KEITU
ENGINEERS & CONSULTANTS, INC.

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October 17, 2011

North Dakota Public Service Commission
Darrell Nitschke
Executive Secretary
600 E. Boulevard Avenue Dept. 408
Bismarck, ND 58505-0489

Re: Case No. PU-08-844 Contract No. PU-599-10

Dear Mr. Nitschke,

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. A final report was sent to you electronically via email. Enclosed is an original and copy of the final report for the post-construction inspection of Case No. PU-08-844.

The Executive Summary identifies items that still need attention by the Commission staff and siting applicant to ensure that the facilities for the project have been constructed in compliance with items identified by the ND Public Service Commission. Once these items are addressed, the Commission can act on final closeout of the construction phase of the project.

Should Commission staff or the NDPSC have any questions, please contact me for assistance.

Sincerely,

Timothy Spilman

Timothy Spilman
Project Manager

Enclosures

Whiting Oil and Gas Corporation Post-Construction Inspection 8-inch Oil Line/ Mountrail County

Prepared by Timothy Spilman, Project Manager, Keitu Engineering & Consultants, Inc.
Final Report

Executive Summary

On November 17, 2008, Whiting Oil and Gas Corporation (Whiting) filed an application to site a 17-mile, eight-inch crude oil pipeline (Pipeline) from a storage site near its Robinson Lake Gas Processing Plant to an existing Enbridge Pipelines (North Dakota) LLC (Enbridge) facility southeast of the town of Stanley, all in Mountrail County, North Dakota. This pipeline was constructed.

An April 17, 2008 letter from the ND Department of Health to Whiting (Dockert 023-040 page 147/310) granted a storm water permit but was for PU-08-843 not PU-08-844. The permit said it was for the plant and gas pipeline. The Commission should request that Whiting provide a copy of the letter granting the permit or the storm water permit for the crude oil pipeline to complete Order # 6.

A date of project completion and an in-service date was not found in Commission Case file No. PU-08-844. The Commission should request Whiting provides the Commission with a project completion date and an in-service date to complete Order # 8 & # 24.

No record was found in the Commissions file of a pressure test to establish the MOP of 1000 psig. Passing the pressure test insures that no irreparable damage occurred on the station piping during construction and operation of the stations are within design limits. A letter can be submitted with a summary of description what was tested, actual pressure, length of time tests occurred, final pressure, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating. A written record of all pressure tests for the pipeline needs be provided by Whiting to complete Order # 9 & # 15.

In reviewing the as-built maps and station description (Dockert #56 pages 2-5) each bore is identified in green color. No begin bore or end bore were found on the as builts drawings for 48th Street Northwest, 53rd Street Northwest, and 57th Street Northwest. Therefore, 3 road crossings were not bored. Order # 11 was not followed.

Based on the Commission's file, the Tree and Mitigation Specifications attached to the Order are not completed. Whiting needs to provide the Commission with documentation identifying the actual number, variety, type, location, and date of the replacement plantings. Whiting must also provide the Commission with tree and shrub replacement inspections for three years after the replacement plantings occurred so the Commission may take proper action to complete Order #22.

The May 12, 2010 Whiting letter from Crowley Fleck PLLP had an enclosure noted that a GIS format of the pipeline was included. No GIS format was found in the Commission's Case file PU-08-844. The Commission should request Whiting provide GIS pipeline shape files to the Commission as part of Order #24 if they already do not have them.

All pipeline markers for the entire line should have the same company and contact number for the operator. The above ground piping and valve at Station 889 + 71 should be painted as required during initial construction. Whiting or its pipeline operator should correct these items and provide the Commission with notification that this work is completed for completion of Order # 25.

Whiting Oil and Gas Corporation has complied with all other Order requests of the Commission for PU-08-844.

Preliminary Statement

On November 17, 2008, Whiting Oil and Gas Corporation (Whiting) filed an application to site a 17-mile, eight-inch crude oil pipeline (Pipeline) from a storage site near its Robinson Lake Gas Processing Plant to an existing Enbridge Pipelines (North Dakota) LLC (Enbridge) facility southeast of the town of Stanley, all in Mountrail County, North Dakota. This pipeline follows a Whiting Oil and Gas Corporation (Whiting) 16-mile, six-inch natural gas pipeline (PU-08-843) from its Robinson Lake Gas Processing Plant to an interconnection with Williston Basin Interstate Pipeline Company's (WBI) interstate transmission line southeast of the town of Stanley, North Dakota, that was constructed a year earlier and was being approved by the Commission at the same time.

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. This report only addresses the Orders established by the NDPSC and issues established in File No. PU-08-844.

The Commission orders:

1. Whiting Oil and Gas Corporation's application for a waiver of procedures and time schedules are granted.

Whiting Oil and Gas Corporation asked for a waiver of procedures and time schedules in the application for a certificate of Corridor Compatibility and Route Permit (Dockert 23 Exhibit #1). The PSC granted waiver of time scheduled and allow waiver of procedures with the issuing of the Certificate of Corridor Compatibility and the Route Permit as long as state and federal agencies with jurisdiction approved the procedures (Dockert #032-040.pdf, Order #1). Order # 1 was completed.

2. Certificate of Corridor Compatibility Number 109 is issued to Whiting, designating a corridor for its proposed pipeline project.

Construction occurred within the Corridor based on comparing as-built drawings with the proposed. The post construction field inspection also verified the pipeline was constructed within the corridor. Order #2 was completed.

3. Route Permit Number 119 is issued to Whiting, granting authority to construct and operate an 8-inch crude oil pipeline in Mountrail County.

The route was followed as described prior to construction. A June 30, 2009 letter (Dockert #36-010) identified two additional reroutes that Whiting notified the Commission about prior to the start of construction. Block valve locations were also relocated and spelled out in the letter. The application route with the reroutes of the June letter was followed. Order #3 was completed.

4. The Certificate of Corridor Compatibility Number 109 and Route Permit Number 119 are effective for the life of the pipeline, but are subject to modification by order of the Commission if deemed necessary to further protect the public or the environment.

Case File No. PU-08-844 does not contain any information that the Commission should deem necessary to modify the Certificate of Corridor Compatibility (Number 109) and Route Permit (Number 119) of February 25, 2009. No modification to the corridor and route permit is required at this time. Order # 4 is currently in compliance with no modifications required.

5. Whiting must obtain approval from the Commission prior to any changes in the facility route or structure locations.

An email (Dockert #38) granting Whiting Oil and Gas Company approval of the route and facility changes was sent to Whiting on July 2, 2009. Commission acknowledged staff approval of the route changes in the June 30, 2009 letter on July 8, 2009 in a letter to Whiting (Dockert #40). Compliance with Order # 5 was followed.

6. Whiting shall comply with the rules and regulations of all other agencies having jurisdiction over any phase of the proposed pipeline, shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission.

The application for the corridor certificate and route permit for the pipeline identified correspondence and conditional approvals of the US Army Corp of Engineers (COE), US Fish and Wildlife Service (FWS), ND Natural Conservation Service, NDSHPO, ND Game and Fish Department, ND Parks and Recreation Department, ND lands Department, and ND Health

Department. The COE did not identify any specific wetland concerns with the project provided best management practices are implemented during construction.

The FWS responded on September 30, 2008, stating they concurred with Whiting's assessment that the project will not affect federally-listed species. No waterfowl production lands were crossed by the oil pipeline. These items were addressed and were part of the order granting of corridor certificate and route permit.

The ND Department of Health (Dockert #13) letter of December 15, 2008 reviewed the information concerning this project with respect to possible environmental impacts. They issued the following comments with respect to construction. A post construction discussion follows each item:

1. All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.

The weather conditions during construction were wet which reduced dust emissions. No complaints were issued in Case No. PU-08-844 documentation. This condition was met.

2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site.

Whiting bored all wet wetland during construction. Whiting followed mitigation measures to minimize impacts on wetlands:

- Strip the existing amount of topsoil, up to a maximum depth of 6 inches, from over the trench in unsaturated wetlands (where there is less than 6 inches of topsoil strip the existing amount); and
- In unsaturated wetlands, store topsoil and subsoil in a manner that kept them separate and restored the land as close as practical to its original condition. Seeding of wetland was done in a timely fashion.

Whiting's Construction Superintendant was responsible for overseeing the contractor's compliance with environmental requirements and permits during construction. The construction Superintendant would recommend corrective measures if non-compliance was observed. If environmental damage is imminent, the Construction Superintendant would stop the activity in question until the concern was resolved.

No record of any spills was found in Case No. PU-08-844 records.

3. Oil and gas related construction activities disturbing five or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit may be obtained from the Department's website or by calling the Division of Water Quality (701-328-5210). Also, cities or counties may impose additional

requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed. No record of a general permit for Stormwater Discharges from Construction Activity was found in Case No. PU-08-844 records.

An April 17, 2008 letter from the ND Department of Health to Whiting (Dockert 023-040 page 147/310) granted a storm water permit but was for PU-08-843 not PU-08-844. The permit said it was for the plant and gas pipeline. The Commission should request that Whiting provide a copy of the letter granting the permit or the storm water permit for the crude oil pipeline to complete Order # 6.

4. Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

Noise sensitive land uses include locations that require a serene environment as part of the overall facility or residential experience, such as a school, hospital, church or residence. The project is located in a rural, agricultural setting with very few noise sensitive receptors located along the proposed route corridor. No schools or hospitals are located within the proposed route corridor. Two churches and eleven residences are located within the proposed route corridor, but are more than 500 feet away from the proposed pipeline route. Noise sensitive receptors close to construction would be exposed to temporary increases in noise from the operation of heavy equipment. The effects of construction noise would be less noticeable along much of the proposed pipeline route that runs parallel and adjacent to CSAH 8 where these areas already experience increased noise levels from highway vehicular traffic. Nighttime and weekend noise levels would be unaffected by construction, as most construction is typically restricted to daylight hours on weekdays. The only permanent noise impact from the project would be near the Plant where oil pumping and transportation facilities would be located. No residences are located within the proposed route corridor near the Plant, and therefore the noise impact will not affect any residents. No noise complaint was found in Case file No. PU-08-844 records.

The ND Department of Health (Dockert #13) also established construction and environmental disturbance requirements. These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. This project was designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site. The following are the requirements and post construction discussion.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately

establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Whiting construction methods with the topsoil being graded to the edges of the ROW helped keep erosion within the ROW area. Whiting installed and maintain appropriate erosion control measures to reduce sedimentation and water quality degradation of wetlands and streams. Silt fences were used for erosion control during construction. Pictures of fences were submitted with progress reports (Dockert #48-010 pages 7, 8, and 9). Adequate erosion control was maintained based on evaluating the pipeline route on Google Earth 2010 using the June 23, 2009 view.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Construction was managed to minimize impacts to surface waters.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations).

Whiting did not use any fill material on the project. Existing soil was put back in place as found after construction and reclaimed to original condition.

Whiting Oil and Gas Corporation (Whiting) sent a June 30, 2009 letter (Dockert #036-10) to the NDPSC providing preconstruction information and supporting documentation. The letter addressed final route and facility changes, archaeological re-routes and added 4 new wetland locations due to wet weather conditions. The letter also addressed US Fish and Wildlife Service (FWS) bird nesting status with construction beginning after the end of breeding season.

Construction began on the north end of the pipeline and proceeded south as FWS concurred with this method.

Whiting Oil and Gas Corporation (Whiting) sent a June 30, 2009 letter (Dockert #036-10) to the NDPSC providing preconstruction information and supporting documentation. Item #3 on page 3 provided road crossing permits. Two highway crossing permits for Highway #8 were supplied (Dockert #036-020 Pages 16 and 28 of 76). The highway permits were granted and the evidence was provided.

7. **Whiting shall conduct a preconstruction conference prior to the commencement of construction, which must include a Whiting representative, its construction supervisor, and a representative of Commission staff to ensure that Whiting fully understands the conditions set forth in the Commission's order.**

Dockert #35 identifies a PSC staff letter that a preconstruction conference was held on June 23, 2009. Pat Fahn identified Brent Miller (Whiting's Operations Manager), Steve Meagher (Whiting's Construction Superintendent), Bill Regan (Environmental Consultant from Merjent) and Pat in attendance. Whiting authored a June 30, 2009 (Dockert #36-010) follow up letter with final preconstruction information. Order # 7 is completed.

8. **Whiting shall inform the Commission of its intent to start construction on the pipeline prior to the commencement of construction, report to the Commission on the date construction has started, and once construction has started, it shall keep the Commission updated on construction activities on a weekly basis.**

The June 30, 2009 letter (Dockert # 36-010) from Whiting requested Commission approval to begin construction on July 7, 2009. Whiting sent Patrick Fahn an email on July 17th, 2009 (Dockert #41) stating that the construction had began on July 16th and sent a progress report of the first day's construction activities. Whiting sent a weekly progress report to the Commission (Dockert item #41-52) to keep the Commission updated on construction activities on a weekly basis. Weekly progress reports where through and complete.

A date of project completion and an in-service date were not found in Commission Case file PU-08-844. Whiting needs to provide the Commission with a project completion date and an in-service date to complete Order # 8.

9. **Whiting shall construct and operate the pipeline in the manner described in its application, in any late filed exhibits and supplemental materials, and in accordance with all applicable safety requirements.**

In reviewing the weekly progress reports, Whiting contracted PEARL as the general contractor out of Sheridan, WY. Based on the highway crossing permits, the boring contractor was ARP Enterprises of Bowman, ND (Empire Oil Company of Williston ND was the owner's agent). Weekly progress reports gave good construction information to assist in the evaluation of Order # 9. Line construction started on the north end and progressed south. This was a requirement of NDSHPO and was met. Construction started on July 16th which was after wildlife breeding season (Feb. 1st to July 15th). Line marker signs (Dockert #48-010 page 14) were installed for future operation. Silt fences (Dockert #48-010 pages 7, 8, and 9) were used for erosion control during construction. All welds were x-rayed prior to burying the pipe. Based on construction pictures (Dockert #48-010 pages 4-20), best practices were used during construction. Weekly progress reports identified boring length, welds, tie-ins, repairs, pipe length buried, pipe welded, and footage of line cleaned up and amount of land reclaimed. The map given with the final route proposed (Dockert #36-020) identified required bores. Weekly reports also gave documented

evidence the pipeline was pigged 6 times when completed and hydro tested. The pipeline as built (Dockert #56 pages 2-5) and the final proposed route (Dockert #36-020 pages 1-11) reflect the same route. The route was also verified using Google Earth.

Whiting had constructed the pipeline in the manner identified in the application, late exhibits and supplemental material. Whiting is currently operating the pipeline and looks to be following the manner described by the Commission's requirements.

The pictures during construction (Dockert #48-010 pages 4-20) did not show any safety violations during construction. Weekly reports (Dockert #41-52) had documented evidence of safety meetings being held during construction. Topics included were safe driving, open ditch safety, safety glasses, safety equipment, safety around line crossings, and PPE. Whiting followed applicable safety requirements.

There was no record of a pressure test to establish the MOP of 1000 psig. Passing the pressure test insures that no irreparable damage occurred on the station piping during construction and operation of the stations are within design limits. A written record of each pressure test for the pipeline needs be provided by Whiting to complete Order # 9. A letter can be submitted with a summary of description what was tested, actual pressure, length of time tests occurred, final pressure, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating.

10. The pipeline shall be buried to a minimum depth from the ground surface to the top of the pipe of 48 inches in rangeland, 48 inches for cultivated land, 48 inches at the bottom of the ditch for road crossings, and 72 inches across undeveloped section lines.

Construction pictures (Dockert #480-010 pages 4-20) showed trenching with depths that look to over 48 inches to the top of the pipe. During the post inspection, Keitu verified a pipe depth of 56 inches for rangeland and cultivated land. 52nd Street Northwest was the only undeveloped section line.

Minimum depth from ground surface to the top of the pipe was maintained at random areas spot checks during the post construction survey. Order #10 was followed.

11. All crossings of graded roads shall be bored unless the responsible governing agency specifically permits Whiting to open cut the road.

The final proposed route (Dockert #36-010 pages 1-11) identified 15 road bores. Fourteen were street bores (46th St. NW, two Highway 8 crossings, 47th St. NW, 48th St. NW, 49th St. NW, 51st St. NW, 54th St. NW, 55th St. NW, 56th St. NW, 57th St. NW, 58th St. NW, 59th St. NW, and 61st St. NW) and one was a service road bore on the north end of the project. In reviewing the as-built maps and station description (Dockert #56 pages 2-5) each bore is identified in green color. No begin bore or end bore were found on the as builts for 48th Street Northwest, 53rd Street

Northwest, and 57th Street Northwest. Therefore, 3 road crossings were not bored. Order # 11 was not followed.

12. The width of clear cuts through any wooded areas and shelterbelts shall be kept at a maximum of 50 feet where possible.

The application for the Corridor certificate and route permit (Dockert #3) identified four locations of shelter belts. Google Earth 2010 (June 23, 2009 aerial view) was used to review the pipeline path for shelter belts. Using the distance tool, a north/south shelter belt about halfway between 55th St. NW and 56th St. NW had a width of 48.6 feet parallel to the pipeline. An additional shelter belt with three rows is located about 1300 feet north of 54th St. NW. Based on the aerial view of these shelter belts, all three rows were bored. These were the only four rows of shelter belt trees along the pipeline. Therefore, the shelterbelts kept under the maximum of 50 feet.

Two wooded areas were located in the area of 60th St NW. Google Earth distance tool was again used. North of 60th St NW the width was 46.5 feet and south of 60th St. NW the width was 48.5 feet. One more additional woodland area is located just south of the south Hwy 8 road crossing. The width through this site was 50 feet. Therefore, all wooded areas were cleared to a width of 50 feet or less.

Order # 12 was followed during construction.

13. Whiting shall promptly report to the Commission the presence in the permit area of any critical habitat of threatened species, endangered species, bald eagles, or golden eagles that Whiting becomes aware of and which were not previously reported to the Commission.

Six listed species were identified in Mountrail County; including four endangered species, one threatened species (with designated critical habitat), and one candidate species. The identified species include:
Gray wolf (*Canis lupus*) - federally endangered;
Interior least tern (*Sterna antillarum*) - federally endangered;
Pallid sturgeon (*Scaphirhynchus albus*) - federally endangered;
Piping plover (*Charadrius melodus*) - federally threatened with designated critical habitat in Mountrail County;
Whooping crane (*Grus Americana*) - federally endangered; 264 in state of ND, and
Dakota skipper (*Hesperis dacotae*) - federal candidate species.

The FWS responded on September 30, 2008, stating they concurred with Whiting's assessment that the project will not affect federally-listed species. Whiting did not see any habitat of threatened species, endangered species, bald eagles, or golden eagles during construction based on weekly reports (Dockert #041-052). Order #13 has been met.

14. Whiting shall comply with the measures set forth in the U.S. Fish and Wildlife Service's February 11, 2009 and September 30, 2008 letters, including the conduct of a field survey by a qualified biologist if construction occurs during the February 1 and July 15 breeding season, and shall provide copies of any notifications to the Fish and Wildlife Service to the Commission.

The following items were measures set forth by the USFWS in a September 30th, 2008 letter with their project post construction evaluations:

a) Schedule concerns about construction during breeding season. Construction started on July 16th which was after wildlife breeding season (Feb. 1st to July 15th), this was not an issue.
b) Make no stream channel alterations or change in drainage patterns. Following the pipeline route on Google Earth 2010 comparing the June 23, 2009 aerial view to the historical September 23, 1997 aerial view, no stream channels alterations or changes in drainage were found.
c) Locate construction to avoid placement of fill in wetlands along route. Evaluating the pipeline route on Google Earth 2010 comparing the June 23, 2009 aerial view to the historical September 23, 1997 aerial view, no fill could be identified in wetland areas. Construction invoices did not document any fill as well. Therefore, placement of fill in wetlands was avoided.
d) Replace unavoidable loss of wetlands with functionally equivalent wetlands. Wetlands were bored or restore after construction. No replacement wetlands were required.
e) Install and maintain appropriate erosion control measures to reduce sedimentation and water quality degradation of wetlands and streams. Silt fences were used for erosion control during construction. Pictures of fences were submitted with progress reports (Dockert #48-010 pages 7, 8, and 9). Adequate erosion control was maintained based on evaluating the pipeline route on Google Earth 2010 using the June 23, 2009 view.
f) Reseed disturbed areas with native plant species immediately after construction to reduce erosion. Weekly progress reports (Dockert #47-52) identified reclamation and cleanup along the pipeline to 100% of the line. Looking at the pipeline from a June 23, 2009 aerial view on Google Earth 2010 shows vegetation growth along the right of way. Reseeding occurred immediately after construction occurred based on the weekly reports.

February 11th, 2009 USFWS letter was an email (Dockert 030-010) requiring a qualified biologist if construction occurred during breeding season February 1st through July 15th. Construction started on July 16th which was after wildlife breeding season. No qualified biologist was required because construction started after breeding season. Order # 14 was followed during construction.

15. Construction must be suspended when weather conditions are such that construction activities will cause irreparable damage, unless adequate protection measures approved by the Commission are taken.

The Robinson Lake Nexen 8" Oil line was constructed in late summer/early fall. Construction began on July 16, 2009 with final clean up being completed on September 21, 2009. Weekly construction progress reports (Dockert #41-52) mentioned rain days. Comments on reports mentioned some construction being suspended until some construction areas were dried. Whiting acted responsible based on reports. All final welds passed x-ray tests. Therefore, if welding occurred during raining, tenting of the welds occurred as a protection measure. The pipeline was hydro tested upon completion to establish a Maximum Operating Pressure. Passing the pressure test insures that no irreparable damage occurred on the pipeline during construction. No records of the hydro tests were found in the Commission's file PU-08-844. Whiting should provide the Commission copies of all hydro tests for completion of Order #15. A letter can be submitted with a summary of description what was tested, actual pressure, length of time tests occurred, final pressure, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating.

16. 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 any further construction activity.

Whiting Petroleum Company constructed the oil pipeline between their Robinson Lake Processing Plant and the Enbridge Pipeline Stanley Pumping Station in Mountrail County, North Dakota. This crude oil pipeline was located approximately 45 feet east of a natural gas pipeline that the company constructed in the summer of 2008. Merjent, Inc., on behalf of Whiting Petroleum Company, contacted Metcalf Archaeological Consultants, Inc. to conduct a cultural resource inventory of the pipeline corridor and a block immediately east and south of the Enbridge Pumping Station.

The NDSHPO in a September 10, 2008 letter (Dockert 003-020) to Mergent, received and reviewed the Whiting correspondence and documentation of September 9 and found it acceptable. The NDSHPO concurred with the scope of identification efforts as proposed and the recommended proposed route.

The Cultural Resource Inventory Report (Dockert #23, Exhibit 3) was issued before the hearing. NDSHPO issued a December 15, 2008 letter (Dockert #23) that stated that they received, reviewed the correspondence, and found it acceptable.

The goals of the cultural resources investigation for the Robinson Lake Pipeline Project were to avoid or minimize the impacts to significant historic properties during construction of the oil pipeline, and to assess the impacts to cultural resources. The project followed the North Dakota SHPO Guidelines Manual for Cultural Resource Inventory Projects (2006), and employed professionals that meet or exceed the relevant Secretary of the Interior's standards.

All cultural resource mitigation plans were submitted to the NDSHPO and approved prior to the start of construction. Order # 16 was followed.

17. 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 by the State Historical Society, a report of such examination is filed with the Commission, and clearance to proceed is given by the SHPO and Commission.

The Cultural Resource Inventory Report (Dockert #23, Exhibit 3) was issued before the hearing. NDSHPO approved the archaeological management recommendations regarding site avoidance strategies for unevaluated-undetermined sites were acceptable as specified in the text of pages 36-38. They concurred with "No Historic properties Affected" and 'No significant Sites Affected" determinations. Page 36-38 of the report are the Summary and Recommendations provided by the Archaeological Consultants. The following three items were recommendations that were to be followed during construction:

1. Fencing off of the site's features during construction for 32MN762 and 32MN763.
2. Construction will be stop work in the vicinity (100 ft in all directions from discovery and will notify the consulting archaeologist who will investigate the discovery and notify the Chief Archaeologist at NDSHPO. If discovery of human remains the NDSHOP will notify the ND State Health Department, law enforcement and Tribal Representatives.
3. Work will be prohibited in the vicinity of the unanticipated discovery until appropriate contacts, consultations, evaluations, dispositions, treatments and authorizations have been obtained.

Whiting's preconstruction information letter of June 30, 2009 to the Commission (Dockert #036-010) informed the Commission that sites (32MN762, 32MN763), both near milepost 5.0-5.1, were marked with a minimum 50-feet buffer by Metcalf during their pre-construction visit in May. Whiting's construction survey crew installed fencing along the edge of the construction ROW. Therefore, recommendation #1 was met.

No cultural resource, paleontological site, archeological site, historical site, or grave site was discovered during construction. Weekly progress reports (Dockert #041-052) were reviewed with no discovery noted during construction. Recommendation items #2 and #3 were not required. Order #17 was followed during construction.

18. Where available, at least 12 inches of topsoil where available 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 topsoil. Any area on which excavated subsoil will be placed must also be stripped of topsoil. After backfilling is completed, and 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.

Construction pictures (Dockert #480-010 pages 4-20) showed the topsoil of the construction ROW pulled to the two side edges of the ROW. Top soil depths vary along a pipeline. Topsoil is pulled off to the edges to a depth of a maximum of 12". A grader is normally used to blade the topsoil to the edges. The excavated subsoil is placed 18 inches to the side or sides of the pipeline trench. The construction pictures also showed this. Should topsoil be more than 12", the ditch line topsoil was kept separate than the subsoil. After pipe installation, the subsoil was placed back in the hole with proper compaction occurring using a track hole or a grader. A grader was used to pull the top soil off the ROW edges and ditch line piles and spread it back across the construction ROW to the existing topography. A site inspection verified that the top soil was spread to the topography and vegetation is growing again. Order #18 was met during construction.

19. Reclamation and clean up along the right-of-way must be continuous and coordinated with construction.

Weekly progress reports (Dockert #47-52) identified reclamation and cleanup along the pipeline to 100% of the line. Looking at the pipeline from a June 23, 2009 aerial view on Google Earth 2010 shows vegetation growth along the right of way. Reseeding occurred immediately after construction occurred based on the weekly reports. Order # 19 was followed.

20. All pre-existing roads and lanes used during any further construction must be restored to a condition that will accommodate their previous use, and areas used as temporary roads or working areas during construction must be restored to their original condition.

To support construction activities, Whiting used property at its plant for a contractor staging area and pipe storage area. Being the pipeline company owns the staging and storage area, this area is not required to be restored to a condition that accommodated its previous use. However, the staging/storage area was restored to a condition of its previous use.

Whiting used existing public roads to access the construction right-of-way and did not need to modify roads or create new access roads. No temporary roads were required. Original roads looked the same as prior to construction using aerial views on Google Earth inspection.

48th Street NW, 53rd Street NW, and 57th Street NW were trenched based on the as built drawings. Inspections of these three roads were observed during the post-construction field inspection. No trench ditch was observed at these street crossings. These and all roads were found satisfactory during post-construction field inspection. Order # 20 was followed during construction.

21. Reclamation, fertilization, and reseeding are to be done by Whiting according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.

Weekly progress reports (Dockert #47-52) identified reclamation and cleanup along the pipeline to 100% of the line. Looking at the pipeline from a June 23, 2009 aerial view on Google Earth 2010 shows vegetation growth along the right of way. Reseeding occurred immediately after construction occurred based on the weekly reports. Order #21 was followed.

22. Whiting shall comply with the Tree and Mitigation Specifications attached to this order.

At the conclusion of the project, documentation identifying the actual number, variety, type, location, and date of the replacement plantings shall be filed with the Commission. No documentation is given in the PSC file Case # PU-08-844 that this information was given to the Commission.

Tree and shrub replacements shall be inspected once a year for three years, on about the anniversary of the plantings, and, on or shortly before October 1 of each year, a report shall be submitted to the Commission documenting the condition of replacement planting and any woodlands work completed. If after three years from the anniversary of the plantings the survival rate is less than 75%, the Commission may order additional planting(s). No documentation is given in the PSC file Case # PU-08-844 that this information was given to the Commission.

The width of clear cuts through windbreaks, shelterbelts and all other wooded areas shall be limited to 50 feet or less unless otherwise approved by the Commission. The application for the Corridor certificate and route permit (Dockert #3) identified four locations as part of shelter belts. Google Earth 2010 (June 23, 2009 aerial view) was used to review the pipeline path for shelter belts. Using the distance tool, a north/south shelter belt about halfway between 55th St. NW and 56th St. NW had a width of 48.58 feet parallel to the pipeline. An additional shelter belt with three rows is located about 1300 feet north of 54th St. NW. Based on the aerial view of these shelter belts, all three rows were bored. These were the only four rows of shelter belt trees along the pipeline. Therefore, the shelterbelts kept under the maximum of 50 feet.

Two wooded areas were located in the area of 60th St NW. Google Earth distance tool was again used. North of 60th St NW the width was 46.5 feet and south of 60th St. NW the width was 48.5 feet. One more additional woodland area is located just south of the south Hwy 8 road crossing. The width through this site was 50 feet. Therefore, all wooded areas were cleared to a width of 50 feet or less.

Tree and Shrub Mitigation Specifications Inventory was spelled out in the Order (Dockert #034-020.pdf). As part of Dockert # 054-020, after post-construction inspections are complete, and tree mitigation or other reclamation projects are satisfactory in each case, the Commission will issue a final refund of the entire remaining balance for that case.

Based on the Commission's file, the Tree and Mitigation Specifications attached to the Order are not completed. Whiting needs to provide the Commission with documentation identifying the actual number, variety, type, location, and date of the replacement plantings. Whiting must also provide the Commission with tree and shrub replacement inspections for three years after the replacement plantings occurred so the Commission may take proper action to complete Order #22.

23. Whiting shall work with landowners and residents to mitigate any increase in television and residential radio interference that results from the route of the pipeline.

The project is located in a rural, agricultural setting with very few buildings with television or radio along the proposed route corridor. No schools or hospitals are located within the proposed route corridor. Two churches and eleven residences are located within the proposed route corridor, but are more than 500 feet away from the proposed pipeline route. No complaints were found in the Commission's Case file. Whiting has had no complains of television or residential radio interference as a result of the construction of the pipeline. Order #23 was met during construction of the pipeline.

24. Whiting shall provide the Commission with a hard copy of the facility alignment drawings with alignment data showing the facility as built (hardcopy and electronic versions), and an electronic version of the as-built facility that can be imported into ESRI GIS mapping software within 3 months of the completion of the construction.

On May 12, 2010 the PSC received a cover letter from Whiting Oil and Gas Corporation with the facility alignment drawings showing the location of the as-built facilities for the pipeline (Dockert #56). Based on the as-built drawings, the final survey of the pipeline was done on August, 2009 and was drawn on October, 2009. Weekly invoice (Dockert #052-010) said the hydro test was performed on the pipeline on 9-21-09. An in-service date was not given in the Commission's file to see if the 3 month deadline was met. Whiting should provide the Commission with an in-service date for the pipeline.

The May 12, 2010 Whiting letter from Crowley Fleck PLLP had an enclosure noted that a GIS format of the pipeline was included. No GIS format was found in the Commission's Case file PU-08-844. Whiting should provide GIS pipeline shape files to the Commission.

Whiting need to provide the Commission with an in-service date to verify the 3 month as built deadline was met and needs to provide the GIS pipeline shape files to the Commission before Order #24 can be completed.

25. Whiting's obligation for reclamation and maintenance of the right-of-way will continue throughout the life of the pipeline.

The post construction field inspection determined that additional pipelines exist parallel to the crude oil pipeline. Following the as built pipeline plan and profile sheets (Docket #56) along the route and comparing it to an August 31, 2009 aerial Google Earth image, it is evident that the right of way (ROW) can be clearly seen with vegetation not growing back. The ROW land along the pipeline lacked green vigor compared to the grass outside the ROW. Moisture levels have been less than normal in 2009 and earlier. The post construction field inspection on September 15, 2011 determined that the vegetation was satisfactory.

Line marker signs were installed at each section crossing with cathodic protection reading posts along the line. Line marker signs had contact numbers for Whiting, Nexen, and Plains Pipeline, LC along the crude oil pipeline. All pipeline markers for the entire line should have the same company and contact number of the operator.

According the as built drawings a block valve is located at Station 889+71. During the post construction field inspection, a fenced block valve with a Plains Pipeline, LC. contact number was found at this location. The above ground piping and valve at this location was not painted to prevent surface corrosion and was required during initial construction. Whiting or its pipeline operator should paint this block valve and provide the Commission with notification that this work is completed.

During the September 15, 2011 post construction inspection, Highway 8 road construction was occurring. The ditches between Station 144 + 90 to Station 142 + 52 and Station 98 + 12 to Station 101 + 10 were being cut lower to use the soil for road widening fill. The pipeline operator should verify that the pipeline depth below ground has sufficient soil cover after final highway construction is completed.

All pipeline markers for the entire line should have the same company and contact number. The above ground piping and valve at Station 889 + 71 should be painted as required during initial construction. Whiting or its pipeline operator should correct these items and provide the Commission with notification that this work is completed for completion of Order # 25.

26. The authorizations granted by the corridor certificate and route permit are subject to modification by order of the Commission if deemed necessary to further protect the public or the environment.

Should the Commission deem necessary in the future to modify the corridor certificate and route permit it can do so if deemed necessary to further protect the public or the environment. Commission File PU-08-844 does not contain any information that the Commission should deem necessary to modify the Certificate of Corridor Compatibility (Number 109) and Route Permit (Number 119) of February 25, 2009.