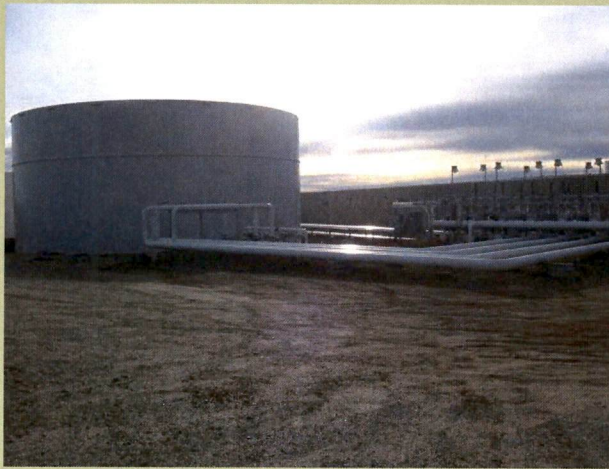


**Bakken Oil Express LLC  
16-inch Crude Oil Pipeline  
Dunn and Stark Counties  
Post-Construction Inspection Report**

**December 28, 2016  
Case No. PU-13-825**



**Prepared for:**



**Prepared by:**

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**109 PU-13-825 Filed: 12/29/2016 Pages: 26**  
**Post Construction Inspection Report**

Bakken Oil Express, LLC

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**APPENDICES**

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## 1.0 EXECUTIVE SUMMARY

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the Public Service Commission (Commission) to determine 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 the citizens of North Dakota. Commission construction inspections ensure that projects are constructed in compliance with the siting laws (North Dakota Century Code Chapter 49-22) and rules (North Dakota Administrative Code Article 69-06) and applicable Commission Orders.

The Commission retained ProSource Technologies, LLC (ProSource) to complete construction inspections of the Bakken Oil Express (BOE) 16-inch and 20-inch Crude Oil Pipeline Project (Project), Case No. PU-13-825 in Dunn and Stark Counties. The Project includes approximately 38 miles of crude oil pipeline that originates at a tanker truck unloading and pumping facility located near Killdeer in Dunn County, North Dakota and terminates at an existing BOE owned rail hub facility located southwest of Dickinson in Stark County, North Dakota. The Project utilizes 16-inch and 20-inch diameter steel pipe with a maximum operating pressure of 1,480 pounds per square inch gauge (psig). The maximum daily output is 165,000 barrels per day. Above-ground facilities include mainline valves, block valves, pig launching and receiving stations, rectifiers, and pipeline markers.

ProSource conducted three inspections; two of the inspections were conducted during construction and one of the inspections was conducted after construction and restoration was complete. The reports of the two inspections conducted during construction were filed with the Commission on May 19, 2014 and June 16, 2014, respectively. The post-construction inspection was conducted on November 15, 2016. ProSource has prepared this report to provide a summary of compliance with the Commission Orders.

The purpose of the post-construction inspection was to observe current site conditions at the Project, and to ensure the Project was constructed in compliance with the siting laws and rules and the Findings of Fact, Conclusions of Law and Order for Case No. PU-13-825 dated December 30, 2013. Photographs taken during the site inspection are included in Appendix A. Prior to the construction inspection, ProSource reviewed Project documents and filings.

Overall, field inspections concluded that the Project was in satisfactory condition and was constructed as planned with efforts to minimize impacts. The post-construction inspection identified specific areas where the revegetation appeared to be less than 70% compared to adjacent land. These areas were communicated to the Project representative.

Condition Number 31 of the Commission's Order states that the Company agrees to provide the as-built alignment sheet copies within 3 months of the completion of construction. According to the Weekly Construction Progress Report dated September 9, 2014, construction activities were complete. A copy of the as-built drawings for the pipeline alignment were filed by BOE on October 9, 2015. **The drawings were filed after the 3-month timeline.** Based on the field inspections and review of the records, with the exception of the late filed construction drawings and the specific revegetation areas, the Project was constructed in compliance with siting laws and rules, and applicable Commission Orders.

## 2.0 BACKGROUND AND SCOPE

On October 4, 2013, Bakken Oil Express, LLC (BOE) filed applications in Case No. PU-13-825 with the Commission for a certificate of corridor compatibility and a route permit to authorize construction of a 38-mile, 16-inch diameter crude oil pipeline in Dunn and Stark Counties, North Dakota. On December 19, 2013, BOE submitted a request to amend its applications for a corridor certificate and route permit to modify a 2.7-mile section of the pipeline corridor and route as requested by the property owner. On December 30, 2013, the Commission determined the amendment to the applications did not materially affect the applications and a rehearing in the proceeding was not required and issued a Certificate of Corridor Compatibility and Route Permit.

On December 30, 2013, the Commission adopted Findings of Fact, Conclusion of Law and Order (Order) issuing Certificate of Corridor Compatibility No. 150 and Route Permit No. 161 to BOE to authorize construction of the Project. On January 21, 2014, BOE filed with the Commission a request to amend the Order to change the approved pipeline diameter from 16 inches to 20 inches for the southernmost approximately four miles of the Project, to facilitate an interconnect with True Oil, LLC's Belle Fourche Pipeline. In addition, BOE filed an application to waive and reduce procedures and time schedules required under NDCC chapter 49-22. On February 26, 2014, the Commission issued an amended Certificate of Corridor Compatibility and Route Permit.

The Project includes approximately 38 miles of crude oil pipeline that originates at a tanker truck unloading and pumping facility located near Killdeer in Dunn County, North Dakota and terminates at an existing BOE owned rail hub facility located to the southwest of Dickinson in Stark County, North Dakota. The Project utilizes 16-inch and 20-inch diameter steel pipe with a maximum operating pressure of 1,480 pounds per square inch gauge (psig). The maximum daily output is 165,000 barrels per day. Above-ground facilities include mainline valves, block valves, pig launching and receiving stations, rectifiers, and pipeline markers.

According to Project records, BOE concluded that there is a need for the facility because the significant increase in oil extraction has outpaced efficient transportation methods. Increased production of crude oil and limited pipeline access combine to increase tanker truck traffic on North Dakota highways. According to BOE, the construction of additional pipelines would have a positive effect on efficient transportation of crude oil and would relieve some of the impacts resulting from trucking the crude oil. Construction of the Project would provide a reliable transportation method for up to 165,000 barrels per day; equivalent to reducing the traffic activity from Killdeer to Dickinson by up to 825 tanker trucks per day.

On November 15, 2016, ProSource conducted the post-construction inspection of the pipeline route and facilities. The photo documentation of the inspection is included in Appendix A of this report. Overall, the restoration appeared to be successful, however the inspection identified specific areas of thin revegetation that appeared to be less than 70% in comparison to adjacent non disturbed areas. These areas were communicated to the Project representative that accompanied the ProSource inspector. Section 3.0 describes the order conditions and compliance confirmation references.

### 3.0 ORDER CONDITIONS

#### Findings of Fact, Conclusions of Law and Order January 26, 2015

Order Number	Order Provision	Reference Confirmation
1	Company understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission will be subject to the conditions and criteria set forth in Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code, and that Company shall be responsible for compliance with this order and conditions and criteria set forth in the applicable laws and rules.	No issues of non-compliance were identified during the field inspections.  Areas of thin revegetation were identified during the post-construction inspection and communicated to the Project representative.
2	Company agrees to hold a preconstruction conference prior to commencement of any construction, which must include a Company representative, its construction supervisor, and a representative of Commission Staff, to ensure that Company fully understands the conditions set forth in the Commission's order.	The preconstruction meeting was held on January 3, 2014.
3	Company agrees to comply with the rules and regulations of all other agencies having jurisdiction over any phase of the transmission facility including all city, township, and county zoning regulations.	BOE agreed to comply with rules and regulations of all other agencies having jurisdiction over the facility.  BOE filed a list of environmental permits with the Commission on 12-10-13 as Late Filed Exhibit 7.
4	Company understands and agrees that it shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to construction activity associated with the transmission facility that requires said license or permit.	BOE agreed to comply with rules and regulations of all other agencies having jurisdiction over the facility.  BOE filed a list of environmental permits with the Commission on 12-10-13 as Late Filed Exhibit 7.

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 Bakken Oil Express 16-inch Crude Oil Pipeline, Dunn and Stark Counties

Order Number	Order Provision	Reference Confirmation
5	Company agrees to inform the Commission and the Commission's third-party construction inspector of its intent to start construction on the transmission facility prior to the commencement of construction. Once construction has started, Company shall keep the Commission and the Commission's third party construction inspector updated on construction activities on a weekly basis.	On January 9, 2014, BOE provided notice to the Commission and the Commission's third party inspector of its intent to start construction on January 13, 2014.  BOE filed weekly construction reports to provide updates during construction.
6	Company understands and agrees that the pipeline will be buried to a minimum depth from the ground surface to the top of the pipe of 48 inches in range land, 48 inches for cultivated land, 48 inches at the bottom of the ditch for road crossings, and 72 inches across undeveloped section lines.	BOE agreed to this construction condition.
7	Company understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission is subject to suspension or revocation and may, in an appropriate and proper case, be suspended or revoked for failure to comply with the Commission's order, the conditions and criteria of the certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.	No issues of non-compliance were identified during the post-construction field inspection.
8	Company agrees to maintain records that will demonstrate that it has complied with the requirements of the Commission's order issuing a Certificate of Corridor Compatibility or Route Permit, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.	BOE has agreed to maintain the required records.
9	Company agrees to construct and operate the transmission facility in the manner described in Company's application, in any late filed exhibits, and supplemental materials (Application). To the extent there are any conflicts or inconsistencies between Company's Application and the provisions in this Certification Relating to Order Provisions, the Certification provisions control.	No issues of non-compliance were identified during the field inspection.

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Order Number	Order Provision	Reference Confirmation
10	Company agrees to report promptly to the Commission the presence in the permit area of any critical habitat or threatened species, endangered species, bald eagles, or golden eagles of which Company becomes aware and which were not previously reported to the Commission.	No previously unreported discoveries of threatened or endangered species were communicated to inspection staff.
11	Company understands and agrees that all cultural resource mitigation plans must be submitted to the North Dakota State Historic Preservation Office and approved prior to the start of any fieldwork and construction activity in the affected area.	BOE filed the Class I Cultural Resource Investigation Report on 12-10-14 as Late Filed Exhibit 5.  BOE filed the State Historic Preservation Office concurrence letter on 12-10-14 as Late Filed Exhibit 6.
12	Company understands and agrees that if any cultural resource, paleontological site, archeological site, historical site, or grave site is discovered during construction, it must be marked, preserved and protected from further disturbances until a professional examination can be made and a report of such examination is filed with the Commission and the State Historical Society and clearance to proceed is given by the Commission.	No discoveries of cultural resources during construction were communicated to the inspection staff.
13	Company understands and agrees that all buried facility crossings of graded roads must be bored unless the responsible governing agency specifically permits Company to open cut the road.	BOE agreed to this condition.
14	Company understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or	The post-construction inspection did not identify road restoration issues.

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Order Number	Order Provision	Reference Confirmation
	better than the condition prior to the construction of the transmission facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.	
15	Company understands and agrees that construction must be suspended when weather conditions are such that construction activities will cause irreparable damage to roads or land, unless adequate protection measures approved by the Commission are taken.	BOE agreed to this condition.
16	Company understands and agrees that all topsoil, up to 12 inches, or topsoil to the depth of cultivation, whichever is greater, over and along trench areas where cuts will be made, must be stripped and segregated from the subsoil. Except along segments of the line using the double ditching method, any area on which excavated subsoil will be placed must also be stripped of topsoil. After backfilling is completed, any excess subsoil must be placed over the excavation area, blending the grade into existing topography. Topsoil must be replaced over areas from which it was stripped only after the subsoil is replaced.	<p>Mixing of topsoil and subsoil was identified during the Interim Construction Inspection conducted by ProSource on 3-12-14 and was communicated to Project representative.</p> <p>Photos of the topsoil mixing are included in the Interim Inspection Report.</p>
17	Company understands and agrees that reclamation, fertilization, and reseeding is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.	<p>BOE agreed to this condition.</p> <p>Areas of thin revegetation were identified during the post-construction inspection and communicated to the Project representative.</p>
18	Company understands and agrees that its obligation for reclamation and maintenance of the right-of-way will continue throughout the life of the transmission facility.	BOE agreed to continue the reclamation and maintenance of the right-of-way throughout the life of the transmission facility.
19	Company understands and agrees that its obligation for reclamation and maintenance of the transmission facility, associated facilities, and roadways will continue throughout the life of the transmission facility.	BOE has agreed to continue the reclamation and maintenance of these sites throughout the life of the transmission facility.
20	Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached.	BOE agreed to comply with its Tree and Shrub Mitigation

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Order Number	Order Provision	Reference Confirmation
		Specifications attached to the Commission's Order.
21	Company certifies all fences and gates removed or damaged during all phases of construction were repaired or replaced, and all fences and gates removed or damaged during operation of the transmission facility shall be repaired or replaced.	BOE certified this condition.  No issues of non-compliance related to fences or gates were identified during the post-construction inspection.
22	Company understands and agrees that it shall repair or replace all drainage tile broken or damaged as a result of construction and operation of the transmission facility.	BOE agreed to this condition.  No drainage tile issues were communicated to the inspector.
23	Company understands and agrees that staging areas or equipment shall not be located on land owned by a person other than Company unless otherwise negotiated with landowners.	No issues with the location of staging areas or equipment were identified during the field inspection.
24	Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.	No issues of improper disposal of waste was identified during the field inspection.
25	Company understands and agrees that it shall, as soon as practicable upon the completion of the construction of the transmission facility, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.	Areas of thin revegetation were identified during the post-construction inspection and communicated to the Project representative.
26	Company understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the transmission facility.	BOE agreed to this condition.  The BOE storage facilities are fenced with controlled access.

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Order Number	Order Provision	Reference Confirmation
27	Company understands and agrees that it shall advise the Commission of any extraordinary events which take place at the site of the transmission facility, including injuries to any person, or the death of any threatened or endangered species on the site within five business days of such event.	No extraordinary events were communicated to the inspection staff.
28	Company understands and agrees that it shall implement a procedure for how complaints concerning the transmission facility will be handled by Company.	BOE has agreed to implement a procedure for handling complaints concerning the transmission facility.
29	Upon request, Company agrees to provide the Commission with engineering design drawings of the transmission facility prior to construction.	BOE filed pipeline alignment drawings on 10-4-13 as Appendix C-1 of the Consolidated Application for a Certificate of Corridor Compatibility and Route Permit Application.
30	Company understands and agrees that it shall inform the Commission in writing of any plans to modify the transmission facility or of any plans to modify the site plan for the transmission facility. Company understands and agrees to obtain written approval from the Commission prior to any modifications to the site plan or the transmission facility. Approval may be granted after notice and opportunity for hearing.	BOE agreed to inform the Commission in writing of any plans to modify the transmission facility or site plan of the transmission facility.
31	Company agrees to provide the Commission with both an electronic and a paper copy of the corridor approved by the Commission and the facility design specifications for the construction of the transmission facility showing the location of the transmission facility as built, and will provide this information within 3 months of the completion of the construction. Company also agrees to provide an electronic version of the corridor approved by the Commission and the facility design specifications for the construction of the transmission facility showing the location of the transmission facility as built that can be imported into ESRI GIS mapping software within 3 months of the completion of the construction. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS	According to the Weekly Construction Progress Report dated September 9, 2014, construction activities were complete.  BOE filed a paper copy and an electronic copy of the as-built drawings for the pipeline alignment on October 9, 2015.  <b>The drawings were filed after the 3-month timeline.</b>

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Order Number	Order Provision	Reference Confirmation
	84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.	
32	Company understands and agrees that the authorizations granted by any Certificate of Corridor Compatibility or Route Permit issued by the Commission for the transmission facility are subject to modification by order of the Commission if deemed necessary to protect further the public or the environment.	BOE agreed to this Condition.
33	Company understands and agrees that in the event Company desires to construct, within any corridor granted by a Certificate of Corridor Compatibility in this proceeding, a transmission facility or energy conversion facility that was not included in Company's application in this proceeding, Company shall apply to the Commission for a Route Permit or Site Certificate for the facility.	BOE agreed to this Condition.
34	Company shall notify the Commission, as soon as reasonably possible, if any damage, as defined by North Dakota Century Code Chapter 49-23, occurs to underground facilities during construction conducted under the certificate or permit issued in this proceeding. In the event of any damage to underground facilities, Company shall suspend construction in the vicinity of the damage until compliance with One-Call Excavation Notice System requirements under North Dakota Century Code Chapter 49-23 has been determined and clearance to proceed has been given by the Commission.	No reports of damage to underground facilities were reported to the inspection staff.
35	Company understands and agrees that the corridor certificate and route permit are subject to suspension or revocation and may, after hearing, be suspended or revoked for failure to comply with the Commission's order, requirements of the One-Call Excavation Notice System under North Dakota century Code Chapter 49-23, the conditions and criteria of the	BOE agreed to this Condition.

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Order Number	Order Provision	Reference Confirmation
	certificate or permit or subsequent modification, or failure to comply with applicable statutes, or rules, regulations, standards, and permits of other state or federal agencies.	
36	(For a gas or liquid pipeline) Company agrees to utilize the applicable procedures if Company seeks a route adjustment before or during construction of the pipeline, pursuant under N.D.C.C. §49-22-16.3.	BOE agreed to this route adjustment Condition.

#### 4.0 CONCLUSION

Overall, the Project was in satisfactory condition and was constructed as planned with efforts to minimize impacts. The post-construction inspection identified specific areas where the revegetation appeared to be less than 70% compared to adjacent land. These areas were communicated to the Project representative.

Condition Number 31 of the Commission's Order states that the Company agrees to provide the as-built alignment sheet copies within 3 months of the completion of construction. According to the Weekly Construction Progress Report dated September 9, 2014, construction activities were complete. A copy of the as-built drawings for the pipeline alignment were filed by BOE on October 9, 2015. **The drawings were filed after the 3-month timeline.**

Based on the inspections and review of the records, with the exception of the late filed as-built construction drawings, and the specific revegetation areas, the Project was constructed in compliance with siting laws and rules, and applicable Commission Orders.

**5.0 SIGNATURE**

Recommendations and findings contained in this report are based on available information and technically accepted practices at the present time.

Project Manager David Hennen, Director of Environmental Services, prepared this report.



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David E. Hennen, Director of Environmental Services

12-28-16

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Date

## 6.0 REFERENCES

North Dakota Public Service Commission (NDPSC) Online Case Search. Available from <http://www.psc.nd.gov/database/documents>. Accessed December 2016.

# APPENDIX A

## Photographs

**PHOTOGRAPHS**



Photo 1 – Station 2016+34. View of interconnect with tank facilities near Dickinson.



Photo 2 – Station 2016+34. View of interconnect facilities.

**PHOTOGRAPHS**



Photo 3 – Approx. Station 2010+00. View of pipeline right of way adjacent to railroad looking east.



Photo 4 – Approx. Station 2005+00. View of pipeline right of way looking west.

**PHOTOGRAPHS**



Photo 5 – Approx. Station 1975+00. View of restoration in field looking east.



Photo 6 – Approx. Station 1900+00. View of restoration in field north of Highway 10.

**PHOTOGRAPHS**



Photo 7 – Approx. Station 1850+00. View of restoration on north side of I94 looking north.

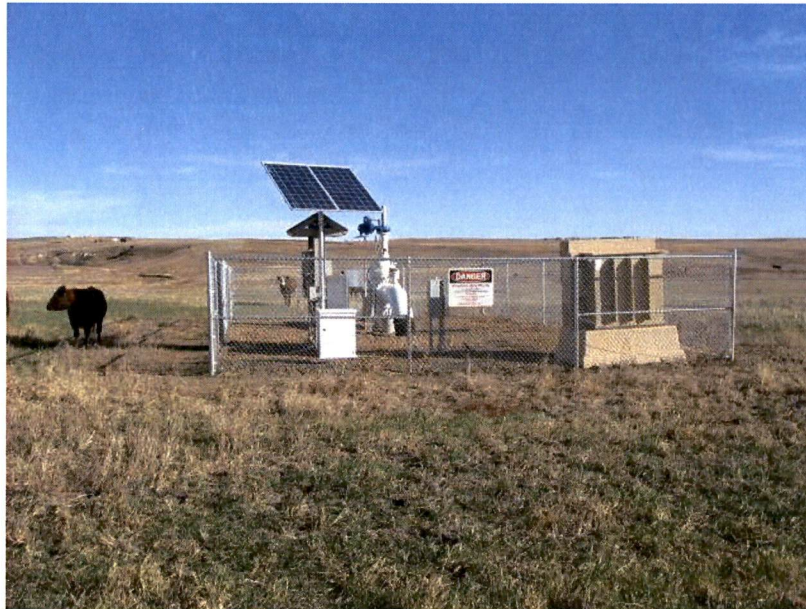


Photo 8 – Approx. Station 1835+00. View of block valve on north side of I94.

**PHOTOGRAPHS**



Photo 9 – Approx. Station 1785+00. View of True Oil valve site.



Photo 10 – Approx. Station 1781+00. View of cover crop looking north.

**PHOTOGRAPHS**



Photo 11 – Approx. Station 1520+00. View of agricultural area looking east.



Photo 12 – Approx. Station 820+00. View of fallen pipeline marker.

**PHOTOGRAPHS**



Photo 13 – Approx. Station 590+00. View of revegetation less than 70% on hillside.



Photo 14 – Approx. Station 530+00. View of valve set north of 14<sup>th</sup> Street SW.

**PHOTOGRAPHS**



Photo 15 – Approx. Station 365+00. View of revegetation less than 70% north of 11<sup>th</sup> Street SW.



Photo 16 – Approx. Station 160+00. View of revegetation less than 70% south of 7<sup>th</sup> Street SW.

**PHOTOGRAPHS**



Photo 15 – Approx. Station 160+00. View of revegetation less than 70% south of 7<sup>th</sup> Street SW.



Photo 16 – Approx. Station 160+00. View of revegetation less than 70% south of 7<sup>th</sup> Street SW.

**PHOTOGRAPHS**



Photo 15 – Station 0+00. View of interconnect location.



Photo 16 – Station 0+00. View of tank facility at interconnect location.