ONEOK Cherry Creek Extension Pipeline Project
McKenzie County

Topsoil Inspection Report

Docket Number: PU-23-015

Prepared for North Dakota Public Service Commission

October 2023

Topsoil Inspection Report

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Contents

List of Appendices

1 Executive Summary

The North Dakota Public Service Commission (PSC) retained Meadowlark Environmental, LLC (Meadowlark) to complete topsoil inspection for the construction of the Cherry Creek Extension Pipeline Project in McKenzie County, North Dakota (ND), constructed by ONEOK Rockies Midstream, LLC (ONEOK). 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.

The topsoil inspection was conducted on 19 October 2023. The inspection occurred during the start of construction activities to observe the removal of topsoil and segregation from subsoil. Construction began on the south end of the Project and removal of topsoil along hillsides and flat ground was to observe and document that equipment operators demonstrated the necessary skill for proper topsoil removal and knowledge of topsoil removal and segregation requirements. No major issues were observed. Overall, equipment operators demonstrated the ability to remove topsoil until the color change between topsoil and subsoil appeared and properly segregated topsoil piles from the subsoil. Vegetation removal was consistent with the tree and shrub mitigation plan.

2 Background and Scope

2.1 Introduction

The Cherry Creek Extension Pipeline Project is being constructed by ONEOK to extend its existing 12-inch diameter NGL pipeline. The Project will originate at ONEOK's existing Lonesome Creek Gas Plant and terminate at the existing Antelope Creek Junction, where ONEOK will deliver NGLs into OBP's Demicks Lake Pipeline and/or OPB's Garden Creek 10-inch Pipeline.

The Lonesome Creek Gas Plant, where the Project originates, is located in Section 36, Township 150 North, Range 101 West. From there, the Project runs generally east and south through Sections 31 and 31, Township 150 North, Range 100 West, and Section 5, Township 149 North, Range 100 West. The Project terminates at the Antelope Creek Junction located in Section 8, Township 149 North, Range 100 West. The entire project is located in McKenzie County, North Dakota.

The Project is under the jurisdiction of the North Dakota Public Service Commission (PSC), which issued its Findings of Fact, Conclusions of Law, and Order on March 8, 2023 and issued the First Amended Certificate of Corridor Compatibility No. 203 and the First Amended Route Permit No. 213 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 Meadowlark to perform a topsoil inspection of the Project. Meadowlark's scope of work was to complete and document an on-site inspection during the start of construction to verify that topsoil was being removed and segregated from subsoil in compliance with the siting laws, rules, and applicable Commission Orders. This report contains site visit observations and a summary of findings and issues that should be addressed for the Project.

3 Findings of Site Inspection

3.1 Methods

Zach Peterson, Project Manager/Field Inspector for Meadowlark visited the Project site on October 19, 2023 to conduct the topsoil inspection. Representative for ONEOK Tyler Heistand, Construction Chief, accompanied Mr. Peterson. The inspection occurred between 1:00 and 3:30 PM. Construction activities for the Project were commencing for the Project at the time of the visit.

Mr. Peterson observed equipment operators removing topsoil along a hillside and flat hilltop to document that operators demonstrated the proper skill and techniques for removing topsoil and segregating the topsoil from any subsoil removed. The ability of operators to identify changes in soil color and characteristics as well as understanding the rules and regulations for topsoil removal were also noted. Photos (iPhone 12) were taken with a GIS overlay and without the overlay at observation points to record the geographic locations of the observation points visited during the inspection.

3.2 On-Site Inspection Observations

Mr. Peterson met Mr. Heistand at the Antelope Creek Junction station at the south end of the Project where construction activities kicked off for the Project. A bulldozer began stripping topsoil along a hillside running north from the Antelope Creek Junction station. An excavator was being operated on the hilltop area in conjunction with the bulldozer on the hillside. Topsoil depth varied from 5 to 9 inches, with the top of the hillside and hilltop having shallower topsoil depth and the bottom of the hill having the deepest depth. Both equipment operators carefully removed the topsoil until the subsoil layer became visible and moved the topsoil into a berm on the east side of the area being cleared. The subsoil was not removed, so the topsoil piles were properly segregated from subsoil.

Both the bulldozer and excavator equipment operators demonstrated the proper understanding of the rules for topsoil removal and how to properly identify the change in soil characteristics between the topsoil and subsoil layers. Multiple passes with the blade and bucket were used over the same ground to remove the topsoil in increments until the subsoil became visible. This technique adequately removed the topsoil at proper depths across the varying contours of the area being cleared. Topsoil removal was being conducted in compliance with the Commission's Order.

4 Issues to Resolve and Recommendations

Topsoil segregation was noted to be acceptable in the areas observed. Equipment operators were reminded to strip soil, where it existed, down to a maximum of 12 inches or to the depth where subsoil appeared. Equipment operators have demonstrated proficiency in topsoil removal and segregation in compliance with the Commission's Order.

Potential Issues	Recommendations
Ditching/Trenching Pipe into Ground	When subsoil is temporarily removed during the installation of the pipeline via ditching or trenching, ensure any subsoil removed during this phase of construction is segregated from topsoil piles along the route.

5 Signatures

The services performed by Meadowlark 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.

Zach Peterson

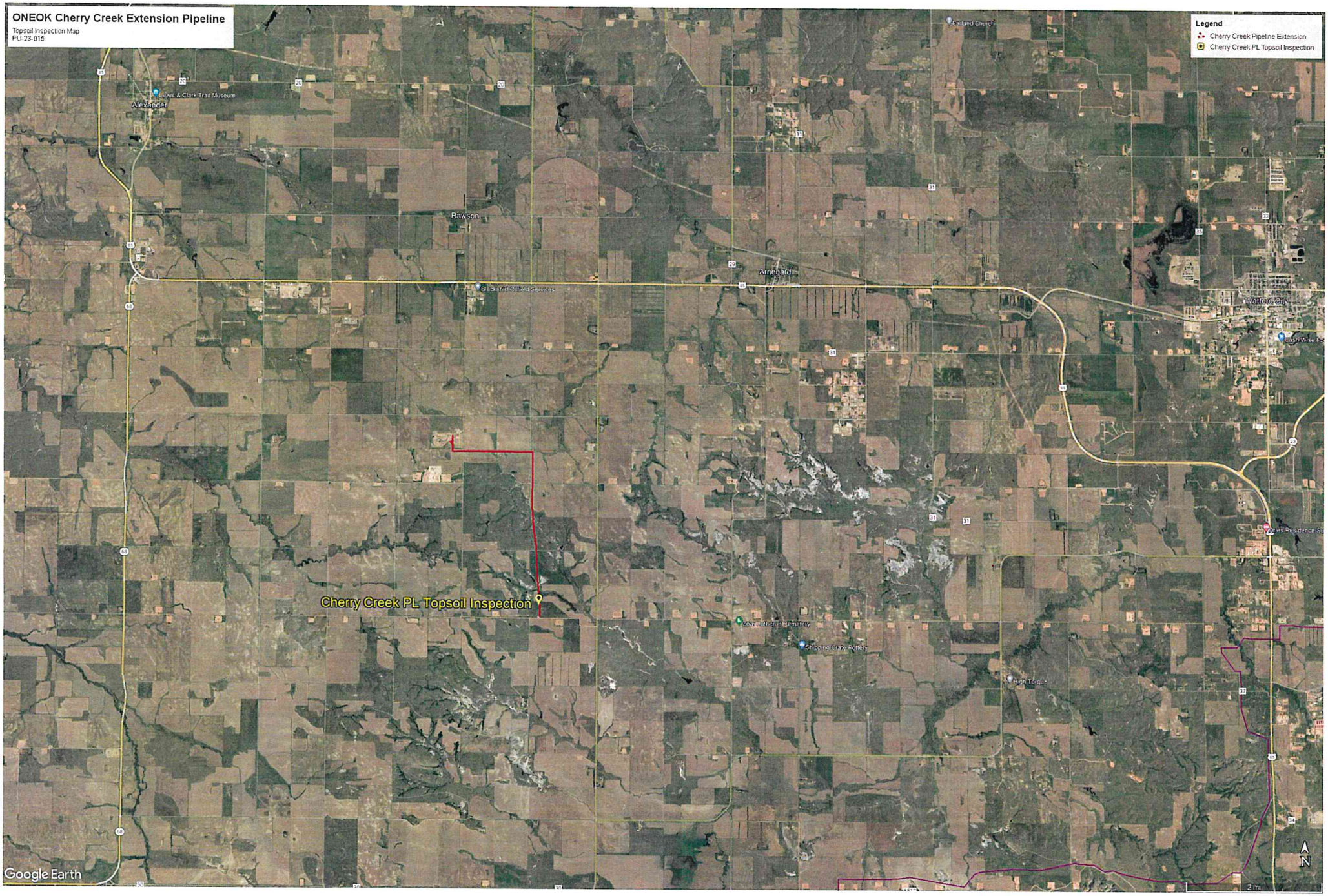
Zach Peterson, Inspector

11/1/2023

Date

Appendices

Photo Log and Observation Maps


ONEOK Cherry Creek Extension Pipeline
Topsoil Inspection Map
PLI-23-015
Legend
Cherry Creek Pipeline Extension
Cherry Creek PL Topsoil Inspection
Alexander
Lewis & Clark Trail Museum
Rawson
Arnegard
Portland Church
Watford City
Cherry Creek PL Topsoil Inspection
Shipping Creek Pottery
High Torque
Google Earth
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On-Site Photographs

ONEOK Cherry Creek Extension Pipeline Project- McKenzie County

Photo #: 1

Direction: North

Description: South end of pipeline running north prior to topsoil removal.

Observer: Zach Peterson

Date: 10/19/2023

Latitude: 47.733567

Longitude: -103.515850

Photo #: 2

Direction: South

Description: South end of line where it ties in at Antelope Creek Junction.

Observer: Zach Peterson

Date: 10/19/2023

Latitude: 47.733767

Longitude: -103.515833

On-Site Photographs

ONEOK Cherry Creek Extension Pipeline Project- McKenzie County

Photo #: 3

Direction: Southeast

Description: Dozer stripping topsoil along hillside.

Observer: Zach Peterson

Date: 10/19/2023

Latitude: 47.733783

Longitude: -103.516000

Photo #: 4

Direction: Northeast

Description: Dozer stripping topsoil to depth of color change of soil on hillside.

Observer: Zach Peterson

Date: 10/19/2023

Latitude: 47.733767

Longitude: -103.516017

On-Site Photographs

ONEOK Cherry Creek Extension Pipeline Project- McKenzie County

Photo #: 5

Direction: North

Description: Dozer stripping topsoil on hillside while excavator strips topsoil on flat hilltop area.

Observer: Zach Peterson

Date: 10/19/2023

Latitude: 47.733717

Longitude: -103.515950

Photo #: 6

Direction: Northeast

Description: Excavator stripping topsoil on flat hilltop area.

Observer: Zach Peterson

Date: 10/19/2023

Latitude: 47.734033

Longitude: -103.516033