

Plains Terminal 24-Inch Crude Oil Pipeline Johnson's Corner to Dakota Access Pipeline

Reclamation and Revegetation Inspection Report



Case No. PU-16-140

November 20, 2019

Prepared for:

North Dakota Public Service Commission
600 East Boulevard Ave
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Introduction

The North Dakota Public Service Commission retained KLJ to complete a reclamation and revegetation inspection report of the Plains Terminal 24-Inch Crude Oil Pipeline, also known as the Johnson's Corner to Dakota Access Pipeline. The pipeline is approximately 3.5 miles in length and resides in McKenzie County. The purpose of the inspection was to ensure that the areas effected by construction activities have been revegetated and restored to their previous conditions.

Regulatory Purpose and Scope of Work

The North Dakota Energy Conversion and Transmission Facility Act authorizes the State to determine that the location, construction, and operation of energy transmission facilities that will produce minimal adverse effects on the environment and the welfare of citizens of North Dakota. The North Dakota Public Service Commission has contracted KLJ Engineering for inspection services on Case No. PU-16-140.

KLJ is to document the reclamation and revegetation of the project. The process includes inspection of the reclamation of subsoil and topsoil, as well as the seeding, and the status of vegetation.

Methods

Reclamation and revegetation of the project was inspected and documented on October 16, 2019. A drone was utilized to collect aerial photography along the pipeline in order to show status of revegetation and conformity to surroundings. The equipment used during inspection includes a DJI Phantom 4 with integrated GPS and 12-megapixel camera. (Appendix B, Pictures)



Inspection Observations and Findings

At the time of inspection in October 2019, vegetation had been well established throughout the pipeline. Areas of installation and reclamation can be divided into three categories: bore farmland, and grassland/pasture. In instances of bore and where the pipeline was installed in farmland, the reclamation is nearly undetectable among its surrounding. Crops appear to be growing in a similar manner as the adjacent land. In cases where the pipeline was installed through grassland, the vegetation has been well established, but not always blending well into its surroundings. We expect this is due to variance in native plant life and will likely improve in future growing seasons.

Locations 1 and 2: Location of pipeline is visible but shows native plant life beginning to blend well into the reclaimed area.

Locations 9-15: Area primarily crop or hay land. In these locations the pipeline is generally undetectable among its surroundings. The reclamation efforts appear to have been fully successful at returning the land to its original condition.

Locations 17-22: Areas showing good signs of growth throughout reclaimed area.

Locations 32-24: Vegetation well established. Reclaimed areas nearly undetectable among its surroundings.



Areas of Concern

Location 5 and 6: Vegetation has been established to a level matching the surrounding conditions, however the location of the reclamation is still visible. This is likely due to varying varieties of plant life in the surround terrain.

Locations 25-29: Vegetation beginning to blend into surroundings. We believe the area of reclamation is still detectable due to the land being planted and/or cut at different times than the adjacent land. The differences in vegetation will likely minimize in future growing seasons.

Recommendations for Resolution

Based on our observations, we feel the reclamation efforts have been successful throughout the project. Evidence can be seen in several locations throughout the project where the native grassland is beginning to blend into the reclaimed area. In locations where farm or crop land was planted, little to no evidence of the pipeline exists. We expect areas of concern will continue to improve with time as seen elsewhere in along the pipeline, and in previous projects.

Determination of Reclamation

The project has been well reclaimed and appears to have had minimal impacts to the surrounding land. No areas of excessive weed growth, poor plant growth, or erosion issues were observed. We believe no further actions will be required.



Signatures

The services performed by KLJ staff for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints. Recommendations and findings contained in this report represent our professional judgement and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.

Lead Project Manager, Paul Lee

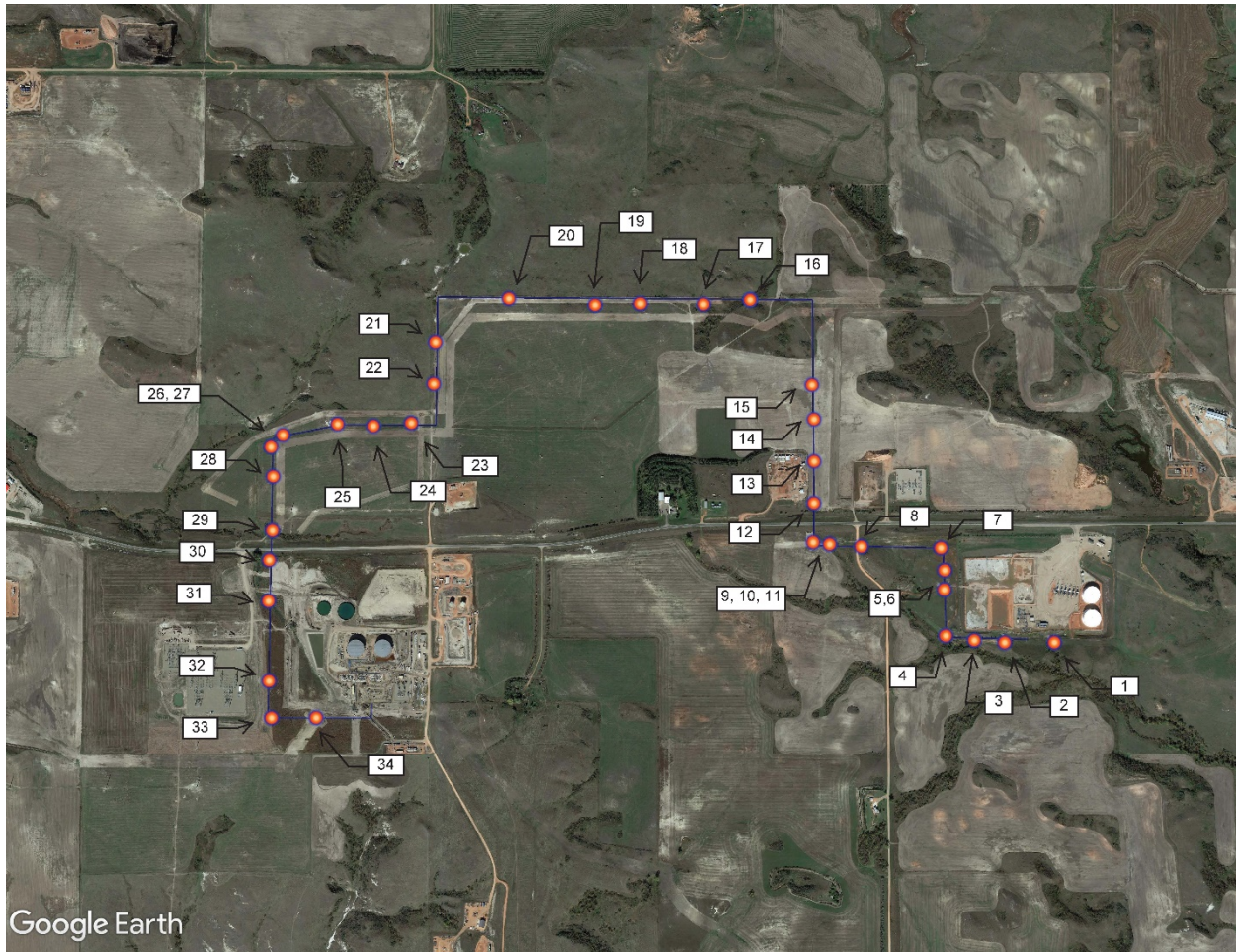
Paul Lee, PLS, Project Manager

11-20-2019

Date



Appendix A: Map of Project and Observation Points





Appendix B: Photographs



Location 1 - Looking west, vegetation well established and matching surroundings



Location 2 - Looking west



Location 3 - Looking west



Location 4 - Looking north



Location 5 - Looking north, vegetation established to a level matching adjacent ground. Different varieties of plant life



Location 6 - Looking north



Location 7 - Looking west



Location 8 - Looking west



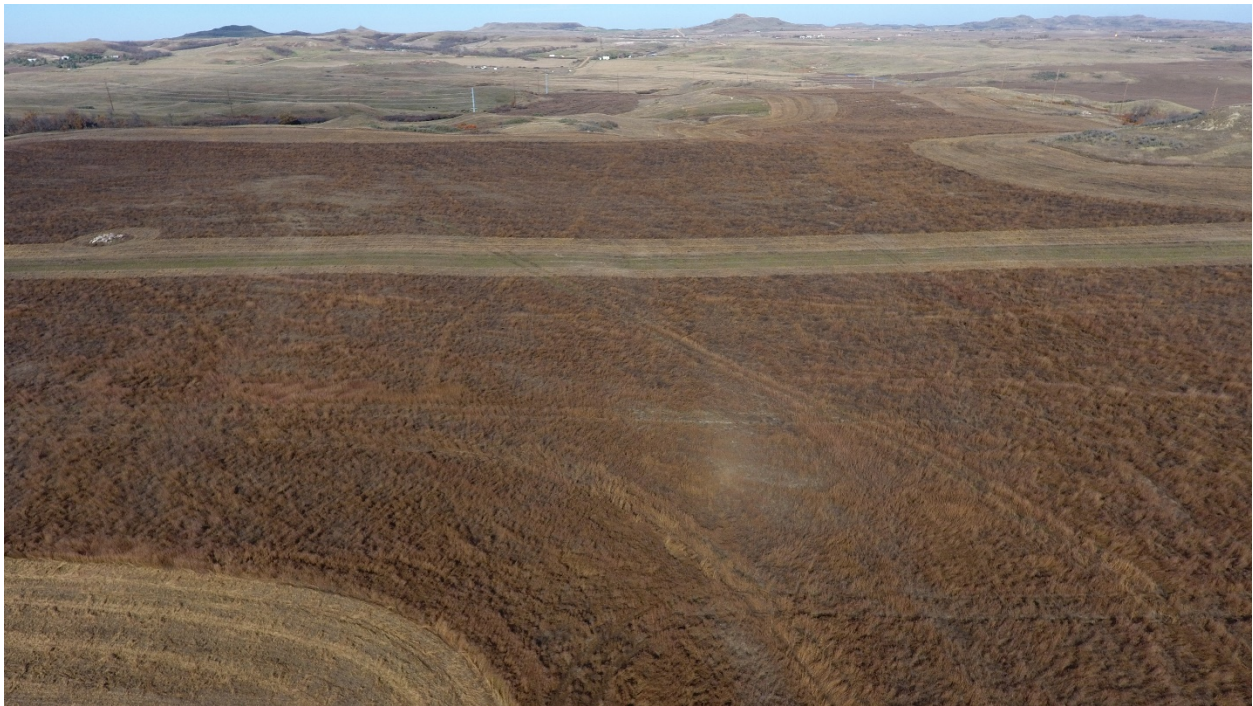
Location 9 - Looking west. Pipeline not detectable in farmland



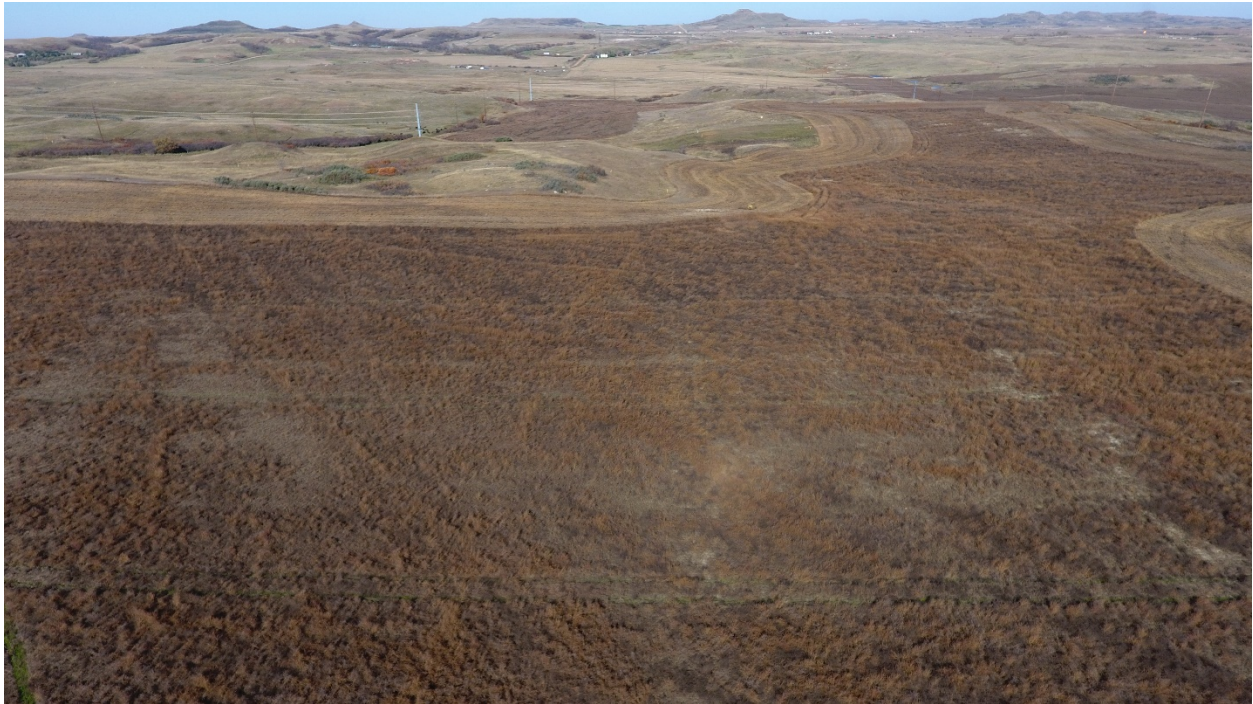
Location 10 - Looking north, bore area, pipeline not detectable



Location 12 - Looking north



Location 13 - Looking north, no evidence of pipeline



Location 14 - Looking north



Location 15 - Looking north, no evidence of pipeline in cropland



Location 16 - Looking west



Location 16 - Looking west



Location 17 - Looking west, vegetation well established



location 18 - Looking west



Location 19 - Looking west



Location 20 - Looking west



Location 21 - Looking south



Location 22 - Looking south



Location 23 - Looking west, vegetation well established, and blending into surrounding conditions



Location 24 - Looking west



location 25 - Looking west



Location 26 - Looking west



Location 27 - Looking south



Location 28 - Looking south



Location 29 - Looking north



Location 30 - Looking south



Location 31 - Looking south



Location 32 - Looking south



Location 33 - Looking east, vegetation blending well into surrounding conditions



Location 34 - Looking east



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