Interim Inspection Report

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To: Adam Renfandt, CFA

From: Matt Retka, Wenck Associates, Inc.

Date: June 21, 2019

Subject: PU-18-399, Demicks Lake Pipeline Interim Topsoil and Construction Inspection

Wenck Associates (Wenck) conducted an interim topsoil removal and construction inspection at the Demicks Lake Pipeline Project Case No. PU-18-399 on June 5th and 6th 2019, on behalf of the North Dakota Public Service Commission. Matt Retka, Project Manager/Soil Classifier and Jeremy Hackley, Field Inspector, met with personnel from Onshore Quality Control Specialists, L.L.C. (QCS), and Jomax Construction Company Inc. (Jomax).

Matt Retka, Project Manager/Soil Classifier, and Jeremy Hackley, Field Inspector (both with Wenck), met with Kelly Hawkins, QCS Chief Inspector, and contacted Rob Jeffrey, QCS Chief Inspector, (via telephone) to conduct an interim topsoil removal and construction inspection.

Spread 1 and Spread 2 in McKenzie County were visited on both June 5th and 6th 2019. On June 5th, Mr. Retka and Mr. Hackley conducted crew observations at active topsoil removal areas along the project. On June 6th further observations were conducted by Mr. Hackley of locations along ROW previously stripped and currently awaiting further construction.

Inspections and Field Review

Spread 1 Interim Topsoil and Construction Inspection

Mr. Retka and Mr. Hackley met with Kelly Hawkins, QCS Chief Inspector, for Spread 1. Mr. Hawkins was made aware of June 5th and 6th timelines for the interim topsoil inspection. Topsoil was being removal by Jomax personnel in a cultivated field within T151N, R98W, Section 36. Observations of proper topsoil removal depth were made at approximately 12 inches and termination of topsoil removal where appropriate.

On June 6th Mr. Hackley continued observations of stripped and graded Right of Way (ROW) along Spread 1 with Dave Prescott, Jomax crew lead for Spread 1, as escort. Proper topsoil removal depth was observed and topsoil segregation from subsoil was satisfactory. Topsoil removal ranged from approximately 3 inches in depth at hill summits to 12 inches on toe slopes and swales of the observed locations. Evidence of relatively dark A-horizon like soil from below 12 inches, at one location where present, was observed to be not segregated from subsoil stockpiles. Mr. Prescott explained that moving the soil back from the front of the stockpile, subsoil would be placed down first followed by the dark, but deeper soil resembling topsoil. The topsoil stockpiles placed further back would be reintroduced last during redistribution. This appears in compliance with the PSC Order Provisions, and proper redistribution will be achieved. (see Appendix B Observation Points 41-44).

Many areas observed along the project lacked any subsoil stockpiles, which had presumably been used during grading of the ROW in sloped terrain.

Spread 2 Interim Topsoil and Construction Inspection

Mr. Retka and Mr. Hackley arrived at Spread 2a on June 5th, 2019 around 3:45 pm. Jomax crews were continuing topsoil removal at T148N, R103W, Section 12. Topsoil removal was being performed mainly in range/grassland areas. Some cultivated areas were recently stripped of topsoil along the ROW. Mr. Retka and Mr. Hackley observed many areas in this location as having sodic soils which accounted for naturally poor topsoil quality and subsequent vegetative stress. At hill summits, little to no topsoil was found at Cabba soil types, which is a shallow soil and naturally calcareous at the surface. Topsoil at toe slope and swale areas yielded approximately 9-11 inches in non-sodic areas.

Mr. Hackley arrived at the beginning of Spread 2 on June 6th at approximately 4:30 pm at T149N, R100W, Section 17. A mix of range/grassland and cultivated land had been stripped and graded. Topsoil was removed and segregated form subsoil stockpiles properly. Boring had begun below the section-line road of Section 17 and Section 18. No measurement was taken of pipe depth due to surrounding fence and possible hazardous conditions. Visually the HDD pipe looked to be approximately 72 inches deep. Observations of a tiered ROW, which had one side at a higher elevation than the other along a length of the ROW, was utilized to manage topography (see Appendix B Observation Point 49). Topsoil stripped depths ranged from 5-12 inches along backslopes and toe-slopes. Hill summits yielded 3 inches or less topsoil. Overall, previously stripped areas appeared to follow topsoil requirements.

Field Review Summary

Topsoil was stockpiled and segregated properly along both Spread 1 and Spread 2 ROWs. Topsoil removal and stockpiling was terminated where appropriate. Both Spread 1 and Spread 2 has utilized proper topsoil stockpile erosion control. Some portions of the project had pipeline strung, welded, or bored.

At this time, no non-compliance areas were observed, nor are any further recommendations offered. Observations will be held both on Spread 1 and Spread 2 respectively as they enter further into the construction phase. The Start date for Spread 3 is tentatively set for July-August, after which Wenck will finalize a Topsoil Inspection Report.

Please contact me at 701-893-2322 if you have any questions or comments.

Respectfully submitted,

Matt Retka
Project Manager/Soil Classifier

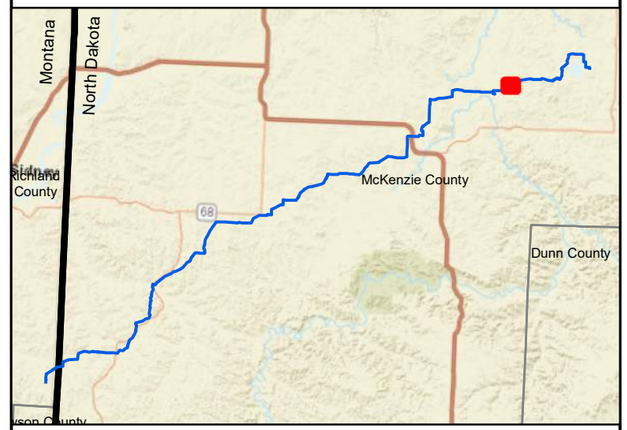
Attachment A: Interim Topsoil and Construction Photograph Map
Attachment B: Field On-Site Photographs

North Dakota
Public Service Commission

OneOK Pipeline
Sheet 1

Legend

- Photo Observation Points
- Demicks Lake Mile Posts
- OneOK PU-18-399 Centerline



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PU-18-399 CONSTRUCTION INSPECTION

Interim Topsoil & Construction Observation Locations

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Attachment A

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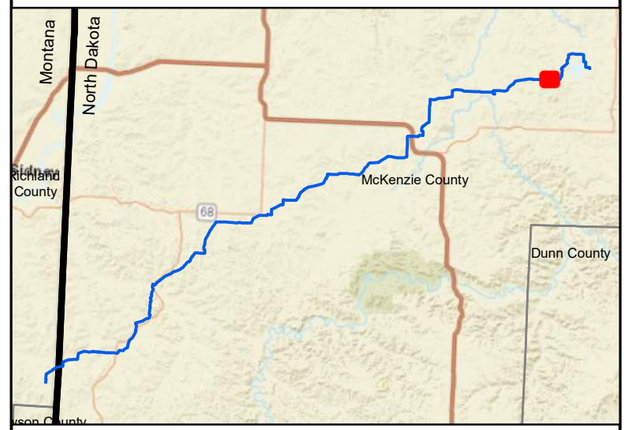
OneOK Pipeline
Sheet 2

Legend

- Photo Observation Points
- Demicks Lake Mile Posts
- OneOK PU-18-399 Centerline



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PU-18-399 CONSTRUCTION INSPECTION

Interim Topsoil & Construction Observation Locations

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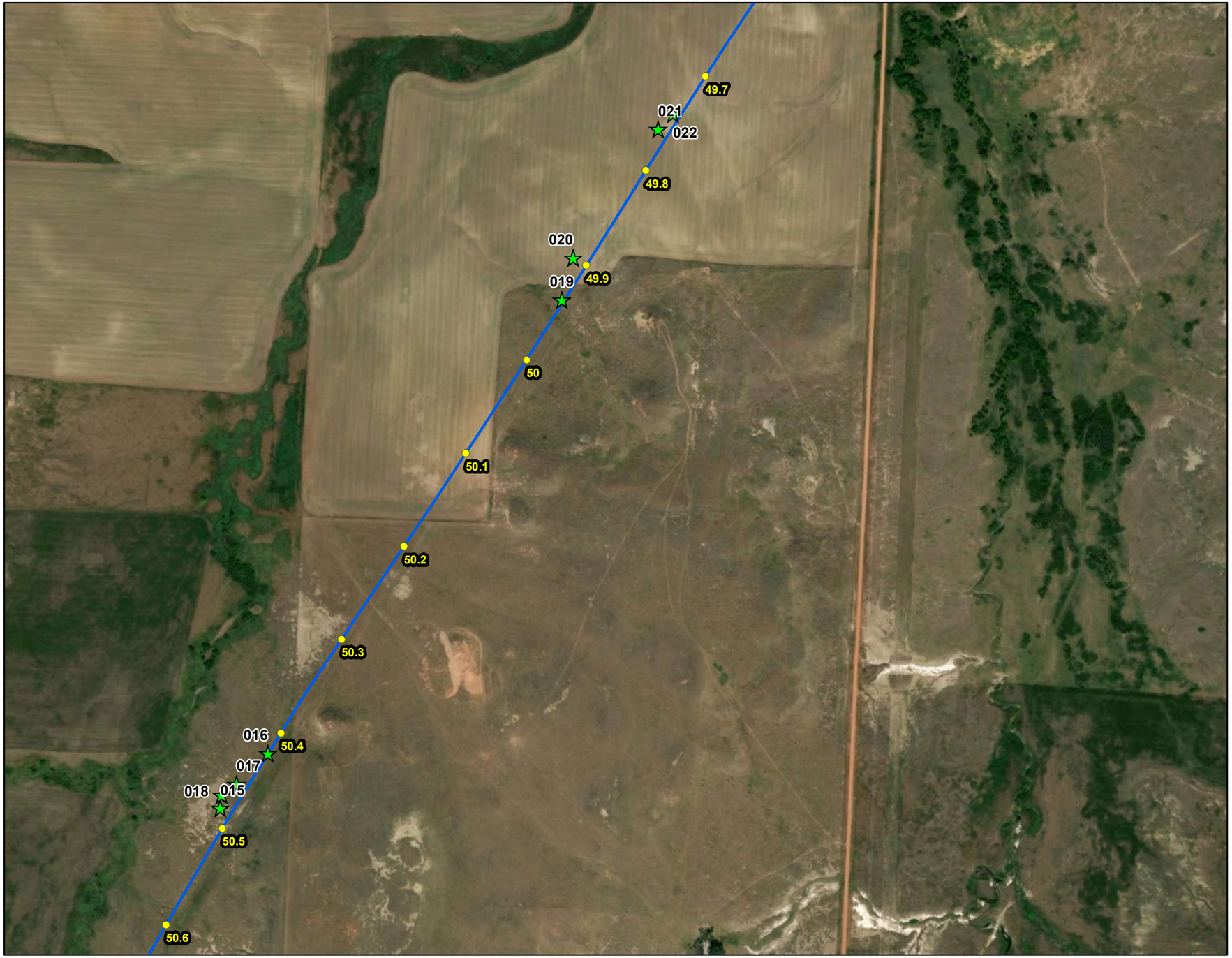
Attachment A



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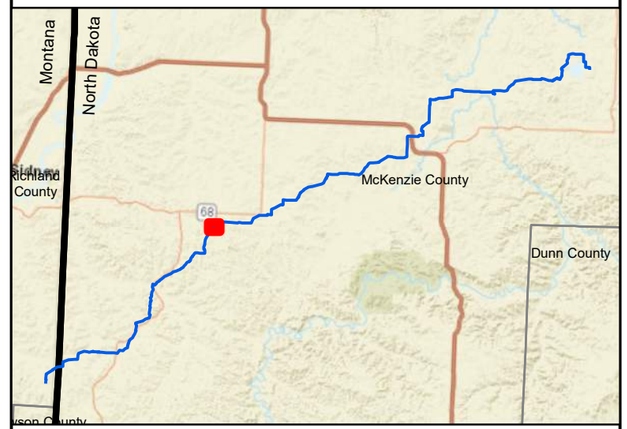
OneOK Pipeline
Sheet 3

Legend

- Photo Observation Points
- Demicks Lake Mile Posts
- OneOK PU-18-399 Centerline



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PU-18-399 CONSTRUCTION INSPECTION

Interim Topsoil & Construction Observation Locations

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Attachment A

North Dakota
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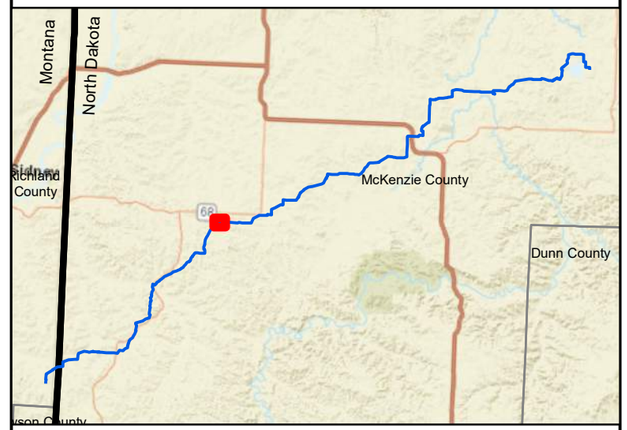
OneOK Pipeline
Sheet 4

Legend

- Photo Observation Points
- Demicks Lake Mile Posts
- OneOK PU-18-399 Centerline



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PU-18-399 CONSTRUCTION INSPECTION

Interim Topsoil & Construction Observation Locations

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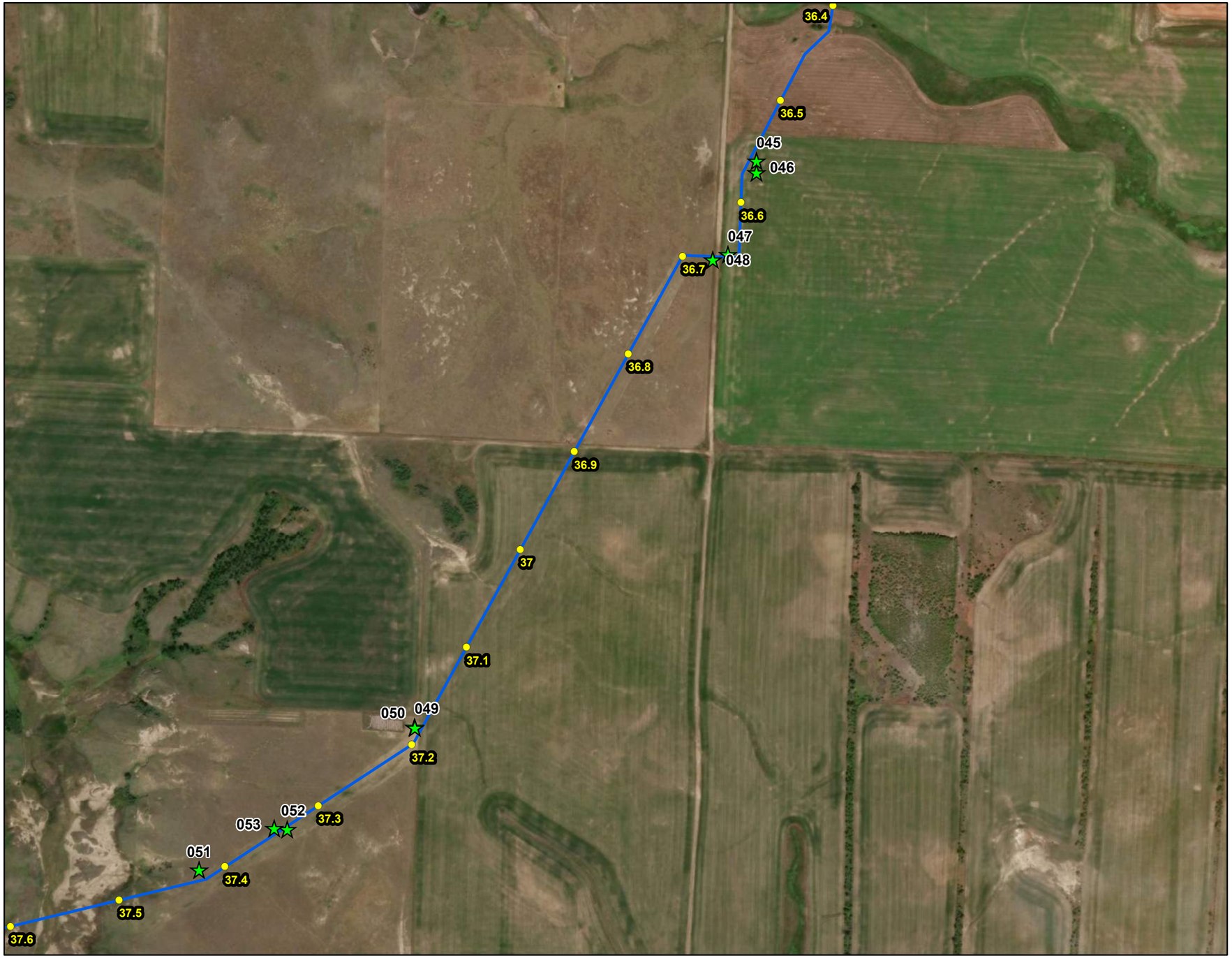
JUNE 2019

Attachment A

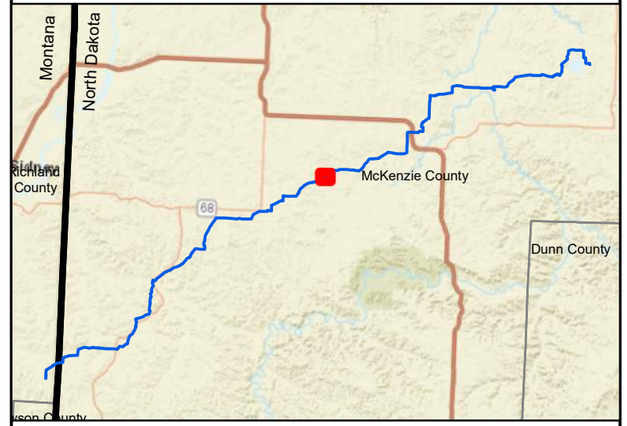


North Dakota
Public Service Commission

OneOK Pipeline
Sheet 5

Legend

- Photo Observation Points
- Demicks Lake Mile Posts
- OneOK PU-18-399 Centerline



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PU-18-399 CONSTRUCTION INSPECTION

Interim Topsoil & Construction Observation Locations

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Attachment A

Attachment B- On-Site Photographs

	**Observation Point: 11** Date Taken: 5-June-2019 Direction Photo is Taken: South Station 592+00 Spread 1 Photo Description: Depth of topsoil removed approximately 12 inches prior to grading with motor blade. Latitude: 47.86365459 Longitude: -103.1523409
	**Observation Point: 12** Date Taken: 5-June-2019 Direction Photo is Taken: Southwest Station 599+00 Spread 1 Photo Description: Overhead powerlines well marked above ROW. Latitude: 47.86267483 Longitude: -103.153897
	**Observation Point: 13** Date Taken: 5-June-2019 Direction Photo is Taken: South Station 601+00 Spread 1 Photo Description: Bulldozer moving to continue with topsoil removal. Latitude: 47.86203587 Longitude: -103.1550119

Attachment B- On-Site Photographs

	**Observation Point: 14** Date Taken: 5-June-2019 Direction Photo is Taken: Northeast Station 585+00 Spread 1 Photo Description: Scoria deposit unearthed, and stripping terminated to avoid topsoil stockpile mixing with subsoil. Latitude: 47.86464332 Longitude: -103.1502538
	**Observation Point: 33** Date Taken: 6-June-2019 Direction Photo is Taken: East Station 414+00 Spread 1 Photo Description: Area stripped and graded. 4 by 4 lumber set out to rest pipe on that will later be placed under access road between Stations 414+00 and 416+00. Latitude: 47.87417765 Longitude: -103.0853415
	**Observation Point: 34** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 416+00 Spread 1 Photo Description: West side of access road. Subsoil used to achieve level gradient across ROW. Latitude: 47.87406893 Longitude: -103.085649

Attachment B- On-Site Photographs

	**Observation Point: 35** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 404+00 Spread 1 Photo Description: Topsoil stockpile next to subsoil stockpile. Subsoil was used to achieve level gradient to ROW. Minor to no mixing of stockpiles. Latitude: 47.87357692 Longitude: -103.0827273
	**Observation Point: 36** Date Taken: 6-June-2019 Direction Photo is Taken: East Station 390+00 Spread 1 Photo Description: Hill summit shows little topsoil, approximately 2-3 inches. Subsoil stripped to grade ROW. Latitude: 47.87240043 Longitude: -103.0759062
	**Observation Point: 37** Date Taken: 6-June-2019 Direction Photo is Taken: Southeast Station 390+00 Spread 1 Photo Description: Opposite side of ROW shows that topsoil stockpile's short height correlates to limited stripped topsoil at hill summits, as appropriate. Latitude: 47.87225987 Longitude: -103.0760298

Attachment B- On-Site Photographs

	**Observation Point: 38** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 378+00 Spread 1 Photo Description: Five-foot radius roped off due to unknown bird nest in shrubbery. Posted sign reads "ESA 335 5 ft". At the time of inspection the bird was not present. Latitude: 47.87190079 Longitude: -103.0710601
	**Observation Point: 39** Date Taken: 6-June-2019 Direction Photo is Taken: East Station 377+00 Spread 1 Photo Description: Topsoil stockpile with elevated subsoil ROW. Very little amount of subsoil connecting with topsoil stockpile. Latitude: 47.87187237 Longitude: -103.0705514
	**Observation Point: 40** Date Taken: 6-June-2019 Direction Photo is Taken: Northeast Station 363+00 Spread 1 Photo Description: Topsoil stripped to a depth of approximately 9 inches on backslope. Latitude: 47.87242667 Longitude: -103.0663831

Attachment B- On-Site Photographs

	**Observation Point: 41a** Date Taken: 6-June-2019 Direction Photo is Taken: Northeast Station 385+00 Spread 1 Photo Description: Topsoil stockpile segregated from subsoil stockpile. Latitude: 47.87362746 Longitude: -103.0653566
	**Observation Point: 41b** Date Taken: 6-June-2019 Direction Photo is Taken: Northwest Station 385+00 Spread 1 Photo Description: Topsoil stockpile segregated from subsoil stockpile. Darker soil in upper left quadrant of photo was taken below 12 inches. Latitude: 47.87362746 Longitude: -103.0653566
	**Observation Point: 41c** Date Taken: 6-June-2019 Direction Photo is Taken: Southwest Station 385+00 Spread 1 Photo Description: Subsoil stockpiles. Darker soil middle right of photo taken from below 12 inches. Latitude: 47.87362746 Longitude: -103.0653566

Attachment B- On-Site Photographs

	**Observation Point: 41d** Date Taken: 6-June-2019 Direction Photo is Taken: South Station 385+00 Spread 1 Photo Description: Subsoil stockpiles to the left of segregated topsoil stockpiles. Latitude: 47.87362746 Longitude: -103.0653566
	**Observation Point: 42a** Date Taken: 6-June-2019 Direction Photo is Taken: Northeast Station 385+00 Spread 1 Photo Description: Darker soil from below 12 inches placed on top and back of calcareous subsoil stockpile. Latitude: 47.87359041 Longitude: -103.0652917
	**Observation Point: 42b** Date Taken: 6-June-2019 Direction Photo is Taken: North Station 385+00 Spread 1 Photo Description: Topsoil from below 12 inches placed on top and of calcareous subsoil stockpile. Latitude: 47.87359041 Longitude: -103.0652917

Attachment B- On-Site Photographs

	**Observation Point: 42c** Date Taken: 6-June-2019 Direction Photo is Taken: Northwest Station 385+00 Spread 1 Photo Description: Topsoil from below 12 inches placed on top and of calcareous subsoil stockpile. Latitude: 47.87359041 Longitude: -103.0652917
	**Observation Point: 43** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 385+00 Spread 1 Photo Description: Segregation between first 12 inches of topsoil stockpile (right) and below 12 inches dark soil resembling topsoil (left) and subsoil stockpile. Latitude: 47.87386417 Longitude: -103.0649419
	**Observation Point: 44** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 385+00 Spread 1 Photo Description: Backside of topsoil stockpile. Motor grader cut shows approximately 14-16 inches total of topsoil along a foot-slope. Latitude: 47.8739443 Longitude: -103.0649662

Attachment B- On-Site Photographs

	**Observation Point: 15** Date Taken: 5-June-2019 Direction Photo is Taken: Southwest Station 2666+00 Spread 2 Photo Description: Sodic soil with natural vegetation. Poor soil quality and vegetation before topsoil removal. Latitude: 47.6506851 Longitude: -103.7484361
	**Observation Point: 16** Date Taken: 5-June-2019 Direction Photo is Taken: Southwest Station 2662+00 Spread 2 Photo Description: 9 inches of topsoil removed and 10 inches of subsoil to grade ROW level. Latitude: 47.65142011 Longitude: -103.7475645
	**Observation Point: 17** Date Taken: 5-June-2019 Direction Photo is Taken: West Station 2664+00 Spread 2 Photo Description: Topsoil stockpile gap to allow water flow and protect against water erosion. Latitude: 47.65100696 Longitude: -103.7481417

Attachment B- On-Site Photographs

	**Observation Point: 18** Date Taken: 5-June-2019 Direction Photo is Taken: Southwest Station 2665+00 Spread 2 Photo Description: Topsoil stockpile detained within ROW limits. Latitude: 47.65085852 Longitude: -103.748419
	**Observation Point: 19a** Date Taken: 5-June-2019 Direction Photo is Taken: East Station 2636+00 Spread 2 Photo Description: Depth of topsoil removed at backslope was approximately 11 inches. Measurement taken at stake within center of ROW which served as a natural soil monument for accurate stripping measurement. Latitude: 47.65745407 Longitude: -103.7422984
	**Observation Point: 19b** Date Taken: 5-June-2019 Direction Photo is Taken: West Station 2636+00 Spread 2 Photo Description: Topsoil stockpile. Gaps for water erosion protection. Latitude: 47.65745407 Longitude: -103.7422984

Attachment B- On-Site Photographs

	**Observation Point: 20** Date Taken: 5-June-2019 Direction Photo is Taken: Northeast Station 2634+00 Spread 2 Photo Description: Hill summit. Little to no topsoil. Cabba soil type was calcareous at surface and naturally of poor quality soil. Latitude: 47.65800325 Longitude: -103.7421163
	**Observation Point: 21** Date Taken: 5-June-2019 Direction Photo is Taken: Southwest Station 2632+00 Spread 2 Photo Description: Topsoil stockpile of naturally low-quality soil, Cabba soil type. Latitude: 47.65971601 Longitude: -103.7405886
	**Observation Point: 22** Date Taken: 5-June-2019 Direction Photo is Taken: Northwest Station 2632+00 Spread 2 Photo Description: Topsoil erosion control silt fence. Latitude: 47.65991952 Longitude: -103.7403187

Attachment B- On-Site Photographs

	**Observation Point: 23a** Date Taken: 5-June-2019 Direction Photo is Taken: West Station 2608+00 – 2614+00 Spread 2 Photo Description: Wetland area identified as W-37 and connecting waterbody S-9. This area proposed for Horizonal Directional Drilling (HDD). Latitude: 47.66230895 Longitude: -103.7349611
	**Observation Point: 23b** Date Taken: 5-June-2019 Direction Photo is Taken: East Station 2608+00 Spread 2 Photo Description: ROW and pipeline to be moved under W-37 and S-9. Latitude: 47.66230895 Longitude: -103.7349611
	**Observation Point: 24** Date Taken: 5-June-2019 Direction Photo is Taken: East Station 2582+00 Spread 2 Photo Description: Topsoil stockpile, ROW graded, and subsoil stockpile well defined. Latitude: 47.66255354 Longitude: -103.7241902

Attachment B- On-Site Photographs

	**Observation Point: 45** Date Taken: 6-June-2019 Direction Photo is Taken: Northeast Station 1934+00 Spread 2 Photo Description: Topsoil stockpile and pipeline at the starting point of Spread 2. Latitude: 47.72903603 Longitude: -103.5184111
	**Observation Point: 46** Date Taken: 6-June-2019 Direction Photo is Taken: Southwest Station 1935+00 Spread 2 Photo Description: Topsoil Stockpile and subsoil stockpile segregation. Latitude: 47.72888842 Longitude: -103.5184037
	**Observation Point: 47a** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 1936+00 Spread 2 Photo Description: HDD pipe under section road. Exact measurement unattainable due to fence and possible hazardous conditions. Visually seemed to be approximately 72 inches deep. McKenzie County, T149N, R100W, S18. Latitude: 47.72781361 Longitude: -103.5188905

Attachment B- On-Site Photographs

	**Observation Point: 47b** Date Taken: 6-June-2019 Direction Photo is Taken: South Photo Description: HDD pipe identification. Latitude: 47.72781361 Longitude: -103.5188905
	**Observation Point: 48** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 1936+00 Spread 2 Photo Description: HDD pipe exit. McKenzie County, T149N, R100W, S17. Latitude: 47.72773633 Longitude: -103.5191808
	**Observation Point: 49** Date Taken: 6-June-2019 Direction Photo is Taken: Northeast Station 1963+00 Spread 2 Photo Description: Utilization of a tiered ROW to account for topography. Gap in topsoil stockpile for water erosion control. Latitude: 47.72153691 Longitude: -103.5245507

Attachment B- On-Site Photographs

	**Observation Point: 50** Date Taken: 6-June-2019 Direction Photo is Taken: Northeast Station 1964+00 Spread 2 Photo Description: Topsoil stockpile and subsoil stockpile segregation. Latitude: 47.72152802 Longitude: -103.5245477
	**Observation Point: 51** Date Taken: 6-June-2019 Direction Photo is Taken: West Station 1976+00 Spread 2 Photo Description: Silt fence for water erosion control. Wetland identified as W-27. HDD entry begins. Latitude: 47.71957428 Longitude: -103.5285794
	**Observation Point: 52** Date Taken: 6-June-2019 Direction Photo is Taken: Southeast Station 1970+00 Spread 2 Photo Description: Depth of topsoil approximately 5-12 inches. Areas of naturally calcareous topsoil. Approximately 12 inches of subsoil stripped to construct tiered ROW. Latitude: 47.72014777 Longitude: -103.5269208

Attachment B- On-Site Photographs

	**Observation Point: 53** Date Taken: 6-June-2019 Direction Photo is Taken: North Station 1970+00 Spread 2 Photo Description: Varying heights of topsoil stockpile. Coincides with in-situ topsoil availability. Station 1970+00. Latitude: 47.7201523 Longitude: -103.5271704