

Technical Memo



Responsive partner.
Exceptional outcomes.

To: Patrick Fahn, North Dakota Public Service Commission
From: Samantha Swanberg, Wenck Associates, Inc.
Copy: Kevin Magstadt, P.E., Wenck Associates, Inc.
Date: February 12, 2016
Subject: PU-15-097 Bridger Crude Oil Pipeline Loop - Construction Inspection Report

Construction Inspection Report

Site Visit: February 3, 2016

Bridger Pipeline, LLC – 16-inch Crude Oil Loop Pipeline also known as the “Heart River Pipeline” – PSC Case No. PU-15-097

In attendance:

- Mike Ray – Inspector – Avery Pipeline Services
- Samantha Swanberg – Environmental Scientist – Wenck Associates, Inc.

At the time of inspection, nearly all pipe installation work had been completed. Work was ongoing at the Southwest Water Authority infrastructure crossing and at the final tie-in on the southern end of the pipeline at Fryburg Station. Wenck observed that almost all topsoil had been put back on the ROW (Right-of-Way), except at some bore work area locations and a few other various locations. Erosion control devices (such as silt fences) were not installed yet. No trees were removed for pipeline construction. A few small shrubs had been removed that had grown in on the ROW of adjacent paralleling pipelines. The pipeline ROW generally used a 75 ft. ROW, while bore pull back/work areas generally used a 100 ft. ROW, work areas would start with the 75 ft. ROW, and then take an additional 20 ft. to one side and 5 ft. to the other side to total 100 ft. Construction appeared to be proceeding as planned.

Some of the observed areas of interest include (see attached pictures and map):

- Road bore work area for 30th St. used 100 ft. ROW (Photo #1, Point #222);
- Open cut wetland, did not use the full ROW to reduce impacts to the area. This wetland was not originally on Bridger’s maps, but their environmental inspector said it was a wetland (note cattails on edges in photo) (Photo #2, Point #223);
- Road bore work area for unnamed road used 100 ft. ROW. Topsoil piles observed on the sides, subsoil pile in middle. Not all subsoil has been replaced (Photo #3, Point #224);
- Road bore for unnamed road. Pipeline passed through a break in a tree row; avoided impacts to trees within ROW. On the right side of the road, soil had been replaced;

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on the left side of the road, topsoil and some subsoil still had to be replaced (Photo #4, Point #224);

- Road Bore area for 32nd St. bore. Topsoil piles visible along sides of ROW. Backfilling area had just been completed (Photo #5, Point #225);
- Pipeline bored underneath wetland area with minimal impact. Trucks had been driving on higher frozen ground near wetland; this could be an area of concern for soil compaction, especially if area is wet rather than frozen (Photo #6, Point #226);
- Pipeline bore underneath wetland area, topsoil piles along sides, extended ROW to 100 ft. for bore pull-back/work area. Topsoil had been replaced on south bore side, but not north side. Discing and reseeding have not been completed for any of the project. Trucks have been driving on higher frozen ground near wetland; this could be an area of concern for soil compaction, especially if area is wet rather than frozen (Photo #7, Point #227);
- Road bore work area, pipeline going west through agriculture field (Photo #8, Point #228);
- Two roads bored; bore crosses 35th St. on left of photo at a diagonal and unnamed road (Photo #9, Point #229);
- Road bore area near 134th St. Pipeline continues on to Forest Service Land, which is prairie (Photo #10, Point #230);
- Road bore work area of 134th St. Pipeline continues along tree rows, bottlenecks (smaller ROW area) as to not disturb two trees visible in distance. No trees were removed (Photo #11, Point #230);
- Pipeline ROW alongside tree row. No trees were removed (Photo #12, Point #231).

Lead Project Manager, Kevin Magstadt, and Environmental Scientist, Samantha Swanberg, prepared the report.

Kevin Magstadt, P.E., Principal/Regional Manager

Date

Samantha Swanberg, Environmental Scientist

Date

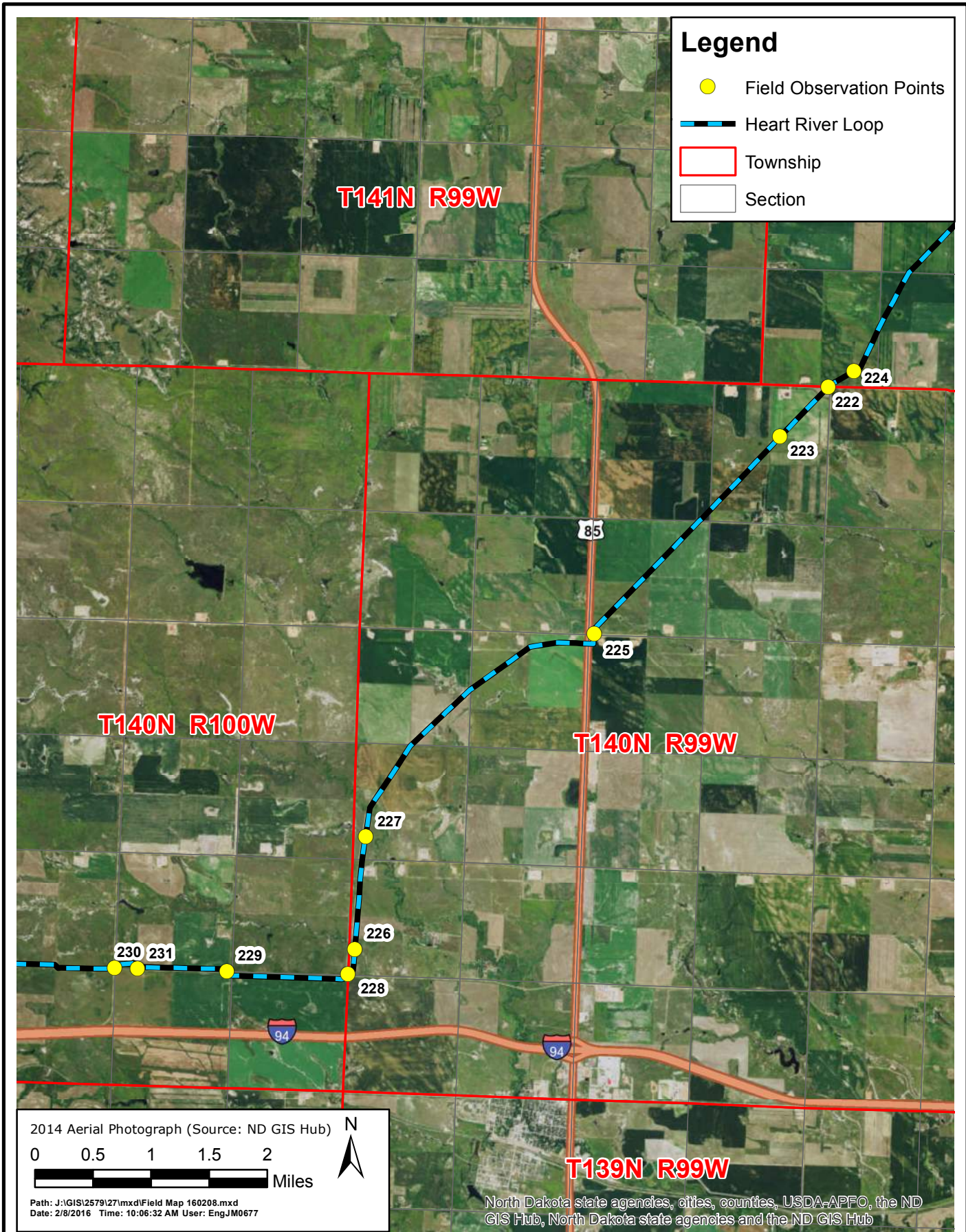
Enclosed

Attachment 1: Figure 1 – Inspection GPS Waypoints

Attachment 2: Photo Log with Notes

Attachment 1

Figure 1 – Interim Inspection GPS Waypoints



Attachment 2

Photo Log with Notes



Photo 1. Direction: Southwest (GPS Point #222). Road bore work area for 30th St. used 100ft ROW.



Photo 2. Direction: Southwest (GPS Point #223). Open cut wetland, did not use the full ROW to reduce impacts to the area. This wetland was not originally on Bridger's maps, but their environmental inspector said it was a wetland (note cattails on edges in photo).



Photo 3. Direction: Northeast (GPS Point #224). Road bore work area for unnamed road used 100ft ROW. Topsoil piles observed on the sides, subsoil pile in middle, not all subsoil has been replaced.



Photo 4. Direction: South (GPS Point #224). Road bore (unnamed road); pipeline passed through a break in a tree row (on right); avoided impacts to trees within ROW. On the right of the road, soil has been replaced; on the left of the road, topsoil and some subsoil still had to be replaced.



Photo 5. Direction: North (GPS Point #225). Pipeline road bore area for 32nd St. bore. Topsoil piles visible along sides of ROW. Backfilling area had just been completed.



Photo 6. Direction: North (GPS Point #226). Pipeline bored underneath wetland with minimal impact. Trucks had been driving on higher frozen ground near wetland; this could be an area of concern for soil compaction, especially if area is wet rather than frozen.



Photo 7. Direction: North (GPS Point #227). Pipeline bored underneath wetland area, topsoil piles along sides, extended ROW to 100ft for bore pull-back/work area. Topsoil had been replaced on south bore side, but not north side. Discing and reseeding have not been completed for any of the project. Trucks have been driving on higher frozen ground near wetland; this could be an area of concern for soil compaction, especially if area is wet rather than frozen.



Photo 8. Direction: Southwest (GPS Point #228). Road bore work area; pipeline going west through agriculture field.



Photo 9. Direction: Southeast (GPS Point #229). Two roads bored; bore crosses 35th St. on left of photo at a diagonal and unnamed road.



Photo 10. Direction: West (GPS Point #230). Road bore area near 134th St. (not pictured). Pipeline continues on to Forest Service Land, which is prairie.



Photo 11. Direction: East (GPS Point #230). Road bore work area of 134th Ave. Pipeline continuities along tree rows, bottlenecks (smaller ROW area) as to not disturb two trees visible in distance. No trees were removed.



Photo 12. Direction: East (GPS Point #231). Pipeline ROW alongside tree row. No trees were removed.