickness is based on projected respread depths found in Section 2.5.7 of NACC-1302. (As of 02/01/22)

**2B-1) Voigt Mining Disturbance**

| TS Acres | | | SS Acres | | | | |
|---|---|---|---|---|---|---|---|
| Crop | Native | R/W | 48" Crop | 48" Native | 36" Native | 36" Crop | 24" Crop |
| 242.33 | 175.07 | | 50.13 | 166.92 | 11.25 | 28.43 | 22.34 |
| | 107.37 | | 10.28 | 69.26 | | 14.77 | |
| | 9.4 | | 15.6 | 20.0 | | 64.8 | |
| 242.33 | 291.83 | 0.00 | 76.00 | 256.16 | 11.25 | 107.96 | 22.34 |
| Total Acres TS | | 534.16 | Total Acres SS | | | | 473.71 |

**2B-2) State Mining Disturbance**

| TS Acres | | | SS Acres | | | | |
|---|---|---|---|---|---|---|---|
| Crop | Native | R/W | 48" Native | 36" Native | 24" Native | R/W | 36" Crop |
| | 273.75 | | 245.48 | 2.11 | 0.85 | | |
| | 243.26 | | 190.04 | 30.35 | 1.85 | | |
| | 29.37 | | 22.66 | | | | |
| 0.00 | 546.38 | 0.00 | 458.18 | 32.46 | 2.70 | 0.00 | 0.00 |
| Total Acres TS | | 546.38 | Total Acres SS | | | 493.3 | |

**2B-3) P Winkler Mining Disturbance**

| TS Acres | | | SS Acres | | | | |
|---|---|---|---|---|---|---|---|
| Crop | Native | R/W | 48" Native | 36" Native | 24" Native | R/W | 36" Crop |
| | 1.99 | | 1.54 | | | | |
| 0.00 | 1.99 | 0.00 | 1.54 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Acres TS | | 1.99 | Total Acres SS | | | 1.5 | |

**2B-4) Winkler Mining Disturbance**

| TS Acres | | | SS Acres | | | | |
|---|---|---|---|---|---|---|---|
| Crop | Native | R/W | 48" Native | 36" Native | 24" Native | R/W | 36" Crop |
| | 1.26 | | 0.02 | | | | |
| 0.00 | 1.26 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Acres TS | | 1.26 | Total Acres SS | | | 0.0 | |

**3) Determine SPGM Respread Thickness Required by Disturbance Type (Assoc. vs Mining) and Surface Owner (As of 02/01/22)**

| | Voigt | | | | State | | | | P Winkler | Winkler | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Topsoil** | Crop | Native | R/W | Subtotal | Crop | Native | R/W | Subtotal | Native | Native | Total |
| Assoc Dist Acres | 16.91 | 264.80 | 1.02 | 282.73 | | 51.92 | | 51.92 | | | |
| Mining Dist Acres | 242.33 | 291.83 | | 534.16 | - | 546.38 | - | 546.38 | 1.99 | 1.26 | |
| | | | | | | | | | | | |
| Total Acres | 259.24 | 556.63 | 1.02 | 816.89 | - | 598.30 | - | 598.30 | 1.99 | 1.26 | 1418.44 |
| CY | 633,927 | 912,130 | 823 | 1,546,880 | 0 | 1,090,154 | 0 | 1,090,154 | 1,659 | 1,203 | 2,639,896 |
| Inches | 18.19 | 12.19 | 6.0 | NA | - | 13.55 | - | NA | 6.2 | 7.1 | 13.8 |

*Based on both Sections 2.5.4.2 and 2.5.4.1, Voigt topsoil is 4% thicker than State owned lands but Voigts also asked for additonal cropland so need to prorated accordingly by finding State's thickness first.
Assume State Thickness is "Z" in following fomula. (Total State acres × Z × 43560) + (Total Voigt acres less R/W × 1.04Z × 43560) = (Topsoil Stockpile Volume - RW Volume - P Winkler Volume - Winkler Vol
So: (598.30 × Z × 43560) + (815.87 × 1.04Z × 43560) = 2636211 × 27 Solving for Z = 1.1294 feet or 13.55 inches which equates to 1,090,154 CY of topsoil for State and Voigts get remaining 1,546,880 CY
Assume Voigts Native Thickness is "Z" in following formula: (Voigt Native Acres × Z × 43560) + (Voigt Crop Acres × (Z+0.5) × 43560) = Voigt Topsoil Volume × 27
So: (556.63 × Z × 43560) + (259.24 × (Z + 0.5) × 43560) = 1,546,057 × 27 Solving for Z = 1.0157 feet or 12.19 inches for Native and 18.19 inches for cropland.
**Topsoil will not be respread at different thicknesses based on disturbance type. Associated disturbance calculations will be used to determine total respread depth only.
***Cropland topsoil is calculated to be respread at approximately 6" thicker than native topsoil.
**** Winkler's and P Winkler's topsoil thickness determined by taking the weighted average of all the topsoil depth inside the mining disturbance boundary

| **Subsoil** | Voigt | | | | | | | State | | | | P Winkler | Winkler | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Assoc Dist | | Mining Dist | | | | | Assoc Dist | Mining Dist | | | Mining Dist | Mining Dist | |
| Total Rspd | 48 | 38.8 | 48 | 48 | 36 | 36 | 24 | 31.9 | 48 | 36 | 24 | 48 | 48 | |
| Land Use | Crop | Native | Crop | Native | Crop | Native | Crop | Native | Native | Native | Native | Native | Native | Total |
| Acres | 14.32 | 169.63 | 76.00 | 256.16 | 107.96 | 11.25 | 22.34 | 13.95 | 458.18 | 32.46 | 2.70 | 1.54 | 0.02 | 1166.51 |
| CY | 57,394 | 606,109 | 304,607 | 1,233,320 | 258,527 | 36,015 | 17,455 | 34,319 | 2,121,935 | 97,961 | 3,792 | 8,654 | 109.98 | 4,780,198 |
| Inches | 29.8 | 26.6 | 29.8 | 35.8 | 17.8 | 23.81 | 5.8 | 18.3 | 34.4 | 22.4 | 10.4 | 41.8 | 40.9 | 30.5 |

| | |
|---|---|
| Total SS Volume Required (cy) | 4,780,198 |
| Total Available SS (cy) | **5,188,032** |
| **SS Excess/Deficit (cy)** | **407,834** |

**Notes**

1. Calculations below were used to compare Voigt and State topsoil thickness in both the mining disturbance area and permit area and come from Section 2.5 in the NACC-1302. It appears that Voigt owned surface consistently has an average of 4% thicker topsoil. Therefore, this was used in the calculations in (3) above, when determining topsoil respread by owner.

| | Acres | CY | In |
|---|---|---|---|
| Voigt | 1,621 | 3,166,212 | 14.5 |
| State | 1,307 | 2,460,036 | 14.0 |
| Difference between Voigt and State | | | 4% |

| Acres | CY | In |
|---|---|---|
| 3,250 | 6,610,146 | 15.1 |
| 1,807 | 3,490,464 | 14.4 |
| | | 5% |

**4) Determine 2021 Subsoil Salvage Volume Required (02/01/22 - 02/01/23)**

**4A) Projected Associated Disturbance (02/01/22 - 02/01/23):**

The amount of redistributed SPGM in associated disturbance areas must be based on the amount removed (NDAC 69-05.2-15-04). Calculations in Section 2A determine total respread thickness on areas of associated disturbance. A unique topsoil thickness will not be calculated for associated versus mining disturbance areas. Associated disturbance areas will be respread with the calculated topsoil respreath thickness based on inventoried yards. Subsoil will be respread at a thickness necessary to achieve the associated disturbance premine weighted average soil thickness, by landowner.

**4A-1) State Associated Disturbance - Native**

| TS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 1.21 | - |
| **4** | 0.00 | - |
| **5** | 0.00 | - |
| **6** | 0.00 | - |
| **7** | 1.84 | 1,732 |
| **15** | 0.00 | - |
| **16** | 0.00 | - |
| **18** | 0.06 | 145 |
| **21** | 0.31 | 875 |
| **28** | 0.01 | 38 |
| **30** | 0.01 | 40 |
| **31** | 0.00 | - |
| **35** | 2.30 | 10,823 |
| | 5.74 | 13,653 |

| SS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 0.00 | - |
| **5** | 0.00 | - |
| **6** | 0.64 | 516 |
| **8** | 0.00 | - |
| **10** | 0.00 | - |
| **12** | 0.00 | - |
| **13** | 0.00 | - |
| **15** | 2.70 | 5,445 |
| **18** | 0.00 | - |
| **32** | 0.02 | 86 |
| **38** | 0.96 | 4,905 |
| **49** | 0.63 | 4,150 |
| **60** | 0.88 | 7,099 |
| **102** | 0.00 | - |
| | 5.83 | 22,201 |

Weighted Avg TS (in): 17.7

Weighted Avg SS (in): 28.3

**Total (in): 46.0**

**4A-2) Voigt Associated Disturbance - Native**

| TS | | |
|---|---|---|
| Inches | Acres | CY |
| 6 | 0.00 | - |
| 7 | 1.00 | 941 |
| 16 | 1.15 | 2,474 |
| 18 | 0.00 | - |
| 22 | 0.00 | - |
| 38 | 0.00 | - |
| | 2.15 | 3,415 |

| SS | | |
|---|---|---|
| Inches | Acres | CY |
| 0 | 0.00 | - |
| 6 | 0.48 | 387 |
| 10 | 0.09 | 121 |
| 22 | 0.00 | - |
| 38 | 0.86 | 4,394 |
| 40 | 2.46 | 13,229 |
| 65 | 0.00 | - |
| | 3.89 | 18,131 |

Weighted Avg TS (in): 11.8

Weighted Avg SS (in): 34.7

**Total (in): 46.5**

**4A-3) Voigt Associated Disturbance - Crop**

| TS | | |
|---|---|---|
| Inches | Acres | CY |
| **15** | 0.00 | - |
| **16** | 0.00 | - |
| **22** | 0.00 | - |
| | 0.00 | - |

| SS | | |
|---|---|---|
| Inches | Acres | CY |
| **0** | 0.00 | - |
| **38** | 0.00 | - |
| **45** | 0.00 | - |
| | 0.00 | - |

Weighted Avg TS (in): 0.0

Weighted Avg SS (in): 0.0

**Total (in): 0.0**

**4A-4) Winkler's Associated Disturbance - Native**

| TS | | |
|---|---|---|
| Inches | Acres | CY |
| **0** | 0.00 | - |
| **3** | 0.00 | - |
| **6** | 0.00 | - |
| **7** | 0.00 | - |
| **15** | 0.00 | - |
| | 0.00 | - |

| SS | | |
|---|---|---|
| Inches | Acres | CY |
| **0** | 0.00 | - |
| **6** | 0.00 | - |
| **8** | 0.00 | - |
| **12** | 0.00 | - |
| **40** | 0.00 | - |
| | 0.00 | - |

Weighted Avg TS (in): 0.0

Weighted Avg SS (in): 0.0

**Total (in): 0.0**

**4A-5) P Winkler Associated Disturbance - Native**

| TS | | |
|---|---|---|
| Inches | Acres | CY |
| **0** | 0.00 | - |
| **3** | 0.00 | - |
| **6** | 0.00 | - |
| **7** | 0.00 | - |
| **15** | 0.00 | - |
| | 0.00 | - |

| SS | | |
|---|---|---|
| Inches | Acres | CY |
| **0** | 0.00 | - |
| **6** | 0.00 | - |
| **8** | 0.00 | - |
| **12** | 0.00 | - |
| **40** | 0.00 | - |
| | 0.00 | - |

Weighted Avg TS (in): 0.0

Weighted Avg SS (in): 0.0

**Total (in): 0.0**

**4B) Projected Mining Disturbance (02/01/22 - 02/01/23)**

**4B-1) Voigt Mining Disturbance - Crop**

**TS**

| Inches | Acres | CY |
|---|---|---|
| **0** | 1.12 | - |
| **3** | 0.28 | 113 |
| **7** | 2.63 | 2,475 |
| **9** | 6.91 | 8,361 |
| **15** | 9.50 | 19,158 |
| **16** | 3.86 | 8,303 |
| 17 | 0.34 | 777 |
| **18** | 1.45 | 3,509 |
| **21** | 0.07 | 198 |
| **22** | 18.88 | 55,843 |
| **28** | 6.01 | 22,624 |
| **30** | 0.41 | 1,654 |
| | 51.46 | 123,015 |

Weighted Avg TS (in): 17.8

**SS**

| Inches | Acres | CY |
|---|---|---|
| **0** | 13.62 | - |
| **6** | 2.14 | 1,726 |
| **15** | 0.74 | 1,492 |
| **30** | 0.45 | 1,815 |
| **32** | 4.61 | 19,833 |
| **38** | 16.79 | 85,778 |
| **40** | 3.99 | 21,457 |
| **43** | 0.12 | 694 |
| **45** | 0.93 | 5,626 |
| **50** | 0.43 | 2,891 |
| **56** | 3.04 | 22,888 |
| **60** | 0.00 | - |
| **62** | 1.20 | 10,003 |
| **66** | 0.00 | - |
| **68** | 0.00 | - |
| **80** | 0.83 | 8,927 |
| **89** | 0.13 | 1,556 |
| **92** | 0.00 | - |
| **98** | 9.12 | 120,161 |
| **104** | 2.96 | 41,387 |
| **105** | 15.87 | 224,031 |
| **115** | 0.00 | - |
| | 76.97 | 570,264 |

Weighted Avg SS (in): 55.1

**Total:** **72.9**

**4B-2) State Mining Disturbance - Native**

**TS**

| Inches | Acres | CY |
|---|---|---|
| **0** | 2.18 | - |
| **3** | 9.39 | 3,787 |
| **4** | 0.90 | 484 |
| **5** | 0.00 | - |
| **6** | 0.31 | 250 |
| **7** | 9.76 | 9,185 |
| **9** | 0.72 | 871 |
| **13** | 0.00 | - |
| **15** | 1.94 | 3,912 |
| **16** | 2.59 | 5,571 |
| **17** | 0.00 | - |
| **18** | 0.78 | 1,888 |
| **20** | 0.00 | - |
| **21** | 4.88 | 13,778 |
| **22** | 0.24 | 710 |
| **28** | 0.68 | 2,560 |
| **30** | 0.29 | 1,170 |
| **31** | 2.02 | 8,419 |
| **35** | 1.49 | 7,011 |
| | 38.17 | 59,596 |

Weighted Avg TS (in): 11.6

**SS**

| Inches | Acres | CY |
|---|---|---|
| **0** | 17.05 | - |
| **4** | 0.00 | - |
| **6** | 3.48 | 2,807 |
| **8** | 0.31 | 333 |
| **10** | 0.08 | 108 |
| **12** | 2.92 | 4,711 |
| **13** | 2.02 | 3,530 |
| **15** | 4.39 | 8,853 |
| **35** | 1.09 | 5,129 |
| **38** | 7.31 | 37,346 |
| **39** | 15.01 | 78,713 |
| **40** | 2.44 | 13,122 |
| **49** | 0.60 | 3,953 |
| **50** | 3.00 | 20,167 |
| **53** | 0.46 | 3,278 |
| **89** | 1.47 | 17,589 |
| **90** | 0.29 | 3,509 |
| **92** | 0.87 | 10,761 |
| **98** | 3.88 | 51,121 |
| **99** | 3.19 | 42,459 |
| **104** | 1.20 | 16,779 |
| | 71.06 | 324,267 |

Weighted Avg SS (in): 33.9

**Total:** **45.6**

**4B-3) Voigt Mining Disturbance - Native**

| TS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 3.43 | - |
| **3** | 47.15 | 19,017 |
| **4** | 0.00 | - |
| **6** | 3.84 | 3,098 |
| **7** | 40.43 | 38,049 |
| **9** | 1.42 | 1,718 |
| **15** | 3.77 | 7,603 |
| **16** | 3.13 | 6,733 |
| **18** | 2.94 | 7,115 |
| **20** | 0.07 | 188 |
| **21** | 1.95 | 5,505 |
| **22** | 0.45 | 1,331 |
| **30** | 8.20 | 33,073 |
| **31** | 1.12 | 4,668 |
| **35** | 3.57 | 16,799 |
| | 121.47 | 144,897 |

| SS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 51.09 | 0 |
| **4** | 1.22 | 656 |
| **6** | 15.65 | 12624 |
| **8** | 5.86 | 6303 |
| **10** | 1.96 | 2635 |
| **12** | 19.18 | 30944 |
| **15** | 11.47 | 23131 |
| **38** | 6.14 | 31368 |
| **39** | 0.46 | 2412 |
| **40** | 0.21 | 1129 |
| **42** | 4.16 | 23490 |
| **45** | 0.16 | 968 |
| **50** | 0.25 | 1681 |
| **54** | 0.48 | 3485 |
| **57** | 0.62 | 4751 |
| **62** | 1.08 | 9002 |
| **66** | 0.64 | 5679 |
| **89** | 0.07 | 838 |
| **98** | 3.76 | 49540 |
| **104** | 3.32 | 46421 |
| **113** | 0.25 | 3798 |
| | 128.03 | 260,855 |

Weighted Avg TS (in): 8.87 Weighted Avg SS (in): 15.15 **Total:** **24.0**

**4B-4) Winkler's Mining Disturbance - Native**

| TS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 0.21 | - |
| **3** | 2.84 | 1,145 |
| **6** | 0.81 | 653 |
| **7** | 0.17 | 160 |
| **15** | 0.26 | 524 |
| | 4.29 | 2483.18 |

| SS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 4.16 | 0 |
| **5** | 0.00 | 0 |
| **8** | 0.81 | 871 |
| **12** | 0.17 | 274 |
| **35** | 0.28 | 1318 |
| | 5.42 | 2463.01 |

Weighted Avg TS (in): 4.31 Weighted Avg SS (in): 3.38 **Total:** **7.7**

**4B-5) P Winkler's Mining Disturbance - Native**

| TS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 0.00 | - |
| **3** | 0.00 | - |
| **6** | 0.00 | - |
| **7** | 0.00 | - |
| **22** | 0.00 | - |
| | 0.00 | 0.00 |

| SS | | |
|---|---|---|
| **Inches** | **Acres** | **CY** |
| **0** | 0.00 | 0 |
| **5** | 0.00 | 0 |
| **6** | 0.00 | 0 |
| **10** | 0.00 | 0 |
| **40** | 0.00 | 0 |
| | 0.00 | 0.00 |

Weighted Avg TS (in): 0.00 Weighted Avg SS (in): 0.00 **Total:** **0.0**

**5) Determine SPGM Available (02/01/22 - 02/01/23)**

| Summary | Voigt | | Voigt | | State | | Winkler's | | P Winkler | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mining Dist | | Assoc Dist | | Assoc Dist | Mining Dist | Assoc Dist | Mining Dist | Assoc Dist | Mining Dist | |
| | Native | Crop | Native | Crop | Native | Native | Native | Native | Native | Native | Total |
| TS CY | 144,897 | 123,015 | 3,415 | 0 | 13,653 | 59,596 | 0 | 2,483 | 0 | 0 | 347,059 |
| TS Inches | 8.9 | 17.8 | 11.8 | 0.0 | 17.7 | 11.6 | 0.0 | 4.3 | 0.0 | 0.0 | 11.6 |
| SS CY | 260,855 | 570,264 | 18,131 | 0 | 22,201 | 324,267 | 0 | 2,463 | 0 | 0 | 1,198,181 |
| SS Inches | 15.2 | 55.1 | 34.7 | 0.0 | 28.3 | 33.9 | 0.0 | 3.4 | 0.0 | 0.0 | 41.6 |
| Total Available (In) | 24.0 | 72.9 | 46.5 | 0.0 | 46.0 | 45.6 | 0.0 | 7.7 | 0.0 | 0.0 | 53.2 |
| Total Available (CY) | 405,752 | 693,279 | 21,546 | 0 | 35,854 | 383,863 | 0 | 4,946 | 0 | 0 | 1,545,240 |

* Winkler's and P Winkler's topsoil thickness determined by taking the weighted average of all the topsoil depth inside the mining disturbance boundary

**6) Determine SPGM Excess/Deficit (02/01/22 - 02/01/23)**

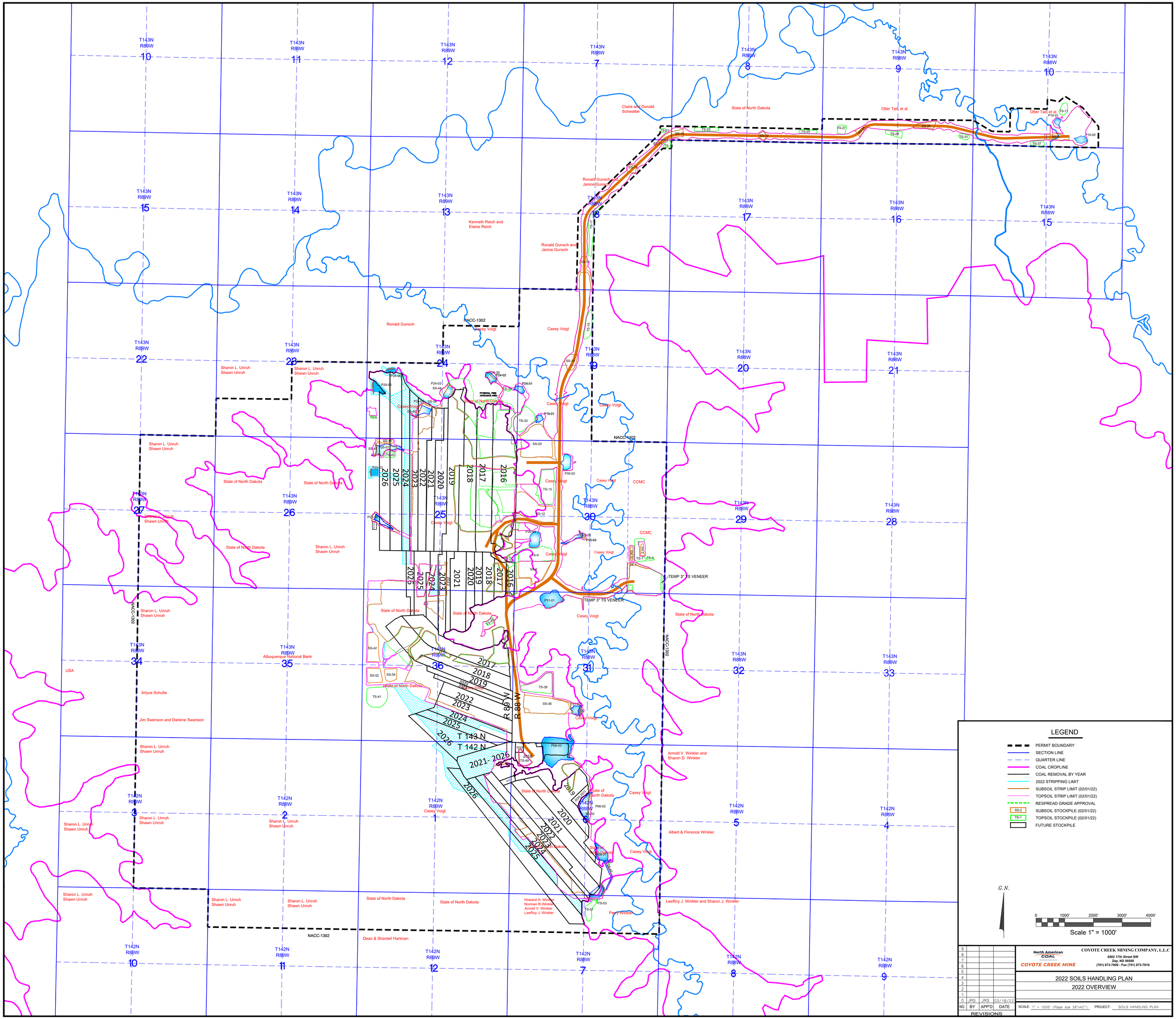
| Summary | Voigt | | | | | | | | State | | | | Winkler's | | P Winkler | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Assoc Dist | | Mining Dist | | | | | | Assoc Dist | Mining Dist | | | Assoc Dist | Mining Dist | Assoc Dist | Mining Dist | |
| Total Rspd Required (in) | 46.5 | 0.0 | 48.0 | 36.0 | 24.0 | 48.0 | 36.0 | 24.0 | 46.0 | 48.0 | 36.0 | 24.0 | 0.0 | 48.0 | 0.0 | 48.0 | |
| Land Use | Native | Crop | Native | Native | Native | Crop | Crop | Crop | Native | Native | Native | Native | Native | Native | Native | Native | |
| Acres | 3.89 | 0.00 | 120.79 | 7.72 | | 40.28 | 28.73 | 4.77 | 5.83 | 62.68 | 8.51 | 0.00 | 0.00 | 5.45 | 0.00 | 0.00 | 288.65 |
| Total TS Required (In) | 12.2 | 18.2 | 12.2 | 12.2 | 12.2 | 18.2 | 18.2 | 18.2 | 13.6 | 13.6 | 13.6 | 13.6 | | 7.1 | | 6.2 | |
| Total SS Required (In) | 34.3 | -18.2 | 35.8 | 23.8 | 11.8 | 29.8 | 17.8 | 5.8 | 32.5 | 34.4 | 22.4 | 10.4 | 0.0 | 40.9 | 0.0 | 41.8 | |
| Total SS Required (CY) | 17,935 | 0 | 581,584 | 24,721 | 0 | 161,427 | 68,794 | 3,725 | 25,445 | 290,292 | 25,690 | 0 | 0 | 29,953 | 0 | 0 | 1,229,567 |
| SS Excess/Deficit (CY) | -196 | 0 | -345,449 | | | 336,318 | | | -3,244 | 8,284 | | | | -27,490 | | 0 | -31,778 |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

*Total TS required based on 2022 respread depth.

** Winkler's and P Winkler's topsoil thickness determined by taking the weighted average of all the topsoil depth inside the mining disturbance boundary

**2022 Projections:**

| | | | |
|---|---|---|---|
| Total SS Volume Required (cy) | 1,229,567 | 6,009,765 | 4.3% |
| Excess/Deficit from Previous Year (cy) | 407,834 | | |
| Total Available SS including Deep Lift (cy) | 1,198,181 | | |
| Subsoil to be Salvaged (90%) (cy) | 1,078,363 | | |
| **Total SS Excess/Deficit (cy)** | **256,629** | 206,629 | 3.4% |
| Total SS Acres Disturbed | **1,455** | | |
| **Surplus as inches** | **1.3** | | |


T143N R89W 10
T143N R89W 11
T143N R89W 12
T143N R88W 7
T143N R88W 8
T143N R88W 9
T143N R88W 10
T143N R89W 15
T143N R89W 14
T143N R89W 13
T143N R88W 18
T143N R88W 17
T143N R88W 16
T143N R88W 15
T143N R89W 22
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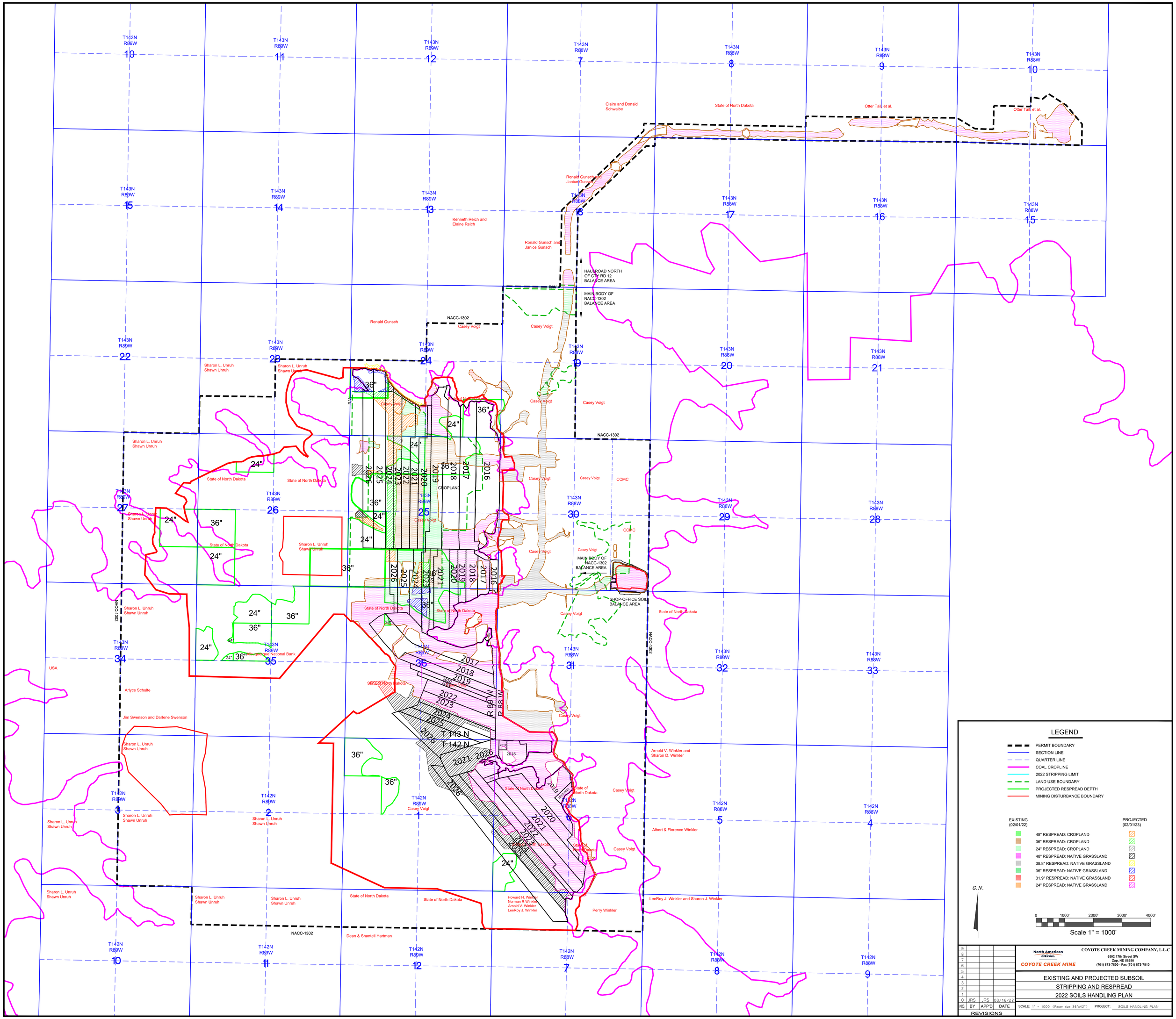
T142N R88W 6
T142N R88W 5
T142N R88W 4
T142N R89W 10
T142N R89W 11
T142N R89W 12
T142N R88W 7
T142N R88W 8
T142N R88W 9
NACC-1302
Claire and Donald Schwalbe
State of North Dakota
Otter Tail, et al.
Ronald Gunsch and Janice Gunsch
Kenneth Reich and Elaine Reich
Ronald Gunsch
Casey Voigt
Sharon L. Unruh
Shawn Unruh
State of North Dakota
Albuquerque National Bank
USA
Arlyce Schulte
Jim Swenson and Darlene Swenson
Arnold V. Winkler and Sharon D. Winkler
Albert & Florence Winkler
LeeRoy J. Winkler and Sharon J. Winkler
Howard H. Winkler
Norman R.Winkler
Arnold V. Winkler
LeeRoy J. Winkler
Perry Winkler
Dean & Shantell Hartman
CCMC
TEMP 3" TS VENEER
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
T 143 N
T 142 N
R 89 W
R 88 W
LEGEND
PERMIT BOUNDARY
SECTION LINE
QUARTER LINE
COAL CROPLINE
COAL REMOVAL BY YEAR
2022 STRIPPING LIMIT
SUBSOIL STRIP LIMIT (02/01/22)
TOPSOIL STRIP LIMIT (02/01/22)
RESPREAD GRADE APPROVAL
SUBSOIL STOCKPILE (02/01/22)
TOPSOIL STOCKPILE (02/01/22)
FUTURE STOCKPILE
C.N.
0 1000' 2000' 3000' 4000'
Scale 1" = 1000'
North American COAL
COYOTE CREEK MINE
COYOTE CREEK MINING COMPANY, L.L.C
6502 17th Street SW
Zap, ND 58580
(701) 873-7800 - Fax (701) 873-7810
2022 SOILS HANDLING PLAN
2022 OVERVIEW
NO. BY APP'D DATE
0 JRS JRS 03/16/22
REVISIONS
SCALE: 1" = 1000' (Paper size 36"x42")
PROJECT: SOILS HANDLING PLAN




## LEGEND

- PERMIT BOUNDARY
- SECTION LINE
- QUARTER LINE
- COAL CROPLINE
- 2022 STRIPPING LIMIT
- LAND USE BOUNDARY
- PROJECTED RESPREAD DEPTH
- MINING DISTURBANCE BOUNDARY

| EXISTING (02/01/22) | PROJECTED (02/01/23) |
|---|---|
| 48" RESPREAD: CROPLAND | |
| 36" RESPREAD: CROPLAND | |
| 24" RESPREAD: CROPLAND | |
| 48" RESPREAD: NATIVE GRASSLAND | |
| 38.8" RESPREAD: NATIVE GRASSLAND | |
| 36" RESPREAD: NATIVE GRASSLAND | |
| 31.9" RESPREAD: NATIVE GRASSLAND | |
| 24" RESPREAD: NATIVE GRASSLAND | |

C.N.

0 1000' 2000' 3000' 4000'

Scale 1" = 1000'

| NO. | BY | APP'D | DATE |
|---|---|---|---|
| 9 | | | |
| 8 | | | |
| 7 | | | |
| 6 | | | |
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |
| 0 | JRS | JRS | 03/16/22 |

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COYOTE CREEK MINE

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6502 17th Street SW
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# EXISTING AND PROJECTED SUBSOIL STRIPPING AND RESPREAD
## 2022 SOILS HANDLING PLAN

SCALE: 1" = 1000' (Paper size 36"x42") PROJECT: SOILS HANDLING PLAN

T143N R89W 10 | T143N R89W 11 | T143N R89W 12 | T143N R88W 7 | T143N R88W 8 | T143N R88W 9 | T143N R88W 10

T143N R89W 15 | T143N R89W 14 | T143N R89W 13 | T143N R88W 18 | T143N R88W 17 | T143N R88W 16 | T143N R88W 15

T143N R89W 22 | T143N R89W 23 | T143N R89W 24 | T143N R88W 19 | T143N R88W 20 | T143N R88W 21

T143N R89W 27 | T143N R89W 26 | T143N R89W 25 | T143N R88W 30 | T143N R88W 29 | T143N R88W 28

T143N R89W 34 | T143N R89W 35 | T143N R89W 36 | T143N R88W 31 | T143N R88W 32 | T143N R88W 33

T142N R89W 3 | T142N R89W 2 | T142N R89W 1 | T142N R88W 6 | T142N R88W 5 | T142N R88W 4

T142N R89W 10 | T142N R89W 11 | T142N R89W 12 | T142N R88W 7 | T142N R88W 8 | T142N R88W 9

Claire and Donald Schwalbe

State of North Dakota

Otter Tail, et al.

Ronald Gunsch and Janice Gunsch

Kenneth Reich and Elaine Reich

HAULROAD NORTH OF CTY RD 12 BALANCE AREA

MAIN BODY OF NACC-1302 BALANCE AREA

NACC-1302

Ronald Gunsch

Casey Voigt

Sharon L. Unruh
Shawn Unruh

2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026

CCMC

TEMP 3" TS VENEER

SHOP-OFFICE SOIL BALANCE AREA

R 88 W

T 143 N

T 142 N

2021- 2026

Arnold V. Winkler and Sharon D. Winkler

Albert & Florence Winkler

LeeRoy J. Winkler and Sharon J. Winkler

Howard H. Winkler
Norman R.Winkler
Arnold V. Winkler
LeeRoy J. Winkler

Perry Winkler

Dean & Shantell Hartman

Albuquerque National Bank

USA

Arlyce Schulte

Jim Swenson and Darlene Swenson

## LEGEND

- PERMIT BOUNDARY
- SECTION LINE
- QUARTER LINE
- COAL CROPLINE
- PROJECTED 2022 STRIPPING LIMIT
- PROJECTED RESPREAD: CROPLAND
- PROJECTED RESPREAD: NATIVE GRASSLAND

G.N.

0 1000' 2000' 3000' 4000'

Scale 1" = 1000'

| NO. | BY | APP'D | DATE |
|---|---|---|---|
| 9 | | | |
| 8 | | | |
| 7 | | | |
| 6 | | | |
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |
| 0 | JRS | JRS | 03/16/22 |

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6502 17th Street SW
Zap, ND 58580
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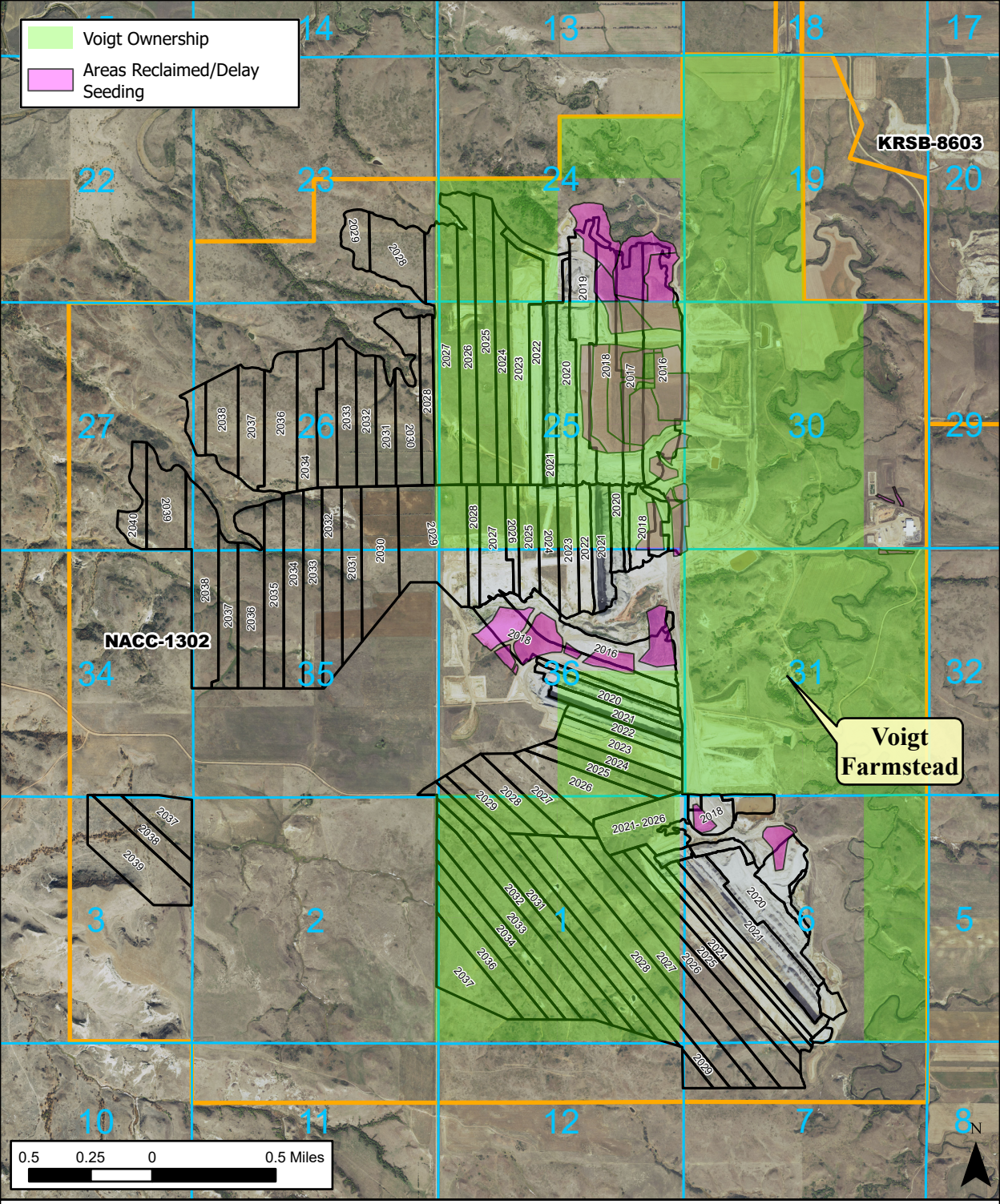
# EXISTING AND PROJECTED TOPSOIL STRIPPING AND RESPREAD 2022 SOILS HANDLING PLAN

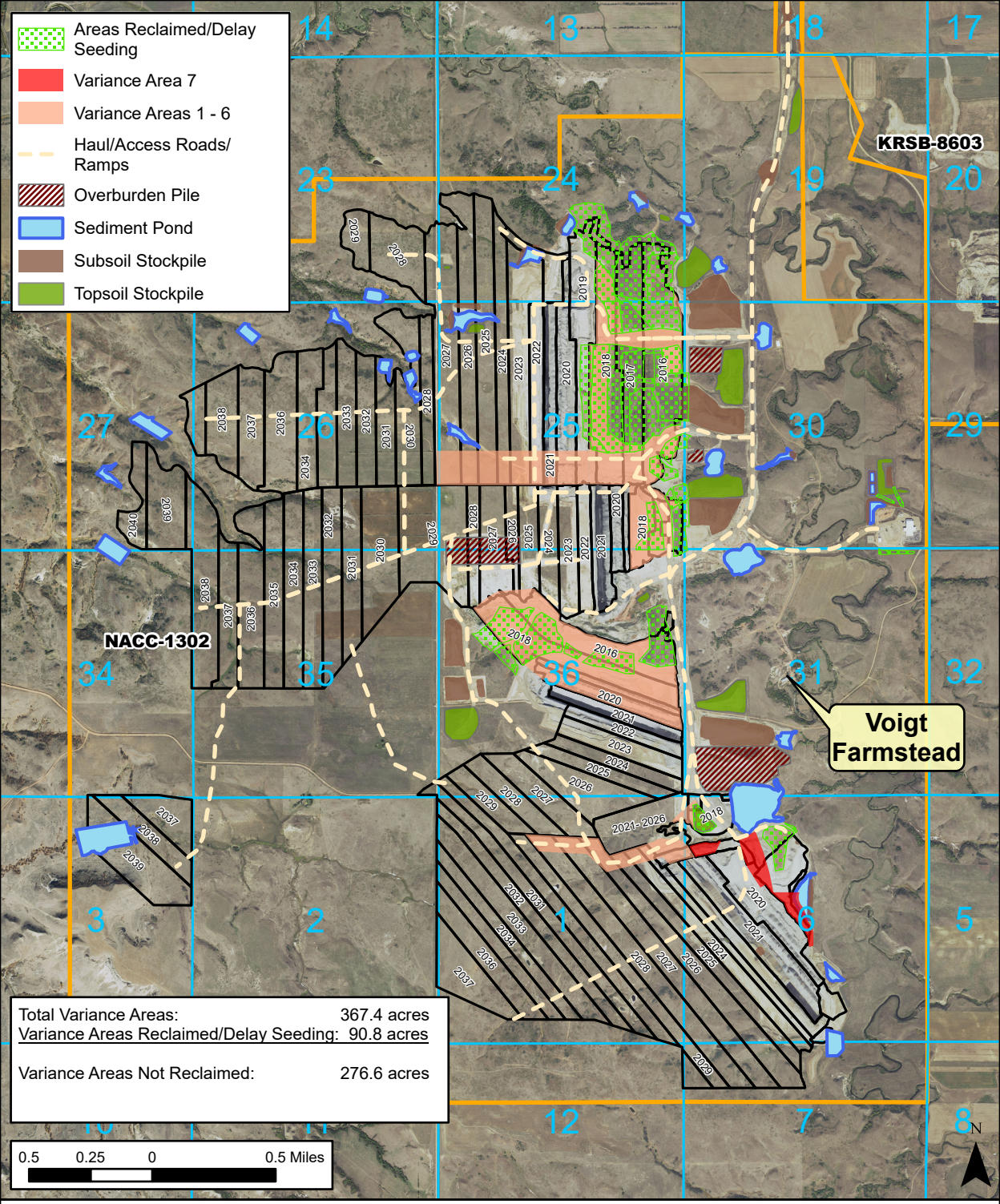
SCALE: 1" = 1000' (Paper size 36"x42") PROJECT: SOILS HANDLING PLAN




**Voigt Owned Land in Relation to Permit NACC-1302**

NORTH Dakota Be Legendary.™ | Public Service Commission

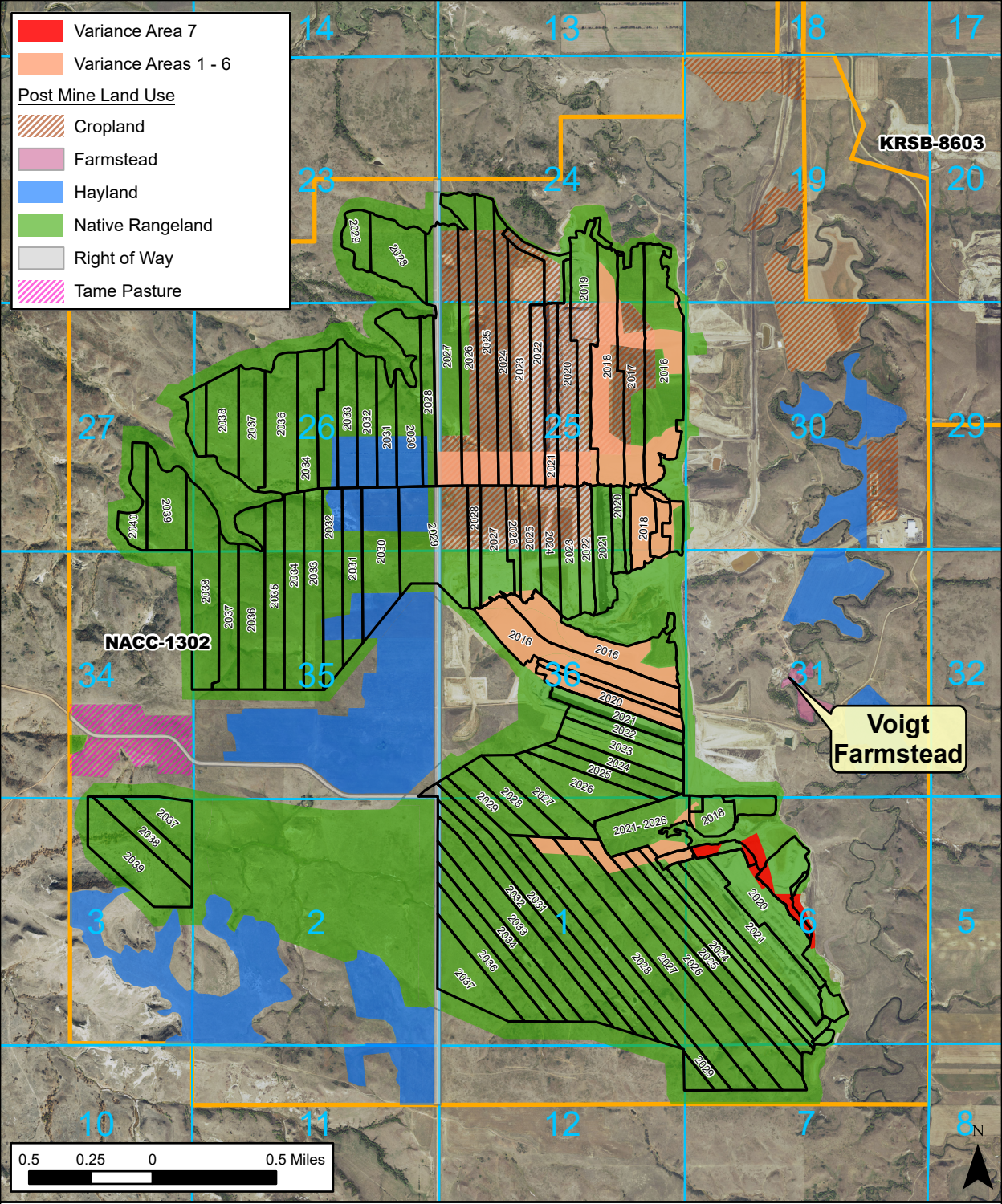
Voigt-039 Imagery: 2021 NAIP




**Variance Areas: Permit NACC-1302**

NORTH Dakota Be Legendary.™ | Public Service Commission

Voigt-040 Imagery: 2021 NAIP




## Variance Areas & Post Mine Land Use

NORTH Dakota | Public Service Commission
Be Legendary.™

Voigt-041 Imagery: 2021 NAIP

UNNAMED INTERMITTENT STREAM

BRUSH CREEK

COYOTE CREEK

RELOCATED COUNTY ROAD 12

17th Street SW

COUNTY ROAD 25

COUNTY ROAD 13

COUNTY ROAD 11

COYOTE CREEK

DRAGLINE ACCESS HAUL

DRAGLINE BOX CUT

BOX CUT SPOILS

OB PILE WITH BERM

## LEGEND

- PERMIT BOUNDARY NACC-1302
- PERMIT BOUNDARY NACC-1301
- SECTION LINE-SURVEYED LOCATION
- QUARTER LINE-SURVEYED LOCATION
- MINING DISTURBANCE LIMIT
- ASSOCIATED DISTURBANCE LIMIT
- HAUL/ACCESS ROADS/RAMPS
- 2025 RECLAMATION AREA (REVEGETATION YEAR)
- MINE PLAN VARIANCE 1
- MINE PLAN VARIANCE 2
- MINE PLAN VARIANCE 3
- MINE PLAN VARIANCE 4
- MINE PLAN VARIANCE 5
- MINE PLAN VARIANCE 6
- MINE PLAN VARIANCE 7

G.N.

0 1000' 2000' 3000' 4000'

Scale 1" = 1000'

| NO. | BY | APP'D | DATE |
|---|---|---|---|
| 0 | DRS | JRS | 03/09/22 |

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6502 17th Street SW
Zap, ND 58580
(701) 873-7800 - Fax (701) 873-7810

RECLAMATION SCHEDULE
AND VARIANCE MAP
SECTION 3.1.1.3.1

SCALE: 1" = 1,000' (Paper size 36"x42") PROJECT: NACC-1302 Rev. 12

Voigt-042

Section 3.1.1.3 – Reclamation Procedures and Schedule

Generally as part of a dragline mining operation, after coal removal, the overburden for the next pit is excavated by the dragline and placed into a previously mined out pit. Next, bulldozers are used to level spoil peaks, followed by tractor-scrapers or trucks and hydraulic excavator to construct the final graded post-mining topography.

Consideration has been given to developing the reclamation plan in a manner consistent with local physical, environmental, and climatological conditions, including the use made of hydrologic and geochemical information in addressing problems of subsurface drainage and stability. Examples of this consideration include a) not handling topsoil under wet or muddy conditions, nor stripping topsoil in winter, b) cleaning mud/snow/water from pits before spoiling into them, c) avoiding the burial of mud/snow in regrade fills, and d) regrading to approximate original contour with reestablishment of similar watersheds and drainage patterns. Other practices and procedures described in this permit further document this consideration.

Suitable plant growth material (SPGM) will be replaced after final grade approval has been acquired. Respread soil thickness will be determined as described in Section 3.1.1.1. Farm-type equipment will be used to revegetate and maintain reclaimed areas. Final reclamation procedures and revegetation are covered in Section 4.2, Revegetation Procedures, Establishment, and Management.

Reclamation Procedures

Reclamation procedures will comply with all the applicable health and safety standards. Coyote Creek will maintain an employee health and safety policy, which will meets or exceed all state and federal regulations associated with mine health and safety.

All surface coal mining and reclamation operations will be conducted utilizing the best technology available to maximize coal recovery while minimizing the potential for reaffecting the land in the future.

## PROJECTED RECLAMATION TIME SCHEDULE*

| Reclamation Area[1] | Mined Out | Rough Graded | Finish Graded | SPGM Respread | Revegetation[2,3] |
|---|---|---|---|---|---|
| 2019 | 2016 | 2017 | 2018-2019 | 2019 | 2019 |
| 2020 | 2017 | 2018 | 2019-2020 | 2020 | 2020 |
| 2021 | 2018 | 2019 | 2020-2021 | 2021 | 2021 |
| 2022 | 2019 | 2020 | 2021-2022 | 2022 | 2022 |
| 2023 | 2020 | 2021 | 2022-2023 | 2023 | 2023 |
| 2024 | 2021 | 2022 | 2023-2024 | 2024 | 2024 |
| 2025 | 2022 | 2023 | 2024-2025 | 2025 | 2025 |
| 2026 | 2023 | 2024 | 2025-2026 | 2026 | 2026 |
| 2027 | 2024 | 2025 | 2026-2027 | 2027 | 2027 |
| 2028 | 2025 | 2026 | 2027-2028 | 2028 | 2028 |
| 2029 | 2026 | 2027 | 2028-2029 | 2029 | 2029 |
| 2030 | 2027 | 2028 | 2029-2030 | 2030 | 2030 |
| 2031 | 2028 | 2029 | 2030-2031 | 2031 | 2031 |
| 2032 | 2029 | 2030 | 2031-2032 | 2032 | 2032 |
| 2033 | 2030 | 2031 | 2032-2033 | 2033 | 2033 |
| VARIANCE AREAS[4] | | | | | |
| Variance Area 1-2019 | 2016 | 2018 | 2019-2020 | 2021 | 2021 |
| Variance Area 1-2020 | 2017 | 2019 | 2020-2021 | 2022 | 2022 |
| Variance Area 1-2021 | 2018 | 2020 | 2021-2022 | 2023 | 2023 |
| Variance Area 2 | 2017-2020 | 2022 | 2023 | 2024 | 2024 |
| Variance Area 3 | 2021-2028 | Delayed until trailing pit is reclaimed | | | |
| Variance Area 4 | 2019-2027 | Delayed until trailing pit is reclaimed | | | |
| Variance Area 5 | 2017-2018 | Delayed until trailing pit is reclaimed | | | |
| Variance Area 6 | 2018-2026 | Delayed until surrounding disturbances are reclaimed | | | |
| Variance Area 7 | 2019 | 2022 | 2023 | 2023 | 2023 |

* These dates are the best estimate that Coyote Creek can make at the present time. If the mine plan changes, these dates could change.

1 See Section 3.1.1.3.1, The Reclamation Schedule and Variance Map, for these areas.

2 Revegetation will be completed during the next favorable planting season after SPGM respread. This season is usually April through October each year following the completion of respread operations.

3 See Section 4.3.1 for details. Year on table indicates year of revegetation for cropland. Year of revegetation for native grasslands and associated land uses such as woodlands will extend to 6 years from the year of coal removal to allow for processes to occur to eliminate introduced species from the seed bank because of the fragmented nature of the areas.

[4] Three-year reclamation variance requested as detailed in the narrative below.

Soil striping generally occurs, at minimum, one year in advance of mining. Generally additional stripping is required for a buffer for prebenching, chop cutting, highwalls, and dragline tail room clearance.

Rough grading will generally be complete within the year following mining, and finish grading is generally completed the year after that. Soil respread and seeding will occur in the same year, or within the year following finish grading. This procedure will: a) allow regraded spoils to settle and repairs to be made to any early settlement prior to soil respread, and b) provide for larger soil respread areas, which can be respread and seeded in large blocks, making for more efficient and cost effective operations. Wherever possible and practicable, this schedule will be accelerated. In accordance with NDCC 38-14.1-24(14), Coyote Creek will ensure that all reclamation efforts proceed in an environmentally sound manner, and as contemporaneously as practicable with the surface coal mining operations, provided that all reclamation through the initial planting on any land within the permit area shall be completed by Coyote Creek no later than three years from completion of surface coal mining operations on such lands, unless otherwise approved by the North Dakota Public Service Commission (NDPSC).

Leveling will take place approximately one to four spoil peaks behind coal removal operations. In some locations where spoil peaks are below final grade, they may not be leveled, but will be covered with pre-bench material. Grading will be at least one spoil peak behind the active pit to allow for safe reclamation conditions.

Coyote Creek will keep reclamation activities as contemporaneous as it can and the aforementioned schedule will be followed whenever possible. It is in Coyote Creek's own interest to keep the regrade as close to the pits as possible to minimize haul distance. However, there will be times when it will be difficult to complete revegetation within three years of coal removal. Coyote Creek will be a two pit, single dragline operation. The two pit mine plan is necessary to meet customer requirements for coal quality and to balance the strip ratio. When digging a small number of pits each year, sometimes three or less, pits will advance across the landscape slowly. Grading will be at least one spoil peak behind the active pit and even more distance and time will be required in areas of prebench. About half of the area will require prebench. Combining all of these factors, it will likely take more than three years to reclaim some areas. Although they will not be asked for at this time, in areas where only a few pits are mined each year, Coyote Creek will likely require seeding delays or variances in addition to those listed below.

Variance from Three Year Reclamation Requirement:

Coyote Creek requests several variance areas, which will be required for the first ten years of mining. Coyote Creek requests a variance from the three year reclamation requirement {NDCC 38-14.1-24(14)} for the box pit areas shown as Variance 1 on the Reclamation Schedule and Variance Map of Section 3.1.1.3.1. ~~Pit Layout and Facilities Map of Section 3.1.3.~~ These box pits are dug with dragline, and spoil material will be placed on the highwall side in preparation of the dragline bench for the next several pits. The pit which it was removed from will need to remain open for the next dragline pit spoils. Once the dragline moves through this area, the spoils will be graded to the approved post mining topography. Implementing this style of digging, it may take

an additional one to two years to complete finish grading. So for example, areas mined in 2016 will be rough graded in 2018 and finish graded in 2019-2020. Coyote Creek will respread, seed, and stabilize as much area of the area as possible and practical prior to 2021, and will finish many of these areas before the delayed timetable

Coyote Creek requests a second variance from the three year reclamation requirement {NDCC 38-14.1-24(14)} for the box pit area in Section 36 for the period 2017-2020, as shown on Reclamation Schedule and Variance Map of Section 3.1.1.3.1. ~~the Pit Layout and Facilities Map of Section 3.1.3.~~ This box pit will be dug with a dragline, placing spoil on virgin ground. The pit which it was removed from will need to remain open for the next dragline pit spoil. Once the dragline moves through this area, box cut spoils will be used to create the post mining topography, however this will take until the year 2021 to obtain adequate area for finish grading. Coyote Creek will respread, seed, and stabilize as much area of the area as possible and practical prior to 2023 and continue to evaluate this as mining progresses into this area.

Coyote Creek requests variances three, four and five from the three year reclamation requirement {NDCC 38-14.1-24(14)} for the pit end walls as shown on the Reclamation Schedule and Variance Map of Section 3.1.1.3.1. ~~Pit Layout and Facilities Map of Section 3.1.3.~~ A variance is required as the pit sequence for these areas progress at different rates. The variance areas will not be reclaimed until trailing pit is mined. At this point the variance areas will be included with the trailing pit reclamation to keep reclamation efforts as contemporaneous as possible. Coyote Creek will continue to evaluate this as mining progresses into this area.

Coyote Creek requests variance six from the three year reclamation requirement {NDCC 38-14.1-24(14)} for a small area located between two roads and a disturbed drain, as shown on the Reclamation Schedule and Variance Map of Section 3.1.1.3.1. ~~Pit Layout and Facilities Map of Section 3.1.3~~. A variance is required as this area is very small and isolated making it extremely difficult to maintain proper water management with the surrounding disturbance on all four sides. This area will be reclaimed with the surrounding lands.

Coyote Creek requests variance seven from the three year reclamation requirement {NDCC 38-14.1-24(14)} for a small area located in Section 6, T142N, R88W as shown on the Reclamation Schedule and Variance Map of Section 3.1.1.3.1. Mining started in this area with the dragline in 2019. Mining is progressing on schedule and reclamation is also progressing but there will not be adequate area in 2022 to distribute all the dragline box cut spoil from 2019 mining. Revision 12 did adjust some post mine topography in this area but the adjustments were not significant enough to avoid a variance for this area. The adjustments made to the post mine topography in Revision 12 did remove at least one year from the variance requested.

CCMC also requests a variance ~~for a maximum of six years~~ following coal removal activities on areas to be seeded to native grasslands or woodlands within the aforementioned variance areas 1-~~6~~ 7. These areas will be seeded to the approved post mine land uses at the same time as larger adjacent tracts as described in Section 3.1.3. ~~and adjacent associated disturbance.~~ The flexibility to ~~aforementioned procedures and rationale coupled with~~ delay~~ed~~ seeding dates for the native grassland ~~areas~~ within these variance areas will ~~also~~ allow for the most successful opportunity for reclamation of these native grassland tracts. Features such as ramps, haul roads,

ponds, stockpiles and other similar long-term disturbances inhibit the ability to reclaim native grassland in larger tracts, fragmenting the landscape during periods of time and limiting native grassland management options. Larger areas of native grassland can be more effectively managed with grazing and these delays allow CCMC to eliminate the seed bank of introduced grass species in the soil from undisturbed lands during the first few years of soil respread prior to permanent seeding. This approach will allow for native stands to be sustainable, productive and diverse long-term and overcome the challenge of the often ineffective management option of haying fragmented land by providing more opportunities to graze the larger tracts with healthier stands with cattle. These areas will be tracked on CCMC's Annual Map and analyzed frequently to ensure anticipated delays are minimized and deemed necessary to ultimately achieve reclamation success.
In the event that Coyote Creek will need additional variances from the 3-year contemporaneous reclamation requirement, Coyote Creek will submit a variance request for the Public Service Commission's approval with the necessary details and justification before a variance is needed.

Variance from 180 Day Rough Backfilling and Grading:

Coyote Creek requests a variance from the 180-day grading requirement {NDAC 69-05.2-21-01 (2)} for the period 2016-2040 for the following reasons:

1. As stated previously, materials from the box cut spoils will need to be placed throughout the mined area. This will not be possible to accomplish with 180 days due to the lack of adequate spoil area to distribute the box cut spoils.

2. A large portion of the area to be mined in 2016-2040 involves prebenching, and requires prebench fill to meet post-mining topography. Prebenching is typically done in 300 to 600 foot wedges, and thus a minimum of two to four spoil peaks beyond the second spoil peak must be available for direct respread of prebenching material, and may take a full year to create this much spoil area. The 180-day requirement is impractical for areas requiring prebench fill. The boundary for these areas is best described as those areas requiring truck/hydraulic excavator prebenching (85' cover), as shown on the Pit Layout and Facilities Map of Section 3.1.3. For simplicity in describing these areas, this appears to be a logical boundary.

3. Coyote Creek has areas throughout mining progression in which only two to three pits are cycled per year. Since grading will be at least one spoil peak behind the active pit, meeting the 180 day requirement would be impractical.

It is the policy of the company to not regrade up to the final active pit, as this would put mining operations located in the bottom of the pit and the spoil grading operations in jeopardy due to the potential of spoil instability. Previous experiences in the Beulah area have proven that regrading the second spoil peak into the first can exert enough pressure to cause the first peak to slide into the pit. Stability analyses have also been conducted that help explain this phenomenon. Therefore, to assure safe mining operations, spoil regrading generally will not be done closer to the pits than the third spoil peak.

Variance from Four Spoil Peak Rough Backfilling and Grading:

Coyote Creek requests a variance from the four spoil peak grading requirement {NDAC 69-05.2-21-01 (2)} for the period 2016-2040 for the following reasons and locations:

1. Spoil peaks will be graded within four spoil peaks of the active pit in accordance with NDAC 69-05.2-21-01(2), except in instances where prebench fill is required to meet post-mining topography. For those areas that require prebench fill, the spoil peaks will not be graded since they are below final post-mining grade, and they will be covered with prebench material. In no instance will more than six spoil peaks be left ungraded. The boundary for these areas is best described as those areas requiring truck/hydraulic excavator prebenching (85' cover), as shown on the Pit Layout and Facilities Map of Section 3.1.3. For simplicity in describing these areas, this appears to be a logical boundary.

If at a later date the NDPSC determines that Coyote Creek has abused these 180 day and four spoil peak variances, Coyote Creek agrees to reevaluate these requests.

Final grading will take place after rough grading to establish final post-mining topography and reestablish surface drainage patterns. Where reclamation scheduling permits, graded areas will be allowed to settle for approximately six to 12 months before respreading topsoil and subsoil material. Other site-specific protective measures may include creating diversion ditches, terracing, construction of sumps, and the use of straw bale dikes.

After completing rough grading of the area, final contouring and drainage will be established. Once approval of the grading is received, subsoil and topsoil will be respread in separate lifts using tractor-scrapers and/or trucks and hydraulic excavator. An adequate seedbed will then be prepared with conventional agricultural equipment. Various tillage methods may be used for site-specific requirements. Such methods may include, but are not limited to chisel-plowing, harrowing, rock picking, dragging, and the use of cover crops. Haulroads and access trail corridors will be ripped and scarified to alleviate compaction prior to SPGM respread per NDAC 69-05.2-15-04. Deep ripping may also be conducted following topsoil respread to reduce subsoil compaction. Ripping will be performed with a dozer, a subsoiler, or other deep ripping implement pulled with a tractor. After respreading SPGM, the area will be revegetated as explained in Section 4.2, Revegetation Procedures, Establishment, and Management.

Generally, regrading and reclamation of haulroads in the proposed permit area will be accomplished by removing aggregate from the road base and burying material in spoils or pond basins with the use of tractor-scrapers. Areas of significant cut will be hauled to fill areas along the road or to final pit/highwall locations. Road ditches, approaches, and culverts will be removed, and the area will be regraded to blend in with the adjacent topography. Subsoil and topsoil will be respread, in a manner similar to that for adjacent regraded spoils. Topsoil will then be revegetated as described in Section 4.2, Revegetation Procedures, Establishment, and Management.

County roads and section line roads will be constructed on reclaimed land. See Section 3.2.1 for details and specifications for reclaimed road construction.

Ponds that are excavated into overburden material will be backfilled with suitable overburden material and respread with SPGM. Berms and other associated structures will be graded to the appropriate topography and blend with the adjacent landscape. Pond dikes constructed of subsoil material will require respreading embankment material over the refilled pond, and replacing topsoil. SPGM will be replaced in accordance with reclamation procedures previously described in this section. Following topsoil respread, the area will be revegetated as described in Section 4.2, Revegetation Procedures, Establishment, and Management.

Ponds, diversions, roads, and stockpile areas will generally be reclaimed within two years of the end of the year they are no longer used to support mining facilities. Ponds and diversions will not be removed until the requirements of Public Service Commission Policy Memorandum #19 are addressed.

SPGM stockpiles will gradually be respread on reclaimed pit, pond, and haulroad areas, thus reducing and finally removing the stockpiles. Following removal of subsoil piles, topsoil will be respread, and the area will be revegetated as described in Section 4.2, Revegetation Procedures, Establishment, and Management.

Post-Mining Topography

Coyote Creek Mining Company is planning to apply for a minerals lease on all tracts containing federal coal in the future. Therefore, post-mining topography changes related to mining the federal coal were incorporated into the permit. If the federal leases and royalty reductions are not obtained, the post mining topography will be revised back to pre-mining topography on these federal tracts. On November 1, 2020, Coyote Creek Mining Company obtained the Federal coal leases for the SW4 of Section 24, T143, R89W and the SE4 of Section 26, T143, R89W. Revision 11 contains updated plans to mine these two Federal tracts.

The post mining topography for the Coyote Creek Mine was developed in two separate parts. Part one was the northern pits where mining is oriented in a north south direction starting at the year 2016 and the area west. Part two was the pits oriented in a northwest to southeast mining sequence. Spoil from the 2016 box pit has been incorporated into part one of the post mining topography. The post mining topography was developed for each area using the following processes.

The post-mining topography is developed using Carlson Software with AutoCAD in accordance with the following procedures:

1. The pre-mining topographic and top and bottom of each coal surface are loaded into the computer.
2. Using the computer software, these surfaces are gridded (100' x 100' grid) encompassing the entire area for which the post-mining topography is to be developed.
3. Using the grid file utilities of the computer software:
    - Thickness Grids were created for the dragline 70 foot bench, 85 foot chop cut and prebench material greater than 85 feet.

- Based on the cross-sections developed in Section 3.1.7, the various thickness grids were shifted perpendicular to pit advancement to reflect shifting of the dirt as a result of normal mining.
- Each thickness grid was then swelled 10% and added together, creating a total thickness grid. This thickness grid was then added to the bottom of the coal grid surface of the Upper Beulah bed, creating a post-mining topographic grid surface.
- The grid file was then contoured creating a draft post-mining topography.

4. The contours are adjusted to account for potential shifts in prebench material, watershed size, and drainage patterns.
5. The contours were then adjusted and smoothed as follows:
   - Contours were adjusted along the initial box pit areas and croplines, which may not support the grade changes associated with the shift in material.
   - Drainageways were revised and added as necessary.
   - Watersheds and probable hydrologic consequences were reviewed. Adjustments to the topography were made as necessary.
   - Topography was adjusted at the final highwall areas. Topography near final highwall areas is generally lowered to minimize stockpiling and work associated with reclaiming these areas. The areas adjacent to the final highwall were also adjusted to generate material to fill the highwalls.
   - Slope reports were developed for the draft topography, and the topography was adjusted as necessary to suit post-mining land use. Private ownership tracts were also reviewed, and the topography was adjusted if necessary.
   - A pre-mining versus post-mining material balance was conducted. The topography was again adjusted until a favorable balance was obtained
6. Final adjustments were made to contours to ensure a smooth transition between disturbed and undisturbed topography as well as proper drainage. The Post-Mining Area Slope Map is then computed off of the Post-Mining Topography Map information. The Post-Mining Topography Development Map of Section 3.1.5 was developed to assist in analyzing the post-mining topography. The map shows cuts and fills of the post-mining topography at each 100 foot grid node, as compared to the pre-mining topography.

The post-mining topography was updated and revised in Revision 9 to reflect actual mining conditions during the first permit term and looking forward to the next 5 year permit term. Areas revised and reasons for updating are as follows;

1. The post-mining topography was revised in the northern pit in SE1/4 Section 24, W2 Section 25, and NE1/4 Section 36 T143N, R89W to reflect actual mining disturbance and avoidance of woodlands at the north end of the pits. The mine was able to develop a mining sequence that allowed preservation of many of the woodlands in SE1/4 Section 24. CCMC disturbed approximately 30 acres less at the north end than previously approved. To preserve the woodlands, the pits were dug north to south, subsequently pulling the dirt to the south, resulting in changes to the post mining topography at the south end of these pits. The watersheds draining north to sedimentation pond P24-02 were also reduced to more closely match pre-mine conditions. While revising this area, additional drains were added to reduce some of the long slopes. The changes resulted in improved area slope as compared to the currently approved post-mining topography and pre-mining topography.

2. The post-mining topography was revised in the NW1/4 of Section 36 T143N, R89W to accommodate dragline box pit material. This box pit spoil will be cast to the east and the post-mining topography was revised to accommodate some of this box cut spoil material and the natural shift of overburden associated with a dragline box pit.
3. The post-mining topography was revised in the northwest to southeast pits in Section 36, T143N, R89W and N1/2N1/2 Section 1 T142N, R89W to better reflect actual mining conditions, achieve a dirt balance for this area, reduce long slopes, and add additional drains. The current approved post-mining topography did not balance for this area which would have resulted in delayed reclamation for several years. The revised post-mining topography better reflects the natural shift of overburden associated with a dragline box pit. While revising the topography, additional drains were added, reducing most of the long slopes that were in the currently approved post-mining topography. The changes resulted in improved area slope as compared to the currently approved post-mining topography and pre-mining topography.
4. The post-mining topography was revised in the NW1/4 of Section 6 T142N, R88W to accommodate dragline box pit material. This box pit spoil will be cast to the north and the post-mining topography was revised to accommodate some of this box cut spoil material and the natural shift of overburden associated with a dragline box pit.
5. The post-mining topography was revised in the NE1/4 of Section 34 T143N, R89W to better reflect changes to the post mining topography at the final highwall and to achieve the material balance for the entire mine.
6. The material balance was revised to reflect the above changes and new projected disturbance boundary.

The post-mining topography was updated and revised in Revision 12 to reflect actual mining conditions and spoil placement in Section 6 T142N, R88W. The boundary of these changes is shown on the Post-Mining Topography Development Map of Section 3.1.5. There were also some very minor and insignificant changes to the post mining topography in the adjacent Sections 1 and 7. The post mining topography was revised in this Revision 12 for the following reasons.

1. To accommodate grading of dragline box pit material. The post-mining topography was revised to accommodate some of this box cut spoil material and the natural shift of overburden associated with a dragline box pit.
2. To achieve a dirt balance for this area. The currently approved post mine topography will not accommodate grading in a timely manner and would result in requesting a variance to the three-year reclamation requirement on many of the acres mined in 2020 and 2021.
3. To reduce the longer slopes in the currently approved post-mining topography. Reducing these longer slopes will improve stability and reduce potential sheet erosion. These longer slopes were reduced by adding several secondary drains. Secondary drains were also added in several other locations.
4. The watersheds were revised to more closely match pre-mine conditions.

Summary of Rough Grading Conditions and Assumptions

1. The rough grading work will be done by bulldozer and/or trucks dumping prebench material.
2. Pit widths will vary from 120 to 160 feet.
3. Highwall is assumed to stand at 40 to 60 degrees, spoil at a 25 to 35 degree angle of repose, and swell is assumed to be approximately 10 percent.
4. Bulldozers and trucks will work one to four spoil piles from the active pit, except where prebench fill is required. Prebench material will be dumped over the top of spoil piles, and filled to the post-mining topography.
5. Final grading, the respreading of topsoil/subsoil, and initial seeding will generally commence one year after completion of rough grading, and be completed no later than three years following the mining of each strip. Due to differential settling of graded spoils, it may become necessary to wait longer than one year before respreading begins in some areas.
6. A table showing disturbance, regrade, and revegetation schedules and acreages can be found earlier in this section.

Material Balance

Carlson Software was used to perform a material balance between the material available and the material required to achieve the proposed post-mining topography. Material balances were done for the entire permit area. Polygons for the pre-mining and post-mining material balance are shown on the Post-Mining Topography Development Map of Section 3.1.5.

The material balance was not adjusted in Revision 12 since the changes were not significant enough to revisit the material balance for the entire permit area.

Entire Permit Material Balance:

| | | |
|---|---|---|
| Material Available: | | |
| Total Available | = | 490,580,000cy |
| Minus Area Raised Outside Cropline | = | 1,037,000cy |
| Plus 10% Swell | = | 49,058,000cy |
| TOTAL MATERIAL AVAILABLE | = | 538,601,000cy |
| Material Required: | | |
| TOTAL MATERIAL REQUIRED | = | 538,210,000cy |
| Material Long | = | 391,000cy |
| Percentage of Material Available | = | 0.07% |

Reclamation Costs

Reclamation costs for Permit can be found in Section 3.1.1.8 Reclamation Costs

Area Slope Comparison Table

The Area Slope Comparison Table can be found on the Post-Mining Area Slope Map of Section 3.1.6.

Section 4.3.1 - Narrative

Vegetation assessments on reclaimed lands will be conducted to achieve the requirements for successful vegetation specified in the latest version of the North Dakota Public Service Commission Standards for Evaluation of Revegetation Success and Recommended Procedures for Pre- and Postmining Vegetation Assessments. The mine will conduct assessments following methods also specified in these standards.

Cropland productivity will be evaluated using Natural Resource Conservation Service (NRCS) productivity indices to calculate an unadjusted yield standard. Standards will be established for each permitted section of land by owner. Regional standards will be calculated using these individual standards where appropriate. If there is not a great disparity between prime and non-prime farmland production, a combined standard will be developed. In areas where regional standards are used, a combined standard will be generated by using the regional unadjusted prime and non-prime cropland standards, and weighting them by the acreage of prime and non-prime farmland in the reclamation tract. The standard will be adjusted for annual climatic variations using annual county yield data, or cropland control areas, whose locations will be determined after reclaimed fields have been established. Crops will be sampled using standard combining procedures with normal field rotation practices.

Native grassland productivity will be evaluated using NRCS production values in conjunction with reference area data to correct for climatic variations. Cover will be evaluated using basal cover (10 point frame) measurements. Diversity will be evaluated using relative cover or yield measurements to attain the standard in place at the time of bond-release. Seasonality will be evaluated using relative cover or yield measurements to attain the standard in place at the time of bond release. Proposed reference area locations are shown on the map in Section 2.4.7.1. These are sites that were sampled for baseline permit data that have been identified as being both outside of the anticipated disturbance boundary and representative of the dominant native grassland ecosites that are projected for disturbance. Sampling results to determine a similarity index for the sites can be found in Section 2.4.7.4. A different set of potential reference area sites had been identified and sampled for cover in 2013, but after additional cropline drilling was completed, it was determined they would be disturbed by mining, so new sites were proposed after the 2013 field season was over. However, at this time they haven't yet been approved by the PSC. Additionally, as part of the 2015 orders issued in response to the formal hearing on NACC-1302, Casey Voigt will be consulted on the selection and management of reference areas to be used to demonstrate reclamation success of reclaimed native grasslands that he owns. After Casey Voigt and the PSC review reference area sites and they have been approved, they will be added to the permit.

To identify which ecosites needed to be represented by reference areas, the two dominant sites within the anticipated disturbance boundary were identified for each landowner. This was done by utilizing Section 2.4.7.2 Ecological Site Acres by Owner Table, Section 2.4.7.1 Ecological Site Map, and the anticipated disturbance boundary. It appears this method resulted in a complete list of the dominant sites found within the permit area since this list also happens to include all

sites that make up more than 10% of the native grassland as calculated using Section 2.4.7.2. Results follow:

| Ecological Site | Ownership Where Identified as a Co-dominant Site | Reference Area Location |
|---|---|---|
| Cp | ND State, Unruh, P Winkler, Winkler et al, Young Paine Trust | Sec 19 |
| Sa | CCMC, Gunsch, Schwalbe | Sec 31 |
| Sy | CCMC, Voigt, Young Paine Trust, Gunsch, Ottertail et al, Schwalbe | Sec 23 |
| Ly | Voigt, ND State, Ottertail et al | Sec 12 |
| SwLy | Swenson, Unruh, Winkler et al | Sec 27 |
| TCp | Swenson, Unruh, P Winkler | Sec 3* |

* The TCp sites that were sampled for baseline permit data are all projected for disturbance. Therefore, a new site will be sampled to establish a reference area in Section 3.

Other reclaimed surface mines have historically struggled with the invasion of introduced species into reclaimed native grasslands. This happens for multiple reasons, including, but not limited to: introduced species seed bank from respread soils, inability to manage reclaimed native grassland tracts of small size and limited water sources. In an effort to reduce the long-term effects of these two short-term challenges regarding invasive species on reclaimed native grasslands at CCMC and provide the best possible end result for the surface owner, CCMC plans to adjust the typical early stages of the native grassland reclamation process, delaying the first normal period after topsoil has been respread to reflect the longevity of the stand and allow for the elimination of introduced species overtaking native areas. The initial seeding to native grassland on a reclaimed tract will require and CCMC requests a seeding delay until at least two years before the tract can be managed utilizing cattle grazing, the most effective management tool for a native grassland tract. Since the limiting factors for grazing are typically size of the tract and water resources, approximately two years before the appropriate size (approximately 80 acres) and water resource will be available for a manageable unit, the tract will be seeded into native species to allow for a stand to be established prior to grazing. In the time leading up to final seeding, the respread land will be managed to both stabilize the landscape and eliminate any remaining seed bank, utilizing herbicide application and reducing erosion by seeding cover crops, including annual crops and possibly longer-term temporary stands utilizing the pre-cropland hayland mix in Section 4.2.2 to allow surface owners to harvest the stand for hay and to stabilize drains and areas exceeding 9% slopes. These seedings, along with delayed areas, will be tracked on an annual basis.

Tame pastureland production will be evaluated using NRCS yield estimates as explained in the North Dakota Public Service Commission Standards for Evaluation of Revegetation Success and Recommended Procedures for Pre- and Postmining Vegetation Assessments. Unadjusted yield standards will be corrected for climatic variations using annual county yield data (Correction Method 1).

Replacement shelterbelts will be evaluated as described in the North Dakota Public Service Commission Standards for Evaluation of Revegetation Success and Recommended Procedures for

Pre- and Postmining Vegetation Assessments. Non-replacement or voluntarily planted tree/shrub plantings will be considered as enhancement practices to other land uses, and will be evaluated subjectively as to their enhancement value.

Temporary wetlands, which will include Class I and II wetlands, will be evaluated with associated land uses. All other wetlands will be evaluated following the North Dakota Public Service Commission Standards for Evaluation of Revegetation Success and Recommended Procedures for Pre- and Postmining Vegetation Assessments.

Replacement woodlands will be evaluated as described in the North Dakota Public Service Commission Standards for Evaluation of Revegetation Success and Recommended Procedures for Pre- and Postmining Vegetation Assessments.

Standards will be calculated once disturbance boundaries (mining and associated disturbance) are known, therefore minimizing the need to recalculate standards as they are finalized.

Section 4.2.2 - Seed Mixes

Below is a list of seed mixes that will be planted on associated land use tracts, suitable plant growth material stockpiles, and other miscellaneous disturbance areas. Croplands will be planted with a temporary pre-crop grass/legume seed mixture, or planted directly with a small grain crop, depending on season, landowner preference and potential erosion problems. Road ditches will typically be seeded with the same seed mix that is used for the adjacent land use. If that land use is cropland, the pre-crop mix will typically be used. Cover crops of oats or rye will be used in place of or in conjunction with mulching and crimping to establish quick erosion control on all reclaimed areas. Locally grown straw is generally used as the primary mulch for reclaimed lands. Slough or native grassland hay may be used depending on price, origin, and quality of the hay. Wood chips may be used as a mulch and weed barrier in reclaimed tree plantings. In croplands, wetland edges will be planted with a seed mix beneficial to wildlife and valuable as a hay crop. In all other land uses, wetland basins will not be seeded, since flooded basins are quickly invaded by wetland vegetation. Wetland edges will be seeded with the surrounding land use. Varieties weren't specified in the following seed mixes since new varieties are regularly released. Varieties used will be those recommended by the NRCS or the NDSU Extension Service and must be suited to this region.

**Seed Mix Summary**

1. For reclaimed native grassland:

| Species | % Composition by PLS Seeds/Ft$^2$ | PLS Pounds/Acre | PLS Seeds/Foot$^2$ |
|---|---|---|---|
| Western wheatgrass | 5% | 1.00 | 3 |
| Slender wheatgrass | 3% | 0.38 | 1 |
| Green needlegrass | 7% | 1.05 | 4 |
| Blue grama | 18% | 0.90 | 14 |
| Sideoats grama | 15% | 2.25 | 9 |
| Switchgrass | 15% | 1.31 | 11 |
| Little bluestem | 15% | 1.50 | 9 |
| Big bluestem | 10% | 1.50 | 6 |
| Prairie sandreed | 10% | 1.00 | 6 |
| Forbs | 2% | 0.24 | 1 |
| TOTAL | 100% | 11 | 66 |

Forbs will consist of a mix that may vary, based on seed price and availability. However, typically the forb mix will consist of purple prairieclover, purple coneflower, and prairie (yellow) coneflower.

2. For haylands and croplands seeded to a pre-cropland hayland mix:

| Species | PLS Pounds/Acre | PLS Seeds/Foot$^2$ |
|---|---|---|
| Switchgrass | 4 | 8.4 |
| Western wheatgrass | 4 | 11.6 |
| Alfalfa | 10 | 28.8 |
| TOTAL | 18 | 57.2 |

3. For reclaimed tame pasturelands:

| Species | PLS Pounds/Acre | PLS Seeds/Foot$^2$ |
|---|---|---|
| Pubescent wheatgrass | 8.5 | 17.6 |
| Alfalfa | 0.5 | 2.4 |
| TOTAL | 9.0 | 20.0 |

4. For diversions, pond slopes, road slopes, ditches and early native grassland plantings, and occasionally topsoil and subsoil stockpiles:

| Species | PLS Pounds/Acre | PLS Seeds/Foot$^2$ |
|---|---|---|
| Slender Wheatgrass | 5 | 2 |
| Western Wheatgrass | 10 | 20 |
| Sand Dropseed | 0.5 | 13 |
| Switchgrass | 4 | 26 |
| TOTAL | 19.5 | 61 |

5. For topsoil and subsoil stockpiles, diversions, pond slopes, road slopes and ditches, etc.*:

| Species | PLS Pounds/Acre | PLS Seeds/Foot$^2$ |
|---|---|---|
| Slender wheatgrass | 5 | 18.4 |
| Western wheatgrass | 7 | 16.3 |
| Tall wheatgrass | 7 | 12.7 |
| TOTAL | 19 | 47.4 |

*Seed mix used only during the first term of the permit on features listed above.

6. Wildlife mix for seeding the perimeter of wetlands located in croplands:

| Species | PLS Pounds/Acre | PLS Seeds/Foot$^2$ |
|---|---|---|
| Tall wheatgrass | 10.0 | 18.0 |
| Pubescent wheatgrass | 4.0 | 8.4 |
| Switchgrass | 1.0 | 8.9 |
| Big bluestem | 5.0 | 14.9 |
| Alfalfa | 4.0 | 19.2 |
| Yellow sweetclover | 0.5 | 3.0 |
| TOTAL | 24.5 | 72.4 |

# Public Service Commission
State of North Dakota



600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505-0480
Web: www.psc.nd.gov
E-mail: ndpsc@nd.gov
Phone: 701-328-2400
ND Toll Free: 1-877-245-6685
Fax: 701-328-2410
TDD: 800-366-6888 or 711

*sent via email only*

May 25, 2022

Mr. Jeremy Eckroth
Environmental Manager
Coyote Creek Mining Company, LLC
6502 17th St. SW
Zap, ND 58580
Jeremy.Eckroth@nacoal.com

Dear Mr. Eckroth:

The Reclamation Division has conducted a midterm review of Permit NACC-1302 for the Coyote Creek Mine as required by NDAC 69-05.2-11-01(1). We identified the following items during our review that require updating or modification as appropriate in a permit revision that should be submitted by **July 25, 2022.** The revision submittal will be not subject to the public notice requirements unless significant changes requiring public notice are included in the corresponding revision application.

**General**

1. Several blue highlighted and underlined references to other sections of the permit appears to be hyperlinks, but no link was established when these blue highlighted and underlined references were checked. It is not clear if these are intended to be hyperlinks or are intended to only reference section of the permit. Please review the intent of the blue highlighted and underlined text references in the permit and update if necessary. (JAR)

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3. The legend description in Section 1.2.6.1 (Proposed Section Line and Road Closures and Setback Waivers Map) has been partially cut off from view. Please adjust the legend position so all of the descriptions are viewable. Also, no symbol and description are provided for "Eligible Cultural Resources Site" areas shaded in yellow within the legend. Please include the identification symbol and description within the legend. (BSM)

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5. The ND DEQ 918 E. Divide Ave address is outdated within Section 1.3.5 (Other Licenses and Permits). Please update the address for the ND DEQ to 4201 Normandy Street, Bismarck, ND 58503-1324. (BSM)

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6. Please update Section 1.5.1 – Permit Area Surface and Coal Interests and Section 1.5.2 – Adjacent Surface and Coal Ownership and Leasehold Information for any changes since the approval of Revision No. 11. Any updates to these sections should also be reflected on the Surface and Coal Ownership Map in Section 1.5.3 as required by NDCC 38-14.1-14(1)(c) and NDAC 69-05.2-06-01(1). (JAR)

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**Section 2.7 – Fish and Wildlife Resources**

9. Please review the Wildlife Protection, Enhancement and Management Plan, which begins on page 2 of Section 2.7.3, and update or modify as necessary to ensure the information provided is accurate. The Wildlife Protection, Enhancement and Management Plan states that winter feeding and artificial habitats will be installed. Perhaps these narratives should be updated, and the Northern Long Eared Bat narrative should be updated to mention that USFWS is in the process of classifying this species as Endangered which would eliminate incidental take through the 4(d) rule. (GAW)

10. Please review the Wildlife Monitoring Plan discussion in Section 2.7.4 and update, so the information provided is current and up to date. The Threatened and Endangered Species discussion that begins on page 3 of Section 2.7.4 and Table 1 incorrectly indicates that the Dakota skipper is not listed in Mercer County. Section 2.7.4 should state that USFWS' IPaC site will be periodically reviewed to ensure appropriate precautions are being applied to all listed and proposed species and designated critical habitats. (GAW)

**Section 3.1 – Operations - General**

11. Please review the subsoil compaction discussions on pages 2 and 3 of the Soils Handling Narrative, Section 3.1.1.1, to clarify if any compaction testing has been conducted or if Coyote Creek's compaction testing plans have changed because of NDSU's recent research study of mined lands. The permit should clarify if any vegetative production testing has been completed to identify any low producing areas associated with compaction issues and describe any practices applied to alleviating subsoil compaction after SPGM respread. (GAW)

12. Please review the Coal Production Schedule, Section 3.1.1.4, and update the anticipated coal production amounts if production changes are anticipated through the permit term. It appears the Coal Production Schedule was updated to include actual tons of coal produced from 2016 through 2019. Please provide actual tons of coal produced in 2020 and 2021 if this Schedule is to be periodically updated to include actual amounts mined. (GAW)

13. Please review the equipment listed in Section 3.1.1.5, List of Equipment, and update if necessary. (SMN)

14. Please update the Pit Layout and Facilities Map in Section 3.1.3 to incorporate changes/additions since Revision 11 with regards to stockpiles, haul roads, diversions, sedimentation ponds, proposed pit layout and mining facilities, etc. (JAR)

**Section 3.2 – Transportation Facilities**

15. If CCMC utilizes the temporary farmer access road (18th St SW) that connects the Voigt ranch with County Road 13 for coal-mining related transportation, please update Section 3.2 - Transportation Facilities Narrative accordingly. (JAR)

**Section 3.3 – Surface Water Management**

16. Please review the Pond Dewater Procedures narrative that begins on page 4 of Section 3.3.1, Surface Water Management Plan, and update it to address the total suspended solids (TSS) and Iron issues that have been preventing timely sediment pond discharges. The Reclamation Division encourages CCMC to develop an alternative dewatering plan that includes methods that will enable CCMC to maintain sediment pond water elevation at or below permanent pool elevation (PPE) in an instances where TSS and Iron are above discharge limits, as has been the case with sediment pond P31-01 and P06-03. This may include pumping water that cannot be discharged to a pit or a spoil pond and/or constructing sumps in drainages above problematic ponds to create additional storage space for runoff. (GAW)

17. Please depict the field engineered diversion southeast of sediment pond P06-03 that transports runoff into pond P06-03 on the Surface Water Management Plan Map, Section 3.3.2. (GAW)

18. A sump is depicted and labeled adjacent to the west side of sediment pond P06-03. Please discuss the purpose of this water management feature in the surface water management plan, Section 3.3.1, or in the design of sediment pond P06-03, Section 3.3.19. (GAW)

**Section 4.1 – Post-Mining Land Use Plans**

19. Please clarify if Casey Voigt has been consulted on selecting and establishing management practices for reference areas on undisturbed native grasslands that will be used to demonstrate reclamation success on reclaimed native grasslands that Mr. Voigt owns. Please provide updated information as required by Order Provision No. 2 of the April 14, 2013, Findings of Fact, Conclusion of Law and Order for Permit NACC-1302 (Case No. RC-13-50). The proposed reference areas need to be formally approved for use as native grassland reference areas. Please provide recent similarity index ratings of the proposed native grassland reference areas and arrange for the areas to be inspected and approved. (GAW)

20. Please review the location of reclaimed wetland CW-07-01 to ensure the site continues to be the preferred location for a replacement wetland. (GAW)

21. Please review the location of reclaimed woodland W36-03 to ensure the site is the preferred location for a small woodland. (GAW)

**Section 4.5 – Post-Mining Stockponds**

22. Please consider providing detailed design plans for stockpond SP25-02 since it appears the entire watershed could be reclaimed during the existing term of the permit. (BSM)

The nine standard permit conditions and two special conditions for Permit NACC-1302 remain in effect. The Certificate of Liability Insurance on file for Coyote Creek Mine expires on February 1, 2023. The business entity/compliance information referenced in Section 1.3.1, 1.3.2, 1.3.3, and 1.3.4 was last updated in the stand-alone Consolidated Legal Information Report effective November 12, 2021.

If you have any questions, please contact this office.

Sincerely,

for Zanna A. Brinkman
Director
Reclamation Division

cc via email only: Derrick Braaten (derrick@braatenlawfirm.com)

Mine Data\Coyote Creek Mine\Permits\NACC - 1302\Admin Correspondence\2022\Midterm_prmt_rvw_ltr_5-25-22

# Public Service Commission
State of North Dakota



600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505-0480
Web: www.psc.nd.gov
E-mail: ndpsc@nd.gov
Phone: 701-328-2400
ND Toll Free: 1-877-245-6685
Fax: 701-328-2410
TDD: 800-366-6888 or 711

*sent via email only*

September 12, 2022

Mr. Jeremy Eckroth
Environmental Manager
Coyote Creek Mining Company, LLC
6502 17th St. SW
Zap, ND 58523
Jeremy.Eckroth@nacoal.com

Dear Mr. Eckroth:

The Reclamation Division has conducted a technical review of the application for Revision No. 12 to Permit NACC-1302. Please address the following items and add responses to our May 25th midterm review letter to your next submittal of Revision 12. A copy of our May 25th letter is attached for your convenience.

**Section 2.2 – Surface Water Hydrology**

1. Please include the deactivation year of MS-CCT1 within Section 2.2.5.2 (Surface Water Monitoring Sites and Monitoring Schedule). (BSM)

**Section 2.5 – Soil Resources**

2. It appears that the potential SPGM respread depth associated with boring CC12016C, located in the SE¼SW¼ of Section 25, was incorrectly changed to a respread depth of 36 inches in Section 2.5.7 (Projected Soil Respread Depth Map). Based on the spoil sample analyses from Section 2.1.7 (Overburden Sample Analyses), the projected soil respread depth for the area associated with CC12016C should be 48 inches due to one spoil sample within the pre-bench fleet removal interval (0-25 feet below ground surface) having a sodium absorption ratio (SAR) greater than 20. This undesirable spoil property makes up twenty percent or more of the overburden material that will be removed by the pre-bench fleet. Also, the respread depth change associated with boring CC12016C was not listed in Section 1.1.2 (Revision Summary). Please revise Section 2.5.7 (Projected Soil Respread Depth Map) as necessary. (MLJ)

3. Please revise Section 2.5.4.2 (Soil Respread Depth Table) to account for the changes made to the respread thicknesses in the SE¼NW¼, NE¼SW¼, and the SW¼SW¼ of Section 25. (MLJ)

**Section 3.1 – Operations- General**

4. Please revise the Reclamation Procedures and Schedule, Section 3.1.1.3, to discuss that contemporaneous reclamation may not be possible for the 2019 and 2020 coal removal areas adjacent to the federal coal in the SW¼ of Section 24 because of delayed federal mine plan approval. A variance from the contemporaneous reclamation requirements might be needed for

pits adjacent to the federal coal if mine plan approval is further delayed. The situation might be considered an unplanned cessation of mining. (GAW)

5. Section 3.1.1.8.2 (Overburden Calculations) does not include sedimentation pond P25-03 in the calculation. Please update the calculation to include the reclamation of P25-03. Additionally, please update any subsection of Section 3.1.1.8 (Reclamation Costs) to reflect this change. (BSM)

**Section 3.3 - Surface Water Management**

6. The Reclamation Division believes the construction of sediment ponds P24-05 and P24-06 and the removal of additional SPGM in the SW¼ of Section 24 other than that necessary to mine private coal should be delayed until federal mine plan approval has been granted to remove federal coal in the SW¼ of Section 24. Please consider revising the pond construction narratives, Sections 3.3.27 and 3.3.28, to mention that construction of the ponds may be delayed until federal mine plan approval. (GAW)

**Section 4.1.1 – Post Mine Land Use Narrative**

7. Please review the public road discussion on page 4 of Section 4.1.1 and update if easements have been secured in Section 36 for the final location of a post-mining public road. The Post Mining Topography and Land Use Map, Section 4.1.2, continues to show this road on the east-west quarter line in Section 36 as described in the agreement in Section 1.2.8, Road Closure Documents. This road needs to be addressed in grade approval requests. Please clarify if easements have been secured for this road through Section 36, included them in Section 1.5.1 if obtained, and discuss if any changes are planned for the final location of this road. It is not clear if the road embankment will be constructed with spoil or if it will be constructed with subsoil after subsoil has been respread on grade approved areas. (GAW)

Attached are copies of review responses to the revision application from the following advisory committee members: United States Fish and Wildlife Service, North Dakota Department of Environmental Quality, North Dakota Department of Water Resources, and North Dakota Parks and Recreation. Their review did not result in any deficiencies.

If you have any questions, please contact this office.

Sincerely,

Zanna Brinkman

Zanna Brinkman
Director
Reclamation Division

Enclosures

cc via email only w/ enclosures: Desirae Zaste (desirae@braatenlawfirm.com)
Derrick Braaten (derrick@braatenlawfirm.com)

Coyote Creek Mine\Permits\NACC - 1302\Revisions & Renewals\No. 12\Tech1_Rvw_Ltr_9-12-22

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

IN REPLY REFER TO:
Revision12 to NACC-1302
Coyote Creek Mine

July 22, 2022

Ms. Zanna Brinkman
Director, Reclamation Division
North Dakota Public Service Commission
600 East Boulevard, Department 408
Bismarck, North Dakota 58505-0480

Dear Ms. Brinkman:

This letter is in response to the notice of Receipt of Revision Application dated July 6, 2022 for comments regarding the revision of permit NACC-1302 for the Coyote Creek Mine located near Beulah, North Dakota.

The Threatened and Endangered Species list for Mercer County, North Dakota can be generated by using the IPAC tool from the US Fish & Wildlife Service (FWS). The current listings include: Endangered; Whooping crane, Pallid sturgeon, Threatened; Piping plover and its critical habitat, Rufus red Knot, Northern long-eared bat and Dakota Skipper. The FWS does not concur on "No Effect" determinations for species, but ask that documentation be placed in your administrative record for those species.

New populations of Dakota skippers have been observed in Oliver County during the past two flight periods. Information defining suitable habitat for Dakota skippers is included in the 2022 Dakota skipper Survey Protocol. The United States Fish and Wildlife Service (FWS) recommends that habitat surveys be conducted. We recommend areas determined to be suitable habitat for Dakota Skipper be surveyed by permitted surveyors for Dakota skipper occupancy, prior to surface disturbance in the areas of concern covered by Revision 12 of Permit NACC-1302.

The 2020 White Nose Syndrome distribution map now includes most of counties in North Dakota. We encourage that if any tree removal is necessary by the project that such tree removal occur outside the northern long-eared bat active season. The active season in North Dakota is likely mid-April through mid-October and if tree removal cannot be avoided during that time we encourage that trees not be removed during the maternity season for northern long-eared bats, particularly June and July.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the FWS should be informed so that the above comments can be reconsidered.

The FWS appreciates the opportunity to provide comments to the PSC and North American Coal Corporation. If you have any questions on these comments, please contact Jerry Reinisch of my staff at 701-425-2133 or me at 701-319-0127

Sincerely,

DREW BECKER

Digitally signed by DREW BECKER
Date: 2022.07.25 06:42:39 -05'00'

Drew N. Becker
ND Ecological Services Office Supervisor

*cc*: Greg Link, North Dakota State Game and Fish Department
Sarah Flath, Coteau Properties, North American Coal Corporation

NORTH Dakota | Environmental Quality

Be Legendary.™

July 21, 2022

Zanna Brinkman
Director
Reclamation Division
Public Service Commission
600 East Boulevard Avenue
Bismarck, ND 58505

RE: Revision 12 to Permit NACC-1302

Dear Zanna Brinkman:

We have reviewed Coyote Creek Mining Company's application for revision number 12 to Surface Coal Mining Permit NACC-1302. We have no objection to the revision which adds design information for three sedimentation ponds (P24-05, P24-06, and P25-03); modifies post-mine topography in Sections 6 and 7, T142N, R88W, and Sections 1, T142N, R89W; and updates or modifies other sections of the permit.

At this time, the department has no further comments regarding this revision.

Sincerely,

Dallas Grossman
Environmental Engineer
Division of Water Quality

4201 Normandy Street | Bismarck ND 58503-1324 | Fax 701-328-5200 | deq.nd.gov

Director's Office 701-328-5150
Division of Air Quality 701-328-5188
Division of Municipal Facilities 701-328-5211
Division of Waste Management 701-328-5166
Division of Water Quality 701-328-5210
Division of Chemistry 701-328-6140 2635 East Main Ave Bismarck ND 58501

NORTH Dakota | Water Resources

Be Legendary.

August 22, 2022

Zanna Brinkman
Director
Public Service Commission
Inside Mail

Dear Ms. Brinkman:

This is in response to your request for a review of the environmental impacts associated the Revision No. 12 to Surface Coal Mining Permit. NACC-1302 at the Coyote Creek Mine.

The proposed project has been reviewed by Department of Water Resources, and the following comments are provided:

- There are no floodplains identified or mapped where the proposed project is to take place. North Dakota has no formal "permitting" authority as a state entity in National Flood Insurance Program-identified floodplains. Floodplain development permitting is completed by the local unit of government with zoning authority at the proposed project location. Please work closely with Mercer County's Floodplain Administrator for permitting purposes.

- Coyote Creek Mining Company proposes to modify a portion of the post-mining topography at Coyote Creek Mine. North Dakota Century Code § 61-32-03 requires that a drainage permit be secured from the Department of Water Resources (DWR) prior to draining a pond, slough, lake, or sheetwater, or any series thereof, which has a drainage area of 80 acres or more. However, subsection 2 of North Dakota Administrative Code § 89-02-01-05 allows an exemption to the drainage permitting requirement for surface mining projects under direct and comprehensive supervision of the public service commission. Therefore, a drainage permit will not be required, but the public service commission must notify the DWR of any proposed drainage projects during planning stages.

- In accordance with North Dakota Century Code §61-16.1-38, any new construction or construction modifications on water storage impoundments, including stock ponds or sedimentation ponds, may require a construction permit from the Department of Water Resources (DWR) based on the ponds' storage volume and hazard classification. Similarly, if any stock ponds or sedimentation ponds are to be removed, we request that the DWR Regulatory Division be notified. Please contact the DWR Regulatory Division at 701-328-4956 if you have any questions.

Thank you for the opportunity to provide review comments. Should you have further questions, please contact me at 701-328-4970 or stevebest@nd.gov.

Sincerely,

Steven Best
Planner III

SB:dm/1570

NORTH Dakota | Parks & Recreation
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August 26, 2022

Steve Kahl
Public Service Commission
600 E. Boulevard Ave., Dept 408
Bismarck, ND 58505-0480

Re: Coyote Creek Mining Company Surface Coal Mining Permit No. NACC-1302

Dear Mr. Kahl,

The North Dakota Parks and Recreation Department (NDPRD) has reviewed the above-referenced Coyote Creek Mining Company Surface Coal Mining Permit No. NACC-1302, Mercer County, North Dakota.

NDPRD's scope of authority and expertise covers properties that NDPRD owns, leases, or manages; properties protected under Section 6(f) of the Land and Water Conservation Fund (LWCF); rare plants, and ecological communities established through the Natural Heritage Program.

The project does not appear to affect properties that NDPRD owns, leases, or manages.

The project does not appear to affect any properties protected under Section 6(f) of the LWCF.

A North Dakota Natural Heritage biological conservation database query determines if any current or historical plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we have no known plant and animal species of concern or significant ecological communities documented within or immediately adjacent to the project site.

We appreciate your commitment to rare plant, animal, and ecological community conservation, management, and inter-agency cooperation to date. For additional information, please get in touch with Kathy Duttenhefner at 701-328-5370, 701-220-3377 (cell), or kgduttenhefner@nd.gov.

Thank you for the opportunity to comment on the proposed project.

Sincerely,
Kathy Duttenhefner
Kathy Duttenhefner, Chief Natural Resources Division

604 E Boulevard Ave Dept. 750 | Bismarck, ND 58505
PHONE: 701-328-5357 | FAX: 701-328-5363 | EMAIL: parkrec@nd.gov | WEBSITE: www.parkrec.nd.gov

# Public Service Commission
State of North Dakota



600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505-0480
Web: www.psc.nd.gov
E-mail: ndpsc@nd.gov
Phone: 701-328-2400
ND Toll Free: 1-877-245-6685
Fax: 701-328-2410
TDD: 800-366-6888 or 711

*sent via email only*

May 25, 2022

Mr. Jeremy Eckroth
Environmental Manager
Coyote Creek Mining Company, LLC
6502 17th St. SW
Zap, ND 58580
Jeremy.Eckroth@nacoal.com

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6. Please update Section 1.5.1 – Permit Area Surface and Coal Interests and Section 1.5.2 – Adjacent Surface and Coal Ownership and Leasehold Information for any changes since the approval of Revision No. 11. Any updates to these sections should also be reflected on the Surface and Coal Ownership Map in Section 1.5.3 as required by NDCC 38-14.1-14(1)(c) and NDAC 69-05.2-06-01(1). (JAR)

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10. Please review the Wildlife Monitoring Plan discussion in Section 2.7.4 and update, so the information provided is current and up to date. The Threatened and Endangered Species discussion that begins on page 3 of Section 2.7.4 and Table 1 incorrectly indicates that the Dakota skipper is not listed in Mercer County. Section 2.7.4 should state that USFWS' IPaC site will be periodically reviewed to ensure appropriate precautions are being applied to all listed and proposed species and designated critical habitats. (GAW)

**Section 3.1 – Operations - General**

11. Please review the subsoil compaction discussions on pages 2 and 3 of the Soils Handling Narrative, Section 3.1.1.1, to clarify if any compaction testing has been conducted or if Coyote Creek's compaction testing plans have changed because of NDSU's recent research study of mined lands. The permit should clarify if any vegetative production testing has been completed to identify any low producing areas associated with compaction issues and describe any practices applied to alleviating subsoil compaction after SPGM respread. (GAW)

12. Please review the Coal Production Schedule, Section 3.1.1.4, and update the anticipated coal production amounts if production changes are anticipated through the permit term. It appears the Coal Production Schedule was updated to include actual tons of coal produced from 2016 through 2019. Please provide actual tons of coal produced in 2020 and 2021 if this Schedule is to be periodically updated to include actual amounts mined. (GAW)

13. Please review the equipment listed in Section 3.1.1.5, List of Equipment, and update if necessary. (SMN)

14. Please update the Pit Layout and Facilities Map in Section 3.1.3 to incorporate changes/additions since Revision 11 with regards to stockpiles, haul roads, diversions, sedimentation ponds, proposed pit layout and mining facilities, etc. (JAR)

**Section 3.2 – Transportation Facilities**

15. If CCMC utilizes the temporary farmer access road (18th St SW) that connects the Voigt ranch with County Road 13 for coal-mining related transportation, please update Section 3.2 - Transportation Facilities Narrative accordingly. (JAR)

**Section 3.3 – Surface Water Management**

16. Please review the Pond Dewater Procedures narrative that begins on page 4 of Section 3.3.1, Surface Water Management Plan, and update it to address the total suspended solids (TSS) and Iron issues that have been preventing timely sediment pond discharges. The Reclamation Division encourages CCMC to develop an alternative dewatering plan that includes methods that will enable CCMC to maintain sediment pond water elevation at or below permanent pool elevation (PPE) in an instances where TSS and Iron are above discharge limits, as has been the case with sediment pond P31-01 and P06-03. This may include pumping water that cannot be discharged to a pit or a spoil pond and/or constructing sumps in drainages above problematic ponds to create additional storage space for runoff. (GAW)

17. Please depict the field engineered diversion southeast of sediment pond P06-03 that transports runoff into pond P06-03 on the Surface Water Management Plan Map, Section 3.3.2. (GAW)

18. A sump is depicted and labeled adjacent to the west side of sediment pond P06-03. Please discuss the purpose of this water management feature in the surface water management plan, Section 3.3.1, or in the design of sediment pond P06-03, Section 3.3.19. (GAW)

**Section 4.1 – Post-Mining Land Use Plans**

19. Please clarify if Casey Voigt has been consulted on selecting and establishing management practices for reference areas on undisturbed native grasslands that will be used to demonstrate reclamation success on reclaimed native grasslands that Mr. Voigt owns. Please provide updated information as required by Order Provision No. 2 of the April 14, 2013, Findings of Fact, Conclusion of Law and Order for Permit NACC-1302 (Case No. RC-13-50). The proposed reference areas need to be formally approved for use as native grassland reference areas. Please provide recent similarity index ratings of the proposed native grassland reference areas and arrange for the areas to be inspected and approved. (GAW)

20. Please review the location of reclaimed wetland CW-07-01 to ensure the site continues to be the preferred location for a replacement wetland. (GAW)

21. Please review the location of reclaimed woodland W36-03 to ensure the site is the preferred location for a small woodland. (GAW)

**Section 4.5 – Post-Mining Stockponds**

22. Please consider providing detailed design plans for stockpond SP25-02 since it appears the entire watershed could be reclaimed during the existing term of the permit. (BSM)

The nine standard permit conditions and two special conditions for Permit NACC-1302 remain in effect. The Certificate of Liability Insurance on file for Coyote Creek Mine expires on February 1, 2023. The business entity/compliance information referenced in Section 1.3.1, 1.3.2, 1.3.3, and 1.3.4 was last updated in the stand-alone Consolidated Legal Information Report effective November 12, 2021.

If you have any questions, please contact this office.

Sincerely,

for Zanna A. Brinkman
Director
Reclamation Division

cc via email only: Derrick Braaten (derrick@braatenlawfirm.com)

Mine Data\Coyote Creek Mine\Permits\NACC - 1302\Admin Correspondence\2022\Midterm_prmt_rvw_ltr_5-25-22

JWE

# Public Service Commission
State of North Dakota



600 East Boulevard, Dept. 408
Bismarck, North Dakota 58505-0480
Web: www.psc.nd.gov
E-mail: ndpsc@nd.gov
Phone: 701-328-2400
ND Toll Free: 1-877-245-6685
Fax: 701-328-2410
TDD: 800-366-6888 or 711

## INSPECTION REPORT

## AMENDED

DATE OF INSPECTION: September 8, 2022

TYPE OF INSPECTION: Partial

PERMITTEE - MINE: Coyote Creek Mining Company, LLC - Coyote Creek Mine

PERMITS INSPECTED: NACC-1302

PERSONS ACCOMPANYING INSPECTORS: Jason Sailer

INSPECTION CONDITIONS: The inspection was conducted between 9:10 a.m. and 2:00 p.m. CDT. Skies were hazy and the wind was from the northwest at 18 mph with gusts up to 26 mph. The temperature was near 75° F. Access was unrestricted.

### OVERBURDEN/COAL REMOVAL

The dragline was down for maintenance near the section line between the NW¼ of Section 6 and the NE¼ of Section 1. The 301 excavator was removing overburden to create a dragline bench in the SW¼ of Section 25. The location where this material was being hauled was not observed. Coal was being removed from an east-west oriented pit in the NE¼ of Section 1.

### SURFACE WATER MANAGEMENT

The ponds listed in the table below were briefly observed and the water elevation was estimated in relation to permanent pool elevation (PPE). No surface water discharges were occurring. There has been limited runoff over the past few weeks due to an absence of rainfall.

| Water Management Feature | Comment(s) |
|---|---|
| P30-01 | 5 to 6 feet below PPE. |
| P31-01 | Sediment recently removed. PPE marker not observed. |
| P06-02 | 2 feet below PPE. |
| P06-01 | 2 to 3 feet below PPE. |
| P06-03 | 1.5 feet below PPE. |
| P30-02 | At PPE. |

A permanent pool elevation (PPE) marker was not observed in sediment pond P31-01. Recent sediment removal operations may have affected the PPE marker.

The diversions along the disturbance boundary between sediment ponds P06-01 and P-06-02 were observed from a distance and they appeared to have functioned as intended.

Clean water runoff from undisturbed drainages west of the pit in the NE¼ of Section 1 are currently blocked by mining activities and runoff will pool adjacent to the east-west oriented pit and dragline bench in said quarter section. Runoff from the dragline corridor in the SW¼ of Section 36 will also pool adjacent to the east-west oriented pit in the NE¼ of Section 1. Although SPGM has been stripped from areas where it appears runoff may pool, this situation should be monitored to ensure topsoil is not adversely affected.

SUITABLE PLANT GROWTH MATERIAL REMOVAL/RESPREAD

The 401 loader was removing topsoil in the SW¼ of Section 25 and this material was being hauled to topsoil stockpile TS-41. Scrapers were removing SPGM from the dragline corridor in the SW¼ of Section 36.

STOCKPILES

Signs were in place adjacent to all observed SPGM stockpiles. A temporary topsoil stockpile sign labeled TS-5 temp was on the ground adjacent to a small temporary topsoil stockpile located along the SPGM stripping edge in the NE¼ of Section 1. This sign was placed upright adjacent to the pile by Mr. Sailer. The sign identifying subsoil stockpile SS-54 was lying on the ground.

Mr. Sailer reported that portions of stockpiles SS-36 and TS-39 were reseeded earlier in the growing season and that CCMC was planning to re-seed the top of topsoil stockpile TS-39 since this pile is no longer an active stockpile. There was evidence that the top of stockpile TS-39 had been sprayed to control broadleaf weeds, but a new flush of weeds, primarily kochia and Russia Thistle, have established on the top of this pile. The side slopes associated with this pile have become established with the planted perennial grasses and there was no evidence of wind erosion having occurred on this pile. Mr. Sailer indicated that CCMC might clip the weed growth on topsoil pile TS-39 to prevent them from blowing off-site.

The overburden stockpile north of sediment pond P06-03 was inspected and a corridor to the top of the pile was driven. The seeded perennial vegetation, mainly wheatgrasses, is becoming established on the slopes associated with this pile but the stand is generally thin, and rills and gullies have formed on the side slopes of this pile. All surface water runoff from this pile is directed to sediment ponds. There was no evidence of wind erosion on this pile, but Mr. Sailer was advised to seed the road corridor accessing the top of this pile if it is no longer being used for radio communication purposes.

Topsoil stockpile TS-49 has been clipped to aid grass establishment and prevent weed dispersal.

BACKFILLING & GRADING

Backfilling and grading appeared contemporaneous or in compliance with plans approved in the permit. The area associated with proposed Variance Area No. 7 with Revision No. 12 was inspected. This area is located primarily in the NW¼ of Section 6. Most of the coal was removed from this area in 2019 with a small portion of coal removed in 2020. This variance area has been rough graded except for a spoil peak or pile immediately south of sediment pond P06-03. The surface of the spoil on this proposed variance area appears to consist of heavy clay soil that is very hard when dried and it does not appear that this spoil

material is susceptible to wind erosion; however, it may be highly susceptible to water erosion. There was no evidence of wind erosion has occurred on the spoil in this area. Additionally, no wind erosion was observed occurring during this inspection with winds gusting up to 26 mph. Scattered Russian thistle and kochia plants have established on the rough graded spoil.

Grade approval requests COY-033 and COY-034 in Section 36 of Permit NACC-1302 were inspected. The topography or surface contours of both areas conform to the topography approved in the permit and the surface is generally smooth and ready for subsoil respread. Mr. Sailer was reminded that steep slopes must be scarified prior to subsoil respread to reduce the potential for soil slippage. Mr. Sailer indicated that CCMC was planning to respread grade approval COY-033 beginning at the lowest elevation and moving upslope to reduce compaction.

Portions of grade approval requests for COY-033 and COY-034 include land along the quarter line between the NE¼ and SE¼ of Section 36. The approved post-mining land use map indicates that a permanent access road is to be constructed on this quarter line. CCMC staff verbally indicated that the Mine, Mercer County, and Mr. Casey Voigt are in the process of revising the agreement regarding the location of this access road. Reclamation Division staff indicated that CCMC may need to provide a written account of the changes planned regarding this road prior to grade approval. This issue should also be addressed in each grade approval request to explain why a road is not shown on these grade approval requests.

REVEGETATION

The temporary seed mixture, western wheatgrass, slender wheatgrass, switchgrass, and sand dropseed have successfully established on grade approval COY-022 in the NW1/4 of Section 6. This stand was reportedly sprayed to suppress annual weed competition last spring, but a few scattered Russian thistle and kochia plants have grown along with pigeon grass. The vegetation on this grade approval has not been clipped.

The COY-028 grade approval in the NW ¼ of Section 6 has been recently mulched and seeded to the delayed native grassland seed mixture. The nurse crop planted with the seeding is an inch or two tall and there was no evidence of wind or water erosion. An erosion control blanket was observed within a drainage in the grade approval.

In Section 36, the COY-18 and COY-21 grade approvals were observed as having been clipped to suppress weed competition. The delayed seed mixture seeded within the COY-017 grade approval is well established. The COY-032 grade approval has been recently respread with topsoil.

The COY-031 grade approval, which is in the NW¼NE¼ of Section 25, has been seeded, rocks have been picked, and mulch was being applied and incorporated into the soil surface. This area is to be reclaimed to cropland. Additionally, COY-030 grade approval, which is in the W½ E½ of Section 25, has recently been respread with topsoil and rocks were picked. This area has been reclaimed to cropland.

Reclaimed lands in the SE¼ of Section 24 and E½ of Section 25 were driven and observed. Portions of these areas have been hayed and the established vegetation is protecting the soil from wind and water erosion. The reclaimed cropland is becoming established with alfalfa, but a few thin spots exist and the delayed native grassland seed mixture is established on areas to be reclaimed to native grassland. The steeper slopes above the woody draws in the SE¼ of Section 24 were not hayed or clipped. The grass stand is generally thin on the reclaimed native grassland in the SE¼ of Section 24.

ROADS

The primary haul road was being watered to suppress fugitive dust.

MISCELLANEOUS

After the field portion of this inspection, Mr. Eckroth provided an update regarding the work that has been completed for testing soil compaction on reclaimed lands. CCMC has purchased equipment that facilitates probing and the result of each probe is saved in a digital format. Probe data includes the date, GPS location, and a graph of depth versus pressure of each probe location. Mr. Eckroth also indicated that proposed native grassland ecological sites were sampled this summer and that CCMC is awaiting the results of the sampling data.

GENERAL

A GPS tracklog of the route traveled is on file with the Reclamation Division as are photographs taken. A map showing the main body of Permit NACC-1302 and the route traveled is depicted in Figure 1. Figure 1 depicts the location of proposed Variance Area No. 7 and grade approval requests — COY-033 and COY-034.

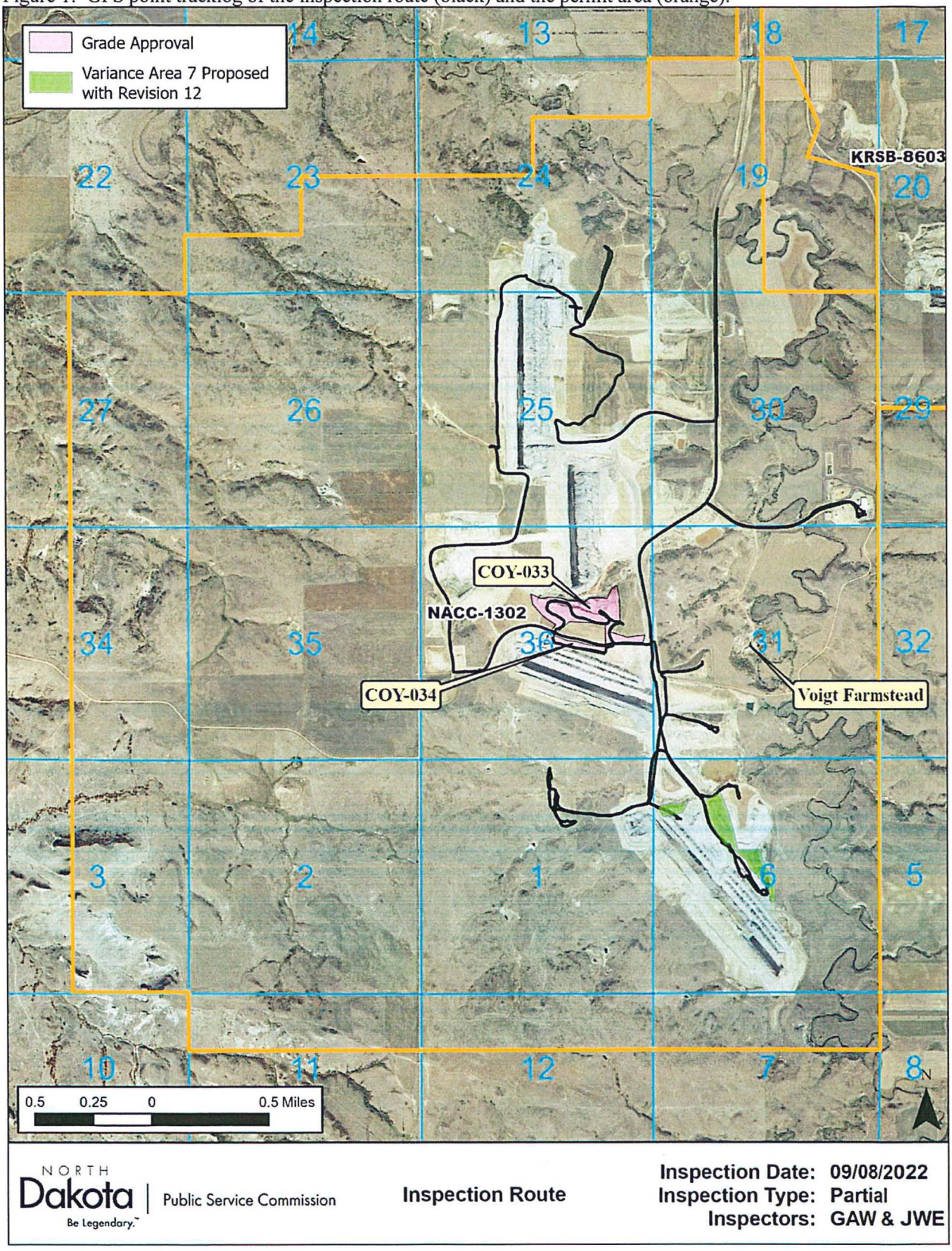
Jonathan W. Emmer
Assistant Director

Guy A. Welch
Permit Administrator

cc via email only: Jeremy Eckroth (Jeremy.Eckroth@nacoal.com)
Donn Steffen (Donn.Steffen@nacoal.com)
Jason Sailer (jason.sailer@nacoal.com)
Tyler Barth (tyler.barth@nacoal.com)
John Sieving (jsieving@osmre.gov)
John Ahlbrandt (Jahlbrandt@osmre.gov)
Samantha Melberg (smelberg@nd.gov)

Coyote Creek Mine\Inspection Reports\2022\220908_Amended

Figure 1: GPS point tracklog of the inspection route (black) and the permit area (orange).



# THE COYOTE CREEK MINING COMPANY

## 2021 Annual Map Summary Sheet

| | 2021 |
|---|---|
| 1. **Acreage Affected** | |
| NACC-1302 | 65.50 acres |
| 2. **Suitable Plant Growth Material Completely Removed** | |
| NACC-1302 | 114.92 acres |
| 3. **Surface Coal Mining Operations Completed** | |
| NACC-1302 | 116.13 acres |
| 4. **Grade Approval** | |
| NACC-1302 | 114.03 acres |
| 5. **Suitable Plant Growth Material Completely Respread** | |
| NACC-1302 | 119.52 acres |

## THE COYOTE CREEK MINING COMPANY

### 2021 Annual Map Summary Sheet

| | 2021 | Cumulative |
|---|---|---|
| 6. **Native Grassland Delayed Seeding** | | |
| NACC-1302 | 82.98 acres | 222.87 acres |
| 7. **Planting Where the 10-Year Revegetation Period Has Been Initiated** | | |
| NACC-1302 | 36.54 acres | 75.13 acres |
| 8. **Bond Partially Released and Release Stage** | | |
| NACC-1302 | 0.00 acres | 0.00 acres |
| 9. **Total Bond Release** | | |
| NACC-1302 | 0.00 acres | 0.00 acres |

# THE COYOTE CREEK MINING COMPANY

## 2021 SPGM REPLACEMENT AREA MAP SUMMARY SHEET

### PERMIT NACC-1302

### TOPSOIL REPLACEMENT ACREAGES

| Landowner | |
|---|---|
| Mixing Agreements[1] | 1,449.84 |
| Gunsch | 41.68 |
| Schwalbe | 2.11 |
| State | 28.27 |
| Otter Tail | 76.22 |

### SUBSOIL REPLACEMENT ACREAGES

| Landowner | |
|---|---|
| Mixing Agreements[1] | 1,237.95 |
| Gunsch | 32.17 |
| Schwalbe | 0.54 |
| State | 23.68 |
| Otter Tail | 65.12 |

[1] Surface ownership includes Coyote Creek Mining Company (CCMC), Voigt, and State of North Dakota lands located south of County Road 12, where CCMC has a mixing agreement with all of the above owners. CCMC does not have a mixing agreement on lands north of County Road 12, including State land in Section 8, T143N, R88W, or with Schwalbe, Gunsch and Otter Tail et al.

**2021** March, 2022

**ANNUAL MAP**

## TOPSOIL

| Pile Number | Cubic Yards | Date Seeded | Location | | Ownership[1] | Comments |
|---|---|---|---|---|---|---|
| 1 | 50,660 | Fall 2014 | SE4 Sec 30 | 143/88 | CCMC/Mix | |
| 3 | 2,749 | Fall 2014 | SE4 Sec 30 | 143/88 | CCMC/Mix | |
| 5 | 3,181 | Summer 2015 | SW4 Sec 24 | 143/89 | CCMC/Mix | |
| 7 | - | COY-003 | NE4 Sec 31 | 143/88 | CCMC/Mix | |
| 9 | 498,039 | Fall 2018 | SW4 Sec 30 | 143/88 | CCMC/Mix | |
| 11 | 42,281 | Fall 2019 | SE4 Sec 10 | 143/88 | Otter Tail | |
| 13 | 743,014 [2] | Fall 2021 | NW4 Sec 30 | 1433/88 | CCMC/Mix | part active |
| 15 | 56,537 | Fall 2015 | NW4 Sec 19 | 143/88 | CCMC/Mix | |
| 17 | 68,637 | Fall 2015 | W2/NE4 Sec 18 | 143/88 | Gunsch | |
| 19 | 13,166 | Fall 2015 | NE4 Sec 18 | 143/88 | Gunsch | |
| 21 | 2,898 | Fall 2015 | SE4 Sec 7 | 143/88 | Schwalbe | |
| 23 | 31,544 | Fall 2015 | SW4 Sec 8 | 143/88 | State | |
| 25 | 21,884 | Fall 2015 | SE4 Sec 8 | 143/88 | State | |
| 27 | 22,662 | Fall 2015 | SW4 Sec 9 | 143/88 | Otter Tail | |
| 29 | 35,954 | Fall 2015 | SW4/SE4 Sec 9 | 143/88 | Otter Tail | |
| 31 | 12,862 | Fall 2015 | SE4 Sec 9 | 143/88 | Otter Tail | |
| 33 | 432,963 | Summer 2018 | SW4 Sec 19<br>SE4 Sec 24 | 143/88<br>143/89 | CCMC/Mix | |
| 35 | 4,991 | Fall 2015 | SE4 Sec 24 | 143/89 | CCMC/Mix | |
| 37 | 22,044 | Fall 2015 | SW4 Sec 10 | 143/88 | Otter Tail | |
| 39 | 366,499 | Fall 2020 | SW4 Sec 31 | 143/88 | CCMC/Mix | |
| 41 | 368,235 | Fall 2020 | SW4 Sec 36 | 142/89 | CCMC/Mix | sprayed 2021 |
| 43 | 17,539 | Fall 2018 | NW4 Sec 25 | 143/89 | CCMC/Mix | |
| 45 | 6,429 | Fall 2019 | NE4 Sec 36 | 143/89 | CCMC/Mix | sprayed 2021 |
| 47 | 793 | Fall 2020 | SE4 Sec 6 | 142/88 | CCMC/Mix | |
| 49 | 93,489 | Fall 2021 | NW4 Sec 6 | 142/88 | CCMC/Mix | sprayed 2021 |
| 51 | 48,089 | Fall 2021 | NE4 Sec 7 | 142/88 | CCMC/Mix | |
| 53 | 98 | Fall 2021 | NE4 Sec 7 | 142/88 | CCMC/Mix | |

[1] CCMC/Mix refers to CCMC or others with whom CCMC has a mixing agreement. Others include Voigt and State of North Dakota.

[2] Pile volume updated based on survey completed 10/22/21. No activity has been conducted since time of survey.

**2021** March, 2022

**ANNUAL MAP**

## SUBSOIL

| Pile Number | Cubic Yards | Date Seeded | Location | | Ownership[1] | Comments |
|---|---|---|---|---|---|---|
| 2 | 13,811 | Fall 2014 | SE4 Sec 30 | 143/88 | CCMC/Mix | |
| 4 | 15,151 | Fall 2014 | SE4 Sec 30 | 143/88 | CCMC/Mix | |
| 6 | 577,101 | Fall 2018 | SW4 Sec 30 | 143/88 | CCMC/Mix | part active |
| 8 | 63,141 | Fall 2016 | SE4 Sec 10 | 143/88 | Otter Tail | |
| 10 | 88,332 | Fall 2016 | E2 Sec 19 | 143/88 | CCMC/Mix | |
| 12 | 1,189,993 | Fall 2020 | W2 Sec 30 | 143/88 | CCMC/Mix | |
| 14 | 31,922 | Fall 2016 | SW4 Sec 18 | 143/88 | Gunsch | |
| 16 | 62,178 | Fall 2016 | NE4 Sec18 | 143/88 | Gunsch | |
| 18 | 47,885 | Fall 2016 | Sec 7, 8, 18 | 143/88 | State | |
| 20 | 1,582,742 | Summer 2018 | Sec 19, 30 | 143/88 | CCMC/Mix | |
| 22 | 31,995 | Fall 2016 | SE4 Sec 8 | 143/88 | State | |
| 24 | 23,913 | Fall 2016 | SE4 Sec 9 | 143/88 | Otter Tail | |
| 26 | 58,519 | Fall 2016 | SE4 Sec 9 | 143/88 | Otter Tail | |
| 28 | 6,287 | Fall 2015 | SW4 Sec 30 | 143/88 | CCMC/Mix | |
| 30 | 10,445 | Fall 2016 | SE4 Sec 24 | 143/89 | CCMC/Mix | |
| 32 | 8,945 | Fall 2016 | SE4 Sec 30 | 143/88 | CCMC/Mix | |
| 34 | 921 | Fall 2016 | NE4 Sec 18 | 143/88 | Schwalbe | |
| 36 | 987,312 | Fall 2021 | SW4 Sec 31 | 143/88 | CCMC/Mix | |
| 38 | 499 | Fall 2017 | SW4 Sec 24 | 143/89 | CCMC/Mix | |
| 40 | 6,148 | Fall 2018 | SW4 Sec 24 | 143/89 | CCMC/Mix | |
| 42 | 339,769 | Fall 2018 | NW4 Sec 36 | 142/89 | CCMC/Mix | |
| 44 | 18,713 | Fall 2017 | S2 Sec 24 | 143/89 | CCMC/Mix | |
| 46 | 15,582 | Fall 2018 | NW4 Sec 25 | 143/89 | CCMC/Mix | |
| 48 | 12,606 | Fall 2018 | NW4 Sec 25 | 143/89 | CCMC/Mix | |
| 50 | 14,474 | Fall 2019 | E2 Sec 6 | 142/88 | CCMC/Mix | |
| 52 | 235,114 | Fall 2020 | SW4 Sec 36 | 143/89 | CCMC/Mix | sprayed 2021 |
| 54 | 93,970 | | SW4 Sec 36 | 143/89 | CCMC/Mix | mulched 2021-part active |

[1] CCMC/Mix refers to CCMC or others with whom CCMC has a mixing agreement. Others include Voigt and State of North Dakota.

NACC-1302

T143N R89W 13 | T143N R88W 18 | T143N R88W 17 | T143N R88W 16 | T143N R88W 15

T143N R89W 24 | T143N R88W 19 | T143N R88W 20 | T143N R88W 21

T143N R89W 25 | T143N R88W 30 | T143N R88W 29 | T143N R88W 28

T143N R89W 36 | T143N R88W 31 | T143N R88W 32 | T143N R88W 33

T142N R89W 1 | T142N R88W 6 | T142N R88W 5 | T142N R88W 4

INTERIOR DRONE FLIGHT 07-14-21

INTERIOR DRONE FLIGHT 09-10-21

INTERIOR DRONE FLIGHT 09-08-21

INTERIOR DRONE FLIGHT 09-22-21

INTERIOR DRONE FLIGHT 10-21-21

DS 2020 | 2D2E DS 2021 | DS 2019 | 2A 2021 | 2B 2021 | 2C 2021 | 4C 2020 | 4C 2019 | 4C 2018 | 2D2E2F4C 2021 | 2D 2021 | DS 2018 | DS 2016 | DS 2014 | DS 2017 | DS 2015 | 2B2C 2021

## LEGEND

C.N.

| | |
|---|---|
| 2A | Acreage Affected |
| 2B | SPGM Removal Completed |
| 2C | Surface Coal Mining Operations Completed |
| 2D | Grade Approval |
| 2E | SPGM Respread |
| 2F | Ten-Year Revegetation |
| 4C | Cumulative Ten-Year Revegetation |
| DS | Delayed Native Grassland Initial Seeding |
| ■■■■■■ | Permit NACC-1302 Boundary |
| —·— | Section Line |
| — — — | Quarter Line |
| ——— | Disturbance Boundary |

0.00 0.75 1.50 2.25

Scale 1" = 750'

NOTE:
EXTERIOR AERIAL PHOTO FLIGHT DATE 08/28/2019
INTERIOR DRONE PHOTO FLIGHT DATES LABELED WEST OF AREA

| NO. | BY | APP'D | DATE |
|---|---|---|---|
| 9 | | | |
| 8 | | | |
| 7 | | | |
| 6 | | | |
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |
| 0 | SMB | JJE | 03/09/22 |

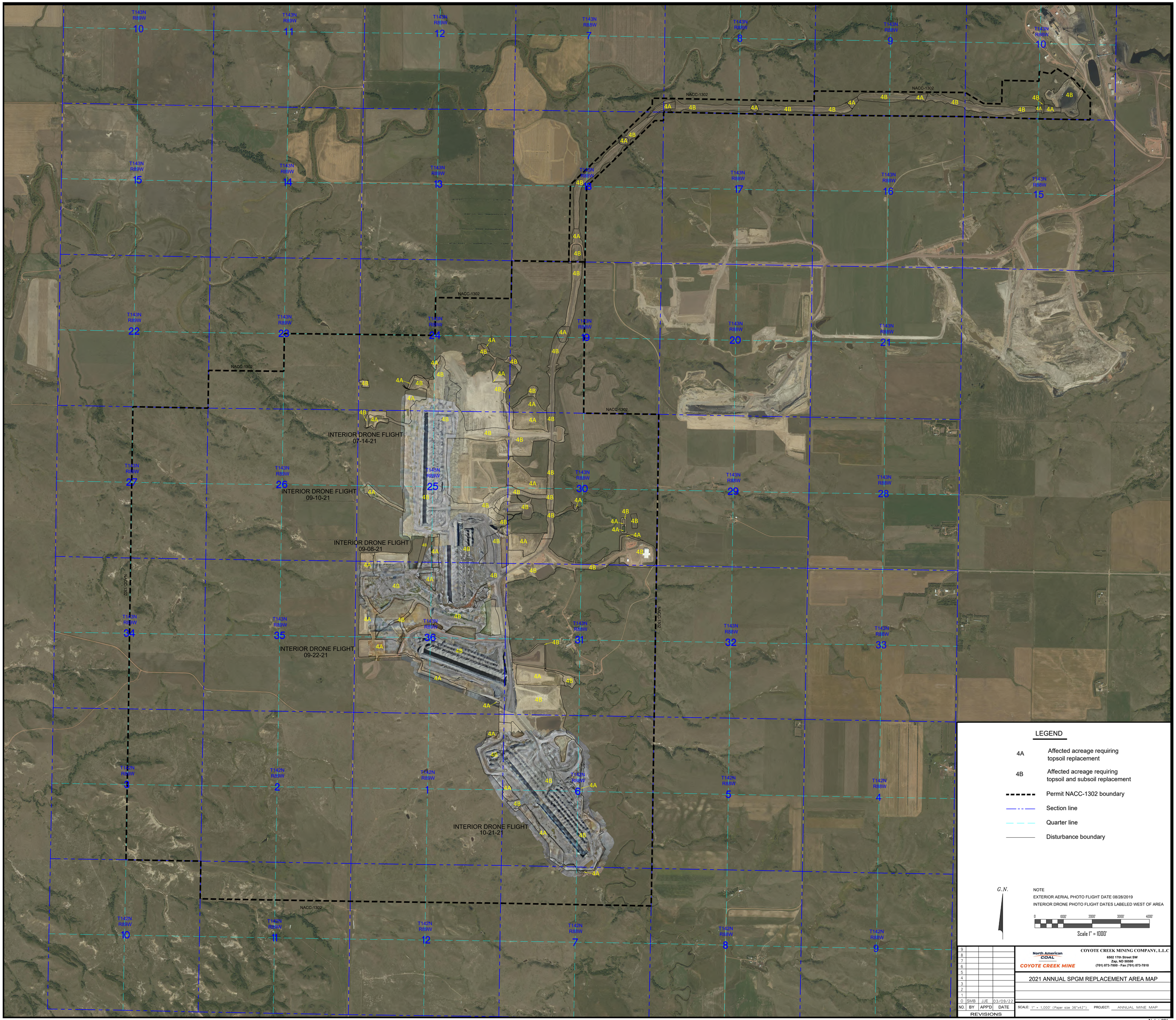
REVISIONS

North American COAL
COYOTE CREEK MINE

COYOTE CREEK MINING COMPANY, L.L.C
6502 17th Street SW
Zap, ND 58530
(701) 873-7800 - Fax (701) 873-7810

# 2021 ANNUAL MINE MAP

SCALE: 1" = 750' (Paper size 36"x42") PROJECT: ANNUAL MINE MAP




## LEGEND

| | |
|---|---|
| 4A | Affected acreage requiring topsoil replacement |
| 4B | Affected acreage requiring topsoil and subsoil replacement |
| | Permit NACC-1302 boundary |
| | Section line |
| | Quarter line |
| | Disturbance boundary |

G.N.

NOTE
EXTERIOR AERIAL PHOTO FLIGHT DATE 08/28/2019
INTERIOR DRONE PHOTO FLIGHT DATES LABELED WEST OF AREA

0 1000' 2000' 3000' 4000'
Scale 1" = 1000'

| NO. | BY | APP'D | DATE |
|---|---|---|---|
| 9 | | | |
| 8 | | | |
| 7 | | | |
| 6 | | | |
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |
| 0 | SMB | JJE | 03/09/22 |

REVISIONS

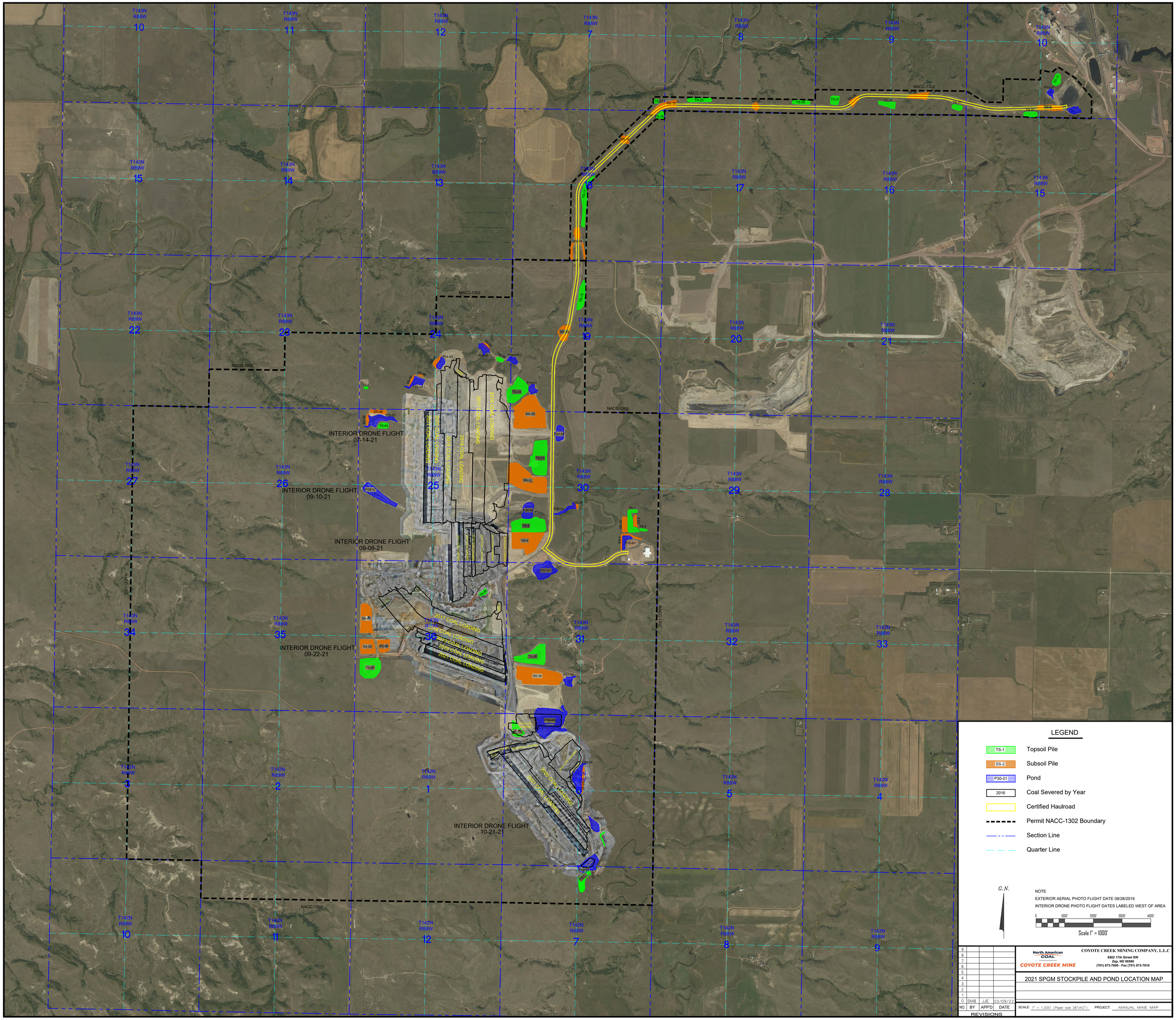
North American COAL
COYOTE CREEK MINE

COYOTE CREEK MINING COMPANY, L.L.C
6502 17th Street SW
Zap, ND 58580
(701) 873-7800 - Fax (701) 873-7810

# 2021 ANNUAL SPGM REPLACEMENT AREA MAP

SCALE: 1" = 1,000' (Paper size 36"x42") PROJECT: ANNUAL MINE MAP

Voigt-086




## LEGEND

- TS-1 — Topsoil Pile
- SS-2 — Subsoil Pile
- P30-01 — Pond
- 2016 — Coal Severed by Year
- Certified Haulroad
- Permit NACC-1302 Boundary
- Section Line
- Quarter Line

C.N.

NOTE
EXTERIOR AERIAL PHOTO FLIGHT DATE 08/28/2019
INTERIOR DRONE PHOTO FLIGHT DATES LABELED WEST OF AREA

0 1000' 2000' 3000' 4000'
Scale 1" = 1000'

| NO. | BY | APP'D | DATE |
|---|---|---|---|
| 9 | | | |
| 8 | | | |
| 7 | | | |
| 6 | | | |
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | | | |
| 0 | SMB | JJE | 03/09/22 |

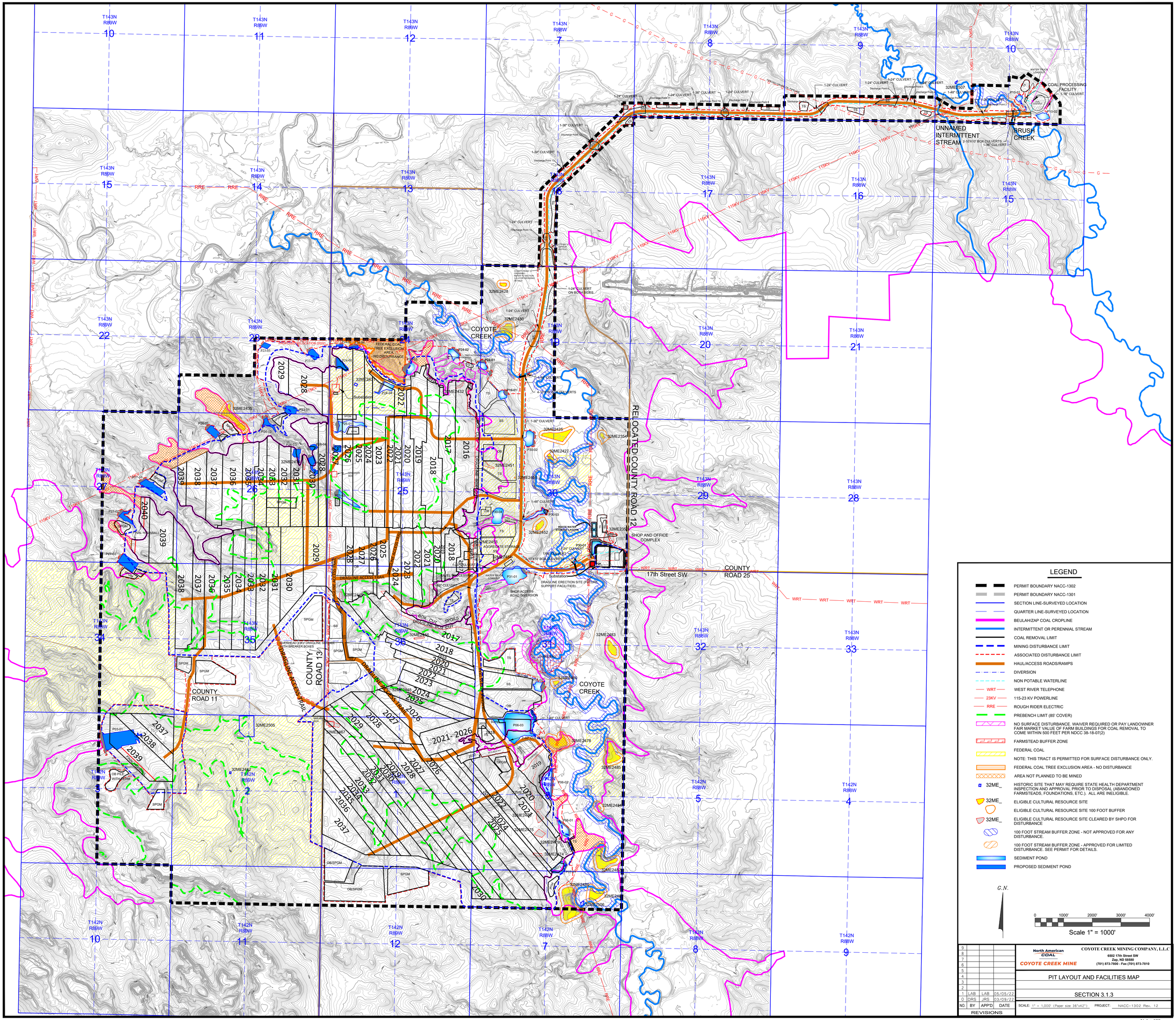
REVISIONS

North American COAL
COYOTE CREEK MINE

COYOTE CREEK MINING COMPANY, L.L.C
6502 17th Street SW
Zap, ND 58580
(701) 873-7800 - Fax (701) 873-7810

# 2021 SPGM STOCKPILE AND POND LOCATION MAP

SCALE: 1" = 1,000' (Paper size 36"x42") PROJECT: ANNUAL MINE MAP

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REVISIONS

North American COAL
COYOTE CREEK MINE

COYOTE CREEK MINING COMPANY, L.L.C.
6502 17th Street SW
Zap, ND 58580
(701) 873-7800 - Fax (701) 873-7810

# PIT LAYOUT AND FACILITIES MAP

## SECTION 3.1.3

SCALE: 1" = 1,000' (Paper size 36"x42") PROJECT: NACC-1302 Rev. 12

# Guy A. Welch

**Summary of Qualifications**
Over 35 years of professional experience in natural resource management that includes 24 years of experience with surface coal mining permitting and inspection.

**Education**
B.S. Degree, Range Science, South Dakota State University, 1982

**Professional Job Experience**
- Environmental Scientist III - Permit Administrator, Reclamation Division, North Dakota Public Service Commission, Bismarck, ND. 1998 – Present.
- State Noxious Weed Specialist, North Dakota Department of Agriculture, Bismarck, ND. 1994-1998
- Rangeland Inventory Private Consultant, Dickinson, ND. 1991 -1994
- Soil Conservationist, USDA Soil Conservation Service, Dickinson, ND. 1989-1991
- Range Conservationist, Bureau of Land Management, Ely, Nevada. 1988-1989
- Soil Conservationist, USDA Soil Conservation Service, Dickinson, ND. 1987-1988
- Range and Soil Conservationist, ND State Land Department, Bismarck, ND 1983-1987

**Certifications, Awards, Memberships, and Training**
- Received specialized training in range and pastureland inventory and management techniques, soil conservation and management practices, universal soil loss equation, revegetation techniques, wetland mapping and classification, surface and ground water hydrology, blasting techniques, cultural resources, NEPA, statistics and various computer applications.

**Knowledge, Skills, Abilities and Experience**
- Over 24 years of experience in surface coal mining operations and reclamation, primarily dealing with permitting, inspection, bond release, environmental monitoring and regulatory analysis in North Dakota.
- Knowledgeable about North Dakota's requirements for surface coal mine permit, revision, and bond release applications.
- Knowledgeable in North Dakota's surface coal mining laws, rules and policy memorandums.
- Experience reviewing surface mining permits and revisions to ensure compliance with laws and regulations and prepare written findings.
- Experience inspecting surface mining and reclamation operations to ensure mining and reclamation activities are carried out in compliance with permits and regulations.
- Knowledgeable in revegetation practices and techniques and applicable performance standards.

# Brandon S. Myran

## Summary of Qualifications

Over 6 years of professional experience in civil construction inspection and administration, civil engineering design, surveying, quality assurance of materials testing, plan interpretation, review of specifications and regulations, review of submittals, and delivery of final reports.

## Education

BS, Civil Engineering | North Dakota State University, 2012

## Professional Job Experience

- Environmental Engineer, Reclamation Division, ND Public Service Commission, February 2022-Current
- Resident Project Representative, SEH, 2015-February 2022
- Field Engineer, Baker Hughes, 2012-2015
- Land Surveyor and AutoCAD Civil 3D Drafter, Lightowler Johnson Associates Inc., 2011

## Certifications, Memberships, and Training

- Soils and Revegetation (2022), Office of Surface Mining Reclamation and Enforcement NTTP
- Blasting and Inspection (2022), Office of Surface Mining Reclamation and Enforcement NTTP
- Soils Field Tester (2021), North Dakota Department of Transportation
- Aggregate Field Lab (2021), North Dakota Department of Transportation
- ACI Concrete Field-Testing Technician – Grade I (2021), American Concrete Institute
- Erosion and Sediment Control Construction Certification (2016), North Dakota Department of Transportation
- Order of the Engineer, 2012-Current

## Knowledge, Skills, Abilities, and Experience

- Over 6 years of experience in civil construction inspection and administration, primarily dealing with soil mechanics, soils testing, erosion control methods and applications, record keeping, and delivery of final reports.
- Continued education in review of surface coal mine permits, revisions, and bond release applications.
- Knowledgeable in computer aided programs such as AutoCAD Civil 3D, HydroCAD, Bluebeam, and Microsoft Applications (Word, Excel, Project, and PowerPoint).

# Monty L. Johnson

**Summary of Qualifications**
Seven years of professional experience in geology, environmental consulting, and mining operations, including experience in surface coal mine permitting and reclamation.

**Education**
B.S., Geology (Magna Cum Laude), North Dakota State University, 2015

**Professional Job Experience**
- Environmental Scientist, Reclamation Division, ND Public Service Commission, 01/2022 - Present
- Geologist, Barr Engineering Company, Bismack, North Dakota, 04/2018 – 12/2021
- Estimator & Project Manager, High Country Paving, Belgrade, Montana, 07/2016 – 04/2018
- Geologist, Castle Rock Geotechnical Engineering, Bozeman, Montana, 01/2016 – 07/2016
- Geologist – Summer Co-op, Falkirk Mining Company, Underwood, ND, 2013-2015

**Certifications, Memberships, Training**
- Received specialized training in Soils and Revegetation from the Office of Surface Mining Reclamation and Enforcement

**Knowledge, Skills, Abilities, and Experience**
- Experience in surface coal mining operations and reclamation.
- Knowledge of North Dakota's requirements for surface coal mining permit, revision, and bond release applications
- Knowledge of North Dakota's surface coal mining laws, rules, and policy memorandums
- Knowledge in geology, hydrogeology, and soil science
- Project management