



ONEOK Bakken Pipeline

Pump Station Additions – McKenzie & Dunn Counties

Case No. PU-20-18

Topsoil and Construction Inspection Report



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March 5, 2021

RE: Case No. PU-20-018
ONEOK Bakken Pipeline
Pump Station Additions – McKenzie &
Dunn Counties
Topsoil and Construction Inspection
Report

Mr. Victor Schock
North Dakota Public Service Commission
600 East Boulevard Avenue, Dept. 408
Bismarck, ND 58505-0480

Dear Mr. Schock:

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

1. Executive Summary
2. Inspection Report
3. Appendix A - Map of Photograph Locations
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: 02/23/2021

Project: Big Gulch Pump Station

Initial Topsoil Removal Site Visit included identification of designated 12 locations for soil borings to determine depth of topsoil throughout Big Gulch Pump Station soil disturbance area. Soil borings were identified in ONEOK's Expended Request for Authorization for Topsoil Removal letter to the Public Service Commission as a method to determine topsoil depth for removal by reclamation efforts. The resultant grid of topsoil depths is to be used for machine depth control during frozen topsoil removal methods.

Due to weather and unideal site conditions, the contractor decided day's work would only include completing the 12 soil borings and no reclamation and removal of frozen topsoil. Contractor and associated equipment operator demonstrated proficiency in boring method following siting laws, siting rules, and applicable Commission Orders for Topsoil Removal During Frozen Conditions.


No concerning issues were immediately identified during contractors operations of soil boring. Plans for topsoil storage and subsoil storage as described by contractor at time of soil borings did not raise concern for potential segregation of soil types.


Inspector's Signature



INSPECTOR'S DIARY

Project: Big Gulch Pump Station		Contractor: Martin Construction	
Date: 02/23/2021	Day: Tuesday	Subcontractor:	
Weather: Mostly Cloudy, Wind 10-15mph from NW		Temp: 34 F	Inspector: Brandon Myran
Work Activities: *Vertical soil boring of 12 locations throughout site requiring grade work at depth up to 24 Inches; Topsoil Removal and Stockpiling Operations will commence on future day when site surface conditions are more suitable due to recent snow & rain. *Erosion Control Methods - No measures installed today; Contractor plans to install tomorrow prior to any soil removal			
Labor Force: Oneok - (1) Project Manager Martin Construction - (1) Skidsteer Operator KLJ - (1) Inspector			
Contractor Correspondence: * Inspector met on-site with Oneok "David Rayon", and discussed day's plan. David said Martin Construction plans on only completing the 12 soil bores today. The topsoil removal will be held off due to late night / early morning snow & rain which caused non ideal site conditions for the CAT RM500B reclaimer to start. Contractor will wait until surface snow melts off and dries to begin topsoil removal. David says when topsoil removal does begin, drainage valley bottom areas within site area flowing from east to west will remain undisturbed until erosion control by use of silt fence has been installed located on the south and west portion of the site. David says that there are cows within the north portion of the site location field, but they appear to be staying away from work area and shouldn't be an issue. A gate within the westerly fence running south to north is open to allow cattle to travel west of the field. Only the skidsteer will be operating today. * Inspector is asked by David if it is possible for Martin Construction to bring grader on site to start skimming off the unfrozen topsoil. Inspector says that he will look into it if that would be suitable although it isn't within the written plan of removal. * Inspector gets call from David after inspector leaves site; David says Martin Construction will not use grader for top 1.5" of topsoil removal since it's not frozen; They plan on going according to original plan using the reclaimer for all topsoil removal; Martin Construction now plans on starting reclaiming topsoil Wednesday 02/24 at 0900 MST.			
Other Remarks: * At end of day, Inspector confirmed with Oneok PM David Rayon on results of 12 borings. David said the plan is for silt fence to be installed tomorrow and Martin Construction will begin reclaiming topsoil on Wednesday 02/24.			


Inspector's Signature



INSPECTOR'S DIARY

Date: 02/23/2021

Project: Big Gulch Pump Station	Contractor or Sub: Martin Construction
Work Performed & Location: <ul style="list-style-type: none">* Martin Construction operator unloads CAT 272D XHP (91-07) skidsteer from trailer and hooks up 6 IN diameter auger attachment.* Martin Construction operator in skidsteer begins boring test holes to depth up to 24 inches following layout shown on Attachment 1 of Oneok's Expedited Request for Authorization for Topsoil Removal letter in order to determine an approximate depth of topsoil for the site. David from Oneok indicated to skidsteer operator to start the bore located 3rd row from the North, 3rd column from the west. This location was labeled B1 for Bore 1 and is labeled in Inspector's notes on Attachment 1 drawing. Inspector cleans off hole's edge surface in order to sample & view soil structure and transition of topsoil (dark brown soil containing roots & organic matter) to a sandy lean clay consisting of light brown to light gray color with little to no roots visible to the naked eye. It is determined topsoil at B1 or Bore 1 is at approximate depth of 6" (see photo P1 & P2)* Martin Construction skidsteer operator continues bore holes to determine topsoil thickness.* From B1, skidsteer operator moved North to the next location, Bore 2 (B2). Location for B2 was adjusted south from planned location due to possible topsoil variation at low point within the existing grade. This low point than drains to the west toward the North/South fence line on the west edge of the site. On the west side of the fence is natural grass prairie. At Bore 2, B2 = 7" Topsoil (see photo P3 & P4).* Operations continue to next Bore locations, resulting with the following topsoil depths: B3 = 4.5" Topsoil (see photo P5 & P6), B4 = 5.5" topsoil (see photo P7 & P8), B5 = 4.5" topsoil (see photo P9 & P10), B6 = 4.5" topsoil (see photo P11 & P12), B7 = 5.0" topsoil (see photo P13 & P14), B8 = 4.5" topsoil (see photo P15 & P16), B9 = 3.25" topsoil (see photo P17 & P18), B10 = 5.0" topsoil (see P19), B11 = 7.0" (see photo P20 & P21), and B12 = 1" topsoil (see photo P22 & P23).* Inspector records existing vegetation within field as harvested corn stalk. Corn row widths are measured at 32 inches center on center (see photo P24). Corn stalk cuttings with very little prairie grasses and weeds are visible between the corn rows.* CAT RM500B Reclaimer is dropped on site but won't be used until surface conditions dry out more.	
Method of Boring & Inspection: <ul style="list-style-type: none">- Skidsteer with 6" diameter auger attachments drills vertically down up to 24" of depth. During drilling, hole is reamed out several times to remove loose soil particles before hole is inspected. A straight edge spade and wire brush is used to clean hole's inside edge in order to get a better cross section of the soil structure and segregation.	
CONTRACTOR EQUIPMENT: <p>Martin Construction: (1) CAT 272D XHP 91-07 Skidsteer with 6" diameter auger attachment, (1) Catepillar RM500B arrives on site to sit</p>	

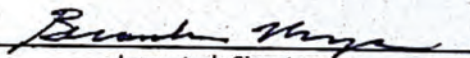

Inspector's Signature



INSPECTOR'S DIARY

Date: 02/23/2021

Project: Big Gulch Pump Station	Contractor or Sub: Martin Construction
Photo Description:	
Photo Name:	Description:
P1 - Bore 1 Topsoil	
P2 - Bore 1 Location Facing West Northwest	
P3 - Bore 2 Topsoil	
P4 - Bore 2 Location Facing West	
P5 - Bore 3 Topsoil	
P6 - Bore 3 Location Facing South	
P7 - Bore 4 Topsoil	
P8 - Bore 4 Location Facing West	
P9 - Bore 5 Topsoil	
P10 - Bore 5 Location Facing Northwest	
P11 - Bore 6 Topsoil	
P12 - Bore 6 Location Facing South	
P13 - Bore 7 Topsoil	
P14 - Bore 7 Location Facing South	
P15 - Bore 8 Topsoil	
P16 - Bore 8 Location Facing Northwest	
P17 - Bore 9 Topsoil	
P18 - Bore 9 Location Facing West	
P19 - Bore 10 Topsoil	
P20 - Bore 11 Topsoil	
P21 - Bore 11 Location Facing West	
P22 - Bore 12 Topsoil	
P23 - Bore 12 Location Facing West	
P24 - Existing Vegetation	
*See attached Photo Layout Map with location of each photo (P1-P24), and attached pages of photo's	


Inspector's Signature

Appendix A

Photo Location Maps

Big Gulch Pump Station

02/23/2021

Legend

- Photos Taken

P9 & P10

P7 & P8

P5 & P6

P11 & P12

P20 & P21

P3 & P4

P13 & P14

P22

P1 & P2

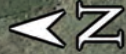
P23

P24

P15 & P16

P17 & P18

P19



300 ft

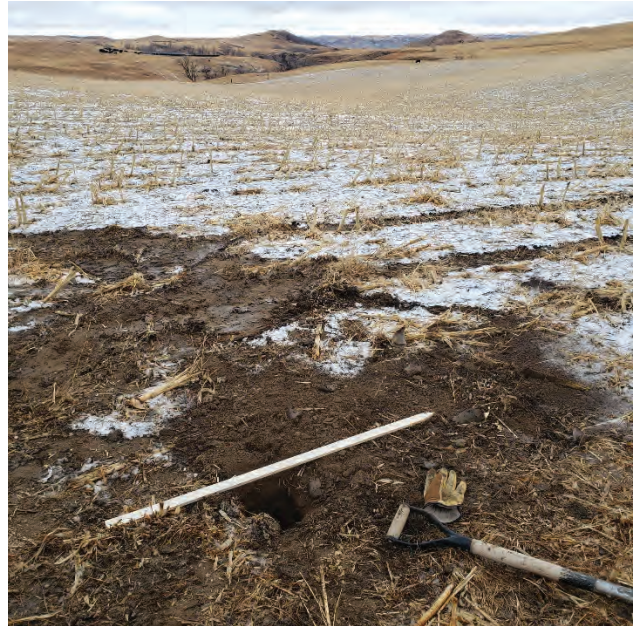
Appendix B

Photos

P1.



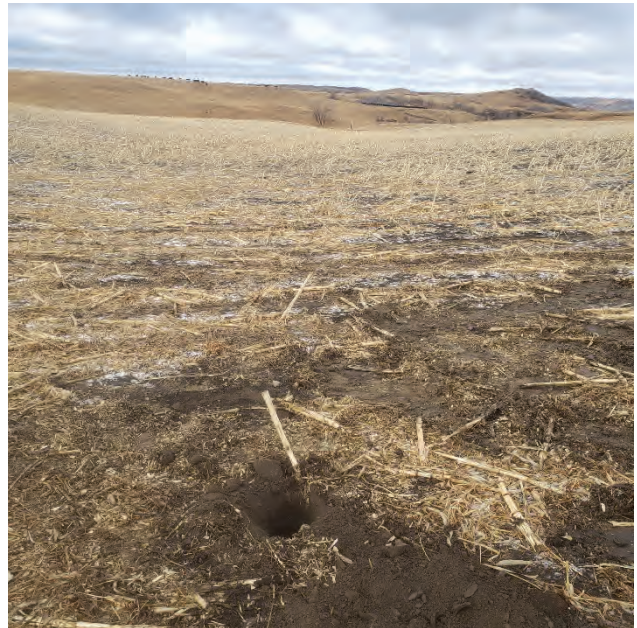
P2.



P3.



P4.



P5.



P6.



P7.



P8.



P9.



P10.



P11.



P12.



P13.



P14.



P15.



P16.



P17.



P18.



P19.



P20.



P21.



P22.



P23.



P24.





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

