

Thompson, Pamela J.

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Subject: Filing Accepted for Case: 08-2024-CV-00694; Casey Voigt, et al. vs. North Dakota Public Service Commission, et al.; Envelope Number: 5616681

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Envelope Number: 5616681
Case Number: 08-2024-CV-00694
Case Style: Casey Voigt, et al. vs. North Dakota Public Service Commission, et al.



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

Case No. RC-23-348

2022 Soils Handling Plan

Voigt Exhibit 46

CR Exhibit 47
Case No. 08-2023-CV-01338

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.

Voigt-002

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)	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)	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

Ottertall

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
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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
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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
Subtotal	0.95	40.73	0.68	31.47

Ottertall

		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
Ottetail	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
Ottetail	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
Ottetail	-	-	-	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			SS		
Inches	Acres	CY	Inches	Acres	CY
5	0.10	67	0	0.78	-
7	0.79	743	6	0.74	597
15	1.37	2,763	10	1.88	2,528
16	0.02	43	12	0.00	-
18	4.90	11,858	30	0.01	40
22	6.97	20,616	38	5.92	30,245
28	0.75	2,823	40	0.00	-
30	0.01	40	42	4.44	25,071
32	2.00	8,604	44	0.02	118
	16.91	47,558	45	0.53	3,206
				14.32	61,805
Weighted Avg TS (in):		20.9	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			SS		
Inches	Acres	CY	Inches	Acres	CY
0	1.52	-	0	4.93	-
3	4.66	1,880	5	0.84	565
4	0.00	-	6	1.04	839
5	1.28	860	8	0.30	323
6	3.85	3,106	10	1.92	2,581
7	4.71	4,433	12	0.51	823
13	0.00	-	13	0.93	1,625
15	0.12	242	15	0.84	1,694
16	0.30	645	18	0.09	218
18	5.79	14,012	22	0.22	651
20	0.09	242	30	0.39	1,573
21	7.51	21,203	38	0.34	1,737
22	1.83	5,413	39	0.14	734
24	0.00	-	40	0.64	3,442
28	0.06	226	42	0.68	3,840
30	0.56	2,259	45	0.10	605
31	9.09	37,885	50	0.04	269
35	10.06	47,338		13.95	21,518
38	0.49	2,503		Weighted Avg SS (in):	11.5
	51.92	142,246			
	Weighted Avg TS (in):	20.4			

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			Total Acres SS				
534.16			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			Total Acres SS				
546.38			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			Total Acres SS				
1.99			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			Total Acres SS				
1.26			0.0				

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

Topsoil	Voigt				State				P Winkler Native	Winkler Native	Total
	Crop	Native	R/W	Subtotal	Crop	Native	R/W	Subtotal			
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 additional 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	Total	
	Assoc Dist		Mining Dist				Assoc Dist		Mining Dist		Mining Dist	Mining Dist		
Total Rspd Land Use	Crop	Native	Crop	Native	Crop	Native	Crop	Native	Native	Native	Native	Native	Native	
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	Acres	CY	In
Voigt	1,621	3,166,212	14.5	3,250	6,610,146	15.1
State	1,307	2,460,036	14.0	1,807	3,490,464	14.4
Difference between Voigt and State			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 respread 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

Weighted Avg TS (in): 17.7

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 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

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 TS (in): 17.8

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

Weighted Avg TS (in): 8.87

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

Weighted Avg TS (in): 4.31

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

Weighted Avg TS (in): 0.00

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 SS (in): 15.15 **Total: 24.0**

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 SS (in): 3.38 **Total: 7.7**

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 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		Total
	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	
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)

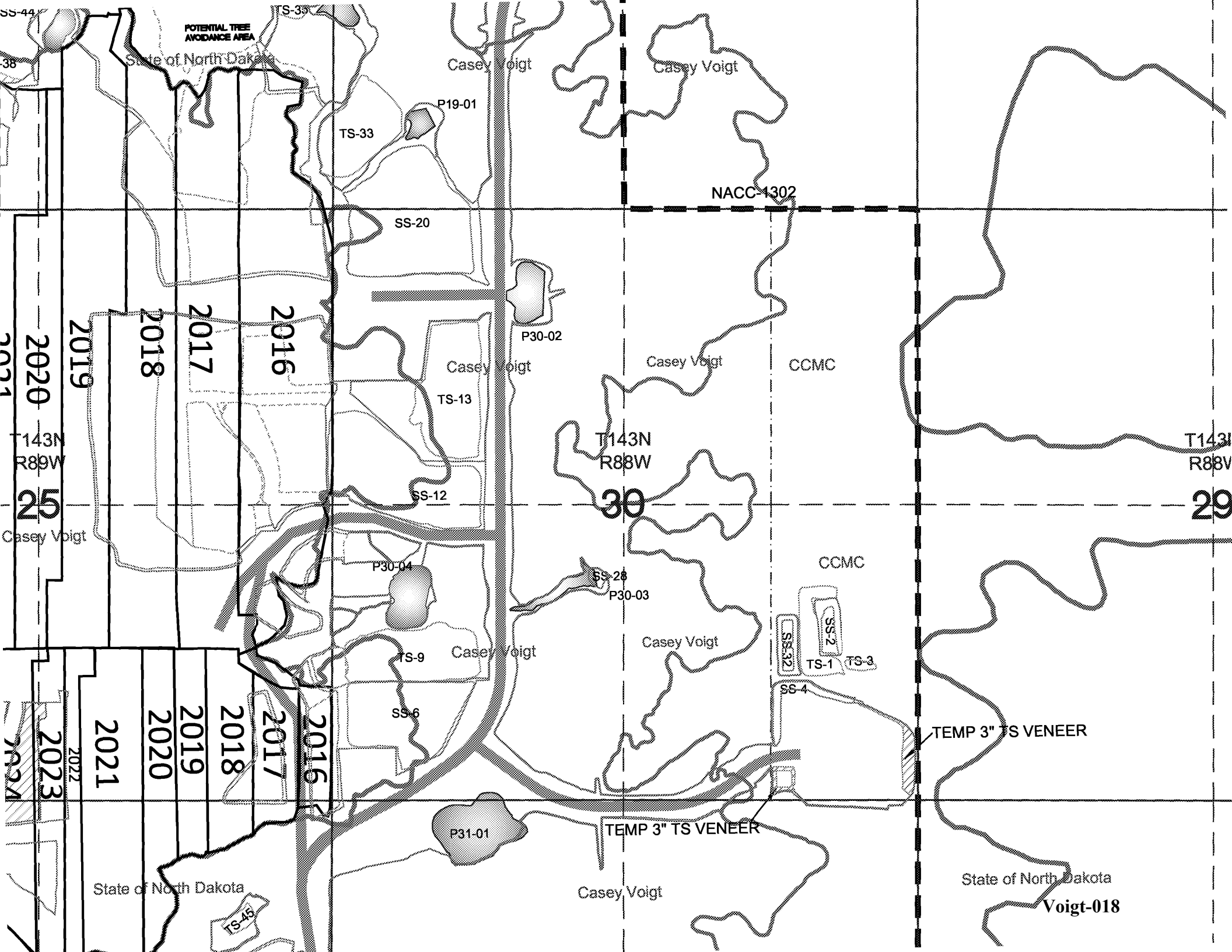
Summary	Voigt								State				Winkler's		P Winkler		Total
	Assoc Dist		Mining Dist						Assoc Dist	Mining Dist			Assoc Dist	Mining Dist	Assoc Dist	Mining Dist	
	Native	Crop	Native	Native	Native	Crop	Crop	Crop	Native	Native	Native	Native	Native	Native	Native	Native	
Total Rspd Required (in)	46.5	0.0	48.0	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

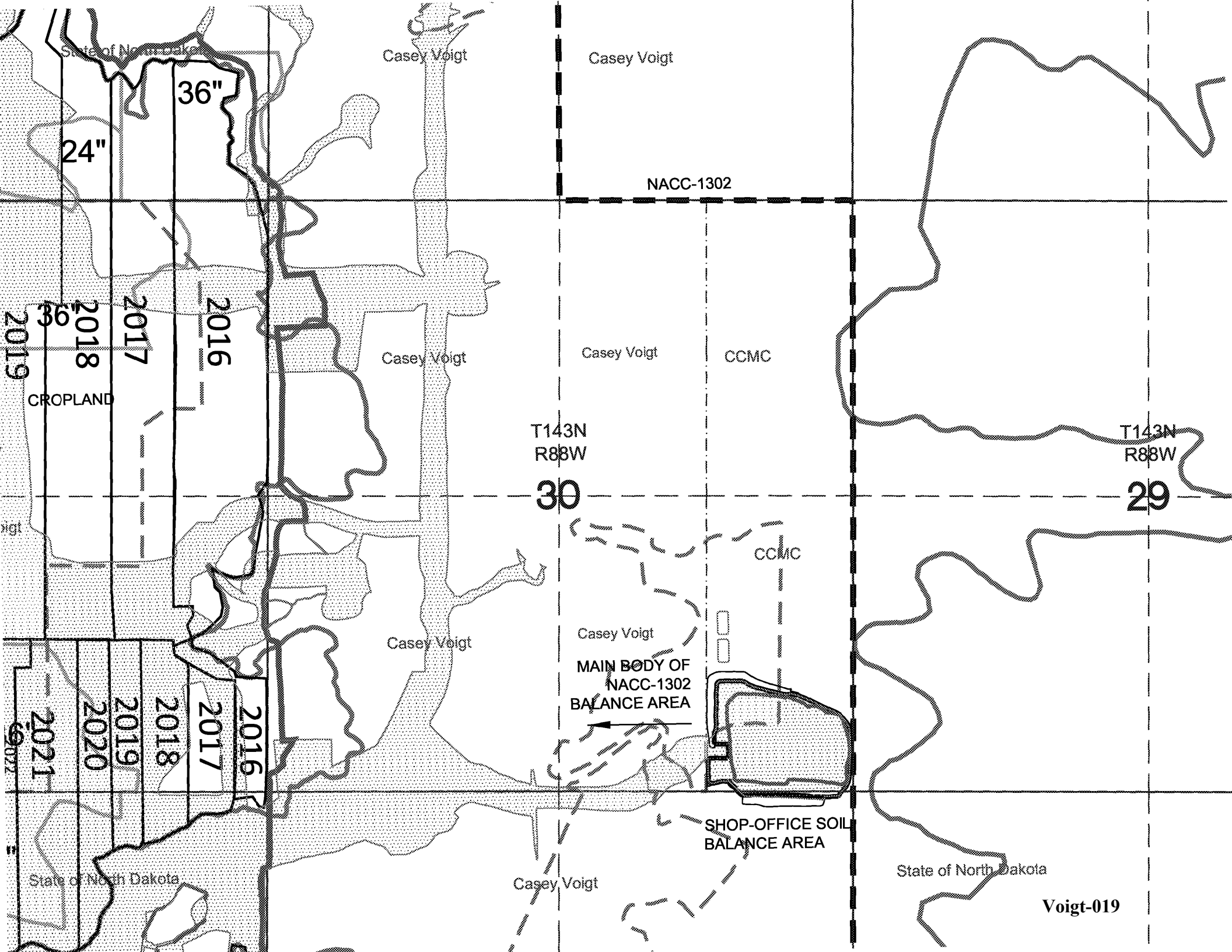
*Total TS required based on 2022 respread depth.

** 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		





State of North Dakota
36"

24"

Casey Voigt

NACC-1302

2019
36"
2018
CROPLAND

2017
2016

Casey Voigt

Casey Voigt

CCMC

T143N
R88W

30

T143N
R88W

29

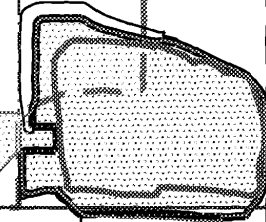
Casey Voigt

CCMC

Casey Voigt

Casey Voigt

MAIN BODY OF
NACC-1302
BALANCE AREA



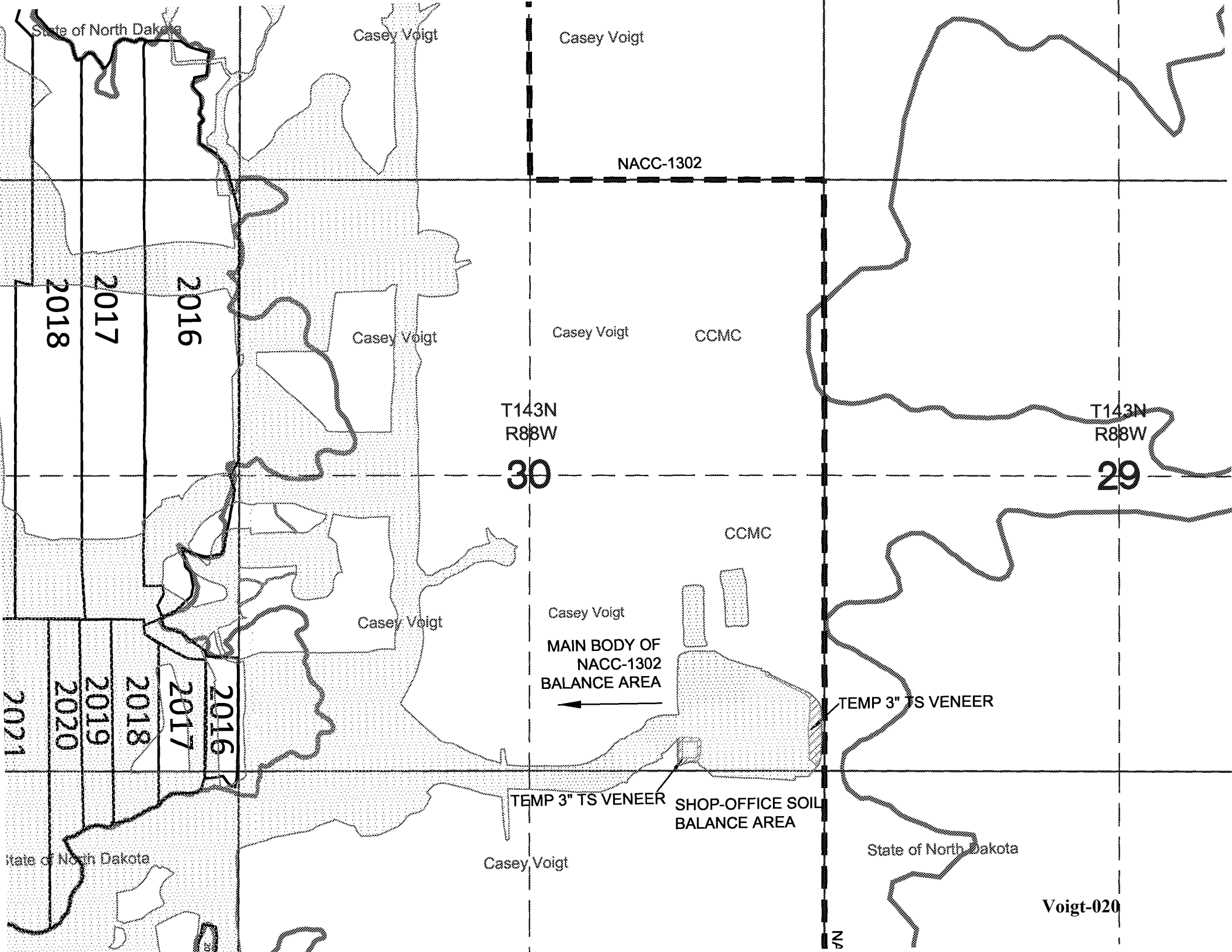
SHOP-OFFICE SOIL
BALANCE AREA

2021
2020
2019
2018
2017
2016

Casey Voigt

State of North Dakota

Voigt-019



State of North Dakota

Casey Voigt

Casey Voigt

NACC-1302

2018

2017

2016

Casey Voigt

Casey Voigt

CCMC

T143N
R88W

30

T143N
R88W

29

CCMC

Casey Voigt

Casey Voigt

MAIN BODY OF
NACC-1302
BALANCE AREA



TEMP 3\" TS VENEER

TEMP 3\" TS VENEER

SHOP-OFFICE SOIL
BALANCE AREA

2021

2020

2019

2018

2017

2016

State of North Dakota

Casey Voigt

State of North Dakota

Voigt-020

N