



Basin Electric Power Cooperative  
Pioneer Generation Station Phase IV– Williams County  
Case No. PU-22-380  
Topsoil Removal Inspection Report

62 PU-22-380 Filed 03/27/2023 Pages: 67  
Topsoil Removal Inspection Report  
Basin Electric Power Cooperative  
Brett Job, Short Elliott Hendrickson Inc



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March 27, 2023

RE: Case No. PU-22-380  
Basin Electric Power Cooperative  
Pioneer Generation Station Phase IV –  
Williams County  
Topsoil Removal Inspection Report

Mr. Adam Renfandt  
Public Utility Analyst  
North Dakota Public Service Commission  
600 East Boulevard Avenue, Dept. 408  
Bismarck, ND 58505-0480

Dear Mr. Renfandt:

Attached is the Topsoil Removal Inspection Report for the above referenced project. This report includes the following:

1. Executive Summary
2. Inspection Report
3. Appendix A – Photo Location Map
4. Appendix B - Photographs

Sincerely,

A handwritten signature in blue ink that reads "Matthew Schaible".

Matthew Schaible, PE  
Short Elliott Hendrickson Inc.  
4719 Shelburne Street, Suite 6  
Bismarck, ND 58503-5677

Engineers | Architects | Planners | Scientists

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**EXECUTIVE SUMMARY**

Date: 3/23/2023

Project: Pioneer Generation Station Phase IV

Initial Topsoil Removal site visit included visual inspection of Rachel Contracting's means and methods in the removal and storage of topsoil. Inspector was onsite to document existing conditions throughout the area of disturbance. Work included taking photos of working area, edges of construction zone, existing vegetation conditions, and topsoil depth checks. Documentation was conducted to verify contractor is able to successfully segregate topsoil and subsoil in order to return disturbance area back to original conditions within reasonable means.

George Atwood of Burns & McDonnell stated that 6" of topsoil would be removed per the soil borings performed on the site. Multiple topsoil depth checks were performed and found that the depth of topsoil removed was 6" with a 1/2" variance.

Topsoil was requested to be removed under frozen conditions per the Waiver Request that was submitted by Basin Electric on February 24, 2023. There was a motion made by NDPSC on March 8, 2023 to approve the removal of frozen topsoil per Basin Electric's methods and terms.

After snow was removed from the surface, topsoil was broken up by an excavator using a frost ripper first at a depth of 6". A dozer was then utilized to push all broken and loose topsoil into a pile at the west end of the excavation site, where an excavator would load all topsoil into off-road dump truck. Dump truck was used to transport topsoil to a different location on-site for stockpiling.

No concerning issues were immediately identified during contractors operations of topsoil removal. Plans for topsoil storage and subsoil storage in the other location pictured (P47-P52) as described by contractor did not raise concern for potential segregation of soil types.

Inspector stayed on site until Rachel Contracting operators demonstrated proficiency in topsoil removal and segregation methods.

Inspector's Signature



**INSPECTOR'S DIARY**

Project: Pioneer Generation Station Phase IV		Contractor: Basin Electric	
Date: 3/23/2023	Day: Thursday	Subcontractor: Rachel Contracting	
Weather: Mostly Sunny, Wind 10-15mph from NW		Temp: 15 F	Inspector: Brett Job
<b>Work Activities:</b> *Snow removal took place to clear area for start of topsoil removal process at 8:00AM and was done in various areas throughout the day.  *Frozen topsoil removal process began at 9:00 AM and continued throughout the day.			
<b>Labor Force:</b> Basin Electric - (1) Project Manager Burns McDonnell - (1) Project Manager Rachel Contracting - (8) Equipment Operators, (1) Foreman, (1) Superintendent, (1) Safety Manager			
<b>Contractor Correspondence:</b> * Inspector was part of the meeting regarding the request of frozen topsoil removal per the Waiver Request submitted by Basin Electric on February 24, 2023.  * Inspector met on-site with George Atwood from Burns & McDonnell to discuss the day's plan and plan for topsoil removal. It was stated that more snow was having to be cleared from the area and the area to be removed would need to be marked utilizing survey equipment.  * Inspector is informed at 11:00 AM that a dozer was on the way to start pushing broken topsoil into a pile to be loaded onto an off-road dump truck to be unloaded at a different location for stockpiling.			
<b>Other Remarks:</b> * Inspector was informed that Rachel was expecting to strip and stockpile approximately 2000 cubic yards of topsoil on 3/23/2023.			

  
Inspector's Signature



INSPECTOR'S DIARY

Date: 3/23/2023

Project: Pioneer Generation Station Phase IV Contractor or Sub: Martin Construction

Work Performed & Location:

- \* Rachel Contracting continued snow removal operations throughout the day, clearing the appropriate sites for upcoming excavation.
- \* Rachel Contracting performed frozen topsoil removal on a location they referred to as "the tub". This location was said to contain approximately 2000 cubic yards of topsoil that would be stripped and then hauled to a different location on site to stockpile.

Method of Frozen Topsoil Removal:

- Cat T6 Dozers cleared snow from topsoil removal area and piled snow in locations not needing to be accessed until the snow has melted.
- (2) Cat 366 Excavators equipped with frost tooth ripper attachments utilized to break up the top 6" of soil.
- Cat T6 Dozer pushed all broken up topsoil into piles for excavator to load into Cat 740GC off-road dump truck to be hauled to stockpile location.

\*Inspector was aware of Waiver Request for topsoil removal during frozen conditions. The INGAA means and methodology was utilized by inspector to confirm topsoil removal operations.

CONTRACTOR EQUIPMENT:  
Rachel Contracting: (3) Cat 336 Excavators, (3) Cat T6 Dozers, (3) Cat 740GC Off-Road Dump Trucks

  
Inspector's Signature



**INSPECTOR'S DIARY**

Date: 3/23/2023

Project: Pioneer Generation Station Phase IV Contractor or Sub: Martin Construction

Photo Description:

Photo Name: Description:

- P1 - General Site Photos/Snow Removal
- P2 - General Site Photos/Snow Removal
- P3 - General Site Photos/Snow Removal
- P4 - General Site Photos/Snow Removal
- P5 - General Site Photos/Snow Removal
- P6 - General Site Photos/Snow Removal
- P7 - General Site Photos/Snow Removal
- P8 - General Site Photos/Snow Removal
- P9 - General Site Photos/Snow Removal
- P10 - General Site Photos/Snow Removal
- P11 - General Site Photos/Snow Removal
- P12 - General Site Photos/Snow Removal
- P13 - General Site Photos/Snow Removal
- P14 - General Site Photos/Snow Removal
- P15 - General Site Photos/Snow Removal
- P16 - General Site Photos/Snow Removal
- P17 - General Site Photos/Snow Removal
- P18 - General Site Photos/Snow Removal
- P19 - General Site Photos/Snow Removal
- P20 - General Site Photos/Snow Removal
- P21 - General Site Photos/Snow Removal
- P22 - General Site Photos/Snow Removal
- P23 - General Site Photos/Snow Removal
- P24 - General Site Photos/Snow Removal
- P25 - General Site Photos/Snow Removal
- P26 - General Site Photos/Snow Removal
- P27 - General Site Photos/Snow Removal
- P28 - General Site Photos/Snow Removal
- P29 - General Site Photos/Snow Removal
- P30 - General Site Photos/Snow Removal

\*See attached Photo Layout Map with location of each photo (P1-P30), and attached pages of photo's

Inspector's Signature



INSPECTOR'S DIARY

Date: 3/23/2023

Project: Pioneer Generation Station Phase IV Contractor or Sub: Martin Construction

Photo Description:

Photo Name: Description:

- P31 - Topsoil Removal Operations
- P32 - Topsoil Removal Operations
- P33 - Topsoil Removal Operations
- P34 - Topsoil Removal Operations
- P35 - Topsoil Removal Operations
- P36 - Topsoil Removal Operations
- P37 - Topsoil Removal Operations
- P38 - Topsoil Removal Operations
- P39 - Topsoil Removal Operations
- P40 - Topsoil Removal Operations
- P41 - Topsoil Removal Operations
- P42 - Topsoil Removal Operations
- P43 - Topsoil Removal Operations
- P44 - Topsoil Removal Operations
- P45 - Topsoil Removal Operations
- P46 - Topsoil Removal Operations
- P47 - Topsoil Stockpiling Location
- P48 - Topsoil Stockpiling Location
- P49 - Topsoil Stockpiling Location
- P50 - Topsoil Stockpiling Location
- P51 - Topsoil Stockpiling Location
- P52 - Topsoil Stockpiling Location
- P53 - Topsoil Removal Operations
- P54 - Topsoil Removal Operations
- P55 - Topsoil Removal Operations
- P56 - Topsoil Removal Operations

\*See attached Photo Layout Map with location of each photo (P31-P56), and attached pages of photo's

Inspector's Signature

# Appendix A

Photo Location Map

P1-P7



P8-P10

P11-P12

P13-P17

P18-P19

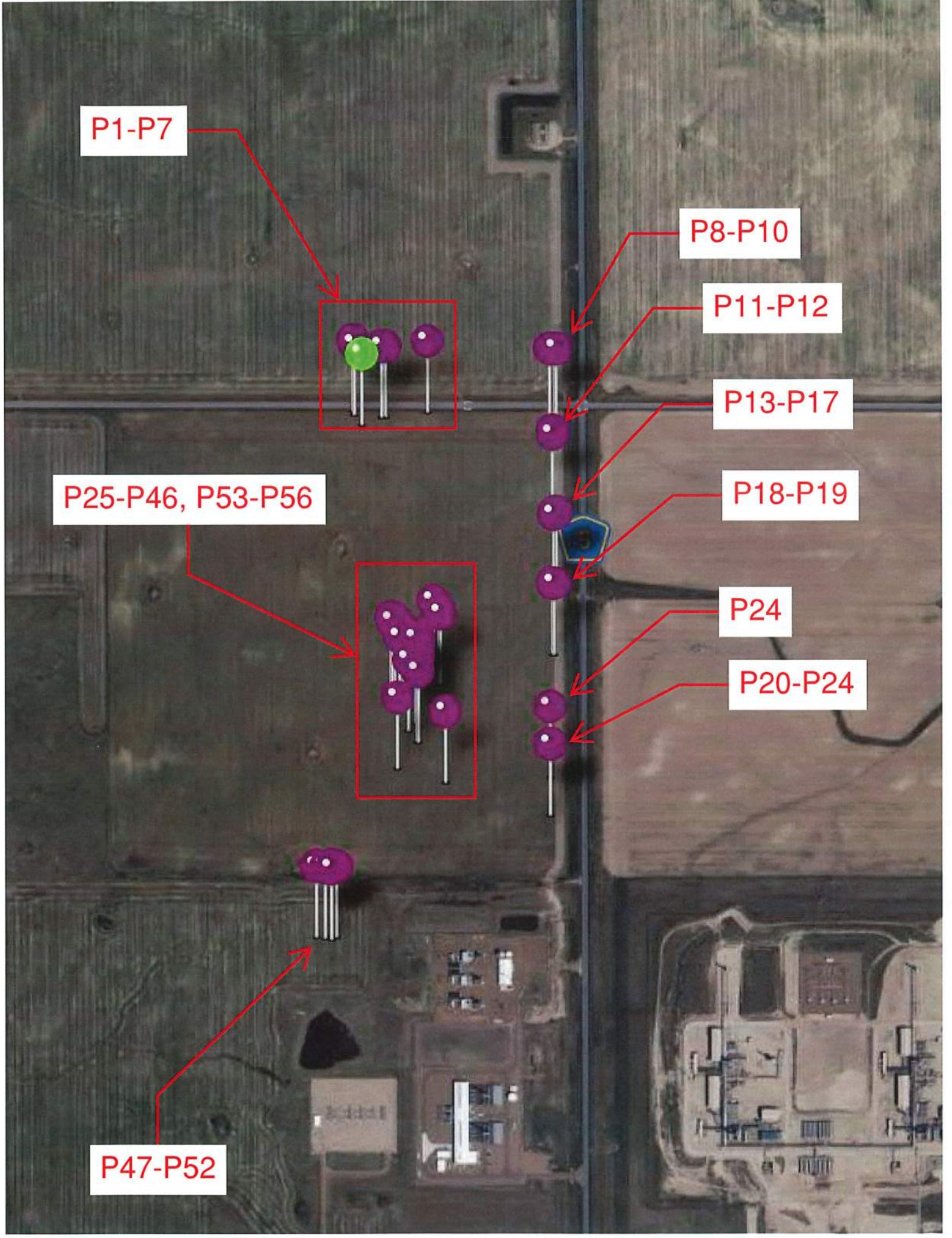
P24

P20-P24

P25-P46, P53-P56



P47-P52



# Appendix B

Photos



☉ 219°SW (T) ☉ 48°14'28"N, 103°57'18"W ±13ft ▲ 2367ft



Your Watermark - See Settings

23 Mar 2023, 07:55:36

P1

SE 150 S 180 SV 210 240 W 270 300 NW

☉ 228°SW (T) ● 48°14'28"N, 103°57'18"W ±13ft ▲ 2380ft



P2



☉ 158°SE (T) ● 48°14'28"N, 103°57'18"W ±13ft ▲ 2363ft

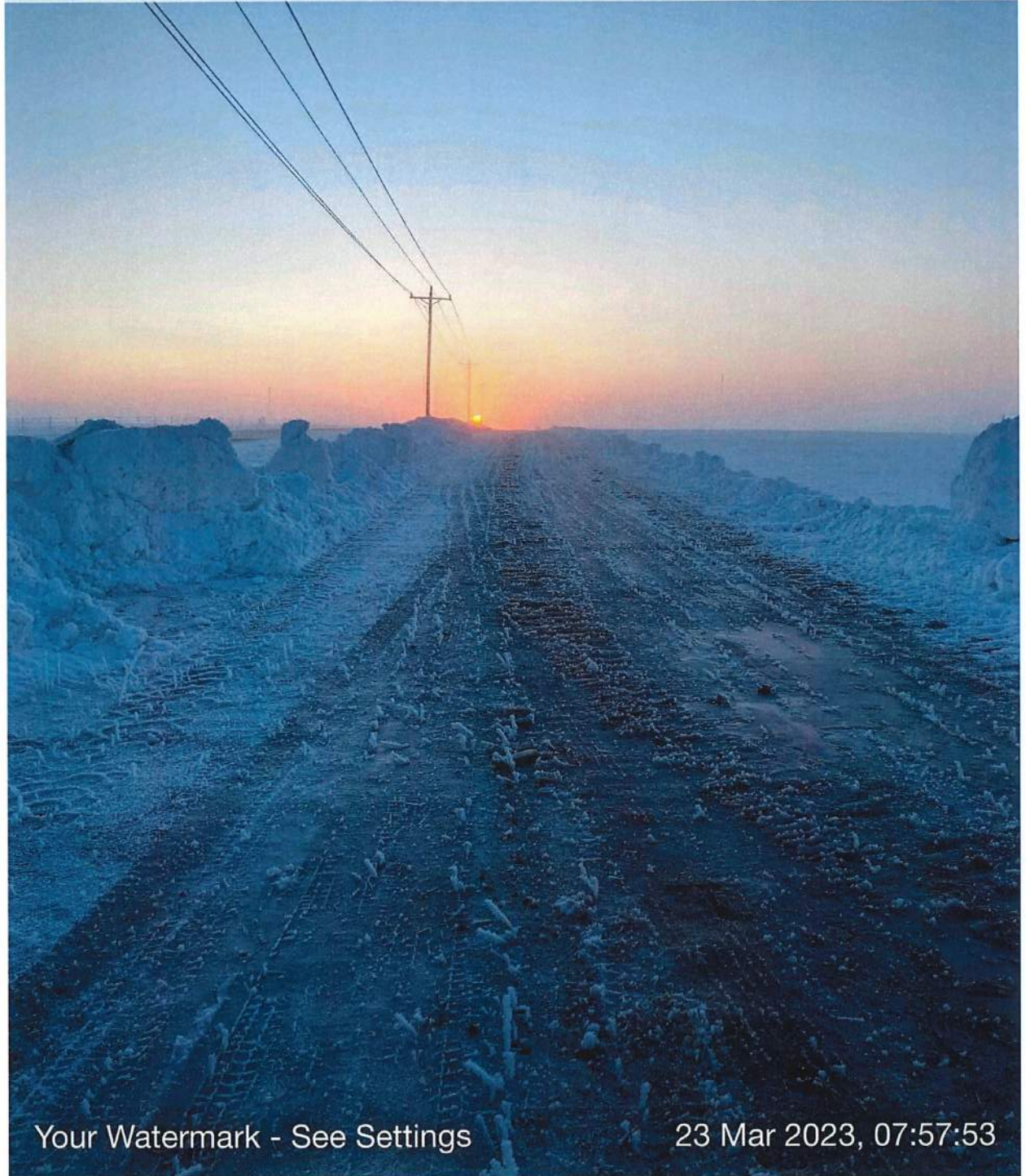


Your Watermark - See Settings

23 Mar 2023, 07:56:22



☉ 81°E (T) ● 48°14'28"N, 103°57'16"W ±9ft ▲ 2361ft



Your Watermark - See Settings

23 Mar 2023, 07:57:53



☉ 243°SW (T) ☉ 48°14'28"N, 103°57'16"W ±13ft ▲ 2355ft



Your Watermark - See Settings

23 Mar 2023, 07:58:18

P5



⊙ 280°W (T) ● 48°14'28"N, 103°57'16"W ±13ft ▲ 2355ft

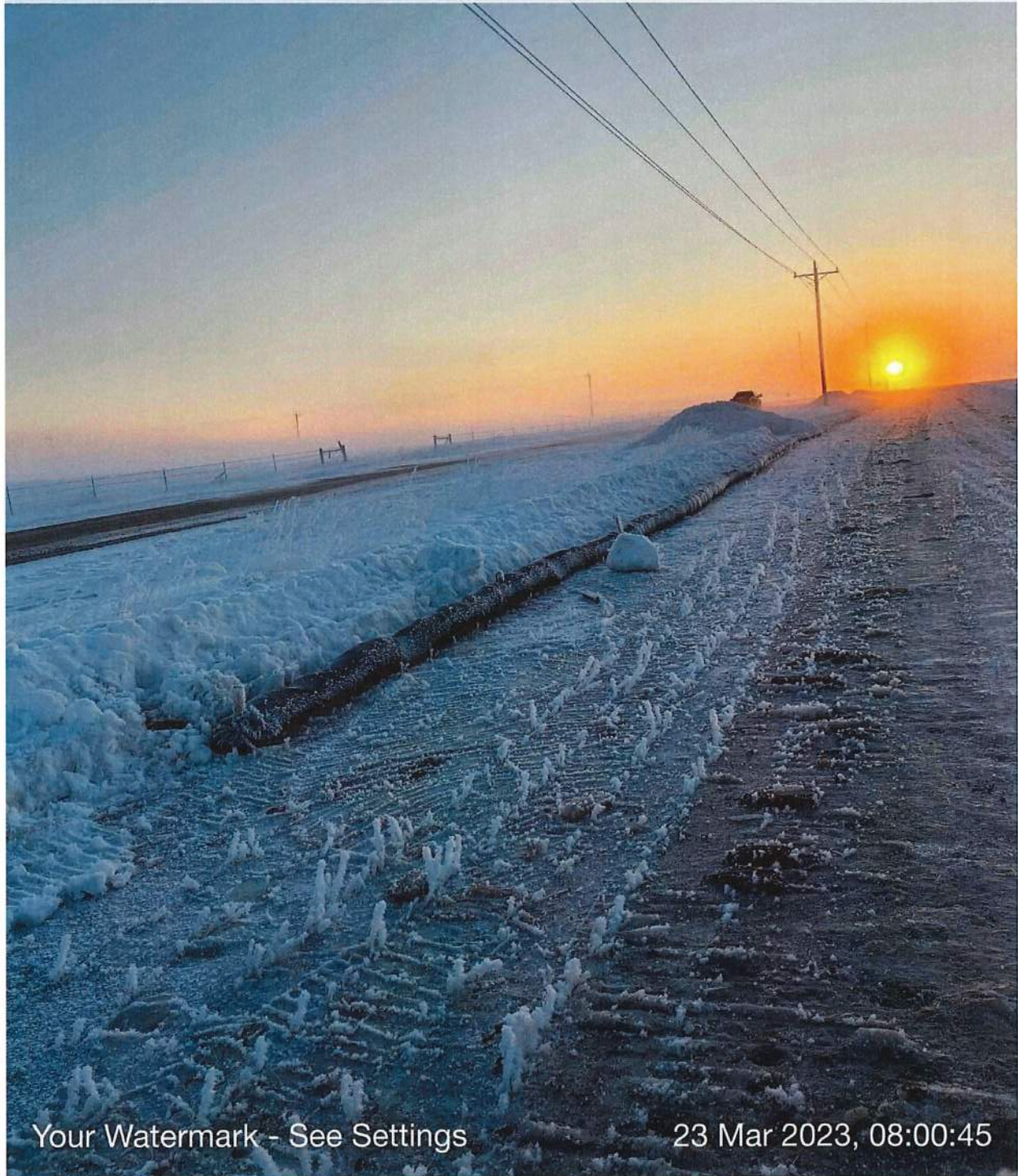


Your Watermark - See Settings

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☀ 83°E (T) ● 48°14'28"N, 103°57'12"W ±16ft ▲ 2373ft

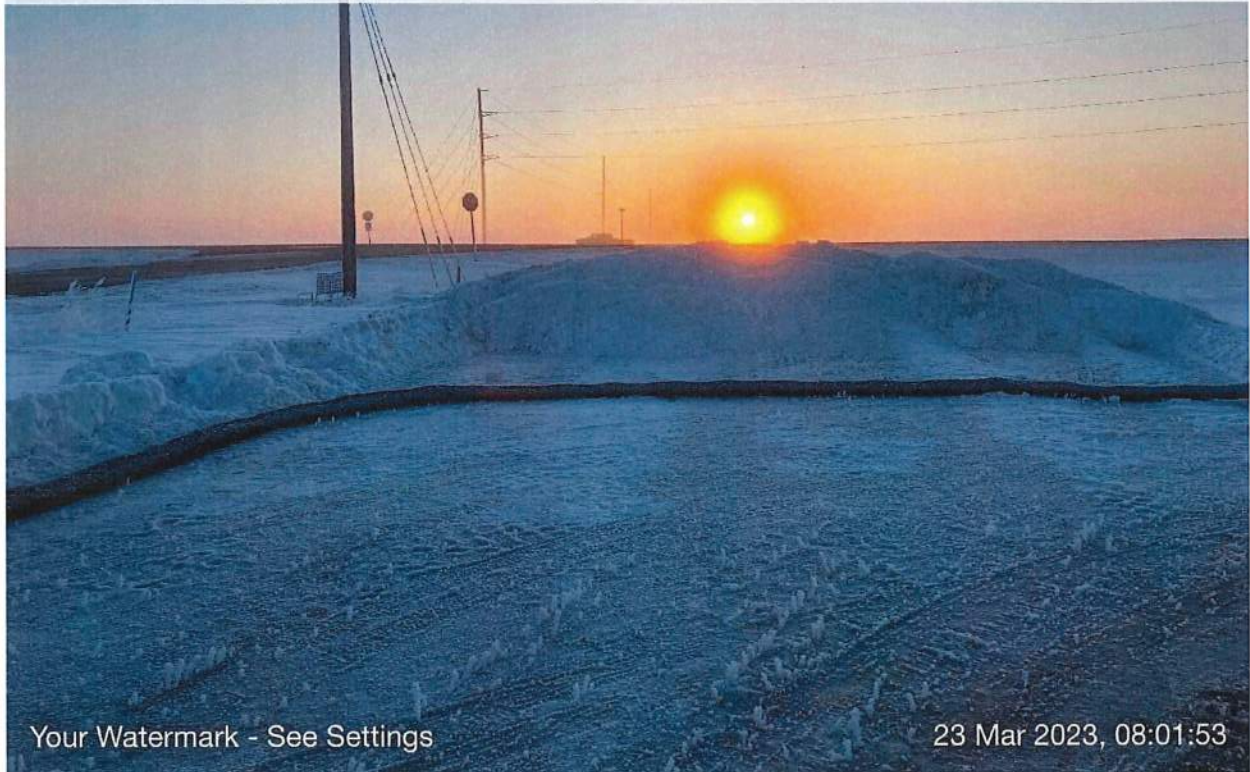


Your Watermark - See Settings

23 Mar 2023, 08:00:45



☉ 91°E (T) ● 48°14'28"N, 103°57'2"W ±13ft ▲ 2369ft



Your Watermark - See Settings

23 Mar 2023, 08:01:53

P8





☉ 186°S (T) ☉ 48°14'28"N, 103°57'2"W ±13ft ▲ 2370ft

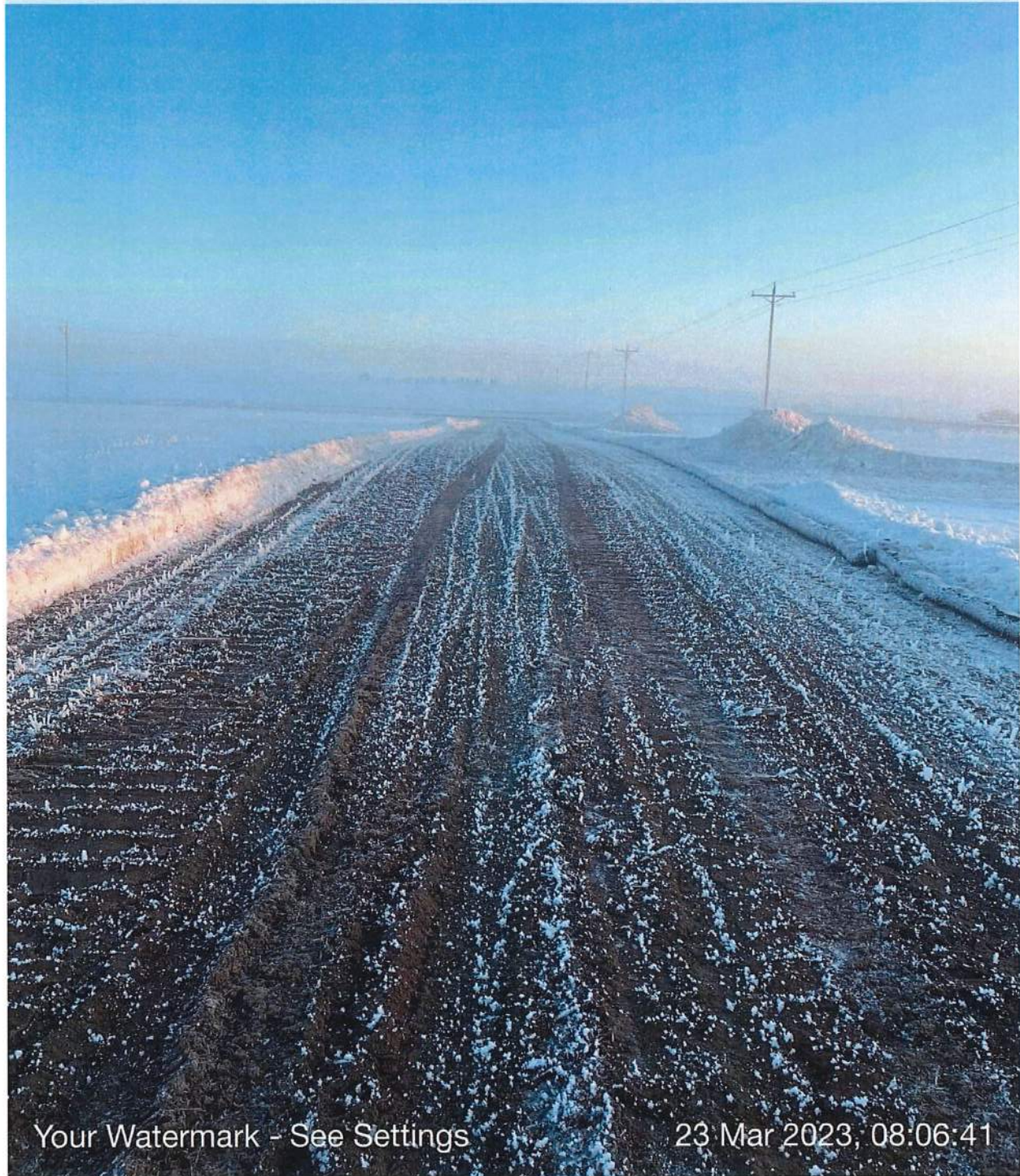


Your Watermark - See Settings

23 Mar 2023, 08:02:12



☉ 0°N (T) ● 48°14'23"N, 103°57'2"W ±52ft ▲ 2378ft

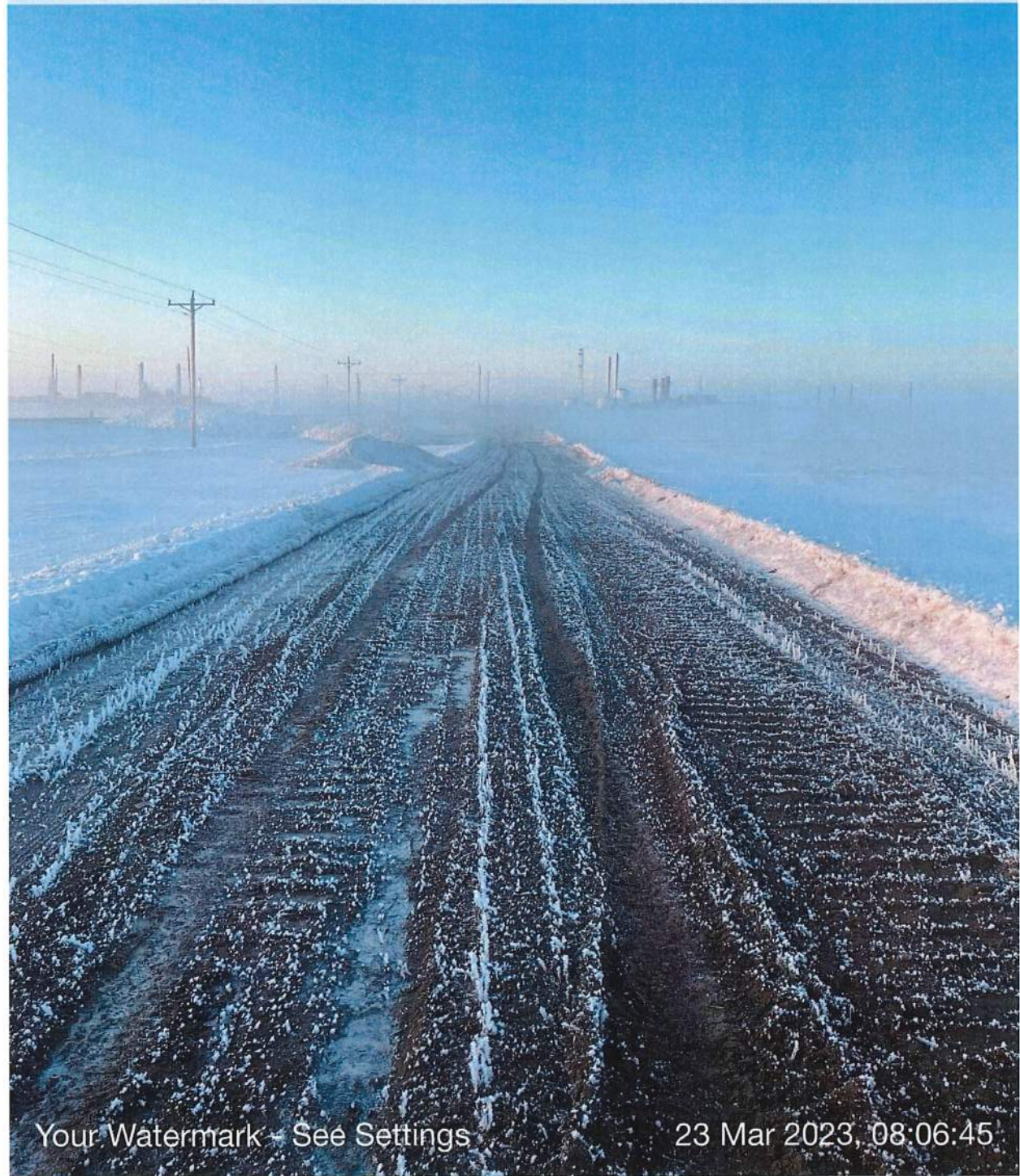


Your Watermark - See Settings

23 Mar 2023, 08:06:41



☉ 176°S (T) ☉ 48°14'23"N, 103°57'2"W ±9ft ▲ 2367ft



Your Watermark - See Settings

23 Mar 2023, 08:06:45



☉ 331°NW (T) ☉ 48°14'19"N, 103°57'2"W ±13ft ▲ 2361ft



Your Watermark - See Settings

23 Mar 2023, 08:08:27

P13

NW N NE E SE  
330 0 30 60 90 120

☀ 45°NE (T) ☉ 48°14'19"N, 103°57'2"W ±13ft ▲ 2361ft



Your Watermark - See Settings

23 Mar 2023, 08:08:30

P14



☀ 104°E (T) ● 48°14'19"N, 103°57'2"W ±13ft ▲ 2360ft



Your Watermark - See Settings

23 Mar 2023, 08:08:34

P15



☉ 168°S (T) ● 48°14'19"N, 103°57'2"W ±13ft ▲ 2360ft



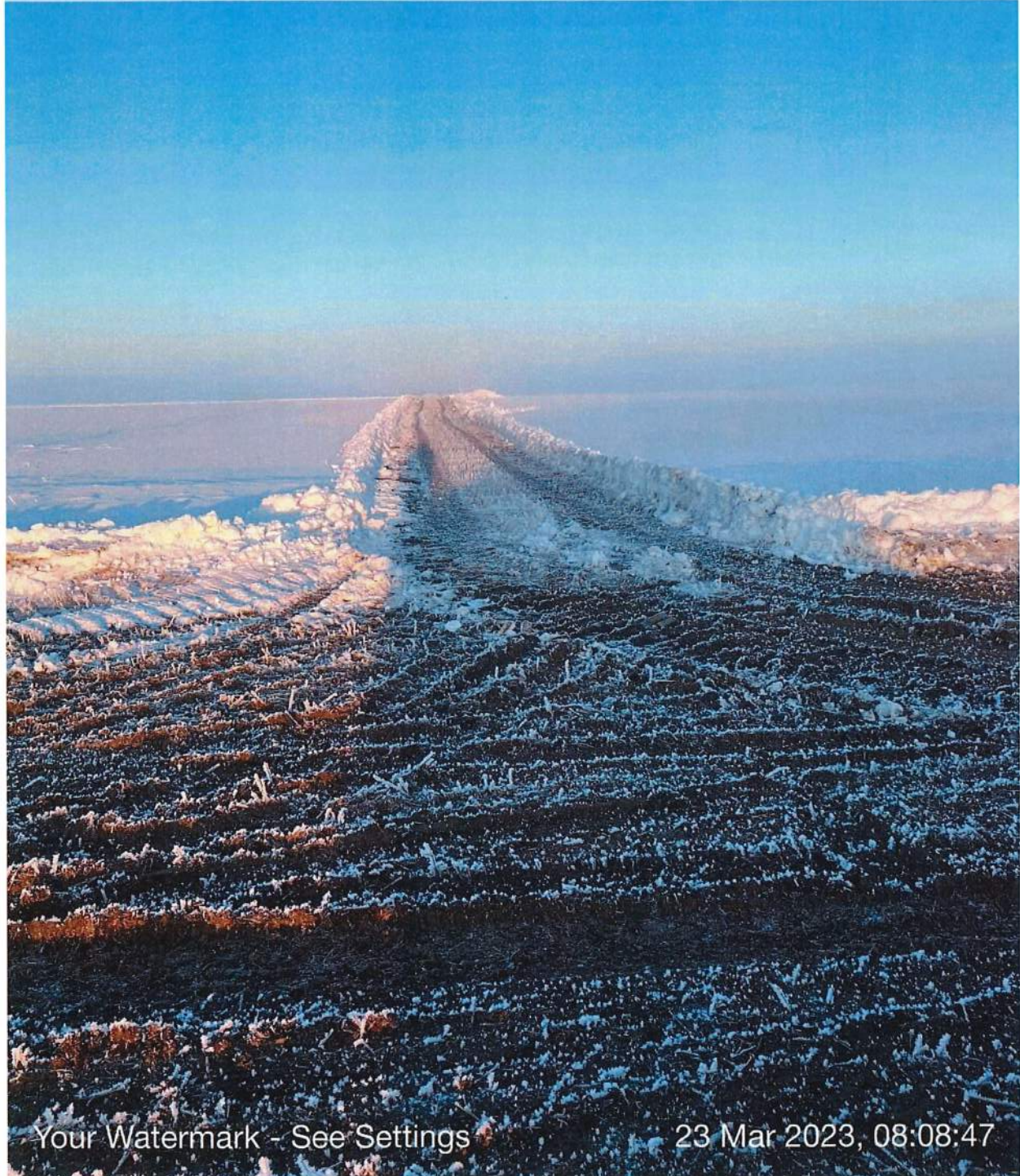
Your Watermark - See Settings

23 Mar 2023 08:08:37

P16

SW W NW  
210 240 270 300 330

☀ 274°W (T) ☉ 48°14'19"N, 103°57'2"W ±13ft ▲ 2358ft

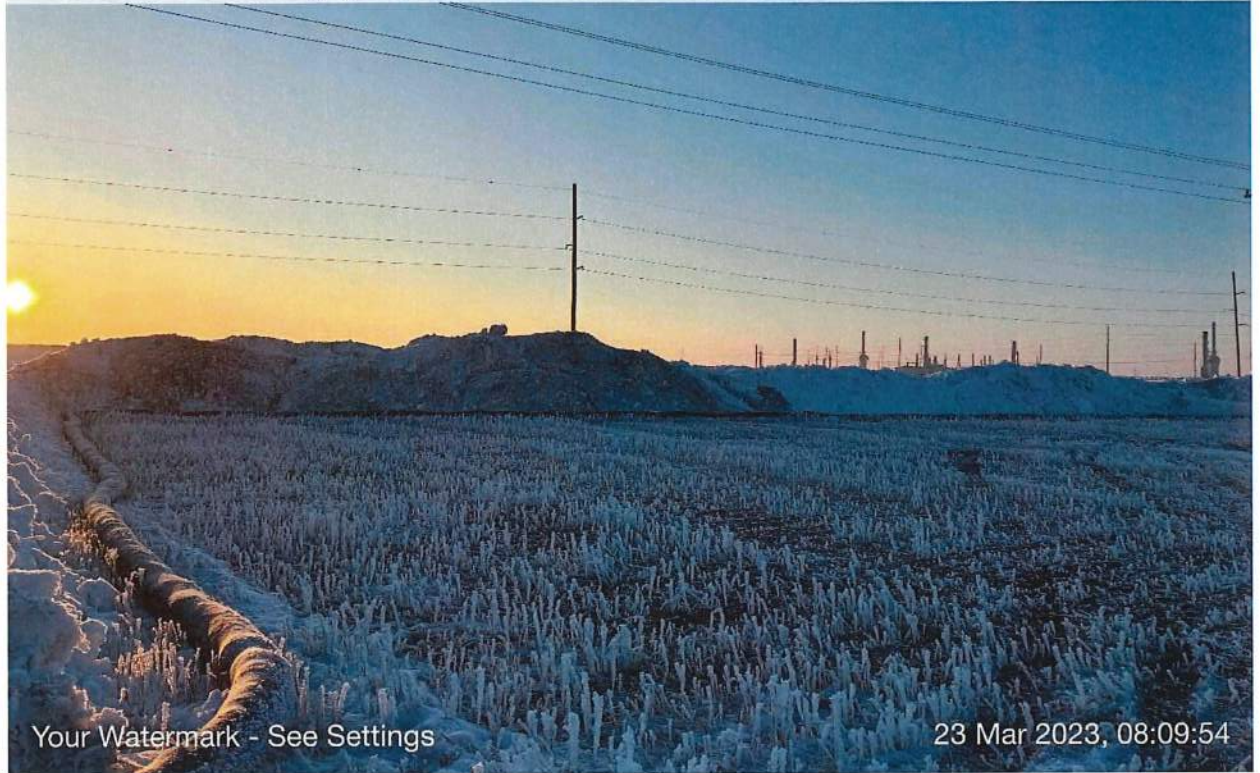


Your Watermark - See Settings

23 Mar 2023, 08:08:47



🌐 118°SE (T) 🌞 48°14'15"N, 103°57'2"W ±9ft ▲ 2388ft



Your Watermark - See Settings

23 Mar 2023, 08:09:54

P18



☉ 162°S (T) ☉ 48°14'15"N, 103°57'2"W ±9ft ▲ 2379ft



Your Watermark - See Settings

23 Mar 2023, 08:09:58

P19

SE 150 S 180 SW 210 240 W 270 300 NW

☉ 228°SW (T) ● 48°14'6"N, 103°57'2"W ±9ft ▲ 2362ft



Your Watermark - See Settings

23 Mar, 2023, 08:11:25

P20



☉ 176°S (T) ☉ 48°14'6"N, 103°57'2"W ±9ft ▲ 2361ft



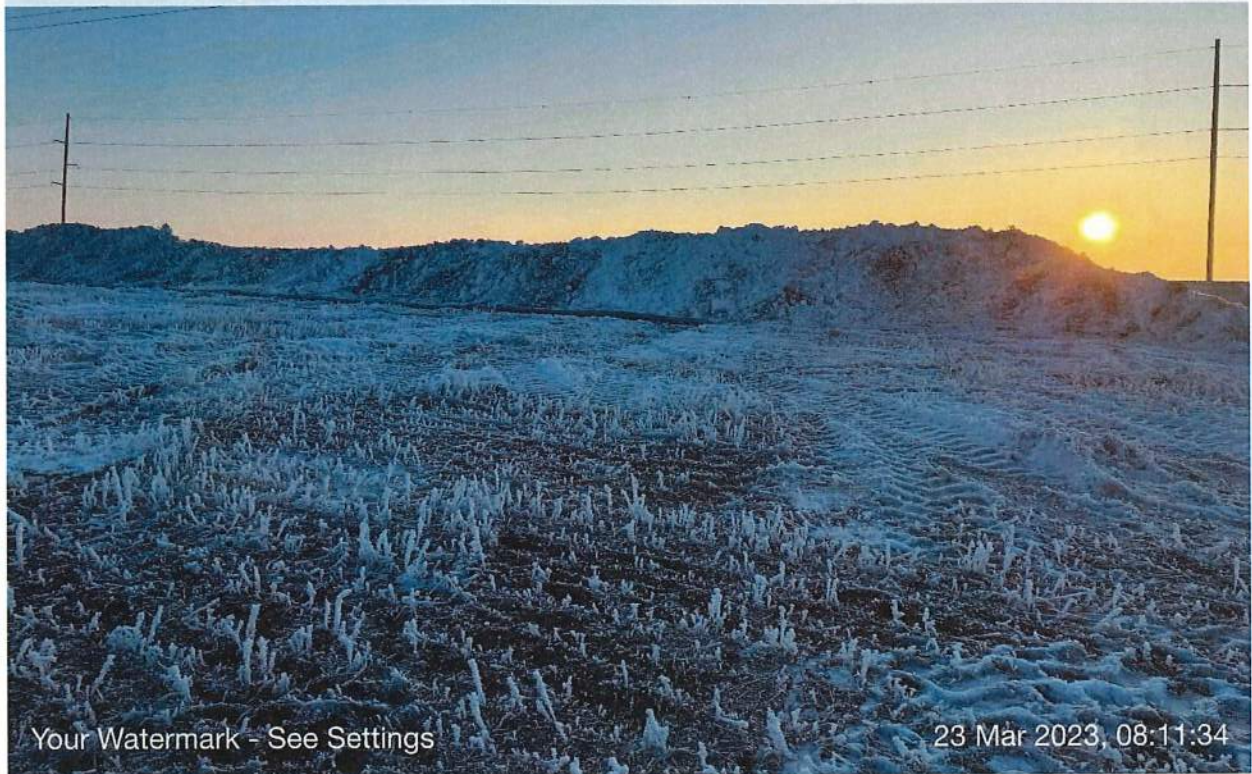
Your Watermark - See Settings

23 Mar 2023, 08:11:28

P21



☉ 73°E (T) ☉ 48°14'6"N, 103°57'2"W ±13ft ▲ 2361ft



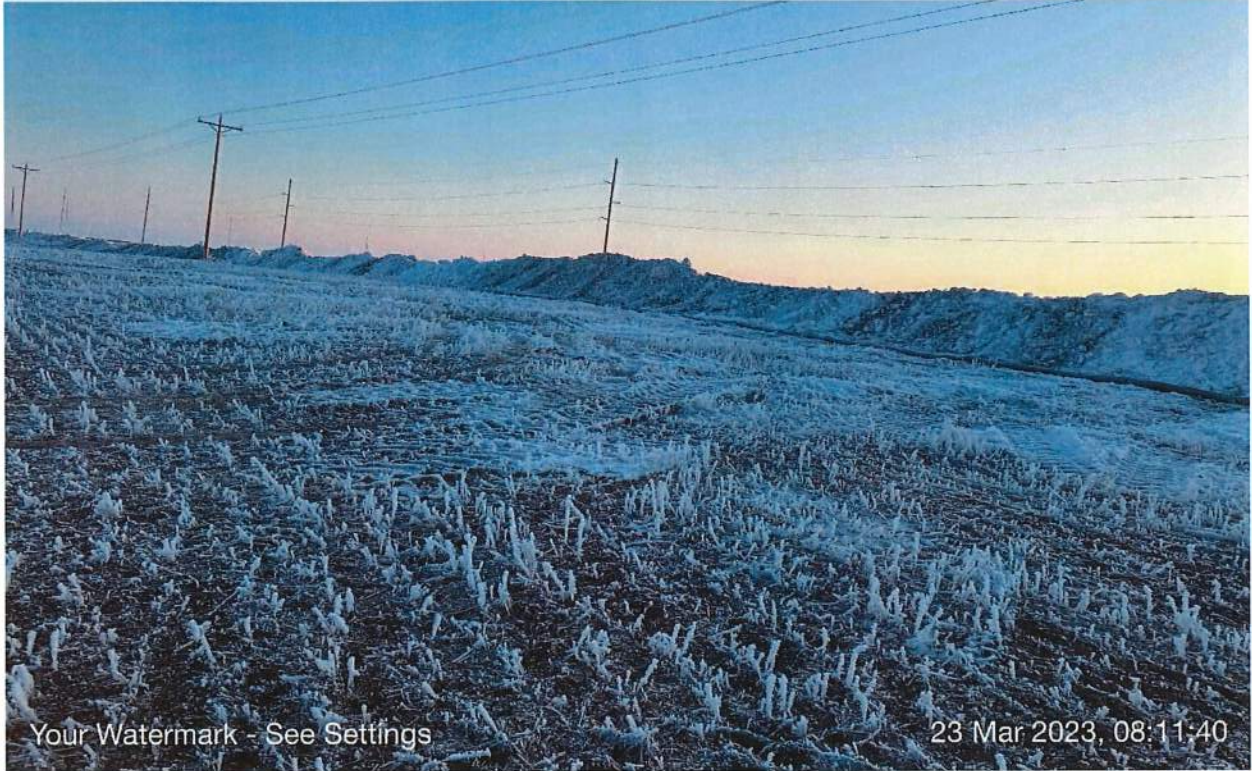
Your Watermark - See Settings

23 Mar 2023, 08:11:34

P22



☉ 35°NE (T) ● 48°14'6"N, 103°57'2"W ±13ft ▲ 2362ft



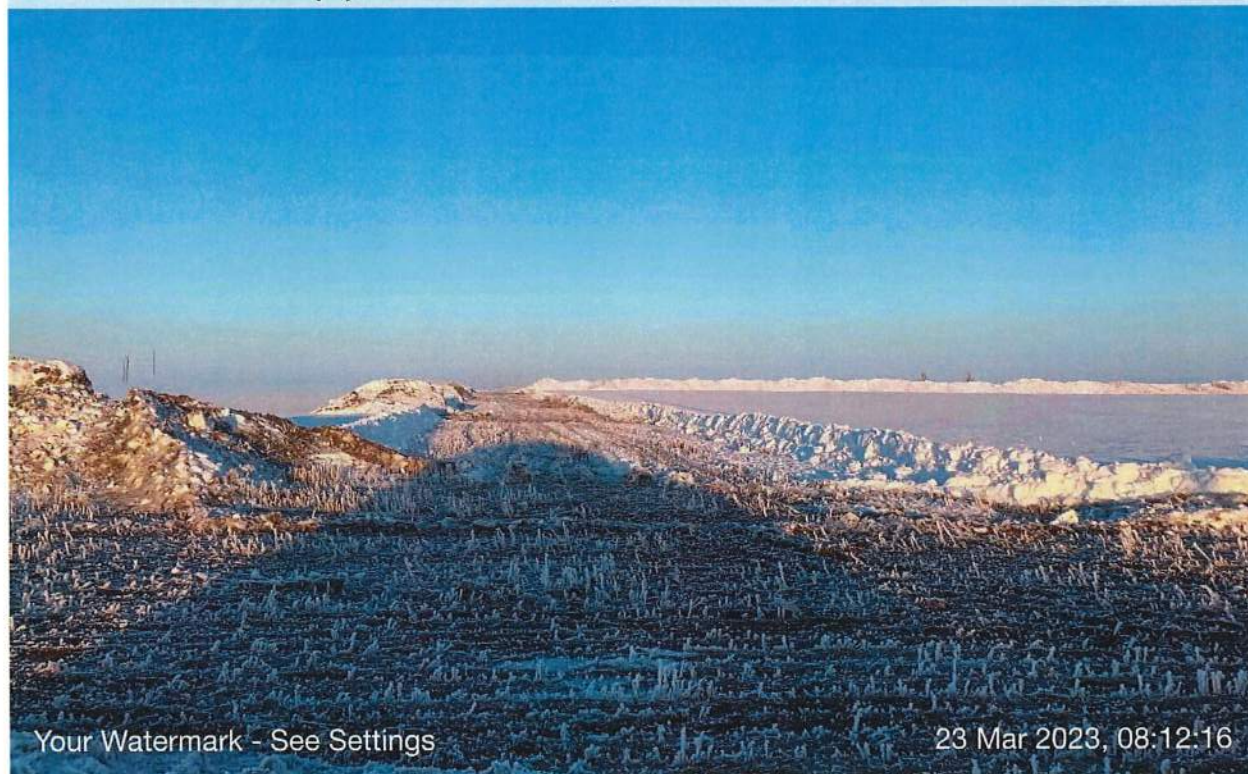
Your Watermark - See Settings

23 Mar 2023, 08:11:40

P23



☉ 281°W (T) ● 48°14'8"N, 103°57'2"W ±13ft ▲ 2367ft



P24



☉ 269°W (T) ☉ 48°14'8"N, 103°57'11"W ±13ft ▲ 2377ft



Your Watermark - See Settings

23 Mar 2023 08:13:36

P25





☀ 317°NW (T) ● 48°14'9"N, 103°57'15"W ±13ft ▲ 2374ft



Your Watermark - See Settings

23 Mar 2023, 08:15:06

P27



☀ 295°NW (T) ● 48°14'13"N, 103°57'11"W ±19ft ▲ 2369ft



Your Watermark - See Settings

23 Mar 2023, 08:34:29

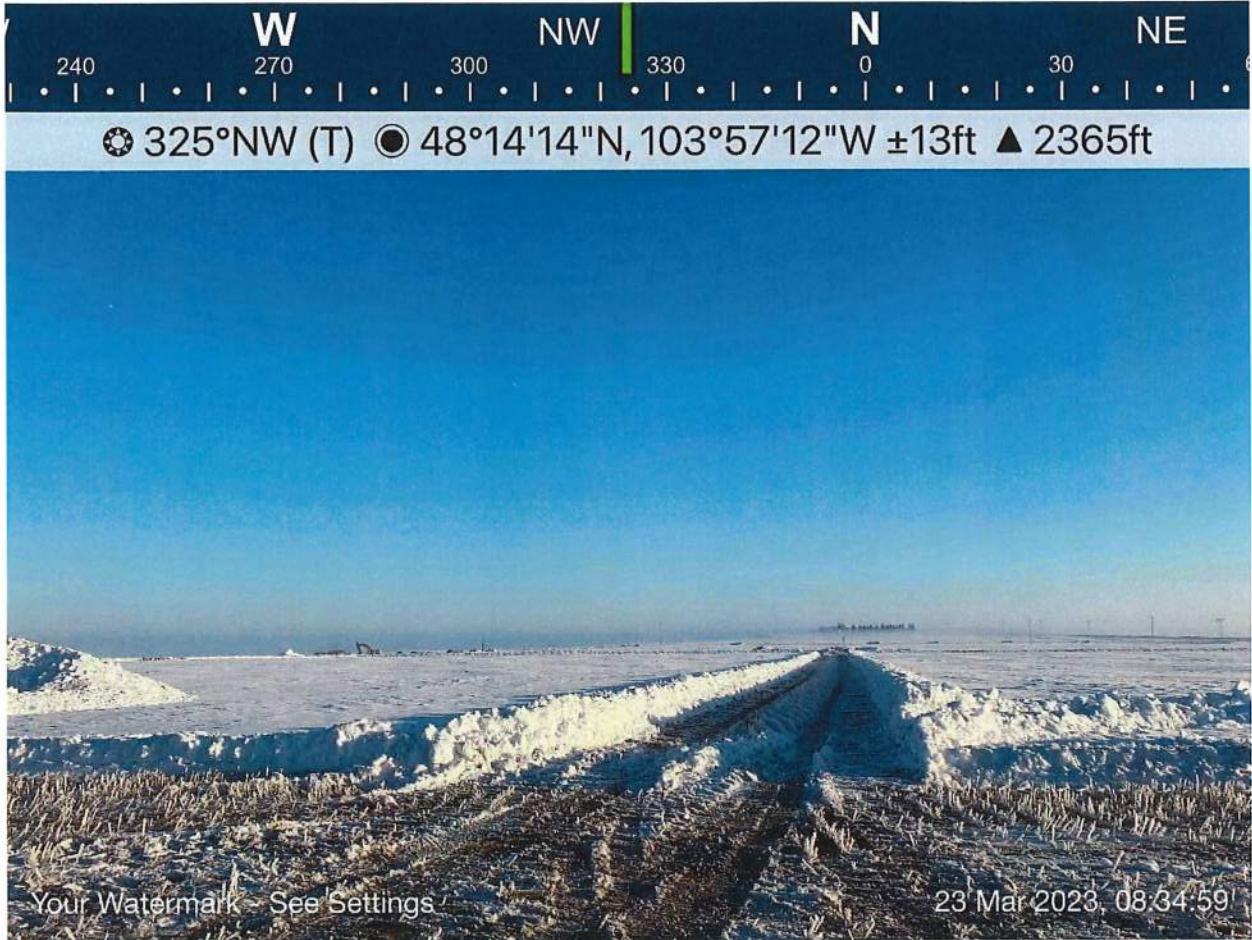


☉ 234°SW (T) ● 48°14'13"N, 103°57'11"W ±9ft ▲ 2364ft



Your Watermark - See Settings

23 Mar 2023, 08:34:33



P30

SW 240 W 270 NW 300 330 N 0 30

☉ 308°NW (T) ☉ 48°14'11"N, 103°57'13"W ±13ft ▲ 2367ft



P31



☉ 322°NW (T) ☉ 48°14'11"N, 103°57'13"W ±13ft ▲ 2371ft



Your Watermark - See Settings

23 Mar 2023 08:48:25



📍 204°SW (T) 📍 48°14'12"N, 103°57'13"W ±13ft ▲ 2375ft



Your Watermark See Settings

23 Mar 2023, 08:50:36



☉ 208°SW (T) ● 48°14'12"N, 103°57'15"W ±9ft ▲ 2371ft





☉ 256°W (T) ☉ 48°14'12"N, 103°57'15"W ±9ft ▲ 2370ft



Your Watermark - See Settings

23 Mar 2023, 11:06:06



P36



☉ 132°SE (T) ● 48°14'13"N, 103°57'15"W ±9ft ▲ 2370ft



P37



☉ 219°SW (T) ● 48°14'12"N, 103°57'14"W ±13ft ▲ 2371ft



Your Watermark - See Settings

23 Mar 2023 11:19:02



☉ 124°SE (T) ☉ 48°14'12"N, 103°57'14"W ±13ft ▲ 2370ft



P39

S 180 SW 210 240 W 270 NW 300

☀ 249°W (T) ☉ 48°14'12"N, 103°57'14"W ±9ft ▲ 2367ft





☉ 246°SW (T) ☉ 48°14'12"N, 103°57'14"W ±9ft ▲ 2369ft



P41



☉ 248°SW (T) ☉ 48°14'12"N, 103°57'14"W ±9ft ▲ 2369ft





☉ 251°W (T) ☉ 48°14'12"N, 103°57'13"W ±16ft ▲ 2330ft



S 180 SW 210 240 W 270 NW 300 330

☉ 263°W (T) ☉ 48°14'12"N, 103°57'13"W ±13ft ▲ 2368ft



Your Watermark - See Settings

23 Mar 2023, 11:25:06



📍 172°S (T) 📍 48°14'13"N, 103°57'15"W ±9ft ▲ 2370ft



SE 150 S 180 SV 210 240 W 270 300 NW

☉ 228°SW (T) ☉ 48°14'13"N, 103°57'15"W ±13ft ▲ 2368ft



Your Watermark - See Settings

23 Mar 2025 11:33:12



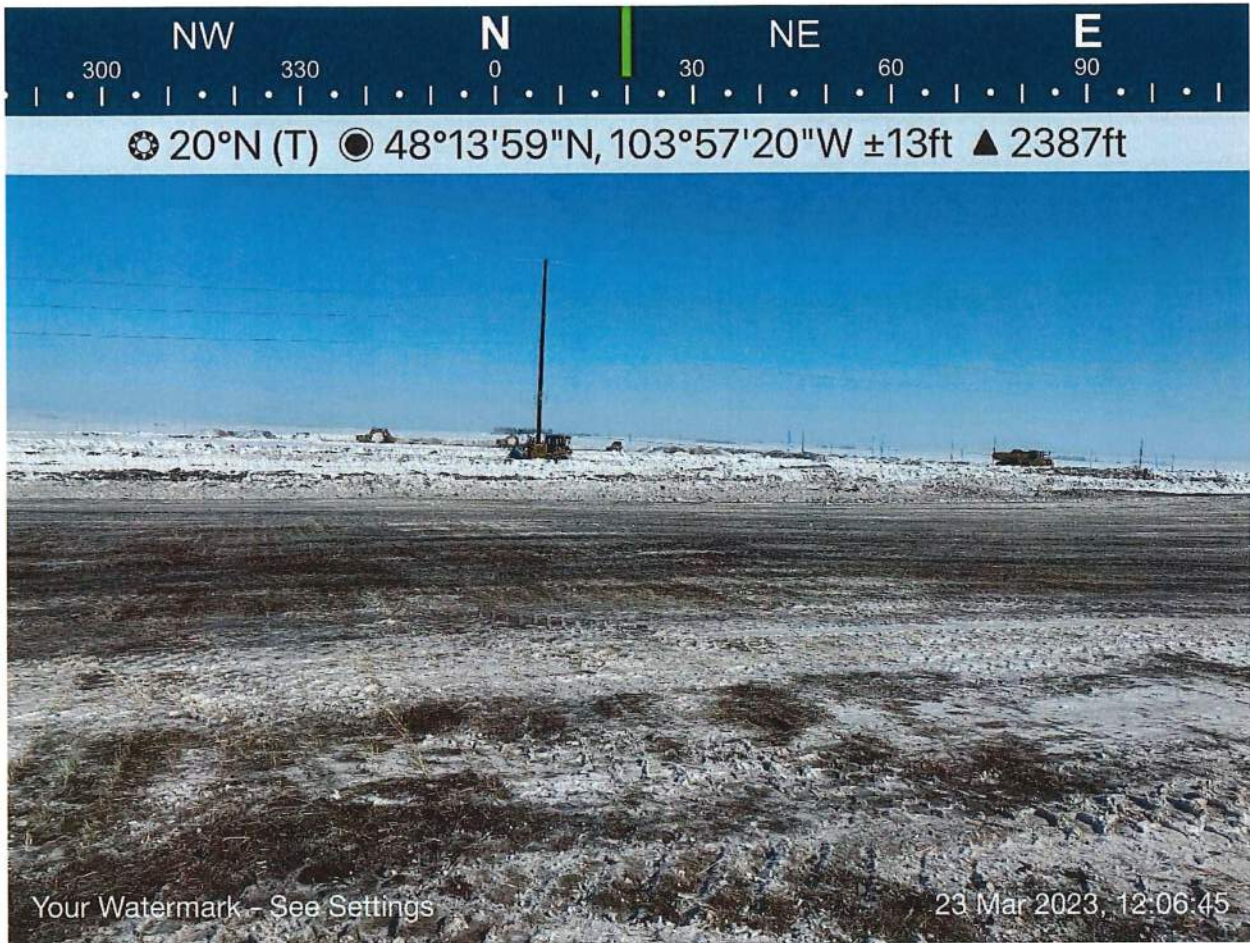
☉ 80°E (T) ☉ 48°13'59"N, 103°57'20"W ±39ft ▲ 2386ft



Your Watermark - See Settings

23 Mar 2023, 12:06:41

P47



P48



☉ 331°NW (T) ☉ 48°13'59"N, 103°57'20"W ±13ft ▲ 2389ft



Your Watermark - See Settings

23 Mar 2023, 12:06:49

P49



P50

NW N NE E SE  
330 0 30 60 90 120

☉ 43°NE (T) ● 48°13'59"N, 103°57'22"W ±13ft ▲ 2381ft



Your Watermark - See Settings

23 Mar 2023 12:07:11

P51



☉ 340°N (T) ☉ 48°13'59"N, 103°57'20"W ±13ft ▲ 2392ft



Your Watermark - See Settings

23 Mar 2023, 12:07:53

P52



📍 320°NW (T) 📍 48°14'10"N, 103°57'13"W ±9ft ▲ 2375ft



P53



☉ 278°W (T) ☉ 48°14'10"N, 103°57'13"W ±13ft ▲ 2373ft



P54



S

180

SW

210

240

W

270

NW

300

330

☉ 257°W (T) ☉ 48°14'11"N, 103°57'14"W ±9ft ▲ 2373ft

Your Watermark - See Settings

23 Mar 2023 12:11:36

P55



P56



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We're confident in our ability to balance these requirements.

