Bill Sanderson Residue and NGL Pipelines Project

Topsoil Removal Inspection Report

Docket Number: PU-20-247

Prepared for North Dakota Public Service Commission

September 2020

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Topsoil Removal Inspection Report
Barr

Topsoil Removal Inspection Report

September 2020

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1 Executive Summary

The North Dakota Public Service Commission (PSC) retained Barr Engineering Co. (Barr) to complete site inspections for the construction of the Bill Sanderson Residue and Natural Gas Liquids (NGL) pipelines in Williams County, North Dakota (ND), construction by OE2 North LLC (OE2). The purpose of the inspections is to ensure the project is constructed in compliance with siting laws and rules and the applicable PSC Orders for the project.

A pre-construction conference call was held for the Project on 25 August 2020. Barr attended the call and reviewed project documents to become familiar with the Project and PSC Orders for the Project. Construction involving soil disturbance began 1 September 2020. Barr was to present to observe topsoil segregation by Jomax Construction Company, Inc. (Jomax) at the onset of the Project.

During the site inspection, topsoil segregation was observed by multiple operators as work started on one spread near the new Bill Sanderson Gas Plant site. Some subsoil disturbance was noted during topsoil removal but was immediately corrected by spotters and equipment operators. Barr observed that topsoil depth was shallow in places on the ROW and recommended that spotters and equipment operators use care during continuing topsoil removal.

2 Background and Scope

2.1 Introduction

The Bill Sanderson 8-inch NGL and 20-inch Residue Gas pipelines will be two pipelines originating at the Bill Sanderson Gas Processing Plant located in Section 27, Township 154 North, Range 104 West. The pipelines will be collocated for the first mile east of the plant, where the 8-inch NGL pipeline will terminate at an interconnection with an existing Oneok pipeline. The 20-inch residue pipeline will continue south for an additional 3.39 miles to a tie-in point with an existing Northern Border pipeline. The pipelines will follow existing infrastructure for their entirety.

The pipe for the Project is designed to carry up to 250 million cubic feet per day (MMCFD) of residue gas and 80,000 barrels per day (BPD) of NGL. The maximum allowable operating pressure for each pipeline will be 1,650 pounds per square inch gauge (psig), at a design temperature of 120 degrees Fahrenheit. The Project is under the jurisdiction of the North Dakota PSC, which issued its Findings of Fact, Conclusions of Law, and Order in Case No. PU-20-247 on 26 August 2020, granting Certificates of Corridor Compatibility Nos. 218 and 219, and Route Permit Nos. 228 and 229 for the Project.

2.2 Regulatory Purpose and Need

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) charges the Public Service Commission with determining that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. Inspections during construction ensure that such projects are built in compliance with the siting laws (North Dakota Century Code Chapter 49-22) and rules (North Dakota Administrative Code Article 69-06) and the applicable Commission Orders.

2.3 Scope of Work

The North Dakota Public Service Commission retained Barr Engineering Co. to perform topsoil removal inspections of the Project. Barr's scope of work was to complete and document an on-site topsoil removal inspection at the onset of the construction phase of the project to determine that topsoil has been properly removed and segregated and that the contractor demonstrated proficiency in topsoil removal and segregation in compliance with the Commission's Order. This report contains site visit observations and a summary of findings and issues that should be addressed for the Project to be considered complete and in full compliance.

3 Findings of Site Inspection

3.1 Methods

Andrew Unbehaun, Project Manager/Field Inspector for Barr visited the Project site on 1 September 2020 to witness topsoil removal and segregation at the start of construction on the Project. Representative for Palmer Consulting and Inspection (Palmer) Andrew Polk accompanied Barr staff on the visit. Palmer oversees daily work by construction contractors to ensure the work is being completed according to applicable codes and approved work plans and procedures.

The site was visually inspected by driving to the equipment staging area then walking the portion of the Project right-of-way (ROW) that was to be cleared first. Jomax Construction Company, Inc. (Jomax) is the contractor constructing the pipeline for OE2. Contractor equipment operators and spotters were observed during topsoil removal to check that topsoil was properly removed and segregated during the start of the construction process. Digital photographs were taken at observation points showing typical soil removal or potential problem areas. Geographic coordinates were recorded at observation points using a handheld Global Navigation Satellite System (GLONASS) device (iPad Air 3rd Generation; <5m accuracy; WGS84 datum).

3.2 On-Site Inspection Observations

Mr. Unbehaun met with Palmer inspector Andrew Polk at the Jomax construction trailer at the Bill Sanderson Gas Processing Plant construction site. Mr. Polk and Mr. Unbehaun then proceeded to the Project construction area. Once access points had been established, equipment operators for Jomax began stripping topsoil from the location of the 8" NGL tie-in to the existing ONEOK pipeline west toward the Bill Sanderson Gas Processing Plant site. Operators and spotters were observed to maintain close surveillance of topsoil depth and changes as topsoil was scraped by bulldozers. In two locations, it was observed that shallow topsoil led to scraping small amounts of subsoil (Appendix A, Maps 1,3, and 4). The subsoil disturbance was immediately identified by the operators and spotters and topsoil removal depth was adjusted to prevent further subsoil inclusion in topsoil removal. Once bulldozers had removed most of the topsoil, a grader was used to gather the remaining topsoil and segregate it with the topsoil removed by the bulldozers. Observations were made that wetlands and other environmentally sensitive areas were clearly marked and topsoil removal stopped at the markers to mitigate against impacts from construction. See Appendix A, Observation Maps 1-9 for photographs and descriptions of topsoil removal.

The contractors demonstrated proficiency in removing and segregating topsoil at the start of Project construction. Palmer inspectors appeared to have a strong relationship with the contractor and were involved in ensuring soil was segregated and stored properly. Work areas visited during the inspection were kept free of debris and waste, and movement of vehicles was kept within ROW boundaries.

4 Issues to Resolve and Recommendations

Issues	Recommendations
Minor disturbance of subsoil during topsoil removal	Continue to utilize spotters and ensure operators are focusing on maintaining equipment blades at topsoil depth as removal continues.

5 Signatures

The services performed by Barr staff for this project have been conducted in a manner consistent with the technical skill and degree of care exercised by professionals currently practicing in this discipline under similar time and budget constraints. Findings and recommendations represent our professional judgement and are based on available information and accepted practices. No warranty is implied or expressed beyond this.

Andrew Unbehaun, Project Manager

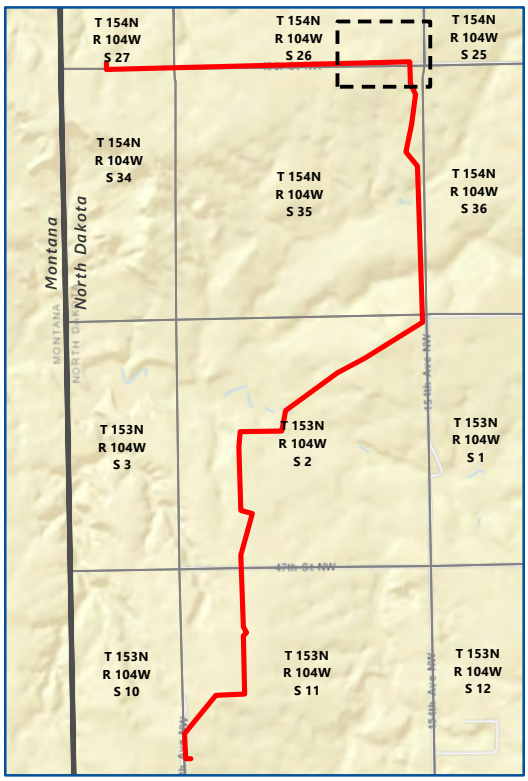
September 15, 2020

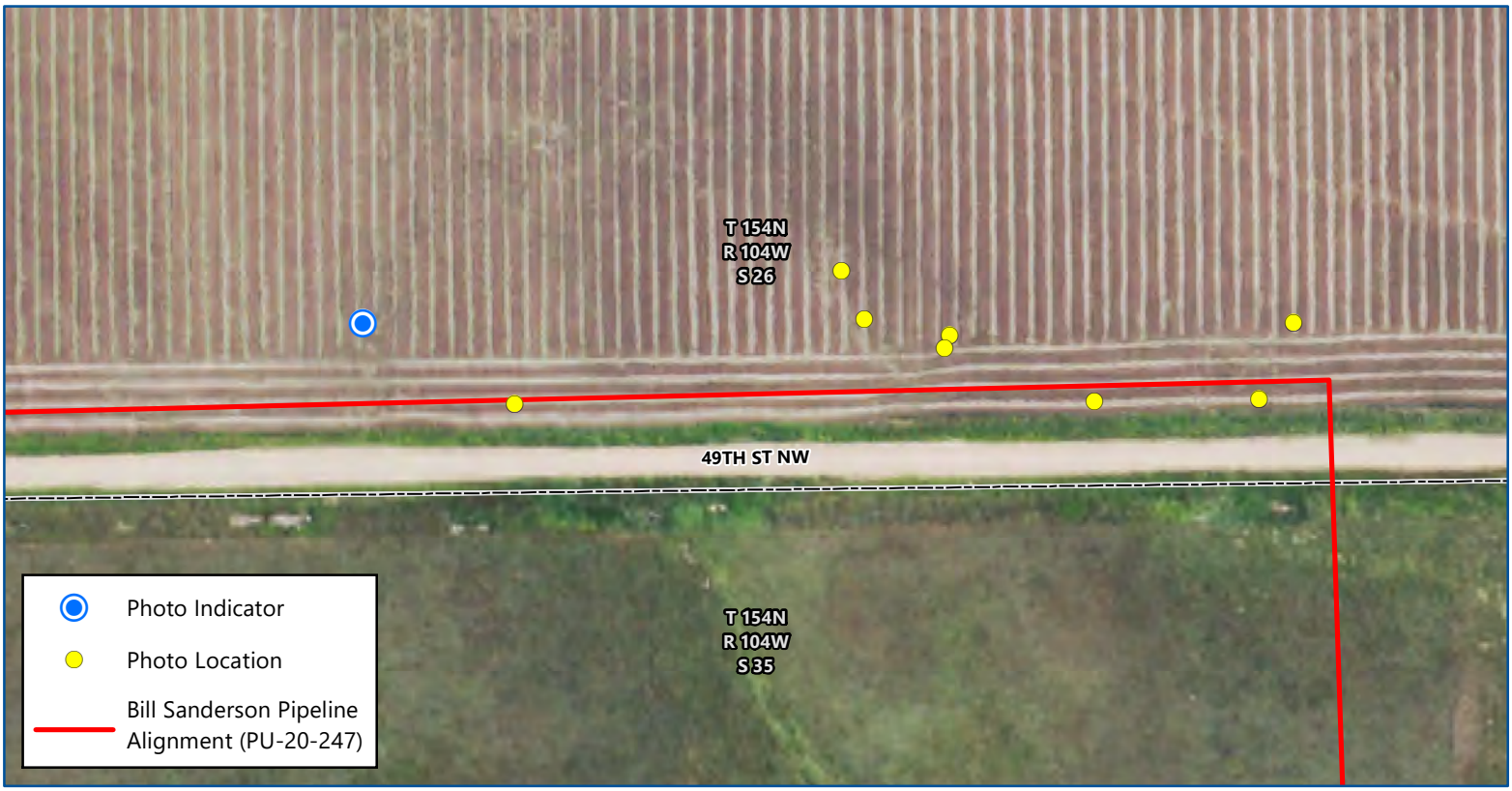
Date

Appendices

Appendix A

Photo Log and Observation Maps





Map 1 of 9

BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

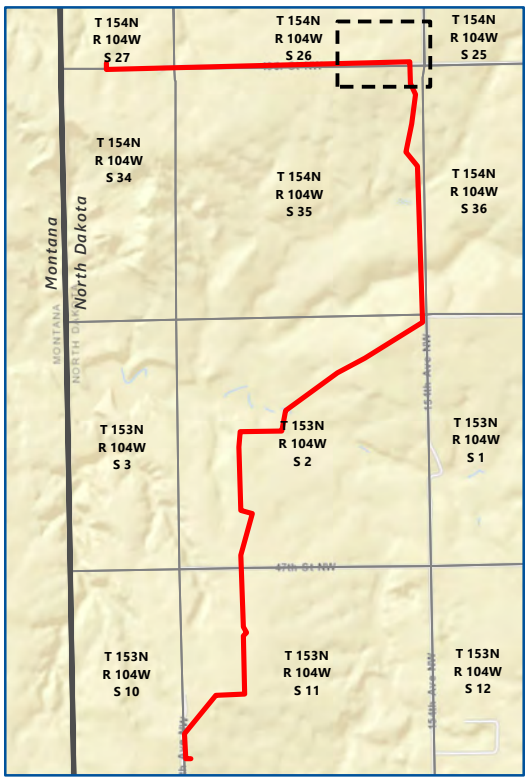
N

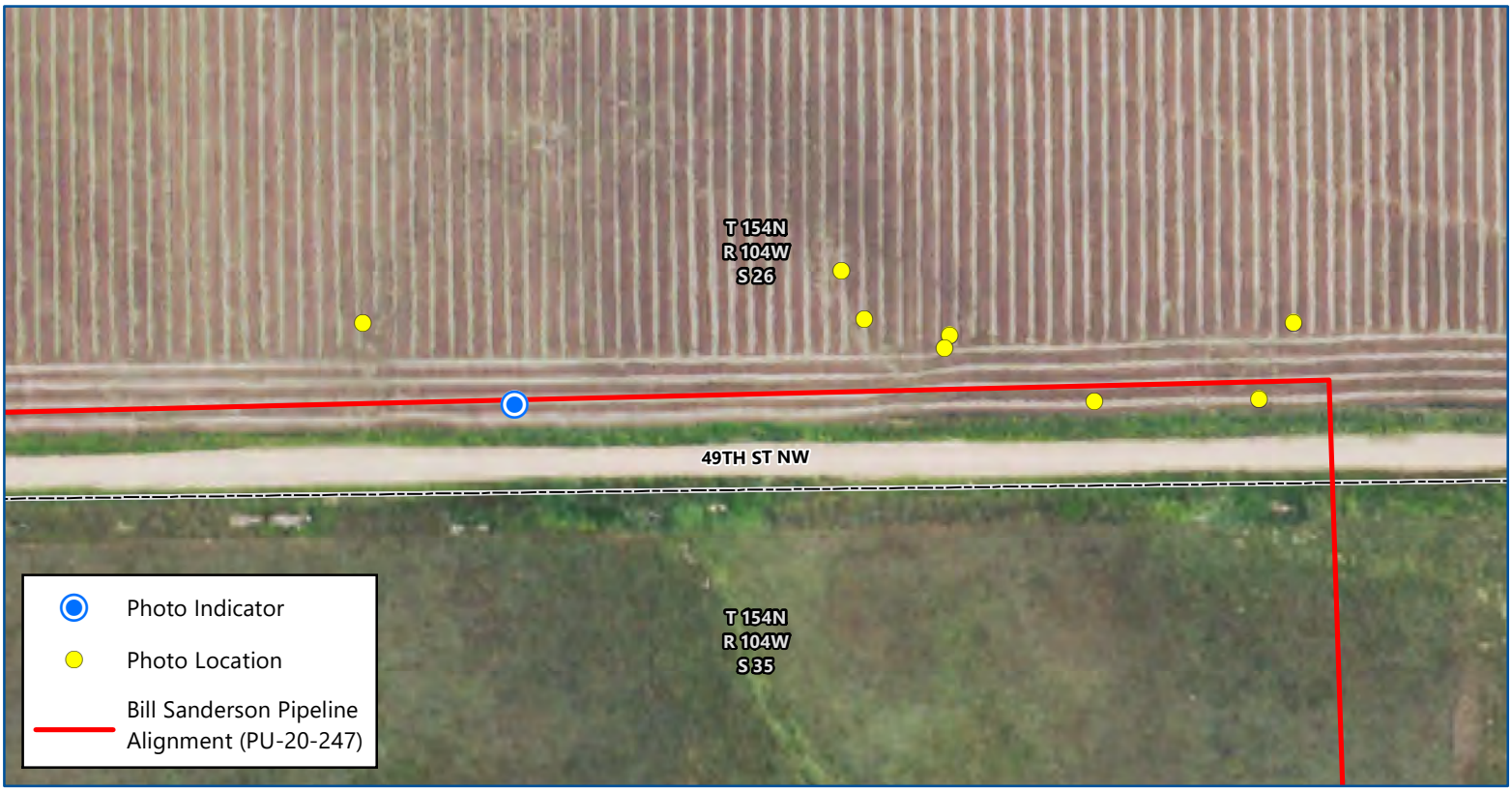
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: East
Comment: Minor subsoil disturbance visible.

Latitude: 48.126092
Longitude: -104.018372
Coordinates are in the WGS84 datum.





Map 2 of 9

BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

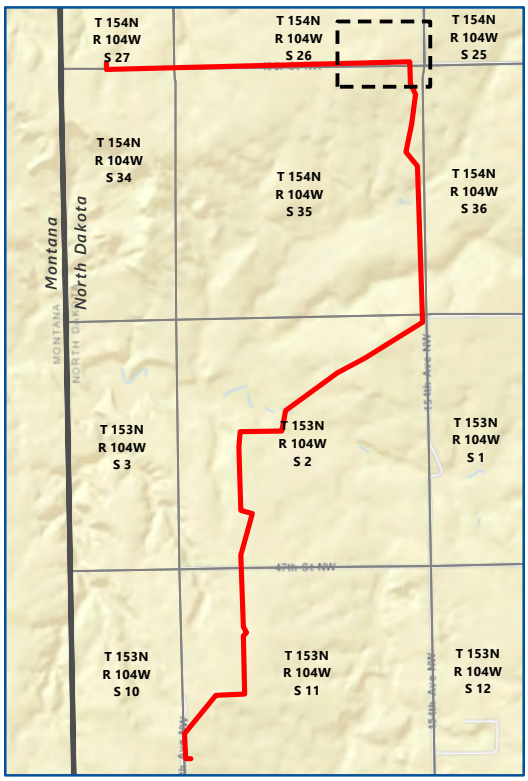
N

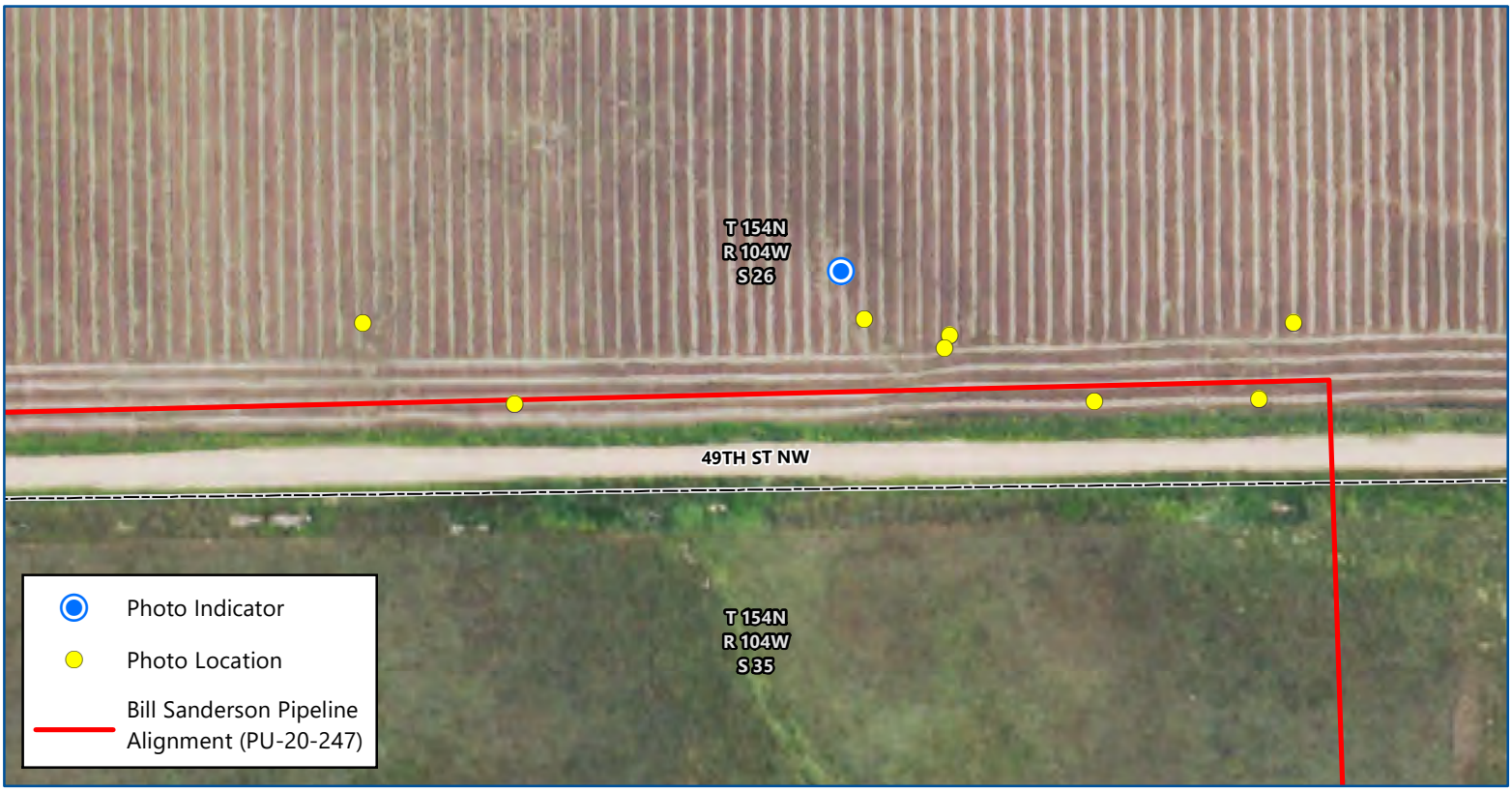
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: North
Comment: First pass of topsoil scrape.

Latitude: 48.125907
Longitude: -104.017874
Coordinates are in the WGS84 datum.





Map 3 of 9

BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

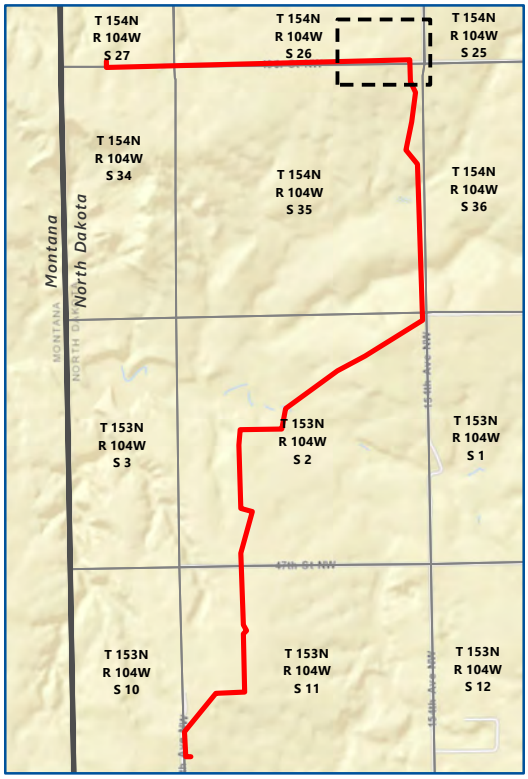
N

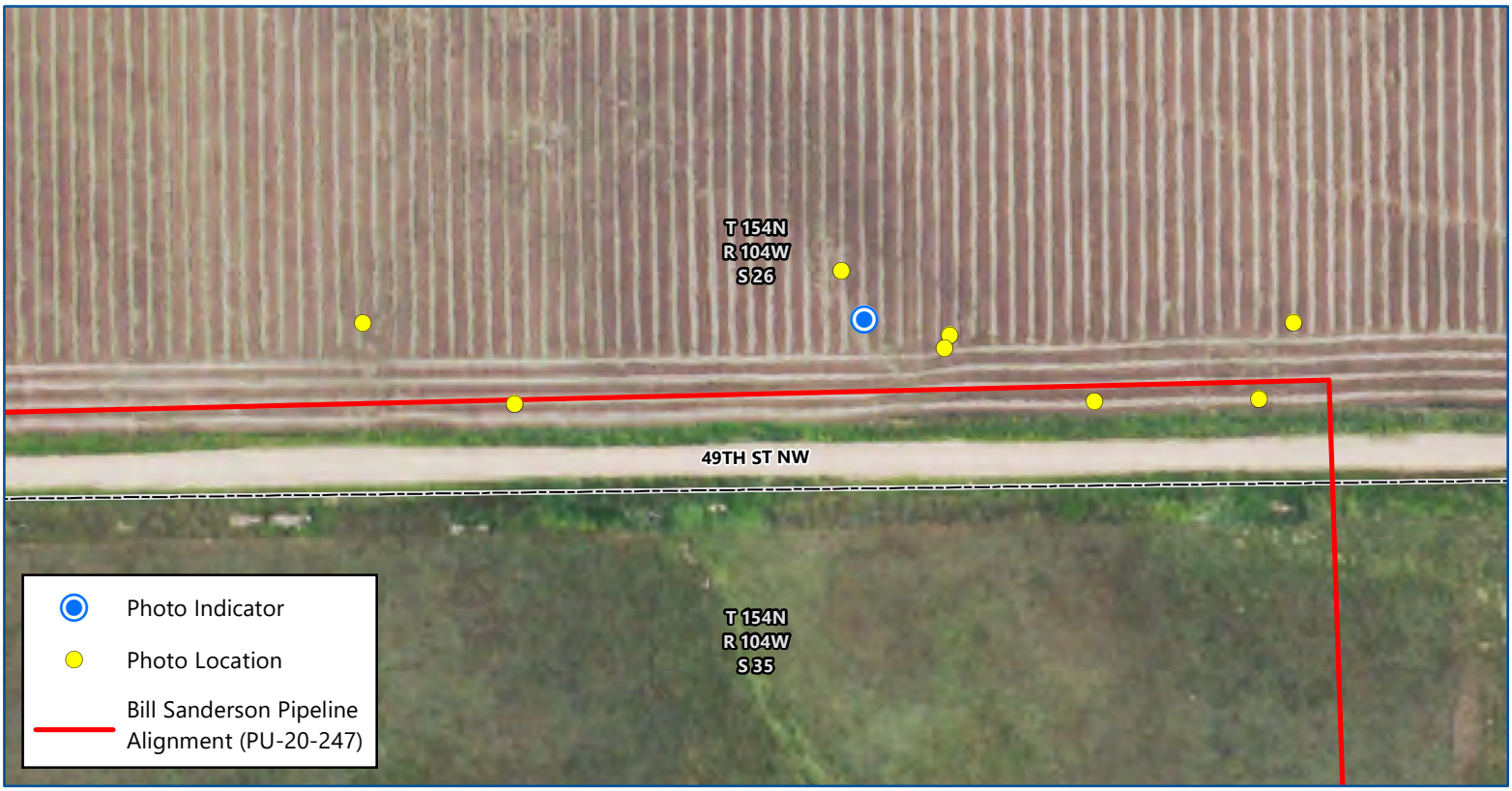
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: West
Comment: Minor disturbance of subsoil visible.

Latitude: 48.126194
Longitude: -104.016787
Coordinates are in the WGS84 datum.





Map 4 of 9

BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

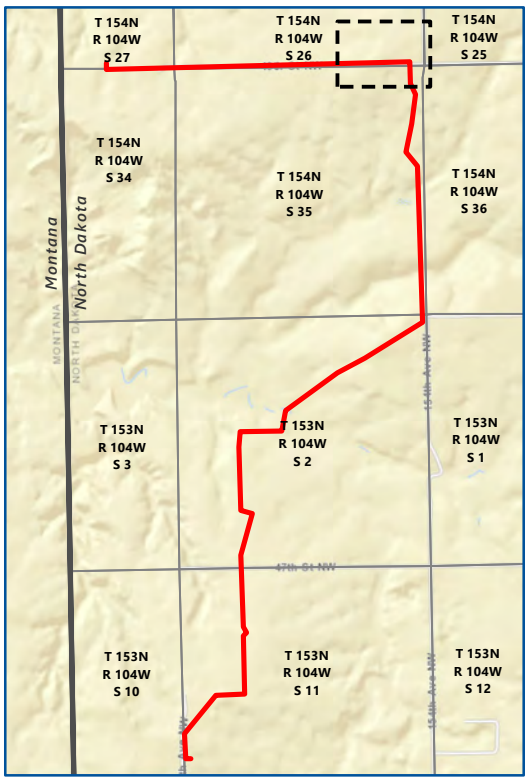
N

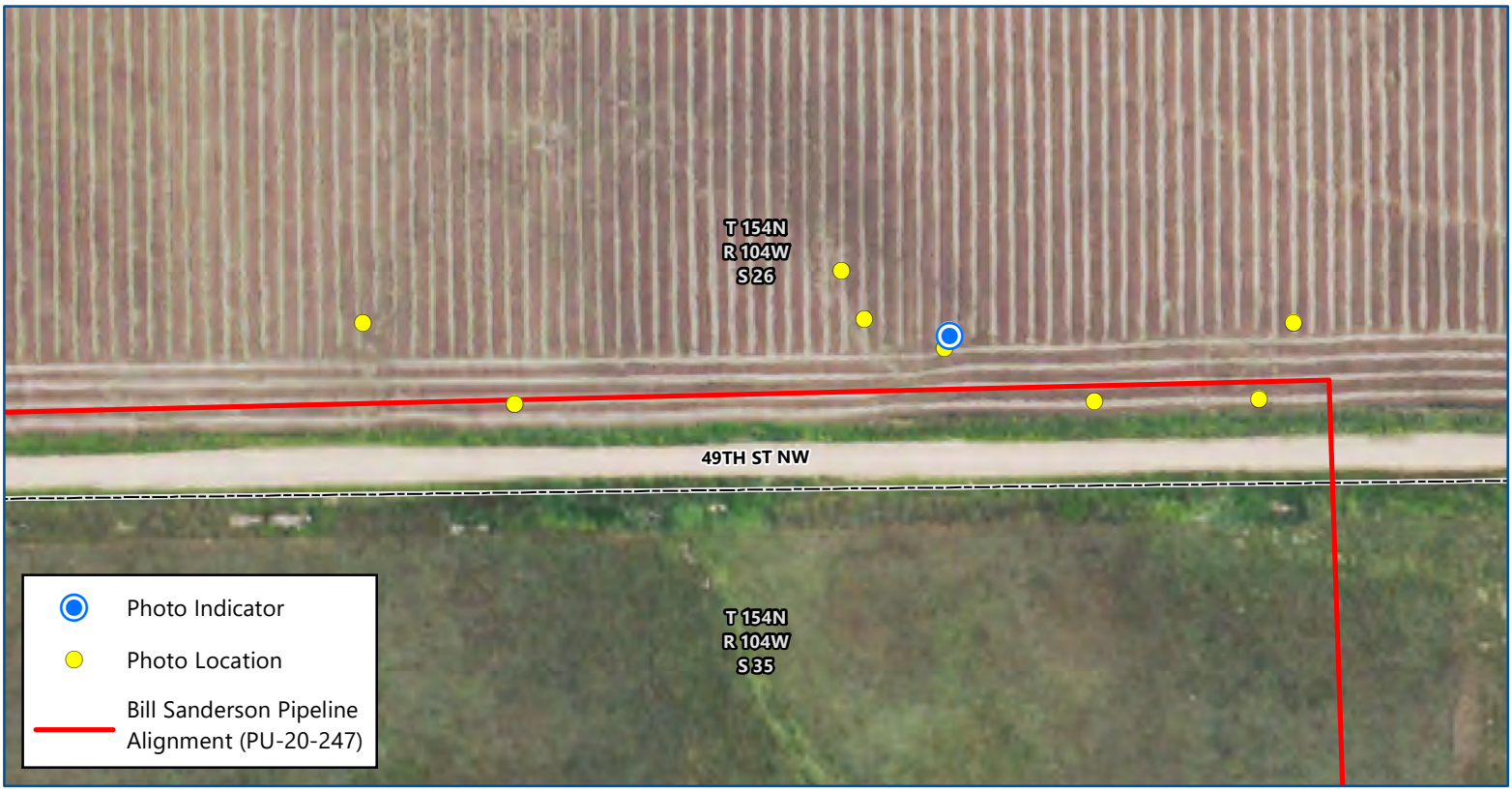
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: West
Comment: Minor disturbance of subsoil visible in two locations.

Latitude: 48.126086
Longitude: -104.016714
Coordinates are in the WGS84 datum.





Map 5 of 9

BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

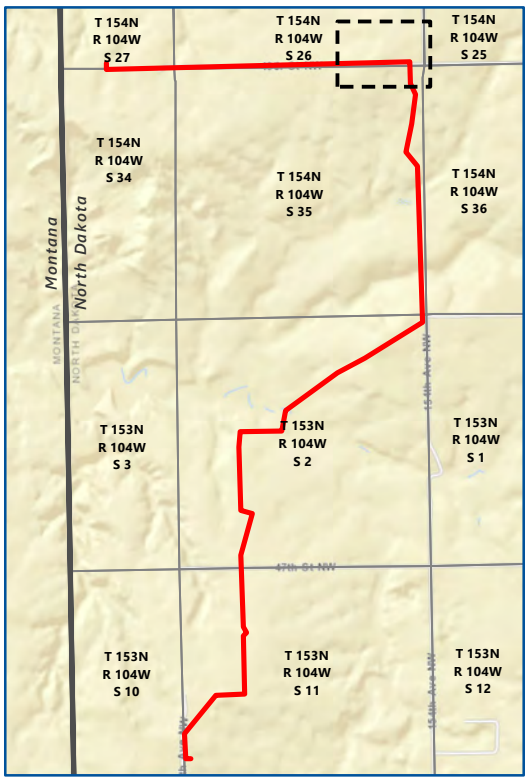
N

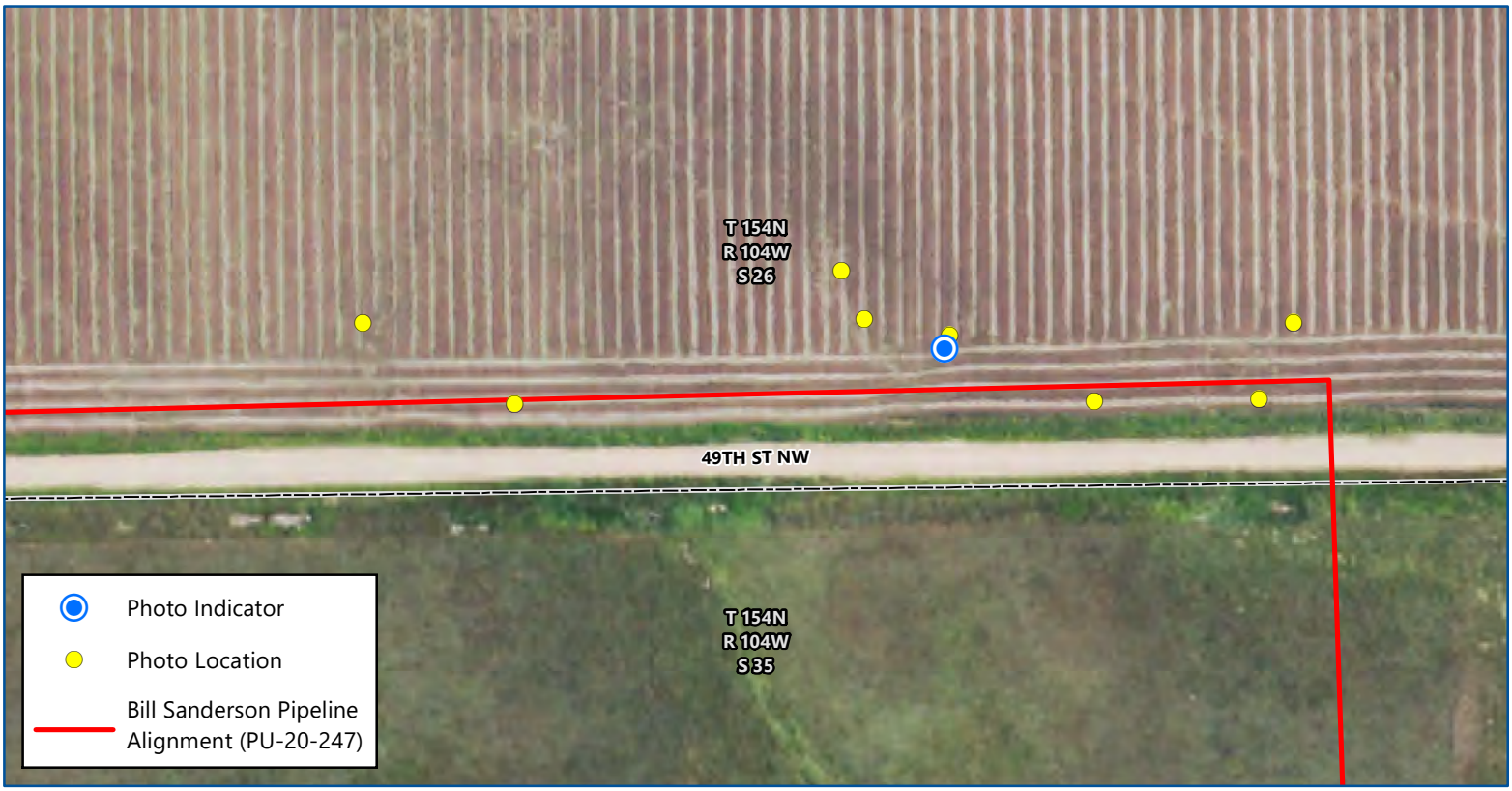
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: West
Comment: First scraping of topsoil on right of way.

Latitude: 48.126048
Longitude: -104.016433
Coordinates are in the WGS84 datum.





Map 6 of 9

BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

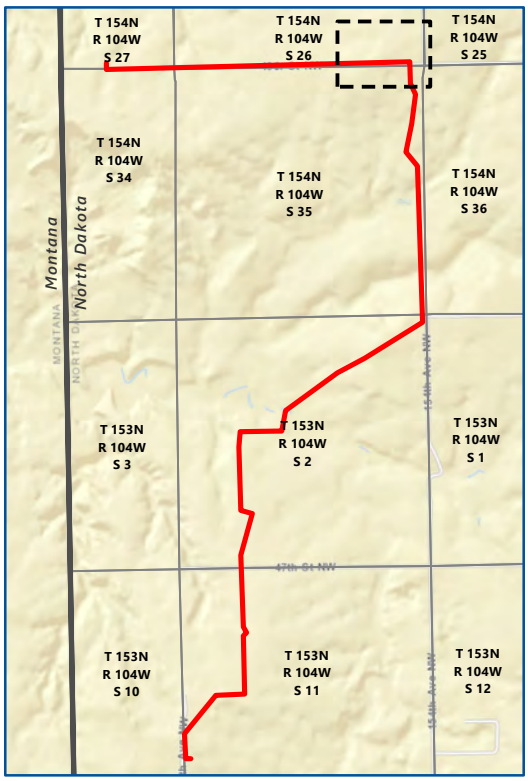
N

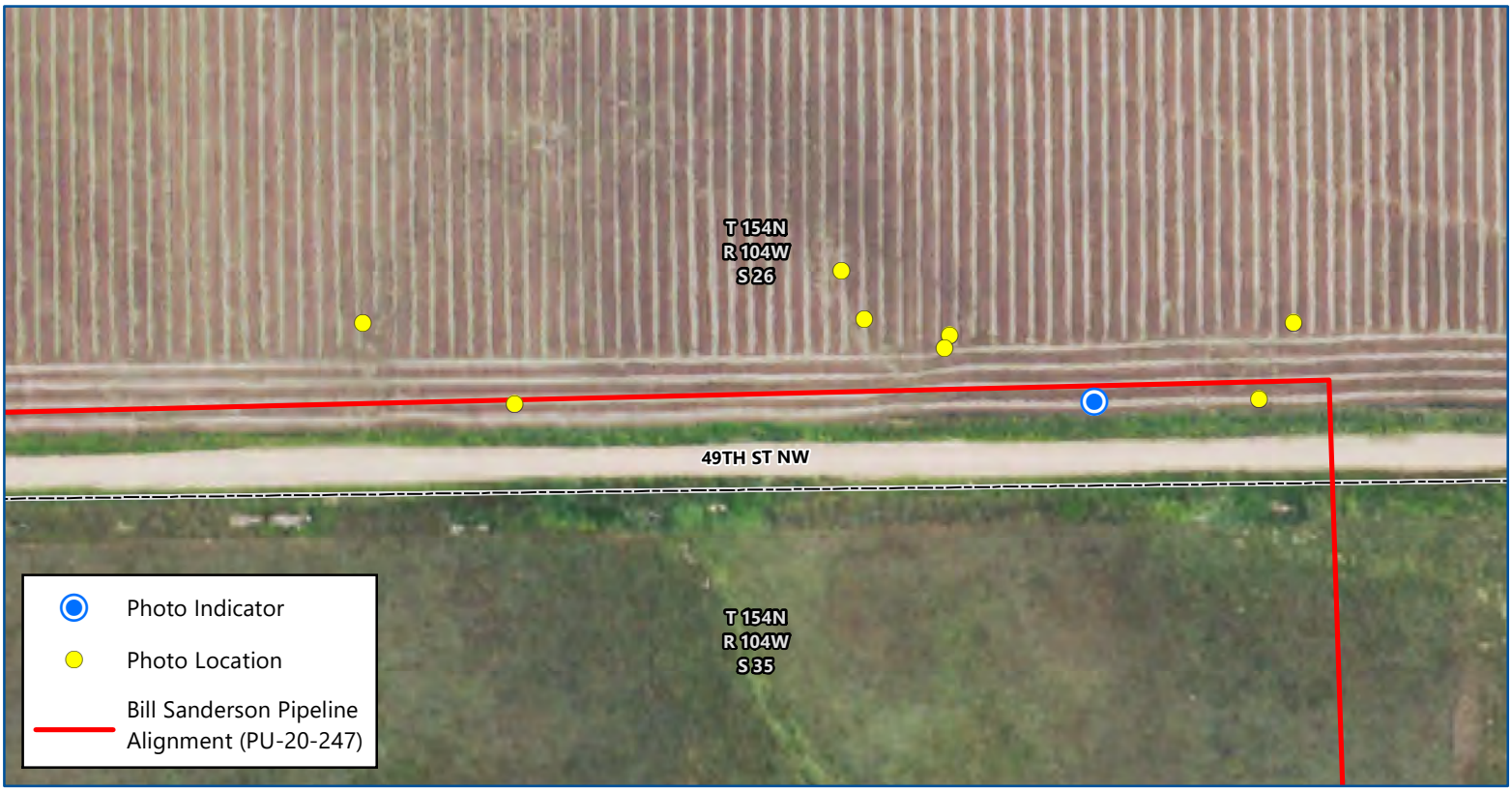
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: West
Comment: No visible soil mixing.

Latitude: 48.126019
Longitude: -104.016448
Coordinates are in the WGS84 datum.





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BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

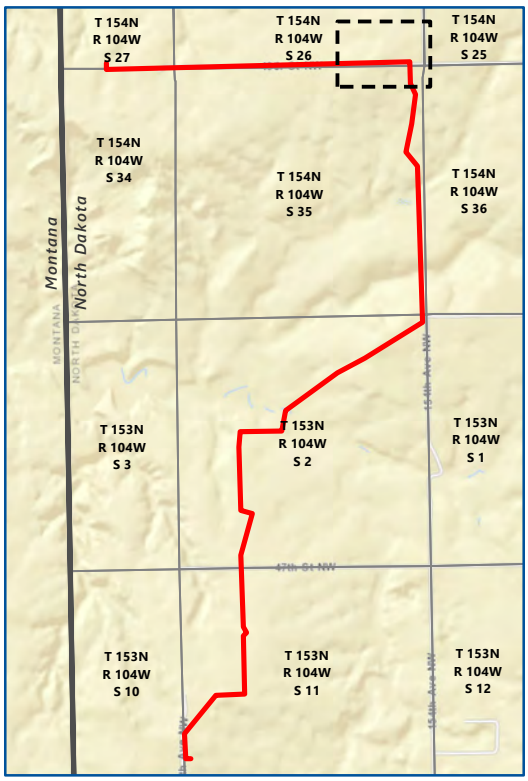
N

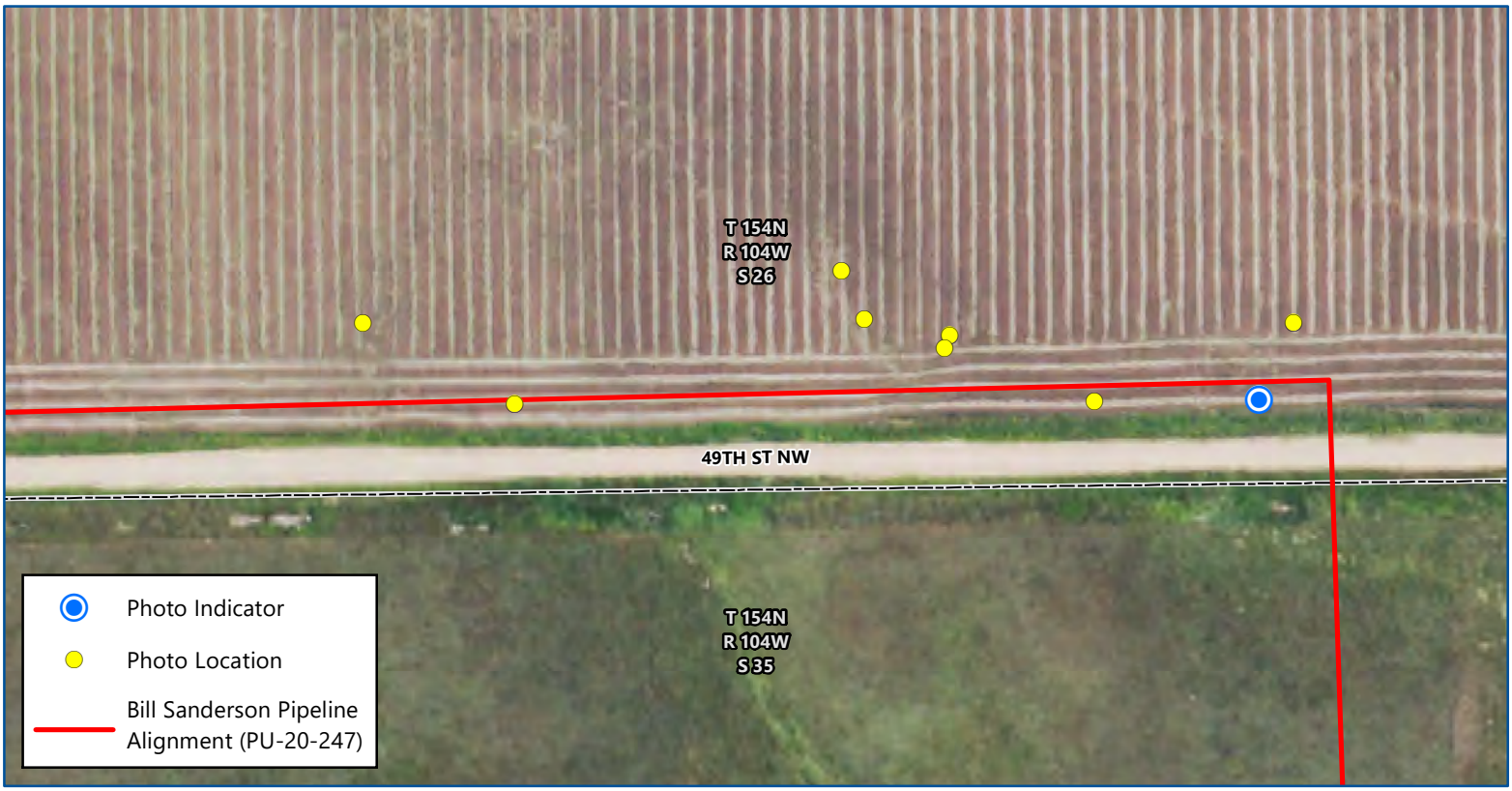
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: Northeast
Comment: Topsoil scraping and segregation. No visible soil mixing.

Latitude: 48.125897
Longitude: -104.015956
Coordinates are in the WGS84 datum.





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BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

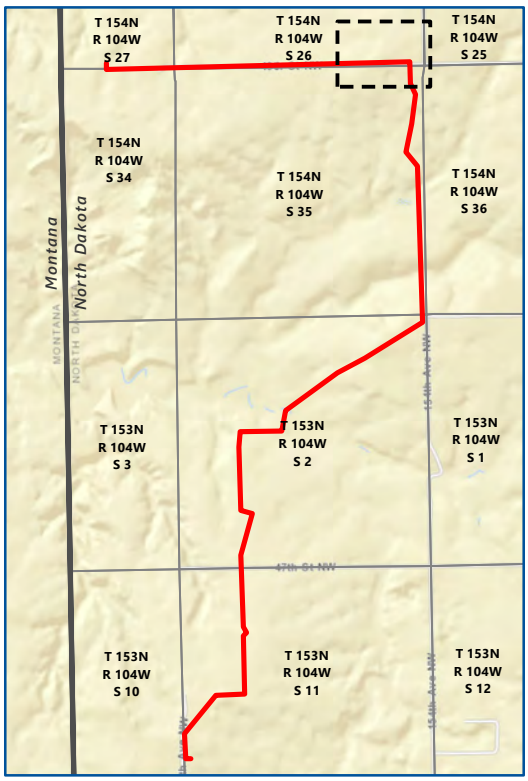
N

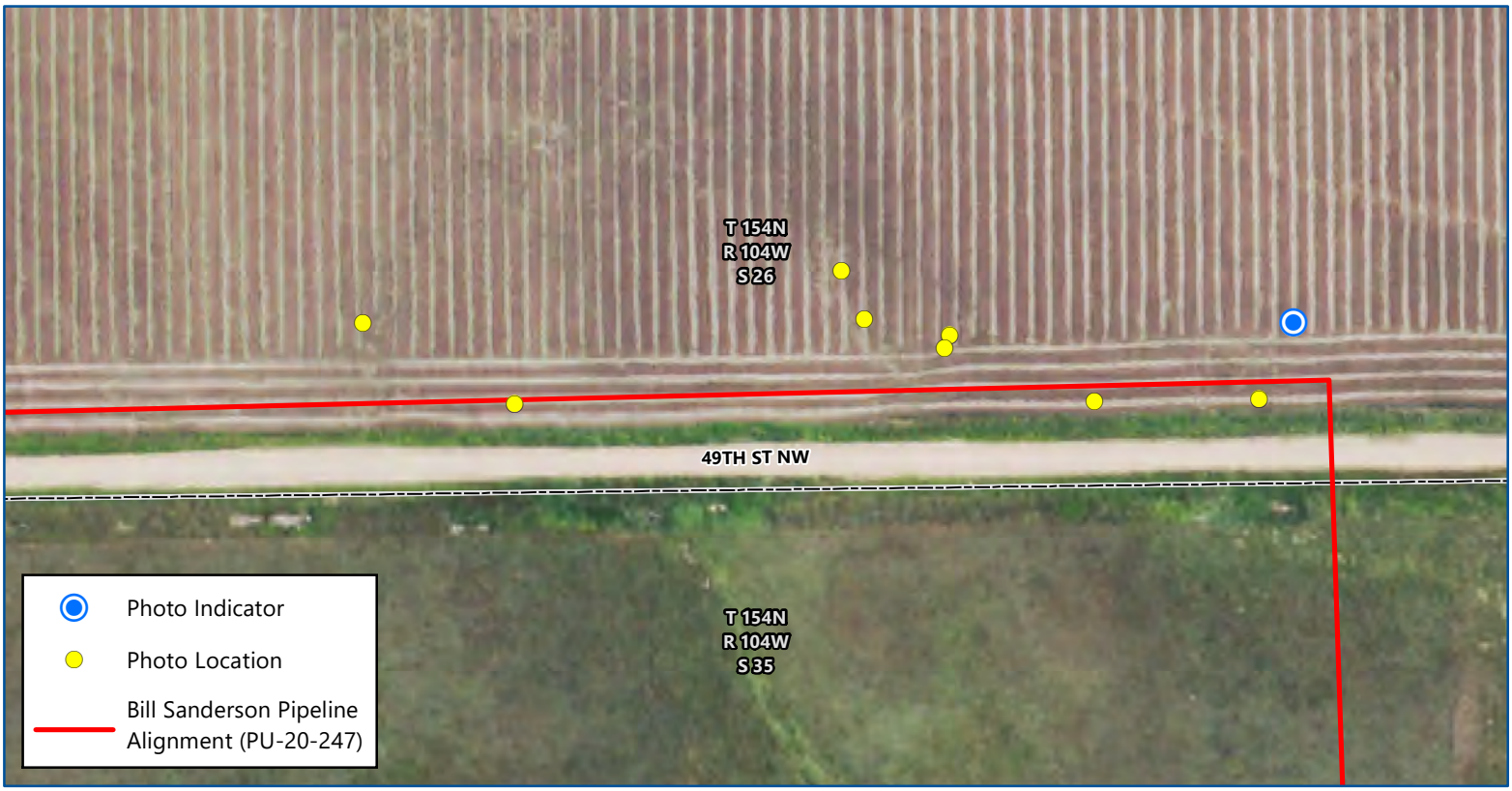
0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: East
Comment: First scrape of topsoil on south side of right of way.

Latitude: 48.125898
Longitude: -104.015412
Coordinates are in the WGS84 datum.





Map 9 of 9

BILL SANDERSON NGL PIPELINES
TOP SOIL SEGREGATION INSPECTION
PU-20-247

North Dakota Public Service Commission
Williams County, North Dakota

N

0 150
Feet

Imagery: USDA FSA (2019)

Date: 9/1/2020
Photo Direction: Southwest
Comment: Pre-construction existing conditions.

Latitude: 48.126067
Longitude: -104.015293
Coordinates are in the WGS84 datum.