

December 10, 2014

Ms. Pascale Duguay
Manager, Natural Gas Applications
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Duguay:

**Re: Union Gas Limited – Thunder Bay Replacement Project
Board File No. EB-2012-0226**

Pursuant to Condition 3.3 of the Board's Conditions of Approval for the above-noted project, please find enclosed four copies of Union's Final Monitoring Report.

Yours truly,

[Original signed by]

William Wachsmuth
Senior Administrator, Regulatory Projects

Encl.

c.c.: Z. Crnojacki (Chair, OPCC)
Gary Collins

THUNDER BAY REPLACEMENT PROJECT

FINAL MONITORING REPORT

Prepared by: Union Gas Limited
Environmental Planning
December 2014

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 Introduction	1
2.0 Background	2
3.0 Potential Impacts and Mitigation	3
3.1 Condition 1.1	3
3.2 Condition 1.3	3
3.3 Condition 1.4	4
3.4 Condition 2.4	6
3.5 Condition 3.1	6
3.5.1 Report Circulation.....	6
3.5.2 Landowner Concerns.....	6
3.6 Condition 3.3	7
3.6.1 Monitoring Programs.....	7
3.6.1.3 Tree Removal/Replacement	7
3.6.1.5 Watercourses	8
3.6.1.6 Blasting	8
3.7 Condition 4.1.....	9
4.0 Photographs.....	9
5.0 Summary	9
 APPENDIX “A”.....	 Location Map
 APPENDIX “B”.....	 Conditions of Approval
 APPENDIX “C”.....	 Complaint Tracking
 APPENDIX “D”.....	 Photograph Inventory

1.0 INTRODUCTION

This Final Monitoring Report is provided in compliance with the Ontario Energy Board (“Board”) Order EB-2012-0226 granting Union Gas Limited (“Union”) “Leave to Construct” the Thunder Bay Replacement Project (the “Project”).

The Project included the construction of approximately 17 km of NPS 12 inch (323.9 mm) steel natural gas pipeline to replace the existing NPS 10 inch (273.1 mm) Thunder Bay Lateral pipeline between Union’s Onion Lake Station located in Gorham Township, District of Thunder Bay to its Belrose Station located in the City of Thunder Bay.

A map of the pipeline route is located in Appendix A.

The requirements for and details of this report are outlined in the specific conditions issued by the Board in its Order for EB-2012-0226, dated March 28, 2013. The Conditions of Approval can be found in Appendix B. Accordingly, the purpose of this Final Monitoring Report is to fulfill these conditions. The Conditions of Approval addressed in this report are as follows:

- 1.1 “Union Gas Limited (“Union”) shall construct the facilities and restore the land in accordance with its Revised Application and the evidence filed in EB-2012-0226 except as modified by this Order and these Conditions of Approval.”
- 1.3 “Union shall implement all the recommendations of the Environmental Report filed in the pre-filed evidence, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee (“OPCC”) review.”
- 1.4 “Union shall advise the Board’s designated representative of any proposed material change in construction or restoration procedures and, except in an emergency, shall not make such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed immediately after the fact.”

- 2.4 “Union shall furnish the Board’s designated representative with all reasonable assistance for ascertaining whether the work is being or has been performed in accordance with the Board’s Order.”
- 3.1 “Both during and after construction, Union shall monitor the impacts of construction, and shall file four copies of both an interim and final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date and the final monitoring report shall be filed within fifteen months of the in-service date. Union shall attach a log of all complaints that have been received to the interim and final monitoring reports. The log shall record the times of all complaints received, the substance of each complaint, the actions taken in response, and the reasons underlying such actions.”
- 3.3 The final monitoring report shall describe the condition of any rehabilitated land and the effectiveness of any mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.
- 4.1 “Union shall obtain all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project, shall provide a list thereof, and shall provide copies of all such written approval, permit, licences, and certificates upon the Board’s request.”

2.0 BACKGROUND

Union was granted approval to construct the Thunder Bay Replacement Project on March 28, 2013. Construction was initiated on May 1, 2013 with the pipe placed into service on September 30, 2013. Cleanup along the pipeline corridor was completed for 2013 on October 4.

Following approval, construction progressed in a northerly direction from Dawson Road with the installation of some temporary watercourse access crossings and the removal of the existing 10 inch

pipeline. Once half load restrictions for the area were lifted, construction crews moved north to the Onion Lake Station and progressed southerly. Construction continued southerly with the removal of the existing pipe followed by the installation of the new NPS 12 inch pipeline. The order of operations were as follows with some activities completed concurrently: grading and the installation of temporary watercourse access crossings, removal of existing pipeline, back filling, stringing of new pipeline, welding, joint coating, directional drilling, trenching, lowering-in, tie-ins and backfilling.

Union returned on June 16, 2014 to perform a general overview of the right-of-way. Clean-up activities were started on July 14 and completed on July 31, 2014 with the following activities: repair any subsidence on the right-of-way, ensure there is adequate stability and re-vegetation at all watercourse crossings, tree/shrub replacement, and complete any additional clean-up or work that was required.

3.0 POTENTIAL IMPACTS AND MITIGATION

3.1 Condition 1.1

“Union Gas Limited (“Union”) shall construct the facilities and restore the land in accordance with its Revised Application and the evidence filed in EB-2012-0226 except as modified by this Order and these Conditions of Approval.”

Union has complied with all conditions imposed by the Board during construction of the pipeline. Union has also restored the land according to the evidence in support of its application and in accordance with all mitigation measures recommended in the Environmental Report (ER) filed by Union Gas.

3.2 Condition 1.3

“Union shall implement all the recommendations of the Environmental Report filed in the pre-filed evidence, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee (“OPCC”) review.”

Union has implemented all of the recommendations and mitigation measures outlined in the Environmental Study Report (ER) along with all directives identified by the OPCC.

3.3 Condition 1.4

“Union shall advise the Board’s designated representative of any proposed material change in construction or restoration procedures and, except in an emergency, shall not make such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed immediately after the fact.”

A number of minor changes occurred during construction and they are as follows:

Dawson Road

As additional information became available, the construction approach to crossing Dawson Road changed slightly from the original design. Union and its Contractor were able to remove an existing casing pipe and install the new replacement pipeline at the same time. The original plan called for a horizontal directional bore of the road.

Paquette Road

The existing location of the pipeline in this location was located on the north side of Paquette Road. In order to remove the existing pipe and install the new pipeline several mature trees providing a visual screen to an adjacent residential home would need to be removed. Union reviewed the option of moving the pipeline to the south side of the road, within road allowance however there was not sufficient room for the pipe. Union then negotiated an easement on the south side of the road allowance to avoid any tree removal.

Beaver Pond (Stream Crossing 9)

Union's original plan had been to open cut, remove and replace the existing pipeline in the same location in the area between Hutton Park Road and Paquette Road. A portion of this area contains an active beaver pond. In order to minimize the environmental

impacts to this area Union abandoned the pipeline in place, and constructed the new pipeline away from the beaver pond adjacent to the existing pipeline easement. Union discussed this change with the directly affected landowner who had no concerns with the change and granted Union the necessary land rights to implement the change.

Belrose Road

Union's original plan was to construct the pipeline within existing road allowance along the East side of Belrose Road, between John Street road northerly up to the end of Belrose Road. In a few sections, along Belrose Road a five metre strip of land had been acquired by the City of Thunder Bay, to facilitate future road widening. Union was able to negotiate and acquire a five metre wide easement in the areas not previously acquired by the City to accommodate pipeline construction.

Shaw Cable

In Union's original application, it was identified that the existing pipeline would be removed and a new pipeline installed in the original location. Shaw Cable systems approached Union about the possibility of using some of the abandoned facilities as a conduit for their future facilities. The use of decommissioned pipelines is contemplated in Section 16 of the Model Franchise agreement. Union has transferred to Shaw Cable systems approximately 1 kilometer of pipeline. The City of Thunder Bay is aware of this transfer and has no issues with the transfer.

John Street and McIntyre River (Stream Crossing 10)

Union's original plan was to open cut John Street and excavate the McIntyre River by dam & pump all in one process to facilitate the installation of the new pipeline while abandoning the existing pipeline in place. This method was identified during the planning stages due to bedrock within the watercourse. Upon further review by Union and its Contractor AECON it was determined the crossing could be completed by horizontal bore. This became a more favourable crossing method as it was cost effective, eliminated the need to reroute traffic around the construction site and

eliminated impacts of blasting and excavating through the river. Permitting agencies were updated of the change and supported the change. Union was able to negotiate the necessary land rights to accommodate this change.

3.4 Condition 2.4

“Union shall furnish the Board’s designated representative with all reasonable assistance for ascertaining whether the work is being or has been performed in accordance with the Board’s Order.”

This Final Monitoring Report as well as the previously filed Interim Monitoring Report shall confirm that the work has been performed according to the Board’s Order.

3.5 Condition 3.1

“Both during and after construction, Union shall monitor the impacts of construction, and shall file four copies of both an interim and final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date and the final monitoring report shall be filed within fifteen months of the in-service date. Union shall attach a log of all complaints that have been received to the interim and final monitoring reports. The log shall record the times of all complaints received, the substance of each complaint, the actions taken in response, and the reasons underlying such actions.”

3.5.1 Report Circulation

Four (4) copies of this final monitoring report have been provided to the Board.

3.5.2 Landowner Concerns

Union’s complaint tracking system, which identifies the current status of landowner complaints received as a result of pipeline construction, was in effect. A complaint is identified as a concern raised by a landowner, which has not been resolved to the landowner’s satisfaction within three (3) working days.

During construction, issues that were minor in nature were raised to Union and their Contractor. These were dealt with by Union or the Contractor in an expeditious manner.

For complaints entered into Union's complaint tracking system please see Appendix C. Union will continue to monitor the state of the land and environment and will address any additional landowner concerns, if they should arise.

3.6 Condition 3.3

The final monitoring report shall describe the condition of any rehabilitated land and the effectiveness of any mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.

The entire right of way and in particular areas in close proximity to the watercourses were checked for stability, subsidence and vegetation re-establishment in spring of 2014 and found to be successfully rehabilitating and protected with proper sediment control devices to aid in the rehabilitation process. No deficiencies in compliance were identified.

3.6.1 Monitoring Programs

The previously filed Interim Monitoring Report provides a description of the successfully completed monitoring programs (Archaeology, Water Well Monitoring, Tree Removal, Species at Risk, Watercourses, Blasting) undertaken prior to, during and following construction to monitor the effects of construction.

3.6.1.1 Tree Removal/Replacement

Tree removal along the pipeline route commenced on January 8, 2013 and took approximately three weeks to complete. Removing trees at this time of the year avoided any avian nesting concerns.

Union returned to the pipeline right-of-way on June 14, 2014 to replant 10,000 tree seedlings along the pipeline route and around watercourses. As identified in the Environmental Report, the area of white pine growth was replanted with locally sourced white pine seedlings. Larger trees screening homes and businesses along Hunter Road and Belrose Road were also planted in the fall of 2013.

3.6.1.5 Watercourses

Twelve (12) watercourses were crossed as part of construction. Eleven (11) were crossed by using an isolated dry crossing technique (dam & pump) and one was crossed using the directional bore method. All watercourses were crossed using methods approved by the Department of Fisheries and Oceans, Ministry of Natural Resources and the Lakehead Region Conservation Authority.

Watercourses were protected prior to, during and following construction by installing either sediment fencing or straw bales or a combination of each and by installing erosion control matting or by spreading broken straw bales. Disturbed areas adjacent to the watercourses were seeded following the installation of the pipeline. All watercourse crossings were monitored during construction by an Environmental Inspector. Watercourses were inspected on June 16th and 17th of 2014 to evaluate the sediment control protection and where necessary silt fencing and straw bales were re-established.

3.6.1.6 Blasting

To attain proper trench depth, blasting was required along sections of the right-of-way and followed Union's Specification for Rock Excavation. Explotech, specialists in explosives, blasting and vibration monitoring was retained by Union to carry out pre-blast surveys in the vicinity of construction.

Complaints received as a result of blasting can be found in Section 3.5.2 and Appendix C.

3.7 Condition 4.1

“Union shall obtain all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project, shall provide a list thereof, and shall provide copies of all such written approval, permit, licences, and certificates upon the Board’s request.”

Union Gas obtained the following environmental permits for construction:

Ministry of Tourism Culture and Sport

Archaeology - Review and Accepted into the Provincial Register of Reports

Ministry of the Environment

Water - Permit To Take Water

Ministry of Natural Resources

Watercourse Crossings - Work Permit

Lakehead Region Conservation Authority

Watercourse Crossings - Development, Interference with Wetlands & Alterations
to Shorelines & Watercourses Permit

4.0 PHOTOGRAPHS

Located in Appendix “D” are several construction related photographs taken along the pipeline right-of-way.

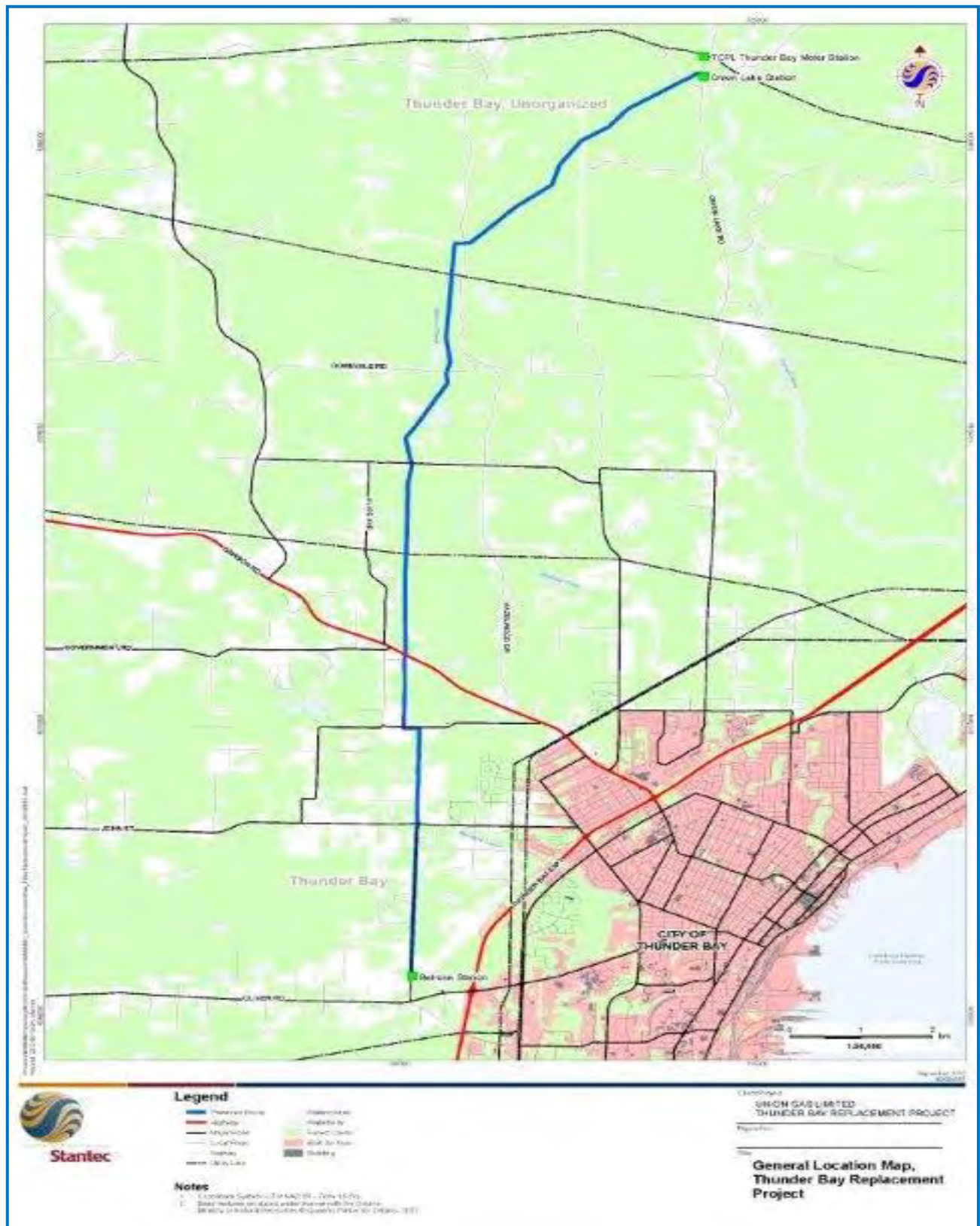
5.0 SUMMARY

This Final Monitoring Report has been prepared as per conditions in the Board Order EB-2012-0226. The report provides an outline of Unions’ compliance with the commitments of its witnesses, the measures implemented during construction to minimize disturbance to the environment and a description of Unions’ monitoring programs. It is anticipated that these measures will effectively eliminate any long-term impacts to the environment.

Appendix “A”

Location Map

General Location Map



Appendix “B”

Conditions of Approval

EB-2012-0226
Union Gas Limited
Leave to Construct Application

Conditions of Approval

1 General Requirements

- 1.1 Union Gas Limited ("Union") shall construct the facilities and restore the land in accordance with its Revised Application and the evidence filed in EB-2012-0226 except as modified by this Order and these Conditions of Approval.
- 1.2 Unless otherwise ordered by the Board, authorization for Leave to Construct shall terminate December 31, 2013, unless construction has Commenced prior to that date.
- 1.3 Union shall implement all the recommendations of the Environmental Report filed in the pre-filed evidence, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee ("OPCC") review.
- 1.4 Union shall advise the Board's designated representative of any proposed material change in construction or restoration procedures and, except in an emergency, shall not make such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed immediately after the fact.
- 1.5 Within 15 months of the final in-service date, Union shall file with the Board Secretary a Post Construction Financial Report. The Report shall indicate:
 - a) the actual capital costs of the project and an explanation for any significant variances from the estimates filed in this proceeding.

2 Project and Communications Requirements

- 2.1 The Board's designated representative for the purpose of these Conditions of Approval shall be the Manager, Natural Gas Applications.
- 2.2 Union shall designate a person as project engineer and shall provide the name of the individual to the Board's designated representative. The project engineer will be responsible for the fulfillment of the Conditions of Approval on the construction site.

Union shall provide a copy of the Order and Conditions of Approval to the project engineer, within seven days of the Board's Order being issued.

- 2.3 Union shall give the Board's designated representative and the Chair of the OPCC ten days written notice in advance of the commencement of the construction.
- 2.4 Union shall furnish the Board's designated representative with all reasonable assistance for ascertaining whether the work is being or has been performed in accordance with the Board's Order.
- 2.5 Union shall file with the Board's designated representative notice of the date on which the installed pipelines were tested, within one month after the final test date.
- 2.6 Union shall furnish the Board's designated representative with five copies of written confirmation of the completion of construction. A copy of the confirmation shall be provided to the Chair of the OPCC.

3 Monitoring and Reporting Requirements

- 3.1 Both during and after construction, Union shall monitor the impacts of construction, and shall file four copies of both an interim and a final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date, and the final monitoring report shall be filed within fifteen months of the in-service date. Union shall attach a log of all complaints that have been received to the interim and final monitoring reports. The log shall record the times of all complaints received, the substance of each complaint, the actions taken in response, and the reasons underlying such actions.
- 3.2 The interim monitoring report shall confirm Union's adherence to Condition 1.1 and shall include a description of the impacts noted during construction and the actions taken or to be taken to prevent or mitigate the long-term effects of the impacts of construction. This report shall describe any outstanding concerns identified during construction.
- 3.3 The final monitoring report shall describe the condition of any rehabilitated land and the effectiveness of any mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.

4 Other Approvals and Agreements

- 4.1 Union shall obtain all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project, shall provide a list thereof, and shall provide copies of all such written approvals, permits, licences, and certificates upon the Board's request.

Appendix “C”

Complaint Tracking

Landowner Complaint Summary-2014 Thunder Bay NPS12 " Lateral Replacement

DATE	LANDOWNER	ISSUE	RESOLUTION	STATUS
08/03/2013	Brian/Pearl Peden 826 Alice Ave	Need corner boundaries staked	Surveyor staked corners	resolved
08/03/2013	Mr. Collins 971 Gorevale Road	Annoyed with back up alarms in the am	Called and was okay as would only be a week	resolved
08/10/2013	Olavi Suni 1001 Gorevale Road	Claims damage to floor in his house from blast	Provide report from Explotech and contact him as follow-up	resolved
07/04/2013	Craig Wakefield 1716 Paquette Road	Dips and bumps on cleared ROW	Mr. Wakefield very pleased with clean up	resolved
08/31/13	Peter Galle 550 Belrose Road	Driveway open longer then one day	Spread gravel on driveway	resolved
08/05/2013	Manuel/Kim Pires 1130 Melbourne Road	Trespassers on ROW- Suggest fence on Melbourne or deepen road ditch-survey stake westerly boundary along ROW	Ditched across ROW. Customer satisfied.	resolved
07/04/2013	Jesse Hagdu 981 Gorevale Road	Multiple issues -hole in siding from tree removal- water hole filled in- concerned re traffic with open pipeline right of way- trees may fall over on property since area tree removal-blasting effect on house foundation	Siding repair or compensation- deepen ditch- monitor tree concern-Report from Explotech shows no effects on house due to blasting	resolved
08/28/13	Ben Gunsinger 361 Hunter Road	Requested deeper ditch	City of Thunder Bay approved the Clean up - City to resolve.	resolved
08/03/2013	Bill Chivers/Wilson	Culvert Crushed at end of driveway	Township of Gorham to replace	resolved

Appendix “D”

Photograph Inventory



Ferguson Creek was completed using a dam & pump crossing method. Water flow is maintained by pumping the water around the construction area and discharging flow back into the watercourse downstream of the construction site.



Ferguson Creek following the installation of the pipeline. The creek bed was capped with large rock to resemble pre-construction conditions.



To determine the general condition of the right-of-way and the effectiveness of the sediment controls at the watercourses, an inspection was undertaken on June 16, 2014. At Ferguson Creek the sediment fencing although effective during the winter months, needed to be upgraded until the area is fully re-vegetated.



The existing silt fences were replaced and the area is re-vegetating well.



The photo above shows the right-of-way following clean up in the Fall of 2013.



The right-of-way is re-vegetating well in August 2014.



The right-of-way in the late summer 2013.



The right-of-way in July 2014