

NARL Crude Connecting Line
Environmental Assessment Registration

REGISTRATION PURSUANT TO
SECTION 40(1) AND 45 (1) OF THE ENVIRONMENTAL ASSESSMENT
REGULATIONS, 2003

UNDER THE
ENVIRONMENTAL PROTECTION ACT (SNL 2002 CE-14.2)

FOR THE PROPOSED
NARL REFINING LIMITED
NARL CRUDE CONNECTING LINE

OCTOBER 2019

Submitted to:

Minister of Municipal Affairs and Environment
P. O Box 8700
St. John's NF A1B 4J6
Attention: Director of Environmental Assessment

Submitted by:

NARL Refining Limited ("NARL")
P.O. Box 40
Come By Chance, NL
A0B 1N0

NARL Connecting Line Project

Executive Summary

This document provides the Project Registration for a connecting line project. The project includes the installation and operation of a crude transfer line connecting the NARL refinery with the adjacent Newfoundland Transshipment Limited (NTL) facility.

This line will be approximately 2.5km in length and 42 inches in diameter. It will be constructed of steel and follow a direct path aboveground. NARL and the NTL Terminal are neighbors and share a common boundary. The connecting crude oil line will cross this boundary but will not touch any third-party land nor do we expect it to cause any noticeable change to either property.

The total project is expected to cost between \$7 and \$8 million dollars. The connecting line will provide benefits to several parties simultaneously, including the refinery, the NTL Terminal, the customers of NTL Terminal who are both shipping companies and the offshore industry, and ultimately the Government and people of Newfoundland and Labrador as this project will provide operational insurance for trans-shipping offshore crude oil production. The redundancy of the line will allow for Newfoundland's two largest on-shore oil facilities to mutually aid each other in the event of emergency. Also, with the existence of a connecting line, either party will be able to schedule additional maintenance and inspection work on their respective marine terminals without facing prolonged outage periods.

The project will be carried out in an environmentally-responsible manner, with minimal adverse impact on environment, human health and safety. NARL will be meeting with community groups in the surrounding area and will work with them to identify their concerns and to develop a path forward.

Highlights of the project include:

- Up to \$8 million in construction and engineering costs
- Secured source of NL crude for NARL
- Capability to load VLCC's for NTL, increasing export capacity
- Flexibility for NTL to backload vessels discharging at NARL

NARL is committed to executing this project in a manner consistent with all applicable Safety, Health and Environmental regulations and industry best practices.

NAME OF UNDERTAKING: NARL Crude Pipeline

PROPONENT:

(i) **Name of Corporate Body:** NARL Refining Limited (“NARL”)

(ii) **Address:** P.O. Box 40; Come By Chance, NL; A0B 1N0

(iii) **Chief Executive Officer:**

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Official Title: Chief Executive Officer

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1.0 THE UNDERTAKING

1.1 Introduction

NARL Refining Limited (“NARL”) is the owner and operator of the Refinery located at Come By Chance, in the Province of Newfoundland and Labrador. NARL is beginning the environmental registration process for the installation and operation a crude connecting line.

This document provides a Project Registration of the proposed connecting line based on the requirements defined under the Newfoundland and Labrador Environmental Protection Act. The Project Registration is submitted to the Department of Municipal Affairs and Environment in order to initiate the provincial environmental assessment process.

1.2 NARL Refining Limited (“NARL”)

NARL Refining Limited is a privately owned company.

1.3 Nature of the Undertaking

NARL plans to install and operate an approximately 2.5 km crude connecting line between the refinery and the adjacent NTL facility. The connecting line will provide NARL with a secure supply of NL crude while providing NTL with access to NARL’s jetty and tankfarm.

The project is budgeted at 7 to 8 million dollars for construction, installation and commissioning. Investment will consist primarily of privately provided funds with some possible provincial contribution.

The Project construction will begin in the fourth quarter of 2020 and should be completed by the third quarter of 2021.

1.4 Rationale for the Undertaking

The completion of this terminal connecting line project will improve the risk profiles of both facilities. Goals of the project include:

- Providing redundancy between NTL and NARL allowing the marine terminals of either to receive or load tankers in the event of damage (or maintenance) at one terminal or the other.
- Having the ability for NTL to directly load VLCC class tankers (2 million barrels) via NARL's jetty for long-distance export.
- Allowing NARL to purchase crude oil from NTL in less-than-full cargo quantities. This will allow for NTL's customers to manage their inventory more efficiently, especially during times of field maintenance and abnormal operation.
- Providing an outlet for crude oil from NTL to be shipped to NARL during severe weather periods when Placentia Bay is closed to marine traffic. NARL and NTL have risk profiles that naturally offset. When ships cannot deliver or remove crude oil to the NTL terminal due to severe weather, the terminal's lifting schedule can be impacted, which ultimately can cause the offshore production fields to slow their crude production. Similarly, when NARL cannot receive new crude oil shipments due to weather, it must reduce crude processing rates due to the scarcity of crude oil. The connecting line will allow for both facilities to manage their inventories during bay closures more efficiently.
- Permitting NARL to use its large crude oil tankage capacity of 4.2 million barrels (shell capacity) to periodically lease capacity to NTL when it is facing overflow.
- Giving additional usable tankage and a route for VLCC loading will increase the throughput potential for NTL which will be critical to supporting the planned growth of oil production offshore Newfoundland.

1.5 Regulatory and Public Consultation

NARL plans to meet with local community groups and other interest groups, as well as provincial and federal regulators, to identify and address any potential issues and concerns. Early and sustained communication with people in the area that may be affected by a development is a priority of NARL.

This project is not expected to be subject to Federal Environmental Assessment as there is no Federal involvement related to implementation, financial assistance or land. The line is less than 75 km and as such, does not meet the federal requirements for a high risk linear transportation project. Furthermore, the area under consideration is not a wildlife or migratory bird sanctuary.

2.0 DESCRIPTION OF THE UNDERTAKING

This section will describe the project being considered by NARL.

2.1 Geographical Location

NARL's operation is located in the town of Come By Chance in Placentia Bay. Figure 3 is a topographic map of the region showing the location of the refinery operations in relation to Placentia Bay and the Avalon Peninsula. Figure 4 is an Aerial Photograph of the refinery and NTL. The proposed connecting line will run between the town boundaries of Come by Chance and Arnolds Cove. There are no other facilities located between the refinery and NTL.

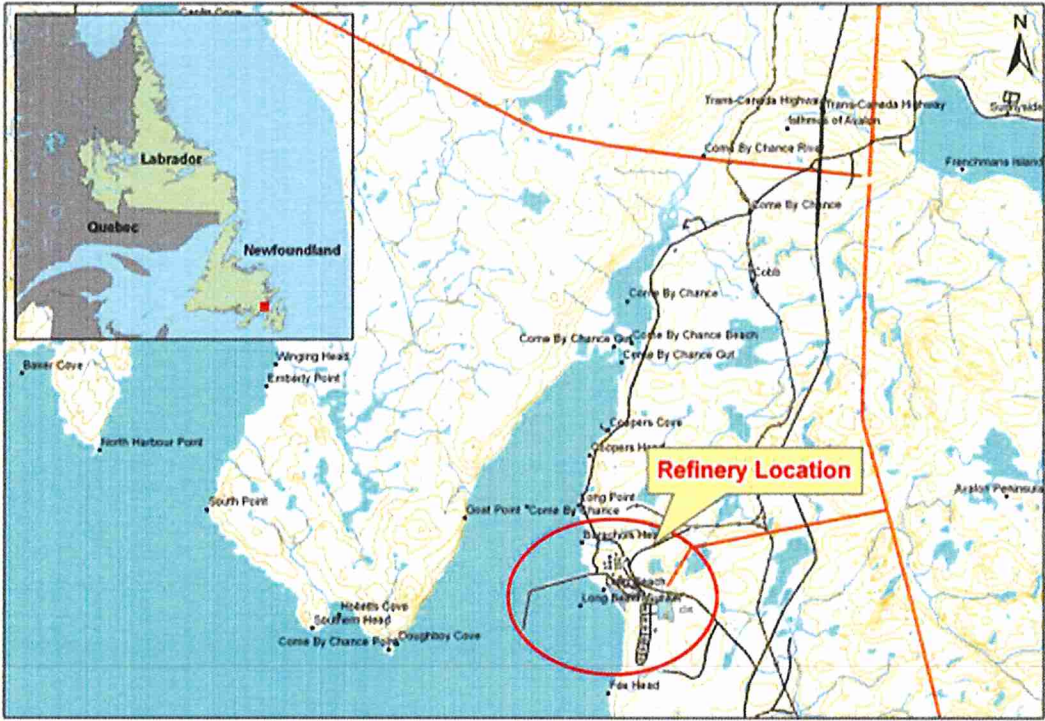


Figure 3: Refinery Location



Figure 4: Aerial Photograph of Refinery and NTL

2.2 Physical Features

The majority of the connecting line will be constructed on undeveloped land within the town of Arnold's Cove.

Physical and Biological Environment

Arnold's cove is located in eastern Newfoundland. More specifically it is located along the isthmus of the Avalon Peninsula. The project site is located within the south-eastern barrens subregion. This subregion is described as being dominated by heathlands. The topography is generally undulating with shallow heavily compacted till and numerous large erratics.

Wildlife species using the general region are likely those which are typically found in predominantly barren ground habitats on the island of Newfoundland. This may include red fox (*Vulpes vulpes*), moose (*Alces alces*) and willow ptarmigan (*Lagopus lagopus*). Raptors such as bald eagle (*Haliaeetus leucocephalus*), sharp-shinned hawk (*Accipiter striatus*), northern harrier (*Circus cyaneus*) and short eared owl (*Asio flammeus*) may also hunt in the general area. The short-eared owl is listed as a species of special concern by COSEWIC.

Aquatic Environment

There are no major rivers adjacent to the proposed project site. The nearest water bodies consist of two ponds, Long Pond and Black Duck. These ponds are part of a small watershed comprised of several small ponds, wetlands and stream sections that enter Placentia Bay. Past samplings of small ponds and streams in the general area have produced catches of brook trout (*Salvelinus fontinalis*) and three spine stickleback (*Gasterosteus aculeatus*). Deeper ponds such as Little Mosquito Pond (Bull Arm) contain landlocked Arctic char (*Salvelinus alpinus*) and larger streams in the broader region contain Atlantic salmon (*Salmo salar*) (i.e., Come By Chance Brook and Arnold's Cove Brook) (JWEL 1990). Other fish that may be present in the watershed include American eel (*Anguilla rostrata*).

Drainage from the project is away from identified water bodies, and therefore, they will not be affected by this project.

Socioeconomic Environment

The project area is located within the community municipal boundaries of Arnold's Cove and Come by Chance. Other communities in the general area include Sunnyside and Southern Harbour. All areas have experienced a negative economic impact since completion of the last project at the Bull-Arm site. The refinery and NTL provide significant employment to the area and further development and growth is generally welcomed.

2.3 Construction

2.3.1 Construction Activities

NARL will serve as the project manager, engineering lead, and construction manager for the crude connecting line. The project plan will take 9 months to execute including all engineering, site preparation, permits, procurement, construction and commissioning. The total project cost is anticipated to be \$7 to \$8 million. After the commissioning of the connecting line, NARL will be the owner and the operator and provide services to NTL.

NARL holds many years of experience in constructing similarly sized hydrocarbon transfer lines and pumps. In 2018, the refinery constructed a 36-inch diameter crude connecting line to attach its newly-constructed Tank 107 to its existing infrastructure. In addition, NARL has constructed a premium gasoline line, a 3rd jetty berth diesel line, and a butane import/export line all since 2015.

NARL is very familiar with the design and construction process. Also, as an operator of a large infrastructure of pipes and pumps, NARL pays particular attention to the safety and operability of its new lines during the engineering and design phase.

Key items for our construction include:

- The line will be engineered to connect to the Tank 106 crude header, located in the southern-most part of the NARL's property site, to the northern-most part of the NTL tank farm.

- The route of the connecting line requires an easement on the land between the refinery and the NTL Terminal. This is currently Crown Land leased to NTL. Essentially the entire connecting line will be located on this parcel of land. NARL currently has an application pending to the NL Crown Land's division to acquire additional land near.
- The route will be above-ground with the crude line being supported by reinforced concrete ballast/foundation blocks that hold saddles to keep the line in place. The concrete foundations will be pre-formed when possible and placed on site to minimize site preparation. We do not see any reason for the connecting line to be placed below grade (buried). Without being buried, the line's coating system is much simpler. Also, the line will be easily inspected and monitored. The expected life of the line will be 40-years and it will be engineered, fabricated, and installed per ASME requirements.
- The crude line will be pre-fabricated as much as possible to minimize field welding and field work. We anticipate using 90-foot pre-welded segments which will come with their coating, insulation and electric heat tracing already in place. This will reduce cost, minimize the impact on the environment during construction, improve quality, and speed up the entire project.
- The line will require a pumping station with a 3500-hp electrical driver. This pump will be a simple design with no more than 125 psi outlet pressure. It may be less expensive, and provide greater redundancy, to use 2 pumps in parallel with smaller overall horsepower. The pumping will allow for quick tank to tank transfers between facilities. It will also allow for the loading of large ships at either jetty.
- We will add a valve system and manifold to allow for bi-directional flow without rate penalty.
- Clearing, grubbing, grading and leveling will be performed to prepare the site.

Construction and commissioning is expected to take approximately 9 months beginning in the 4th quarter of 2020.

2.3.2 Potential Sources of Pollution from Construction

Potential sources of pollution during the Construction stage may include:

Noise

The nearest residential communities to the site are Come By Chance and Arnold's Cove, the closest of which is over one kilometer away. Noise is not expected to be a concern for residents of these communities or wildlife in the area during construction and operation. Noise within the project area will be that of an industrial site and mitigated with personal protective and safety devices as required.

NARL will continue its current practice of notifying local community groups in advance of substantial noise generating activities.

Air Emissions

Emissions from construction activities will result from fuel combustion in construction equipment and will be minimal. All company and contractor vehicles and equipment are required to be in good and safe operating conditions.

Dust and Sediments

As the line is to be constructed above ground, excavation is not expected to be necessary. A road is also, not deemed necessary.

Fuel and Lubricants

Construction activity poses a risk for the release of fuel and lubricants from construction equipment. NARL will require that all contractors and company equipment are properly maintained and inspected to avoid leaks of oil, fuel and hydraulic fluids.

Waste and Garbage

All waste will be handled as required by the existing NARL Waste Management Plan.

2.3.3 Potential Resource conflicts

No resource conflicts are expected.

2.4 Operation

2.4.1 Connecting Line Operation

The crude connecting line will be operated and maintained in accordance with standard procedures designed to ensure the integrity of the system, including those specified by CAN/CSA Z662. The connecting line will be patrolled by NARL representatives on a routine basis and required maintenance will be conducted by qualified personnel. NARL will take all practical and reasonable measures to protect the connecting line from corrosion and will conduct routine inspections, preventative and corrective maintenance. Replacement of pipe segments will be undertaken, when deemed necessary.

The connecting line will be secured in accordance with industry standards, to prevent tampering by unauthorized parties.

The connecting line will not impact refining operations other than to sustain existing rates by providing a more reliable supply of crude.

2.4.2 Shipping

Crude Vessel traffic in Placentia Bay between NTL and NARL can be virtually eliminated through the implementation of this project. The newly created potential for NTL to load via the NARL jetty opens the possibility of larger crude shipments with lower frequency.

2.4.3 Tanks

No new tankage will be required.

2.5 Emissions

GHG emissions from operation include mainly the emissions from combustion (CO₂, CH₄, N₂O) as well as small amounts of venting and fugitive emissions. The overall impact to refinery emissions will be minor.

2.6 Decommissioning

It is intended that the crude connecting line will operate for at least 40 years. The project will be designed for ease of decommissioning. NARL has a decommissioning plan which has been submitted to the Department of Municipal Affairs and Environment. The crude connecting line will be decommissioned in the manner already documented for existing refinery lines.

2.7 Occupations

2.7.1 Construction and Operation

The workforce will consist primarily of NARL's 390 full-time, permanent employees. During the construction phase of the project, additional temporary employees may be required. Estimates of occupation breakdowns for the project, along with the number of personnel required for each category and the appropriate National Occupational Classification (NOC) codes are listed in Table 3 below. The number of workers is an estimate of the maximum of each type that can be expected at any time.

Table 3: Occupations Breakdown

Occupation	NOC Code	Number of Workers
Direct Field		
Laborer	7611	8
Millwright	7311	2
Rigger	7611	0
Light vehicle driver	7414	0
Heavy vehicle driver	7411	0
Oiler	7612	0
Mechanic	7321	0
Light equipment operator	7421	2
Medium equipment operator	7421	2
Heavy equipment operator	7421	2
Pipefitter	7252	6
Pipe welder	7265	0
Cement finisher	7282	0
Carpenter	7271	2
Ironworker – rebar	7264	2
Ironworker – structural	7264	2
Welder – structural	7265	2
Boilermaker	7262	0

Occupation	NOC Code	Number of Workers
Instrument fitter	7612	2
Electrician – line	7244	6
Electrician – wiring	7242	4
Sheet metal worker	7261	0
Insulator	7293	4
Painter	7294	6
Foreman	7302	6
Project construction superintendent	0711	1
Area superintendents	7302	0
Indirect Field		
Field Superintendents		
Piping	7213	2
Instrumentation	7212	1
Electrical	7212	1
Civil	7217	2
Mechanical	7214	1
QC&A, Inspection	2141	4
Administration		
Cost engineering	2141	1
Field engineering	2131/2132	1
Planning & scheduling	2141	1
Safety & medical	2263	1
Timekeeping & accounting	1432	1
Material controls supervisor	1474	1
Drafting	2253	1
Total		77

2.7.2 Employment and Gender Equity

Hiring of any additional temporary employees will be in accordance with NARL's existing hiring policies. NARL believes that all employees should be treated fairly. NARL promotes employment equity in the workplace to ensure that women, aboriginal peoples, persons with disabilities and visible minorities are fully represented at all levels of the organization. NARL is developing an employment equity program ensures that ensures hiring and promotion practices are based on qualifications and ability.

3.0 APPROVAL OF THE UNDERTAKING

This proposed undertaking will require provincial, federal and municipal authorizations. To ensure permitting compliance, a permitting registry has been developed to record and track permitting activities.

Permits and authorizations which may be required in relation to this proposed undertaking are listed below in Table 4.

Table 4 Approvals and Authorizations

Activity	Approval/Certificate/ License/Permit/Inspection	Legislation	Regulating Agency
Government of Newfoundland and Labrador			
Project Construction/ Commencement	Release from the Newfoundland and Labrador <i>Environmental Protection Act</i> , Part X, Environmental Assessment	Newfoundland and Labrador <i>Environmental Protection Act</i> , SNL 2002 c.E-14.2, Part X, Environmental Assessment	Environmental Assessment Division, NLDEC
	Certificate of Approval to Operate	Newfoundland and Labrador <i>Environmental Protection Act</i> , SNL 2002	Pollution Prevention Division, NLDEC
Site Construction	Statutory Declaration for Registration of Boiler and Pressure Vessels Fittings Fabricated in Newfoundland and Labrador	<i>Boiler Pressure Vessels and Compressed Gas Regulation</i> under the <i>NL Public Safety Act</i>	NLDGS
	Certificate of Plant Registration for Power, Heat, Refrigeration Compressed Gas or Combined Plant	<i>Boiler Pressure Vessels and Compressed Gas Regulation</i> under the <i>NL Public Safety Act</i>	NLDGS
	Contractor's Licence – Pressure Piping System	<i>Boiler Pressure Vessels and Compressed Gas Regulations</i> under the <i>NL Public Safety Act</i>	NLDGS

Activity	Approval/Certificate/ License/Permit/Inspection	Legislation	Regulating Agency
	Examination and Certification of Welders and Blazers	<i>Boiler Pressure Vessels and Compressed Gas Regulations</i> under the <i>NL Public Safety Act</i>	NLDGS
	Compliance Standard -	Fisheries Act, Sec. 36 (3) Deleterious Substances	Environment Canada
Waste Management Related to Construction Activities	Waste Oil – Handling and Disposal	Newfoundland and Labrador <i>Environmental Protection Act</i> , SNL 2002 c.E-14.2, <i>Used Oil Control Regulations</i>	NLDEC
Garbage Disposal/Waste Management	Waste Management System, Certificate of Approval	Newfoundland and Labrador <i>Environmental Protection Act</i> , SNL 2002 c.E-14.2, <i>Waste Disposal and Litter</i>	NLDEC
Access Roads	Culvert Installation, Certificate of Approval, Application for Environmental Permit to Alter a Body of Water	Newfoundland and Labrador <i>Water Resources Act</i> , SNL 2002, c.W-4.01, Section 48	NLDEC
	Certificate of Approval for Stream Fording, Application for Environmental Permit to Alter a Body of Water	Newfoundland and Labrador <i>Water Resources Act</i> , SNL 2002, c.W-4.01, Section 48	NLDEC
	Permit for Access off any Highway	Newfoundland and Labrador <i>Urban and Rural Planning Act</i> , SNL 2000, c.0-8, <i>Highway Sign Regulations</i>	NLDMA
	Construction (Site Drainage) Certificate of Approval	Newfoundland and Labrador <i>Water Resources Act</i> , SNL 2002, c.W-4.01, Section 48	NLDEC

Activity	Approval/Certificate/ License/Permit/Inspection	Legislation	Regulating Agency
Stream Crossings/ Fording	Water Resources – Water Course Crossings, Certificate of Environmental Approval	Newfoundland and Labrador <i>Water Resources Act</i> , SNL 2002, c.W-4.01, Section 48	NLDEC
Fuel Storage	Fuel Storage & Handling – Temporary Storage Remote Locations	Newfoundland and Labrador <i>Environmental Protection Act</i> , SNL 2002, c.E-14.2, Storage and Handling of Gasoline and Associated Products Regulations, 2003	NLDEC
	Fuel Storage & Handling – A Permit Flammable & Liquid Storage & Dispensing (above or below ground) & for Bulk Storage (above ground only)	Newfoundland and Labrador <i>Environmental Protection Act</i> , SNL 2002, c.E-14.2, Storage and Handling of Gasoline and Associated Products Regulations, 2003, and <i>Fire Prevention Act</i> , SNL 1991, c.34	NLDEC and NLDMA (Office of the Fire Commissioner)
Borrow Pits and Rock Quarries	Quarry Development Permit – A permit is required to dig for, excavate, remove and dispose of any crown quarry material	Newfoundland and Labrador <i>Quarry Minerals Act</i> , SNL 1999, c.Q-1.1	NLDNR, Mines Division
Handling and Transportation of Dangerous Goods	Permit to Transport	<i>Transport of Dangerous Good Act</i>	Transport Canada
Accidental Hazardous Material Spill	Report Mechanism/Response	Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances, and/or Marine Pollutants. TP9834E. under the <i>Canada Shipping Act</i>	DFO – Canadian Coast Guard

Activity	Approval/Certificate/ License/Permit/Inspection	Legislation	Regulating Agency
Communications	Application for License to Install and Operate a Radio Station in Canada	<i>Radiocommunication Act</i>	Industry Canada Communications
In stream Activities	Fish Habitat Authorization for Works or Undertakings Affecting Fish Habitat	<i>Fisheries Act</i>	DFO
	Application for a Water Lease	<i>Fisheries Act</i>	Transport Canada
Municipal Government			
Project Approval	Compliance Standard/ Development Plan		City of St. Johns
Waste Disposal	Approval to dispose waste in municipal landfill		Relevant municipality
Guidelines			
In addition, the Project will also need to comply with or consider the following guidelines:			
<ul style="list-style-type: none"> • DFO's Guidelines for Protections of Freshwater Fish Habitat in Newfoundland and Labrador (Gosse et al 1998) 			
<ul style="list-style-type: none"> • DFO's Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters (Wright and Hopky 1998) 			
<ul style="list-style-type: none"> • Newfoundland and Labrador Department of Natural Resources' Environmental Guidelines for Construction and Mineral Exploration Companies 			
<ul style="list-style-type: none"> • Newfoundland and Labrador Department of Environment and Conservation's Environmental Guidelines for General Construction Practices 			
<ul style="list-style-type: none"> • Newfoundland and Labrador Department of Environment and Conservation's Guidelines for Culverts 			
<ul style="list-style-type: none"> • Newfoundland and Labrador Department of Environment and Conservation's Guidelines for Diversions, New Channels, Major Alterations (1992) 			
<ul style="list-style-type: none"> • Newfoundland and Labrador Department of Environment and Conservation's Environmental Guidelines for Water Course Crossings (1992) 			

4.0 SCHEDULE

Pending final approvals and completed engineering and design, work will commence in the third quarter of 2019 and will finish in the second quarter of 2020.

5.0 FUNDING

The project will be privately funded by company owner-provided equity with the possibility of a provincial contribution.

October 3, 2019
Date

Thomas J. J. J.
Signature of Chief Executive Officer

6.0 REFERENCES

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