LABRADOR IRON MINES
LIMITED

Houston Beneficiation Plant
Project Description

Summary Document

Submitted by:
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Table of Contents

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

1.1 Identification of the Proponent

Name of Corporate Body: Labrador Iron Mines Limited (LIM)

Address: Suite 700, 220 Bay Street
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Labrador Iron Mines Limited (LIM), a wholly owned subsidiary of Labrador Iron Mines Holdings Limited, is Canada's newest iron ore producer with a portfolio of direct shipping iron ore (DSO) operations and projects located in the Labrador Trough, in the province of Newfoundland and Labrador. Initial production commenced at the James Mine in June 2011. Leading to the development of the Houston 1 and 2 Deposits Mining Project, the company's objective is to increase production towards 5 million tonnes per year from a portfolio of 20 iron ore deposits in Labrador and Quebec, all within 50 kilometres of the town of Schefferville. LIM is listed on the Toronto Stock Exchange and trades under the symbol "LIM".

LIM is proposing to construct a beneficiation plant to beneficiate iron ore extracted from the approved Houston 1 and 2 Mining Project.

1.2 Contacts and Address

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1.3 Regulatory Framework

1.3.1 Newfoundland and Labrador Environmental Assessment Process

The Houston Beneficiation Plant is subject to an environmental assessment pursuant to Part III of the Newfoundland and Labrador Regulations 54/03, *Environmental Assessment Regulations, 2003*, under the *Environmental Protection Act*, SNL 2002 Ce-14.2. The Environmental Registration will be submitted to the Environmental Assessment Division of the Department of Environment and Conservation (DOEC), and will be distributed to relevant provincial and federal departments, aboriginal groups, as well as posted to the DOEC website, for public review and comment. Following review of the registration document, the DOEC Minister makes a determination of the undertaking; it may be released or rejected; an Environmental Preview Report (EPR) may be required; or an Environmental Impact Statement (EIS) may be required.

1.3.2 Government of Canada Environmental Assessment Process

Federal environmental assessment (EA) is regulated under the *Canadian Environmental Assessment Act (CEAA), 2012*. Under CEAA 2012, only projects that are included within the *Regulations Designating Physical Activities* will possibly require federal EA. The Houston Beneficiation Plant is considered a *Designated Project* pursuant to Section 15(b) of the Regulations as it involves the construction, operation, decommissioning and abandonment of a metal mill with an ore input capacity of 4000 t/d or more. The ore beneficiation target for the Houston Beneficiation Plant is up to 1.5 MT/yr, which is based on a 12,000 t/d projection.

To initiate the federal process, a Project Description document is submitted to the Canadian Environmental Assessment Agency (CEA Agency) by the proponent along with a Summary Document that is provided in both official languages. The Summary Document is distributed by the CEA Agency to federal departments as appropriate and is posted on the CEA Agency website for access by the general public.

The federal decision-making and coordinating authority for a federal environmental assessment (EA) is the CEA Agency. Other federal departments may also provide specialized knowledge or expert advice through the EA processes. These Departments may include Fisheries and Oceans Canada (DFO), Transport Canada, Environment Canada, Health Canada and Natural Resources Canada.

Where both federal and provincial EAs are required, the CEA Agency and the DOEC Environmental Assessment Division typically work together in decision making.

1.3.3 Purpose of this Document

This document serves to file the Project Description in accordance with the requirements of the *Canadian Environmental Assessment Act (CEAA), 2012*.

1.4 Nature of the Undertaking

This undertaking, the Houston Beneficiation Plant, involves the beneficiation of iron ore from the Houston 1 and 2 Deposits Mining Project (Houston Project), in western Labrador. The Houston Project is located approximately 10 km from the existing Schefferville Area Iron Ore Mine (James Mine). The James and Redmond Mines were assessed in the Schefferville Area Iron Ore Mine (Western Labrador) Environmental Impact Statement (EIS) (Labrador Iron Mines, 2009) submitted to the federal and provincial regulators in August 2009 and released from further environmental assessment in November 2009. In addition to the open pits, rail spur, access roads and accommodation facility, the project also includes the Silver Yard Beneficiation Plant. With the exception of being larger, this plant is very similar to the proposed Houston Beneficiation Plant. The James Mine and Silver Yard beneficiation plant is currently in operation and in compliance with all applicable permits and approvals.

Environmental baseline data for the Houston Project Area, which includes the Houston Beneficiation Plant project area, was initiated in 2008 as part of the overall Schefferville Area Iron Ore Project.

The Houston Project was registered under both the federal and provincial environmental assessment processes in December, 2011 (Labrador Iron Mines 2011) and released from further environmental assessment on March 26, 2012. The Houston Beneficiation Plant, which is to be constructed two to three years following the construction of the Houston Project, is located within the study area assessed in both the EIS and the Houston Project Environmental Registration.

The Houston deposits consist of three ore bodies (Houston 1, 2 and 3) and 12 mineral rights licenses representing 112 mineral claims covering approximately 2,800 hectares (Figure 1-1). The Houston 1 and 2 deposits contain a NI-43-101 resource estimate of 23 million tonnes of Iron ore of potential direct shipping quality with an anticipated 10-15 year mine life.

The operation of the Houston Beneficiation Plant will benefit from the presence of existing or approved infrastructure including the Houston Haul Road and the Rail Siding which are under construction as part of the Houston Project, as well as the Redmond Pit. A unique feature of this project is that there is no discharge to the environment. Process water will be extracted from a previously flooded pit (Redmond Pit) which does not have an outlet and the plant rejects water will be discharged back into the Pit, i.e., a closed loop system.

The proposed Houston Beneficiation Plant will be constructed 2-3 years following the development of the Houston 1 and 2 Deposits Mining Project and will receive ore from those deposits initially and potentially from the Houston 3 deposit at a later date. Mining of the Houston 1 and 2 deposits will be conducted in a sequential manner using conventional open pit mining methods. Once mined, the ore will be hauled by truck approximately 1.5 km to the proposed beneficiation plant to be located adjacent to the Houston Haul Road. As with the existing approved Silver Yard facility, the proposed Houston Beneficiation process involves the crushing, screening, washing and magnetic separation of the rock. No chemicals will be added as water is the only constituent used in the beneficiation process. The resulting wash water consists of water and fine rock material (reject fines).

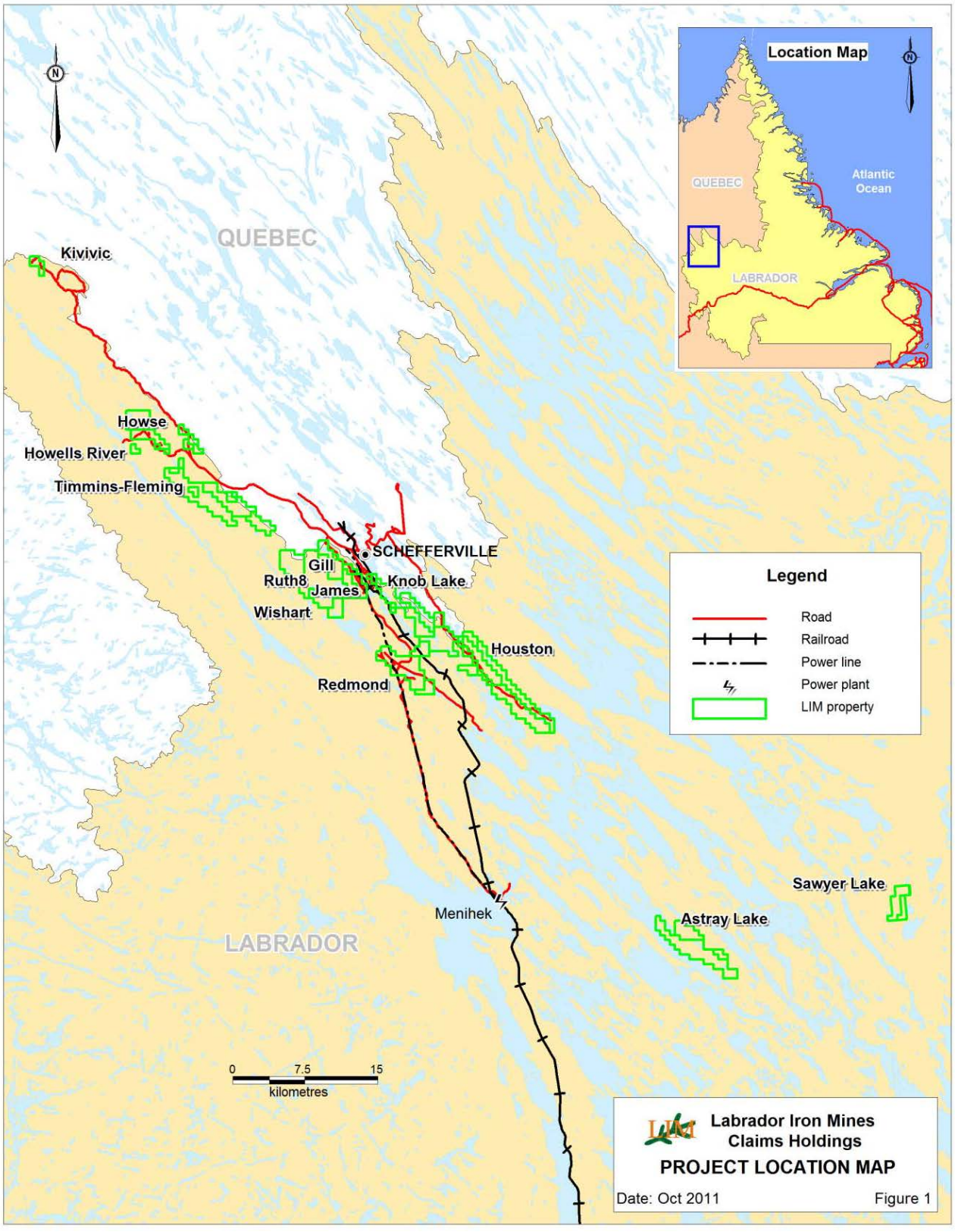


Figure 1-1 Labrador Iron Mines Claims Holdings

The throughput of the plant is designed for 600 tonnes per hour with an average daily production of 12,000 tonnes during peak operation. The processed ore will then be hauled approximately 6 km to the Houston Rail Siding where it will be loaded onto rail cars for transport south to the port of Sept-Iles.

As with LIM's nearby existing James Mine project, the final products to be produced from the Houston 1 and 2 deposits will include lump and sinter fine ores for direct shipping to end users in Europe and/or Asia.

1.5 Purpose and Rationale for the Undertaking

The purpose of the undertaking is to beneficiate iron ore mined from the Houston Project to satisfy market demand for high-grade direct shipping iron ore products. The construction of a wet beneficiation plant will be an economically beneficial addition to LIM's Schefferville Area Iron Ore Mining operation and will provide an additional boost to the economy of western and central Labrador and in turn, contribute to long-term economic stability in the area.

1.6 Alternatives to the Undertaking

Originally, LIM anticipated that the ore from the Houston Project would be beneficiated at either the Silver Yard facility at James Mine or at the proposed Redmond Mine area. However, the Silver Yard facility has reached capacity and the Redmond area has been determined to be uneconomic, therefore, a new facility is required.

1.7 Alternatives within the Undertaking

To assist in the decision making processes involved in the development of the Houston Beneficiation Plant Project, LIM retained DRA Americas to conduct a comprehensive trade-off study. The objective of the study was to select a plant location and configuration that optimized the capital and operating cost of the plant, maximized the resource use of the area, while minimizing the adverse effects to the surrounding environment. The study focused on two major components, water management and plant location. Given the interdependencies between the options, several configurations were considered and compared using both qualitative and quantitative analysis that took into consideration a variety of factors including environmental effects, risk, costs, technical factors and logistics.

1.7.1 Water Management

The two main components for water management that were focused on were: (1) how the plant reject water was to be discharged and (2) where the process water was to be sourced.

Reject Water Disposal

The options for disposal of rejects water were to either discharge to a local water body or into Redmond Pit. Discharging into Redmond Pit was selected for two primary reasons. First of all, it is an abandoned Iron Ore Company of Canada pit which has ample capacity for the predicted plant life of 12 years. Second, direct effluent release into the environment is avoided as there is no discharge outlet. As Redmond Pit is an abandoned pit with no self-sustaining fish

communities (D. Yetman, 2008) or surface connectivity to existing fish habitat, it has been deemed an acceptable location for the wet plant rejects (DFO, 2010).

Process Water

The alternative sources of process water considered were the: extraction form a nearby lake; de-watering water from Houston pit; and extraction from Redmond pit. Extracting process water from a nearby lake was ruled out due to environmental considerations as well as the requirement for an access road. The option of acquiring process water from the Houston 1 and 2 deposits de-watering wells was rejected due to the variability of flow, i.e., there is no assurance of a constant supply. This could potentially adversely affect the operation of the beneficiation plant as well as the management and operation of the rejects line.

Once it was decided that Redmond Pit would be the reject water disposal location, using it as the source for process water as well would result in a closed system with no discharge to the environment. Water will be withdrawn from Redmond Pit, piped to the beneficiation plant, used in the process cycle and piped back to the pit.

1.7.2 **Location**

The two alternative locations for the Beneficiation Plant considered were the Houston Rail Siding and a site 1.5 km from the Houston 1 and 2 mine site.

Reducing the distance for the transportation of unprocessed ore was a major consideration in the selection of the plant location. Approximately 20-25% of the unprocessed ore is removed as reject material during processing. By locating the plant near the mine site, the haulage distance of the unprocessed ore is reduced to 1.5 km, as opposed to the 6.0 km distance to the Houston Rail Siding. This results in an overall reduction of truck haulage by 20 – 25% and a coinciding reduction in exhaust emissions.

2.0 DESCRIPTION OF THE UNDERTAKING

LIM plans to start mining the Houston deposits and initially process the DSO using a portable dry screening and crushing plant that will be re-located from the James Mine. During the construction of the Beneficiation Plant, the ore will be processed through the dry plant and will be sold to generate capital. Off-grade material will be stockpiled and stored until the wet beneficiation plant is in operation.

2.1 Geographic Location

The proposed Project is wholly within the province of Newfoundland and Labrador and is located approximately 10 km from LIM's existing approved James Mine; 1.5 km from the approved Houston Project; and 20 km southeast from the town of Schefferville (Figure 2-1). Approximate co-ordinates of the beneficiation plant site are N 54° 41' 35", W 66° 39' 43".

Access to the property will be via the existing public Menihek access road and the Houston haul road which will be constructed as part of the Houston Project. LIM currently holds a Surface Lease (#135) for the Houston 1 and 2 Project which includes a portion of the Beneficiation Plant site. Prior to commencing construction, LIM will request an amendment to the Lease to include all Project infrastructure.

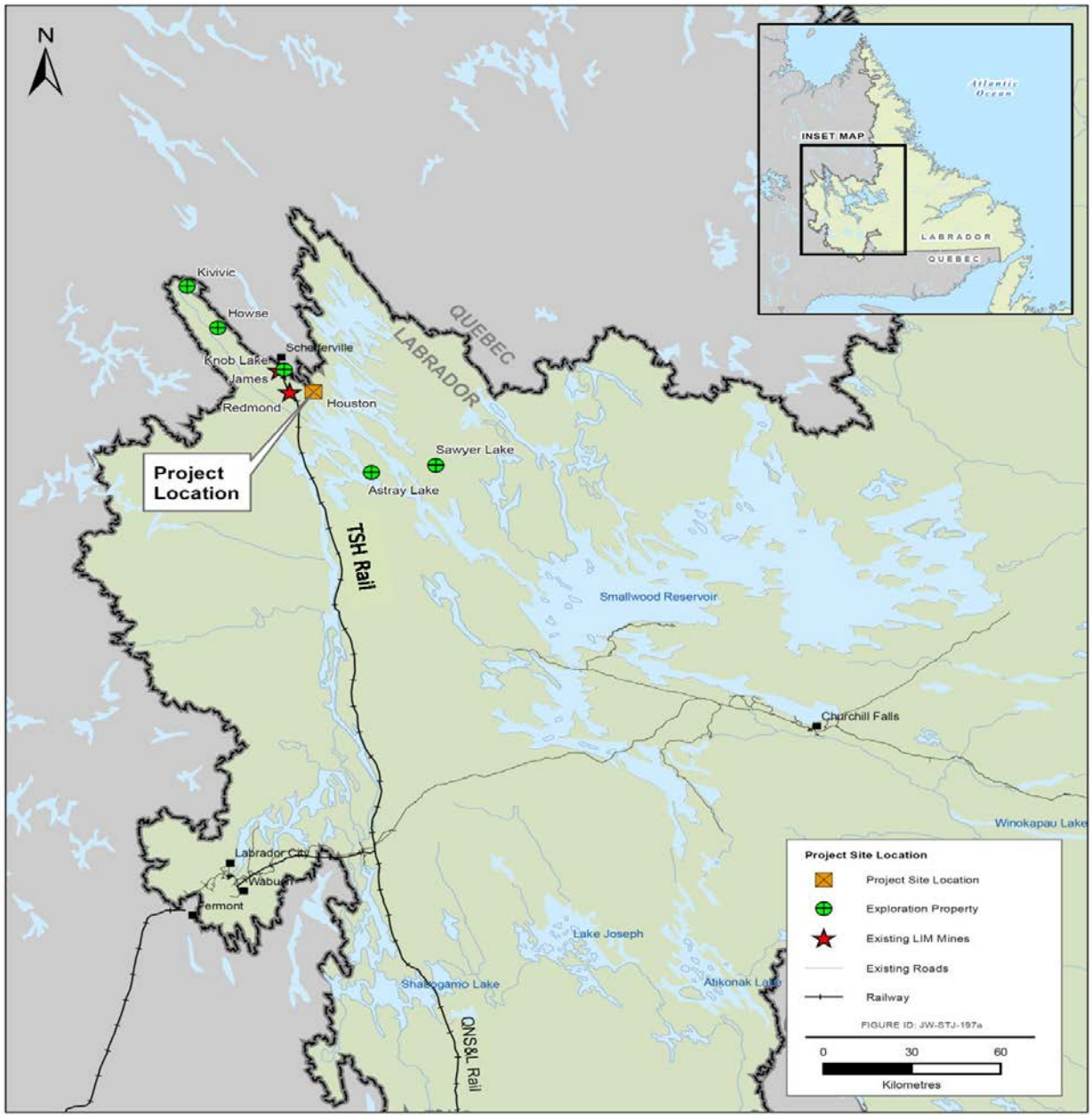


Figure 2-1 Project Location

2.2 Physical Features

This Project is limited to the construction, development and operation of a wet beneficiation plant and supporting infrastructure.

When and where possible, existing infrastructure from James Mine and the approved Houston Project will be utilized to support the Project.

Below is a list of infrastructure associated with the Beneficiation Plant area. Refer to Figure 2-2 and Figure 2-3 for infrastructure location and site layout.

- Site Roads;
- Beneficiation Plant;
- Truck Shop, Warehouse and Workshop;
- Administration Offices and Lunchroom;
- Change House & Washrooms;
- Fuel Storage and Dispensing Facility;
- Oil Storage;
- Diesel Generators;
- Sewage Treatment System;
- Water Supply (potable and fire);
- Stockpiles (Lump Ore, Sinter, Fines, Ultra Fines and Plant Feed); and
- Reject and Process Water Pipelines.

A detailed description of the required infrastructure is provided in Section 2.4.

2.3 Environmental Setting

2.3.1 Physical and Biological Environment

The proposed beneficiation plant and associated infrastructure is located within the study area previously assessed in both the Schefferville Area Iron Ore Mine EIS (LIM 2009) and the Houston 1 and 2 Deposits Mining Project Environmental Registration (LIM 2011). These documents were reviewed by Provincial and Federal regulatory agencies, affected Aboriginal groups and the interested public. The Federal agencies that reviewed the EIS and the Houston 1 and 2 Environmental Registration include: Environment Canada, Canadian Wildlife Service, DFO and Transport Canada.

A large body of knowledge exists as a result of the numerous baseline surveys conducted in the region and the extensive literature reviews undertaken in support of these environmental assessments. A detailed and thorough analysis can be found within these documents while a brief summary is provided below. No additional regional environmental studies have been undertaken.

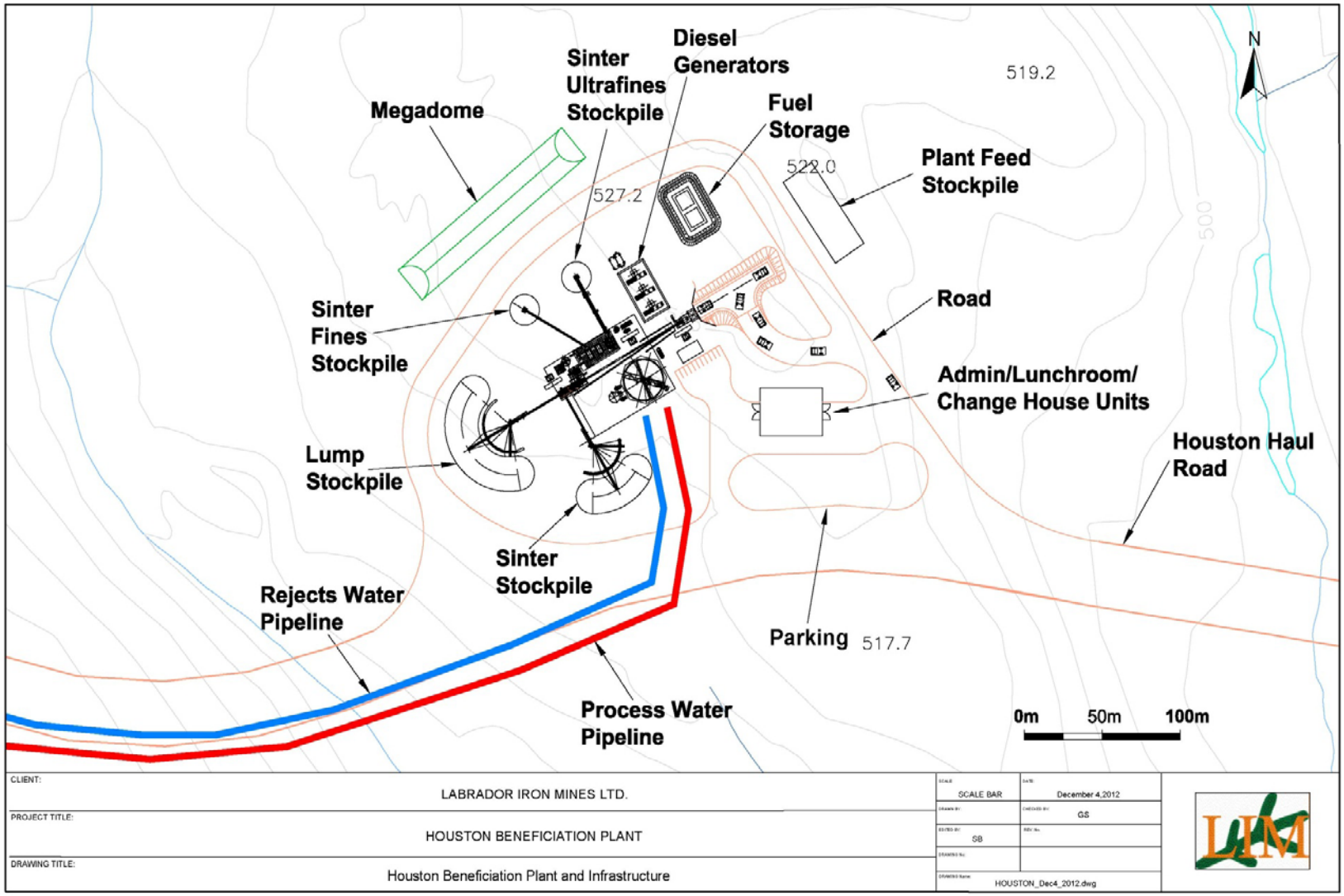


Figure 2-2 Houston Beneficiation Plant Detail View

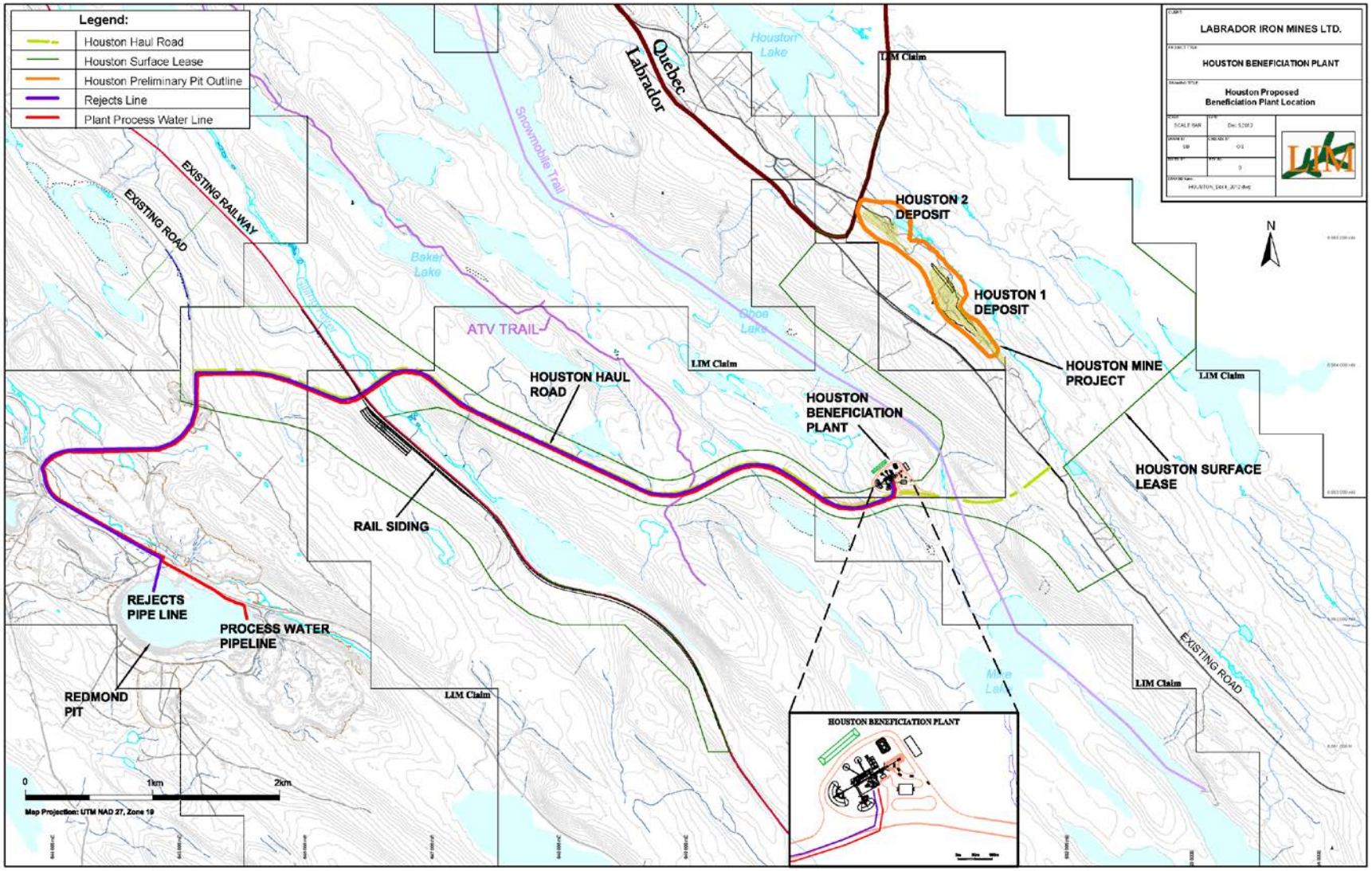


Figure 2-3 Plant Location and General Site Layout

2.3.1.1 Topography

The terrain in the area is comprised of parallel ridges and valleys trending northwest to southeast, with bare rock exposures and barrens. Average elevation of the properties varies between 500 m and 700 m above sea level. (LIM 2011)

2.3.1.2 Climate

The Schefferville area and vicinity have a sub-arctic continental taiga climate with very severe winters. Daily average temperatures exceed 0°C for only five months a year. Daily mean temperatures for Schefferville average -24.1°C and -22.6°C in January and February respectively. Mean daily average temperatures in July and August are 12.4°C and 11.2°C, respectively. Snowfall in November, December and January generally exceeds 50 cm per month and the wettest summer month is July with an average rainfall of 106.8 mm (LIM 2011).

2.3.1.3 Terrestrial

The proposed project area is located in the Schefferville region, situated at the southern edge of the forest tundra (Hustich 1949; Hare 1950; Waterway *et al.* 1984). The area has been subject to surface disturbance associated with historical iron mining activities. Where not disturbed, the Project area contains varied land classes from exposed tundra/exposed bedrock with lichen and very scattered trees and shrubs to low wetland areas (including bogs). Intermediate land classes consist of varied forest types with spruce-moss and spruce-lichen predominating although merchantable timber was not noted. Observed canopy closure for all forest sites ranged from 0 to 80 percent, with most in the range of 30 to 60 percent (Labrador Iron Mines 2011).

2.3.1.4 Rare Plants

Rare plants are categorized as those species listed in Schedule 1 of the federal *Species at Risk Act* (SARA) and designated endangered or threatened under the Newfoundland and Labrador *Endangered Species Act* (NLESA). The SARA Public Registry and the Annotated Checklist of the Vascular Plants of Newfoundland and Labrador (Meades 2010) were reviewed for information on the potential presence of rare plants within or in proximity to the Houston Project area. No listed plant species, protected federally under Schedule 1 of SARA or provincially pursuant to the NLESA, have been identified or are suspected to occur in the Houston Project area (Labrador Iron Mines 2011).

2.3.1.5 Aquatic

There are no water bodies within the proposed footprint of the Beneficiation Plant. The Gilling River and an unnamed tributary (Tributary 1) will be crossed by the process water and reject water pipelines, however the crossings will be along the Houston Haul Road which was previously assessed and approved as part of the Houston 1 and 2 Deposits Mining Project. The only other water body within the project footprint is Redmond Pit.

Tributary 1

Tributary 1 is a small, permanent system that also flows into Astray Lake in a general NW to SE direction between Mike Lake Tributary and the Gilling River. Mean wetted width was 1.5 m, wetted depth was 0.25 m with a mean bankfull width of 3.1 m and mean bankfull depth of 0.66 m. Substrate consisted of approximately 40% boulders, 40% cobbles, 10% gravels and 10% silt/detritus. The riparian zone consists mainly of low shrubs with grasses. Conifers varied in distances from the watercourse edge from 2 to 30 metres depending on the area. Water Quality on July 5, 2009 was the following: water temperature = 12.96°C; conductivity = 187 µS/cm; DO = 10.03 mg/l; pH = 7.81.

Tributary 1 is a coldwater system that provides habitat for brook trout. One dead juvenile brook trout was recovered from the shore of tributary 1 adjacent to a 3 m high water fall directly upstream of the field sampling site (AECOM 2011).

Gilling River

The Gilling River is a larger system that originates from several lakes west of Schefferville and generally flows in a NW to a SE direction. The proposed corridor crossing is situated between Gilling Lake to the north and Astray Lake to the south. Mean wetted depth was 0.38 m with a mean bankfull width of 28 m and mean bankfull depth of 1.5 m. Substrate consisted of approximately 47% boulders, 47% cobbles, 4% gravels and 2% silt. The riparian zone consisted typically of willow shrubs and moss with a predominance of large conifers approximately 4 metres back from the watercourse edge. Water Quality on July 4, 2009 was the following: water temperature = 14.52°C; air temperature was approximately 8°C (Environment Canada); conductivity = 85 µS/cm; DO = 105 mg/l; pH = 7.76. Water Quality on September 16, 2009 was the following: water temperature = 5.43°C; conductivity = 46 µS/cm; DO = 12.82 mg/l; pH = 7.95.

The Gilling River is a coldwater system providing habitat for species such as brook trout. Brook trout were angled by a first nation assistant during the field investigation (AECOM 2011).

Redmond Pit

As previously noted, the DFO have determined that Redmond Pit is not fish habitat (DFO 2010).

2.3.1.6 Wildlife

Various field surveys have been undertaken to identify the presence of wildlife species in the vicinity of the Houston Project area. These include wildlife and vegetation surveys conducted on the Houston Property in August 2009 (Stassinu Stantec 2010), two caribou surveys conducted in May 2009 (D'Astous and Trimper 2009) and May 2010 (D'Astous and Trimper 2010), and additional surveys conducted by AECOM during the summer 2011.

Caribou surveys conducted in May 2009 and May 2010 showed no use of the area by caribou at this time. During the caribou surveys, incidental observations of moose (*Alces alces)*, black

bear (*Ursus americanus*), wolf (*Canis lupus*), river otter (*Lutra candensis*), lynx (*Lynx canadensis*), porcupine (*Erethizon dorsatum*), snowshoe hare (*Lepus americanus*), red squirrel (*Tamiasciurus hudsonicus*), Spruce Grouse (*Falcipennis canadensis*), Willow Ptarmigan (*Lagopus lagopus*), Golden Eagle (*Aquila chrysaetos*), Osprey (*Pandion haliaetus*), Bald Eagle (*Haliaeetus leucocephalus*) and American Crow (*Corvus brachyrhynchos*) were recorded (D'Astous and Trimper 2009; 2010). There was no marten (*Martes americana*) sign observed during the surveys in the Houston Project area, (Labrador Iron Mines 2011).

Migratory Birds

The results of a breeding bird survey conducted at the Houston property and along the road corridor in 2009 are presented in Table 2.1. Of the 20 species observed at the Houston property, White-crowned sparrow was the most frequently recorded species, while Dark-eyed junco was recorded at most stations. There were 17 species observed along the road corridor, of which Swainson's thrush was the most common species and was observed at all stations (AECOM 2009).

Table 2.1 Observed Bird Species at the Houston Property and Houston Road Crossing Corridor Survey Locations 2009 (AECOM 2009)

Scientific Name	Common Name	Houston Total	Road Crossing Total
Aythya affinis	Lesser Scaup	5 / H	
Bucephala clangula	Common Goldeneye	1 / X	
Melanitta perspicillata	Surf Scoter		8 / FY
Actitis macularia	Spotted Sandpiper	2 / P	
Larus argentatus	Herring Gull	1 / X	
Picoides tridactylus	Three-toed Woodpecker		1 / S
Colaptes auratus	Northern Flicker		1 / S
Empidonax alnorum	Alder Flycatcher	1 / S	
Perisoreus canadensis	Gray Jay	2 / S	1 / S
Poecile hudsonicus	Boreal Chickadee	4 / S	
Regulus calendula	Ruby-cheeked Thrush		1 / S
Catharus ustulatus	Swainson's Thrush	3 / S	18 / S
Catharus guttatus	Hermit Thrush	1 / S	4 / S
Turdus migratorius	American Robin	15 / P	7 / S
Dendroica petechia	Yellow Warbler	1 / S	
Dendroica coronate	Yellow-rumped Warbler	2 / CF	4 / A
Dendroica striata	Blackpoll Warbler	3 / S	2 / S
Seiurus noveboracensis	Northern Waterthrush		2 / S
Zonotrichia leucophrys	White-crowned Sparrow	27 / CF	9 / A
Zonotrichia albicollis	White-throated Sparrow	1 / S	13 / S
Junco hyemalis	Dark-eyed Junco	13 / S	8 / S
Passerella iliaca	Fox Sparrow	12 / S	5 / S
Pinicola enucleator	Pine Grosbeak	3 / S	
Loxia leucoptera	White-winged Crossbill	1 / S	1 / S
Carduelis flammea	Common Redpoll	5 / S	4 / S
Total Number of Individuals Observed		103	89
Total Number of Species Observed		20	17

2.3.1.7 Species at Risk

No terrestrial wildlife species at risk were identified within the Project area during the field surveys conducted for the Houston Project. There were no rare or endangered species observed during the 2009 breeding bird survey (AECOM 2009), however, two bird species of special conservation concern were observed in the region during the field studies for the James Redmond EIS: Rusty Blackbird, listed as a COSEWIC species of Special Concern and as vulnerable on Schedule C of the *Newfoundland and Labrador Endangered Species Act*; and the Grey-cheeked Thrush which is listed as vulnerable on Schedule C of the *Newfoundland and Labrador Endangered Species Act*.

2.3.1.8 Historic Resources

No archaeological or cultural sites are known or registered in the Houston Project area. A Stage 1 Historic Resources Overview Assessment (Stage 1 HROA) was completed in June 2008 prior to commencement of proposed exploration activities. Based on a site visit, no sites or materials of historic resources significance, or any areas of potential, were observed. Therefore, no mitigation measures were required or recommended in the assessment report prepared for LIM and the Provincial Archaeology Office (PAO) of the Newfoundland and Labrador Department of Tourism, Culture and Recreation (Jacques Whitford Limited 2009b).

In 2011, an archaeological assessment was conducted of the proposed Houston road by Stantec (formerly Jacques Whitford) on behalf of LIM. Based on the review of available information, including published and unpublished literature, archaeological reports, the Archaeological Site Record Inventory at the PAO and aerial photography, it was determined that given the nature and extent of ground disturbances that have occurred in the area from past mining activities as well as the prevalent topographic and hydrographic features, the majority of locations researched have Low historic resources potential (Labrador Iron Mines 2011).

2.4 Construction and Development

The Project will benefit from the presence of existing approved infrastructure as well as the planned Houston Haul Road. Disturbance to the natural environment will be kept to a minimum and limited to the footprint of the Project infrastructure only.

The primary construction activities for the development of the beneficiation plant will include:

- Site preparation (clearing of vegetation, grading and excavation);
- Transporting equipment, construction materials and related supplies to site;
- Construction and erection of the plant;
- Construction / installation of the maintenance shop, and other buildings (e.g., office and washroom); and
- Environmental monitoring.

During construction, the requirement for temporary facilities (e.g., office, lunchroom, septic, potable water, power supply) will be satisfied through the use of existing infrastructure at the James Mine, and / or the Houston mine site. Once the beneficiation plant and all associated

infrastructure have been constructed, all portable infrastructure from the Houston Project will be transported to the beneficiation plant location and utilized accordingly.

The camp and kitchen located at James Mine (Bean Lake Camp) will be used for both the construction and operation phases of the project.

The total footprint of the plant and associated infrastructure including roads and stockpiles is approximately 300 m x 250 m (75,000 m^2). An estimated 8.5 ha of vegetation clearing and 25,000 m^3 of earthworks will be required for the Project in its entirety.

An overview of the major construction activities is provided below.

2.4.1 **Roads**

The requirement for new roads is limited to plant-site roads only. Approximately 750 m of new site access/haul roads, ranging in width from 7 m to 30 m will be constructed at the plant site and will connect into the Houston Haul Road (Figure 2-2).

2.4.2 **Beneficiation Plant**

The beneficiation plant will occupy a footprint of approximately 20,660 m^2 and will consist primarily of crushing, screening, washing equipment, magnetic separators and conveyors.

2.4.3 **Truck Shop, Warehouse and Workshop**

The truck shop, warehouse and workshop will be housed within a Megadome measuring approximately 137 m x 24 m x 13 m. This will allow sufficient space for the maintenance and storage of heavy equipment (i.e., haul trucks) and spare parts as well as a mechanical and electrical workshop.

The floor in the truck shop portion will be concrete and poured prior to the erection of the structure while the remainder of the flooring will be precast concrete slabs for lining only.

2.4.4 **Administration Offices and Lunchroom**

The administration offices and lunch room will be modular trailer units. There will be a total of eight (8) units, each occupying a footprint of approximately 36 m^2.

2.4.5 **Change House/Washrooms**

The change house/washrooms (male and female) will be a modular unit occupying a footprint of approximately 30 m^2.

2.4.6 **Fuel Storage and Dispensing Facility**

The fuel storage system will consist of two bladders with a combined capacity of 227 m^3. The bladders will be equipped with liners for secondary containment, an oil water separator, fill pump and associated hoses and valves. The fuel will be distributed via two separate fuel dispensing systems.

The bladders will be used to supply fuel for the plant generators and mobile equipment and will be filled by a certified contractor, via mobile supply vehicles.

There will be containment berms located around the bladders and the oil water separator. Following construction of the berms, the liners will be installed and then the bladders will be placed into position.

2.4.7 **Oil Storage**

The oil storage consists of a 6 m^3 container complete with drum storage, flammable cabinets and secondary containment of sufficient capacity.

It`s anticipated that there will be approximately four 200 L drums of oil on-site at any given time.

2.4.8 **Generators**

The expected peak demand load from the beneficiation process is currently estimated at 3,517.70 kW and total connected load is 6,068.55 kW.

Electrical power will be generated by up to four (three on duty, one on standby) mobile diesel generators each running at 1825 kW. The generators will be self-contained units in weatherproof enclosures placed on concrete pads, with all the proper protection, controls and synchronizations in place.

A standby/emergency generator will supply power to emergency systems including the fire suppression system and other necessary items (e.g., lighting, pumps, air compressors).

2.4.9 **Sewage Treatment System**

Sewage will be treated/processed using a rotating biological contractor (RBC) Biodisk.

2.4.10 **Water Supply**

Potable Water

Potable water will be sourced from a domestic well(s) to be developed on site. The specific location has not yet been determined. A water treatment system capable of providing 16,250 L/day will be constructed.

Fire Protection Water

Fire protection water will be supplied to the wet plant via a 100 m^3 tank and distributed, as necessary, via adequate pumps and piping.

2.4.11 **Stockpiles**

There will be five stockpiles located at the plant location: four product stockpiles: lump, sinter, fines, ultra fines, as well as a plant feed stockpile (Figure 2-2).

2.4.12 **Pipelines**

Two pipelines are required for the wet plant as detailed below. Both pipelines will be above-ground and placed along the shoulder of the Houston Haul Road (Figure 2-3).

To support the pipelines, a 2 m wide by 0.75 m high support berm has been proposed for the approximate 9-10 km distance from the plant to Redmond Pit, with concrete blocks placed every 200 m for additional support.

Reject Water Pipeline

A 40 cm high density polyethylene (HDPE) pipe will carry the plant reject water to the discharge location at Redmond Pit. At the Gilling River bridge, the pipe will be encapsulated in an outer protective rigid pipeline for addition protection against accidental rupture or breakage.

Cleanout areas of the reject water pipeline will be established at low points along the pipeline. These areas will be used to drain the pipeline once per year for winter shut-down and in the emergency case that the pipeline becomes blocked and cannot be flushed. The standard procedure to shut-down the rejects pipeline will be to flush the solids to Redmond Pit. The clean out areas will be placed at selected low points along the pipeline where the pipeline can be emptied and discharged into natural or engineered depressions lined with geo fabric to retain solids. These locations will be selected areas away from rivers, streams or lakes. The lowest point in the pipeline is at the Gilling River. A valve and hose will be located at the lowest point such that the pipeline can be emptied into a vacuum truck and the material transported to Redmond pit.

To minimize the volume handled at this point, clean out areas, as discussed above, will be established at higher elevations.

An emergency rejects sump will be located at the plant site in the event that the rejects water line would need to be drained in the case of an unexpected plant shut down.

Process Water Pipeline

A 50 cm HDPE pipe, paralleling the rejects pipeline, will transport process water to the plant from Redmond Pit.

2.5 **Operations**

The Beneficiation plant design is outdoors and due to the harsh winter climates in the Schefferville area is scheduled to operate for six months per year (May through October). An option to extend the plant's operation for a longer period of time may be considered in the future, which would involve enclosing the plant within a building. Such an option would allow the wet plant to operate longer per year, leading to higher volume of processed product per year and, as a result, a reduction in mine life.

2.5.1 Process Description

The beneficiation process is outlined in Figure 2-4. The plant is designed for a nominal operating rate of 600 tph to a maximum of 720 tph and an overall ore recovery estimated to be 75%. The following are the major components of the plant, which are described below:

- Plant Feed Area (Primary Tip and Crushing);
- Scrubbing and Secondary Crushing;
- WHIMS Thickening and Filtration;
- Rejects Pumping;
- Plant Water; and
- Services.

2.5.1.1 Plant Feed (Primary Tip and Crushing)

The plant feed area includes the ramp for the haul truck, static grizzly, inload bin, grizzly feeder, primary (jaw) crusher, sacrificial conveyor and plant feed conveyor (Figure 2-4).

Run-of-mine ore will be dumped directly by trucks into the 250 tonne in-load bin fitted with static grizzly set at 300 mm bar spacing for feed top size control. A vibrating grizzly feeder set at 75 mm will draw ore from the in-load bin. The grizzly feeder oversize will be fed to the jaw crusher set at 75 mm to produce a 125 mm lump size. The product of the primary crushing station will be transported by a series of conveyors to the primary screen. A metal detector will be installed on the plant feed conveyor to prevent tramp iron from damaging subsequent equipment, particularly the secondary crusher. The under-crusher conveyor will be fitted with a programmable hammer sampler for automatic sampling.

This area includes the primary screen, scrubber, secondary crusher, secondary screen and several conveyors. The plant has been designed as a single line process, thus eliminating several machines, conveyors and lessening the footprint of the plant.

Primary screening will be carried out by a horizontal vibrating screen with aperture size of 32 mm which will be operated in closed circuit with the secondary crushing circuit. The screen oversize with particle sizes +26 mm will be conveyed to a 40 t secondary surge bin while the undersize -32 mm particle size, will gravitate to the ore scrubber. A pan feeder will reclaim material from the surge bin feeding it to the cone crusher which will be fitted with a coarse profile cavity set at 45 mm producing 70 mm lump size material. The secondary crusher product will be transported back to primary screening.

A short length belt conveyor will be used to aid the feeding of material to the ore scrubber to minimize clogging issues in the feed chute. Ore scrubbing will be accomplished for 30 sec at 65% solid concentration to disintegrate agglomerated fines from rocks. Process water will be added in the scrubber feed at controlled flows relative to the plant feed rate to maintain the operating pulp density.

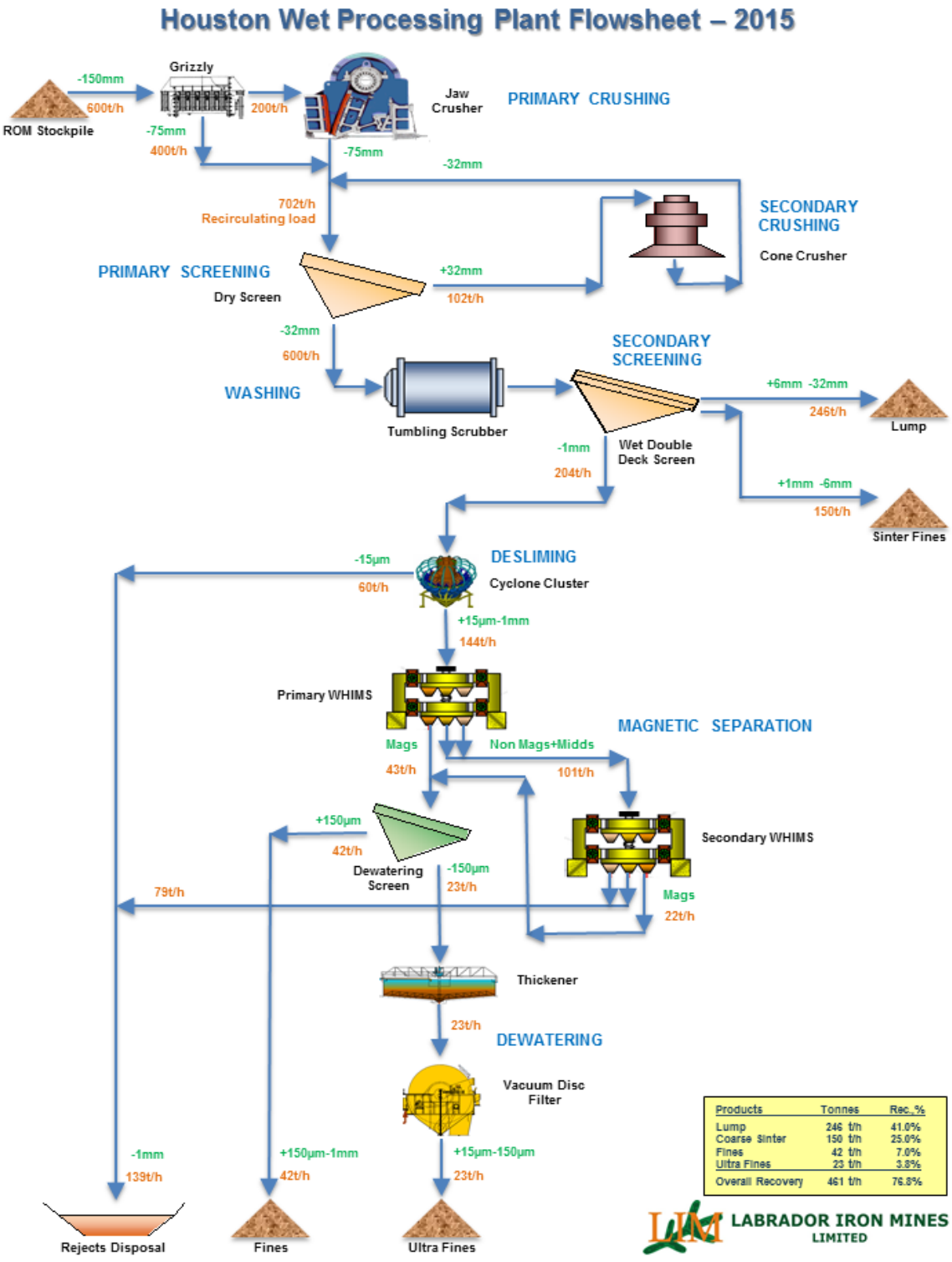


Figure 2-4 Houston Wet Processing Plant Flow Diagram

2.5.1.2 Screening, Scrubbing and Secondary Crushing

The discharge of the ore scrubber will gravity flow to a double deck secondary multi-sloped vibrating screen equipped with water sprays. The top and bottom deck of the secondary screen will be fitted with 6 mm and 1 mm opening panels, respectively. Materials retained on the top deck (-32 mm, +6 mm) and on the bottom deck (-6 mm, +1 mm) will be transported to the lump ore and sinter fines stockpile, respectively, via transfer conveyors and stackers. Materials passing the bottom deck (-1 mm) will be pumped to the cyclone cluster.

Hammer samplers will be installed on the transfer conveyors of lump ore and sinter fines for product quality control and accounting.

2.5.1.3 WHIMS, Thickening and Filtration

This area consists of the cyclone cluster, primary and secondary WHIMS, dewatering screen, thickener, disc filter and a conveyor.

Seven out of the nine 10" hydrocyclones will be operated at any one time to de-slime the secondary screen undersize removing particles finer than 15 microns. The overflow of the cyclone, where majority of the fine particles will be reporting is then pumped to the rejects tank while the underflow will be fed to the primary Wet High Intensity Magnetic Separator (WHIMS). The non-magnetic materials from the primary WHIMS will be reprocessed in the secondary WHIMS to maximize recovery. The combined magnetic products of primary and secondary WHIMS will be pumped to the 5-deck Derrick Screen Stacksizer fitted with 300 micron aperture panels. The Derrick screen oversize (-1 mm, +0.3 mm) at 12% moisture will be conveyed to the fines stockpile while the undersize (-0.3 mm, +0.015 mm) will be pumped to the thickener. Thickener underflow at 75% solid concentration will be pumped to a vacuum disk filter as final dewatering step. The filter cake, with moisture content of 15%, will be conveyed to the ultra-fines stockpile.

At regular frequency, the cloth of the disk filter will be washed to reduce blinding, thus restoring filtration efficiency. The cloth wash water will be pumped back to the thickener feed well for pulp dilution.

2.5.1.4 Rejects Pumping

Three process streams will handle the plant rejects which include the cyclone cluster overflow, secondary WHIMS non-magnetic materials and thickener overflow. The plant rejects will be pumped to Redmond pit by three pumps operating in series. Each pump will be operated with full flow flush seal gland water that will be supplied by a dedicated positive displacement pump.

2.5.1.5 Plant Water

Redmond pit water will be the sole source of water for the process plant as well as for emergency supply. Raw water from the pit will be pumped by diesel-driven pumps to the 140 m^3 process water and 10 m^3 gland water tanks. Water from the vacuum filter drain will be

recycled back to the plant though the process water tank while the filtrate will be pumped to the thickener for dilution.

2.5.1.6 Services

High pressure compressed air for servicing instruments and operating pneumatic tools will be supplied by an air compressor installed with an air dryer and air receiver.

2.6 Rehabilitation and Closure

A Rehabilitation and Closure Plan for the Houston Beneficiation Plant will be prepared and submitted for approval to the Newfoundland and Labrador Department of Natural Resources, as required under the *Newfoundland and Labrador Mining Act*, Chapter M-15.1. In accordance with the Act, the Plan will detail the rehabilitation processes to be implemented at each stage of the project up to and including closure.

The plan will be considered a living document that will be reviewed and updated as necessary throughout the project life. Each year, Operation work plans, outlining schedule and planned rehabilitation activities for the Project, will be submitted to the Department of Natural Resources in accordance with the provincial *Mining Act*.

LIM intends to employ and promote strategies and methods that will minimize adverse effects on the environment throughout the construction and operational phases of the Project which will aid in the overall rehabilitation process. Such mitigating strategies include:

- Terrain, soil and vegetation disturbances will be limited to that which is absolutely necessary to complete the work within the defined project boundaries;
- Wherever possible, organic soils, glacial till, and excavated rock will be stockpiled separately and protected for later rehabilitation work;
- Surface disturbances will be stabilized to limit erosion and promote natural re-vegetation;
- Natural re-vegetation of surface disturbances will be encouraged; and
- LIM will incorporate environmental measures in the contract documents. As such, contract documents will reflect the conditions specified for the construction and operation of the project. Contractors will thus be contractually bound to comply with the environmental protection standards set by LIM and in effect, ensure compliance with the applicable federal and provincial regulatory requirements.

2.6.1 Closure

Approximately one year prior to the cessation of operations the rehabilitation and closure plan will be reviewed and updated in consultation with the Mines Branch, Department of Natural Resources. This final review will define the detailed closure rehabilitation design and procedures to fully reclaim the Houston Beneficiation Plant area.

Closure rehabilitation within the LIM development footprint will generally include the following activities:

- Clean-up, removal and proper disposal of potentially hazardous materials;
- Dismantling and off-site removal of buildings and structures (e.g., beneficiation buildings, conveyors, crushing plant, laydown areas, fuel storage areas);
- Removal of process water, reject water, and sewage water pipelines;
- Replacing overburden and re-vegetation of disturbed area; and
- Re-establishment of site drainage patterns, as near practical, to natural, pre-development conditions.

2.6.2 Post Closure Monitoring

As required, a post-closure monitoring program will be designed and implemented in consultation with appropriate regulatory agencies. Once physical and chemical stability of the site has been achieved, the land will be relinquished to the Crown.

2.7 Potential Sources of Pollution During Construction and Operation

The following are potential sources of pollution identified during the construction, development and operation of the beneficiation plant.

2.7.1 Surface Drainage

There will be a sump to collect spillage from the beneficiation plant process, which will be discharged via the rejects water pipeline into Redmond Pit. A perimeter berm will be constructed to direct drainage to the sump.

2.7.2 Rejects Water

Effluent originating from the beneficiation area will contain rock fines (20%) but will have no chemical constituents. Thus, washwater from the proposed wet plant discharged into Redmond pit will not impact the surrounding environment other than to build the level of solids in the pit for which it has ample capacity for the predicted plant life of 12 years.

2.7.3 Domestic Sewage

During construction, prefabricated skid mounted portable trailer units with a holding tank will be utilized. The tank will be pumped out by a certified contactor and disposed of according to applicable regulations.

During operations, domestic sewage will be treated with the Biodisk system to ensure that it is acceptable before discharging back into the environment. The concentrated waste will be collected by a certified contractor and disposed of in accordance with applicable regulations.

2.7.4 **Solid Waste**

Domestic waste will be generated in small quantities. Proper on-site storage will be provided and the waste will be disposed of off-site in accordance with applicable regulations. Other waste materials including non-hazardous industrial waste (e.g., tires, containers, wood pallets) and technology-related wastes (e.g., batteries) will be identified in LIM's Waste Management Plan and reused or recycled where possible and practical.

2.7.5 **Hazardous Waste**

It is not expected that the beneficiation plant will generate any hazardous waste. However, should any be generated, they will be stored in accordance with the appropriate regulations and moved off-site by a licensed contractor to an approved facility in accordance with applicable regulations.

2.7.6 **Petroleum, Oil and Lubricants**

Construction and operating activity poses a risk for the release of petroleum, oil and lubricants from operating equipment and machinery. All contractor and company equipment will be inspected on a regular basis to ensure compliance. Furthermore, storage tanks will be properly contained and emergency spill kits will be on-hand and available. Used oils and lubricants will be stored in proper bins and disposed of by a licensed waste oil handler.

In the event of a hydrocarbon spill/leak or other hazardous materials, the Schefferville Area Iron Ore Project Emergency Response Plan will be implemented. Response and clean-up activities will be conducted in accordance with applicable legislation and regulations.

2.7.7 **Noise**

As the plant is remote from any dwellings, noise is not anticipated to affect local residents. Noise will also be decreased by the topography as the site is situated within a forested area. Furthermore, use of industry standard equipment compliant with all applicable noise regulations and effective maintenance systems including regular inspections of all noise suppression equipment will be conducted.

2.7.8 **Air Emissions**

Emissions are anticipated to be minimal and limited to combustion and dust emissions resulting from vehicle and heavy equipment operation. There may also be fugitive dust arising from the excavation and transportation of the material and from plant operations (e.g., crushing).

Dust suppression methods, including water spray and water trucks will be used to mitigate any dust generated from plant operations or from the transportation of the material along gravel roads.

All vehicles and heavy equipment will have all required emissions and noise control equipment in place and maintained in good working order. An anti-idling policy will be implemented to limit emissions of vehicles/equipment while not in use.

2.8 Potential Resources Conflicts During Construction and Operations

To reduce the potential for resource conflicts, all activities associated with the construction and operation of the proposed project will be conducted in accordance with the approved Houston Deposits 1 and 2 Environmental Protection Plan.

2.8.1 Wildlife

Minimal clearing and grubbing is required, however, to avoid adverse effects on migratory birds and bird species of special conservation concern, all clearing activities will be conducted in accordance with the approved LIM Avifauna Management Plan. LIM's no hunting, fishing, or trapping policy will be implemented throughout the construction and operation of the Project, therefore no wildlife conflicts are anticipated. Therefore, there will be no changes to wildlife, including migratory birds, as a result of carrying out the project.

2.8.2 Water Resources

No water resource conflicts are anticipated, as there are no water withdrawals, stream crossings or other interactions with waterbodies in the Project area and no discharges to the aquatic environment.

2.8.3 Land Use

The proposed undertaking will not interfere with land use activities in the area. There are no seasonal or temporary residences located within a 2.5 km radius of the proposed Plant site (Figure 2-5). The reserves of Matimekush-Lac John and the Naskapi Nation of Kawawachikamach, are located in Quebec and are approximately 20 km and 25 km northwest of the Project area, respectively. There are no conflicts anticipated with traditional land use in the area by community residents.

There is an all-terrain vehicle trail and a snowmobile trail in the general vicinity (Figure 2-3), which is used by local residents for cross-country travel. The Project is not anticipated to have any adverse effect on these trails or on their use.

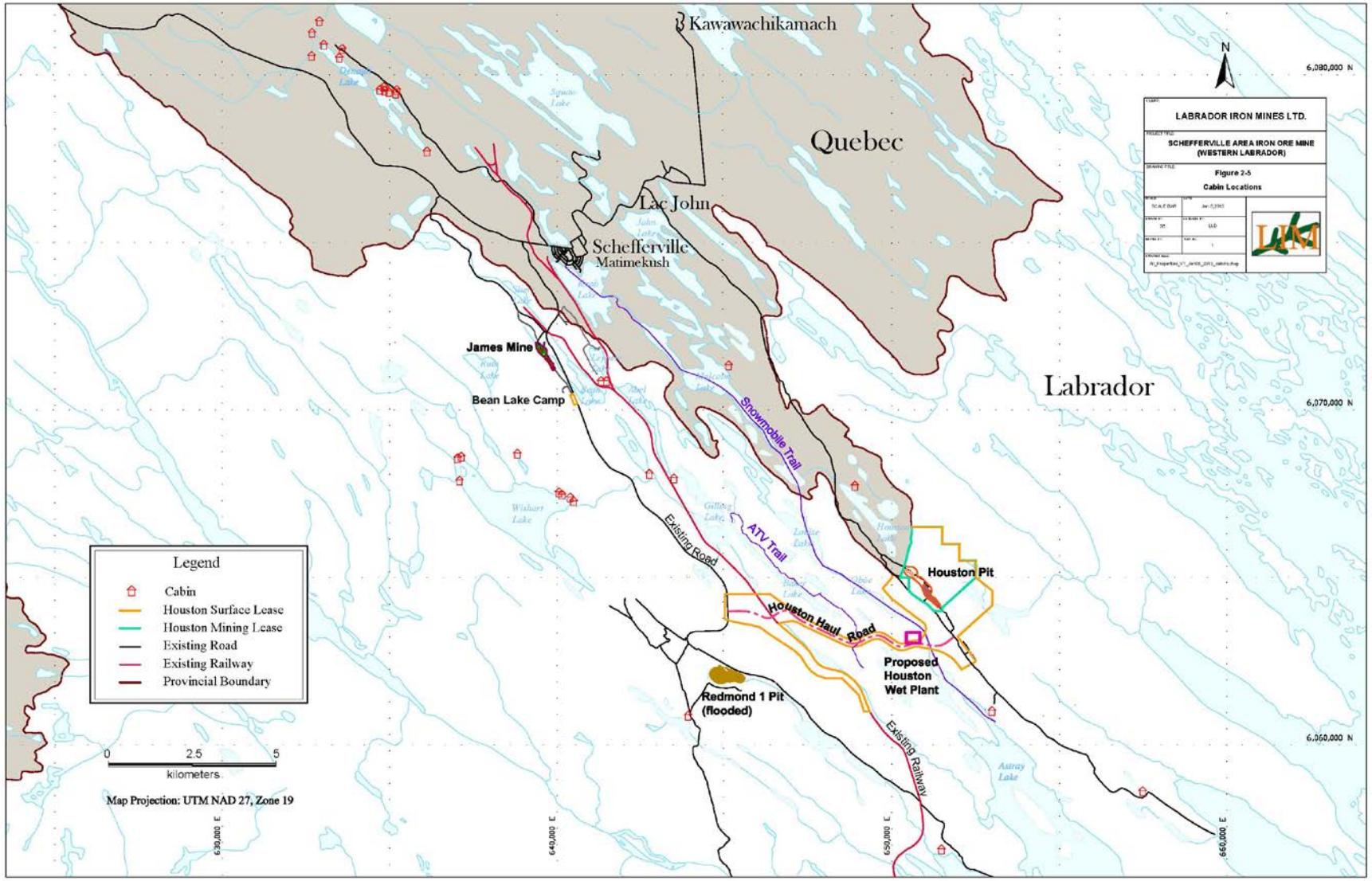


Figure 2-5 Cabin Locations in the vicinity of the Proposed Houston Beneficiation Plant

In the fall of 2012, LIM commissioned a study to collect information on current land use activities in the region by individuals from the communities of Matimekush-Lac John and Kawawachikamach. Land use activities identified include hunting, gathering, fishing, trapping, recreational and cultural / spiritual activities. The information collected will be used by LIM to plan construction and operation activities such that interactions between current and future mining and land users will be minimized. Therefore, there will be no change to land use as a result of carrying out the Project.

2.8.4 **Vegetation**

Clearing or grubbing will be kept to a minimum. Trees cut during clearing will be limbed, cut in 2 m lengths, stacked and made available to local residents.

2.8.5 **Fish and Fish Habitat**

The two pipelines will be built along the Houston Haul Road and will not interact with Tributary 1 or Gilling River. There are no waterbodies within 100 m of the proposed site of the beneficiation plant and process water will not be withdrawn from, or rejects water discharged to, any body of water other than Redmond Pit, which is not fish habitat. Hence, there will be no interaction with fish, fish habitat or with aquatic species as defined in subsection 2(1) of the *Species at Risk Act*. Therefore, there will be no changes to fish or fish habitat or to aquatic species as a result of carrying out the Project.

2.8.5.1 Accidents and Malfunctions

The potential risk to the environment of an accident or malfunction resulting in a spill into a water course was considered. The potential risk to fish and fish habitat of an accidental rupture of the rejects pipeline resulting from a haul truck collision was assessed by considering the likelihood of occurrence and the severity of effect. That is, a low likelihood of occurrence combined with a low severity of effect would result in a low risk to the environment, while a high probability of occurrence and a high severity of effect would result in a high risk to the environment. To reduce the potential for a rupture or breakage resulting from a haul truck collision the rejects pipeline will be encapsulated in an outer protective rigid pipeline at stream crossings. Additional mitigation measures will include posted speed limits, regular vehicle inspection and maintenance and driver education. It is anticipated that these mitigations will result in a low likelihood for a haul truck collision with the rejects pipeline to occur at a water crossing.

In the unlikely event that a collision did result in the rupture of the rejects pipeline and a spill of rejects water did occur, the severity of the event would depend on the volume and characteristics of the of rejects water spilled. In a worst case scenario, a maximum of 315,000 L and 211,000 L of rejects water would be spilled into Gilling River or Tributary 1, respectively. As previously noted the water would consist of approximately 20% rock fines with no chemical pollutants. The effect on the receiving environment would be limited to the physical introduction of a large volume of water containing a low concentration of rock fines. This could potentially have an adverse effect on spawning habitat, however, the habitat at both crossing sites is predominantly boulder / cobble (Section 2.3.1.5), i.e. not spawning habitat. The potential effects on fish and fish habitat are therefore anticipated to be low to moderate in severity.

Therefore, given the low likelihood of occurrence and the low to moderate severity of effect, the risk to fish and fish habitat resulting from an accidental rupture of the rejects pipeline is considered to be low.

2.8.6 **Sensitive Areas**

There are no designated sensitive areas or special areas in the Project Area, including designated wildlife areas, stewardship zones, parks and natural areas.

2.8.7 **Zoning**

There is no zoning that applies to the Project Area.

2.8.8 **Socio-economic**

The closest community to the Project is Schefferville, Quebec which is located 20 km north of the Project, less than 2 km from the border with Labrador. It was established by the Iron Ore Company of Canada in 1954 to support mining operations in the area.

Iron ore mining at Schefferville ceased in 1982 and many of the 4,000 non-Aboriginal occupants left at that time, leaving a primarily Aboriginal community comprised of people who had settled there in the preceding 30 years. Some houses and public facilities have been demolished since this time, but some new homes have been built. The median age is 39.2 years, with approximately 60 families residing within the community.

LIM's James Mine went into full production in 2011, marking the first mining and production of iron ore from this historic mining area in over 30 years. This development has brought many positive and direct benefits and the continued development of the Houston 1 and 2 Deposits and the construction of the beneficiation plant will build on this work. Direct and indirect economic benefits for various communities and stakeholders are expected from the proposed development. The ongoing economic impact of such employment and contracting business will be very positive and lead to the development of other support and service sector jobs, education and training, and consistent and planned development and growth.

This Project will add an additional economic stimulus to the Schefferville area as well as to the provinces of Newfoundland and Labrador and Quebec.

The EIS (LIM 2009) and the Houston 1 and 2 Project Registration (LIM 2012) both concluded that there are no significant adverse effects on communities or human health anticipated to occur as a result of either Project. Given that the proposed Beneficiation Plant will be within the same region and is much smaller than either Project, it is reasonable to assume that these conclusions will also apply. Therefore, no changes to communities or human health will occur as a result of carrying out the Project.

2.8.8.1 Consultations

Since early exploration activities in 2005, LIM has been in continual contact with the communities located near the development area and with the Innu Nation of Labrador and other Aboriginal/First Nation communities having a stated interest or historic connection to the area. For example, LIM has initiated communications with occupants of cabins identified within the region and will continue communications with them as the Project develops.

As well, LIM maintains contact with the civic administration of the towns of Labrador City, Wabush, Happy Valley-Goose Bay and the town of Schefferville. In these communities stakeholder consultation activities have included frequent meetings with Band Councils, Mayors and Councils, local businesses, local political representatives, local interest groups, provincial and federal regulators, educators and a wide variety of consultants that are involved with stakeholders. The consultations conducted are reported in the Schefferville Area Mining Project EIS.

LIM has opened community relations offices at the existing Schefferville Area Iron Ore Mine – Silver Yards, and in Labrador City. LIM is dedicated to providing early and clear information to the community and working with all communities towards the common goal of positive, respectful and sustainable development in the area.

Project design and implementation will include consideration of information resulting from ongoing consultation with the communities, traditional environmental knowledge, environmental and engineering considerations and best management practices. These consultations and agreements will ensure a close working relationship with the local communities with respect to their involvement in the provision of labour, goods and services to the Project.

LIM has engaged in substantial community and public consultation activities including aboriginal consultation in both Labrador and Quebec (in the Schefferville area) and surrounding areas since 2008 and will continue to do so during the construction and operation of the plant.

LIM also conducted extensive consultations on the Houston 1 and 2 Deposits Mining Project. These are summarized in the Project Registration (LIM 2011).

2.8.8.2 Aboriginal Consultation

Consultation is a central objective of the environmental assessment process. Aboriginal consultation has a similar objective as public consultation in which to identify and address issues and concerns related to the Project.

The Quebec-Labrador Peninsula area probably has one of the most complicated patterns of aboriginal settlement in eastern Canada with six or possibly seven Aboriginal or First Nation peoples claiming traditional and native rights to all or part of the area underlain by LIM's Iron Ore Project. Several of the communities have conflicting territorial or land claims. This regional complication of Aboriginal/First Nation issues has recently prompted the Government of Canada to establish an Overlapping Commission on November 2010. This Commission will provide a forum for addressing the issues of jurisdictional overlap for the territories and the sharing of

economic development initiatives as a result of mining and hydro-electric development in the region.

The Aboriginal groups of the Quebec-Labrador Peninsula most directly affected by the Project are the Innu Nation of Labrador, the Naskapi Nation of Kawawachikamach, the Innu Nation of Matimekush-Lac John, the Innu Nation of Takuaikan Uashat Mak Mani-Utenam (ITUM) and NunatuKavut (formerly the Labrador Métis Nation). (Figure 2.6) These groups may have overlapping land claims issues or traditional claims covering western Labrador. The Naskapi Nation is the only group with a finalized comprehensive land claim agreement; the others are in various stages of negotiation with the federal and provincial governments. However, the land claims of Quebec Aboriginal groups in Labrador have not been accepted for negotiation by the Government of Newfoundland and Labrador.

LIM has pursued an extensive and proactive engagement with all of the aboriginal communities living close to the project location or having traditional claims to the surrounding territory and commenced such consultations respecting the Schefferville Area Iron Ore Mine (Western Labrador) Project with a meeting between LIM and Naskapi Nation in Kawawachikamach in May 2005. Between May 2005 and October 2012 many consultation meetings were held in Newfoundland and Labrador (Labrador City/Wabush, Happy Valley-Goose Bay and St. John's), Nova Scotia (Halifax), Quebec (Schefferville, Kawawachikamach, Uashat, Matimekush, Montreal and Quebec City) and Ontario (Ottawa and Toronto) with the leadership and negotiating teams representing the various communities. These consultations are discussed in the Environmental Impact Statement (LIM 2009).

These consultations have resulted in the signing of IBA agreements with the Innu Nation of Labrador (July 2008), the Naskapi Nation of Kawawachikamach (September 2010), Uashat mak Mani-Utinem First Nation (June 2011) and the Matimekush – Lac John First Nation (February 2012).

The respective agreements relate to the establishment of a positive ongoing relationship between LIM and the Aboriginal/First Nation relating to the development and operation of the Project and to the economic benefits that will accrue to the aboriginal communities. Specifically the agreements make provisions for employment, education and training, contract opportunities, social and financial benefits, environment and cultural protection measures.

The agreements include processes for the respective communities to directly participate and/or be actively consulted through:

- Implementation committee;
- Community collaboration committee;
- Training and education committee;
- Establishing employment and workplace conditions;
- Business and contracting opportunities;
- Environmental monitoring committee;
- Traditional knowledge collection;

- Heritage resource and cultural protection; and
- Economic benefits.

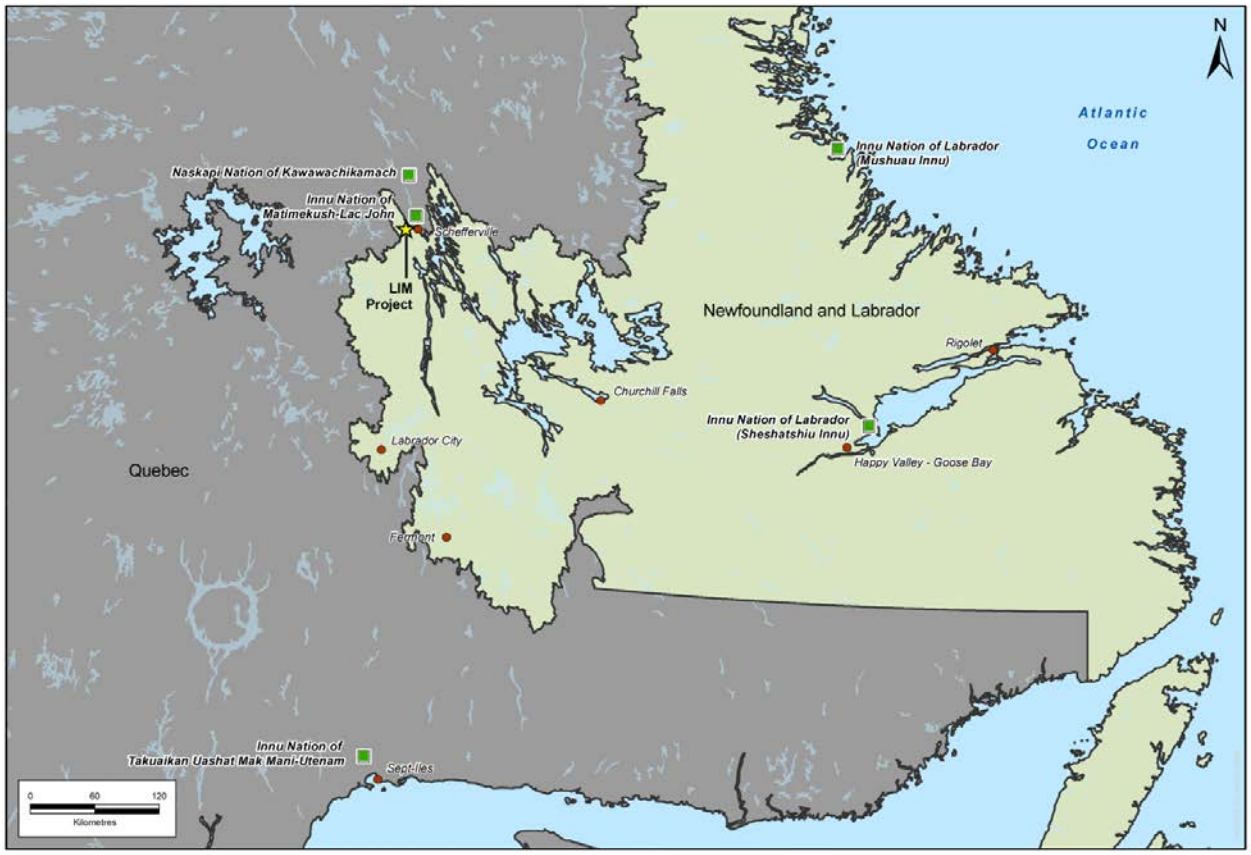


Figure 2.6 Aboriginal Communities

The Implementation Committee is made up of representatives from each of the Aboriginal communities and LIM senior management. The agenda of these quarterly meetings include: a Project Safety report, updates on operations, environmental performance, upcoming contracts, human resources, employment and training and upcoming activities and projects.

Consultations specific to the Houston Beneficiation Plant Project were initiated at the most recent quarterly IBA Implementation Committee meeting held on October 22, 2012 in Schefferville. The following Aboriginal groups were represented:

- Innu Nation of Labrador;
- Naskapi Nation of Kawawachikamach; and
- Matimekush – Lac John First Nation.

There were no concerns expressed by either of the organizations present in regards to the proposed Project. Unfortunately, the Uashat mak Mani-Utinem First Nation (ITUM) were unable to attend. However, subsequent to the meeting, information on the Beneficiation Plant Project

was provided to the ITUM and a request for a meeting issued (Letter to Ken Rock from J. Lanzon, November 22, 2012).

The proposed Project was also presented and discussed at the most recent Implementation Committee Meeting held January 22 – 23, 2013 at Sept-Iles (Uashat), Quebec. Attendees at the meeting represented the following Aboriginal groups:

- Innu Nation of Labrador
- Naskapi Nation of Kawawachikamach
- Matimekush – Lac John First Nation, and
- Uashat mak Mani-Utinem First Nation

The following issues were raised and discussed at the meeting:

- Is the scope of the Project within the original mine plan for the area
- Would historical pollution be made worse by the Project
- Is the Project within the scope of the IBAs
- What alternative locations were considered

A summary of the comments and discussion regarding the Houston Beneficiation Plant Project is provided in Appendix 3.

Consultations have also been conducted with the Nunatukavut Community Council through the provision of an information package and a request for comments (email dated January 8, 2013: J. Lanzon to T. Russell) and a telephone conversation between T. Russell, J. Lanzon and L. LeDrew, January 15, 2013. No comments or concerns have been received to date.

In addition to the Implementation Committee meetings, LIM provides information to the communities through the distribution of a Community Newsletter. This bilingual (English and French) publication also provides updates on operations, environmental performance, training, employment and contracting opportunities and community events.

LIM has consulted with the four Aboriginal organizations on all phases of the Schefferville Area Mine Project as well as the Houston 1 and 2 Deposits Mining Project and has obtained concurrence on the permits required for construction and operation activities.

2.8.8.3 Other Consultations

Consultations have also been conducted with government agencies to inform them of the Houston Beneficiation Project. The following recent meetings and / or correspondence have been held:

- October 2, 2012 – Meeting held with Bas Cleary and Paul Rideout, Environmental Assessment Division, Newfoundland and Labrador Department of Environment and Conservation;
- October 3, 2012 – Telephone conversation with Mike Atkinson, Canadian Environmental Assessment Agency; and

- November – December 2012 – Telephone conversations with Joseph Vigder, Canadian Environmental Assessment Agency regarding information requirements for the Project Description.

2.8.8.4 Consultation Plan

The quarterly Implementation Committee Meetings will be the main forum for informing the Aboriginal Organizations and obtaining their input through the planning, construction, operation and de-commissioning phases of the Project.

A consultation process is also being developed with the Nunatukavut Community Council.

2.8.9 Federal Lands

There are no federal lands, including national parks or Canadian forces bases, proximate to the Project area and the Project is located wholly within the province of Newfoundland and Labrador.

The minimum distances from the project to: the Quebec border is approximately 2.0 km; to the nearest town, Schefferville, is 20 km; and distances to the nearest federal lands are presented in Table 2.2.

Table 2.2 Approximate Distances from the Houston Beneficiation Project to Federal Lands

Nearest Federal Lands	Approximate Distance from Houston Beneficiation Plant (km)
Newfoundland and Labrador	
Torngat Mountains National Park Reserve	450
5 Wing Goose Bay (Canadian Forces Base)	430
Innu Nation of Labrador (Sheshatshiu) (Aboriginal Community)	445
Quebec	
Naskapi Nation Kawawachikamach (Aboriginal Community)	25
Innu Nation Matimekush - Lac John (Aboriginal Community)	20
Innu Nation of Takuaikan Uashat Mak Mani-Utenam (Aboriginal Community)	500
Mingan Archipelago National Park Reserve	540
3 Wing Bagotville (Canadian Forces Base)	765

The potential effects on federal lands or on other provinces (Quebec) resulting from carrying out the project are limited to noise and fugitive dust.

The potential effects of noise generated by the Houston 1 and 2 Deposits Mining project were evaluated and the extent of any potential effects assessed (AECOM 2011). The study concluded that the subjective noise impact at various points of reception were:

- at a site 2.5 km north of Houston property (in Quebec) and at a site 5.8 km west of Houston property there would be negligible noise effect;
- at a site 600 m distance, (Ashtray Lake) noise levels would be approximately twice as loud as current ambient conditions; and
- at a distance of 173 m (Gilling Lake) noise levels greater than twice as loud as current ambient conditions would be experienced (AECOM 2011).

As noted the Quebec border is 2.0 km north of the project, therefore, negligible effects to that province would be anticipated.

Fugitive dust emissions from the Silver Yard processing facility were assessed in the James Mine EIS (LIM 2009). The assessment concluded that no significant adverse environmental effects due to project-related emissions are anticipated during operation of the plant (LIM 2009). Given the similarity between the two facilities, no adverse environmental effects are anticipated from the Houston Beneficiation Plant, thus no changes to the air quality in other provinces (Quebec) or on federal lands are anticipated to occur as a result of carrying out the project.

Therefore, there are no changes anticipated to federal lands or to other provinces as a result of carrying out the Project.

2.9 Environmental Protection

In addition to the the Schefferville Area Iron Ore Project Emergency Response Plan (ERP), LIM also has an approved Waste Management Plan (WMP) and an approved Environmental Protection Plan (EPP) in place for the Houston Project. The WMP provides direction on waste handling, storage, transport and treatment of various waste produced. The EPP outlines practical procedures required for all personnel, contractors or suppliers to reduce or eliminate potential adverse environmental effects associated with the project. These documents will be updated, as necessary, to reflect any required changes and enforced for the duration of the project. Prior to commencing operations all workers will be properly trained in the WMP, ERP and EPP procedures and responsibilities.

Environmental Compliance Monitoring will be conducted during all phases of the work program from construction to closure. Environmental data collection will be conducted to support the requirements for environmental protection.

Several monitoring studies already initiated for the James Mine Project, including, but not limited to air quality monitoring, caribou and wildlife monitoring, avifauna monitoring, groundwater and surface water quality monitoring, Real Time Water Monitoring and traditional environmental knowledge (TEK) consultation, are anticipated to be expanded to include the Houston Beneficiation Plant, as applicable.

LIM demonstrates commitment to the protection of the environment through its sustainable mining practices at its current operations and this approach will be implemented throughout all phases of the Beneficiation Plant project.

2.10 Employment, Occupations and Economic Benefits

As demonstrated at the existing James Mine, LIM is committed to the creation and implementation of employment equity practices to help achieve maximum employment and training benefits for the region, including the recruitment, training, and advancement of qualified visible minorities and women, and, as such, is fully prepared to implement a Women's Employment Plan in association with the development and operation of the Project. LIM is also committed to ensuring maximum benefit to Newfoundlanders and Labradorians who reside nearest the resources.

LIM currently has an approved Benefits Plan and a Women's Employment Plan in place, which will be implemented during the construction and operation of beneficiation plant.

2.10.1 Construction

As indicated in Table 2-3, approximately 112 employees will be required during the construction phase of the Project. Certain management positions will be required throughout construction and may overlap with positions at LIM's existing operating mines at the James and Houston properties. Construction activities are expected to commence in June 2014 and be completed in June 2015. It is anticipated that construction will be continuous with two 12 hour shifts per day. The number of construction personnel on site at different stages of construction may vary depending on the phase.

Table 2-3 Occupations Required During Construction

National Occupational Classification	Position Description	Number of Personnel
0711	Construction Manager	1
2131	Project Engineer	1
7611	Earthworks Construction Worker	12
7611	Civil Construction Worker	16
7611	Structural Construction Worker	10
7611	Mechanical Construction Worker	22
7611	Platework Construction Worker	8
7611	Piping Construction Worker	20
7611	Electrical Construction Worker	10
7611	Instruments Construction Worker	7
7611	Commissioning Personnel	5
Total		112

2.10.2 **Operations**

As indicated in Table 2-4, Approximately 23 full-time direct or contract employees will be required during the operation phase. The operating schedule is based on two 12 hour shifts per day on a continuous basis from May through to November annually.

Table 2-4 Occupations Required During Operation

National Occupational Classification	Position Description	Number of Personnel
8221	Plant Superintendent	1
8221	Shift Foreman	1
2142	Metallurgist	1
9231	Control Room Operator	2
9411	Crushers Operator	2
9411	Screening/Washing Operator	2
9411	Fines Area Operator	2
9415	Samplers	2
7311	Mechanic (Millwright)	1
7242	Electrician/Instrumentation	1
9411	Product Loader Operator	4
2211	Lab Technologists	4
Total		23

3.0 APPROVAL OF THE UNDERTAKING

Following release from the environmental assessment process, the Project will require various approvals, permits and authorizations prior to Project initiation. Table 3-1 summarizes anticipated permits, approvals and authorizations that may be issued by the province of Newfoundland and Labrador for the Project. There are no Federal permits, approvals or authorizations anticipated to be required for the Project.

Table 3-1 Anticipated Permits, Approvals and Authorizations

Permit, Approval or Authorization Activity	Issuing Agency
▪ Release from environment assessment process	Department of Environment and Conservation (DOEC) – Environmental Assessment Division
▪ Permit to Construct a Non-Domestic Well ▪ Certificate of Approval (C of A) to Alter a Body of Water, Schedule H: Other works within 15 m of a body of water	DOEC – Water Resources Management Division
▪ C of A for Construction and Operation ▪ C of A for Generators ▪ Approval of Environmental Contingency Plan (Emergency Spill Response) ▪ Approval of Environmental Protection Plan	DOEC – Pollution Prevention Division
▪ Permit to Control Nuisance Animals	DOEC – Wildlife Division
▪ Blasters Safety Certificate ▪ Approval for Storage & Handling Gasoline and Associated Products ▪ Fuel Tank Registration ▪ Life and Safety ▪ Permit to Construct a Potable Water System ▪ Permit to Construct a Sewage Treatment System	Government Service Centre (GSC)
▪ Approval of Development Plan, Rehabilitation and Closure Plan, and Financial Security	Department of Natural Resources (DNR) – Mineral Development Division
▪ Surface Rights Lease (Amendment)	Department of Natural Resources (DNR) – Mineral Lands Division
▪ Operating Permit to Carry out an Industrial Operation During Forest Fire Season ▪ Permit to Cut ▪ Permit to Burn	DNR – Forest Resources

4.0 SCHEDULE

Subject to regulatory and environmental approvals, LIM anticipates commencing construction activities for the Houston Beneficiation Plant in June 2014 and finishing approximately one year

later (June 2015). There is no construction scheduled during the winter months (December to March). See Table 4-1.

Table 4-1 Proposed Construction Schedule

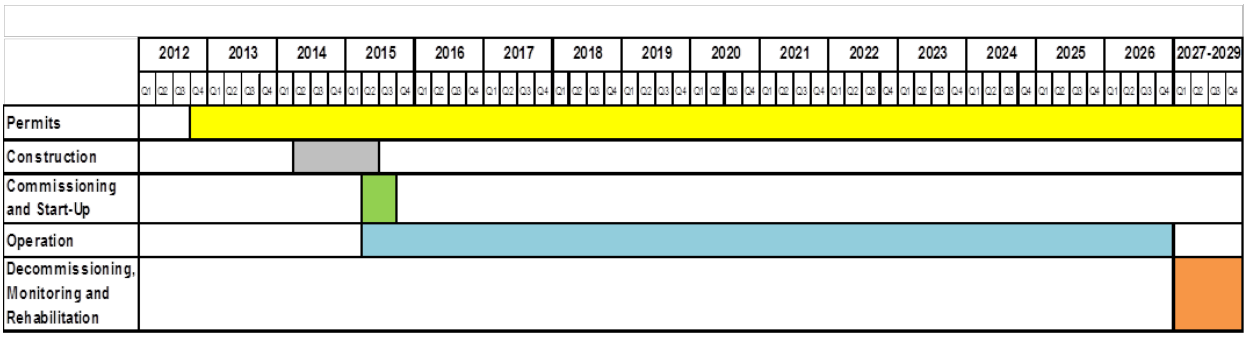
Activity	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec 14 - Mar 15	Apr-15	May-15	Jun-15
Earthworks & Civil										
Struct, Mech & Platework										
Piping										
Electrical & Instruments										

LIM anticipates commencing production in June or July of 2015. The estimated production schedule to year 2026 is based on 600 tonnes per hour (12,000 tonnes per day) capacity with a maximum of 720 tonnes per hour. Based on the 12,000 tonnes per day capacity and the expected overall recovery of 75%, it is estimated that a total of 1.5 million tonnes of product will be recovered from 2.0 million tonnes of feed per year over the 12 year life of mine (Table 4-2). The overall project schedule is shown in Table 4-3. Decommissioning, rehabilitation, closure and monitoring will occur during the 2026 to 2030 time period.

Table 4-2 Proposed Production Schedule

	Ore (Tonnes)	
Period	**Feed**	**Recovered**
2015	1,000,000	750,000
2016	2,000,000	1,500,000
2017	2,000,000	1,500,000
2018	2,000,000	1,500,000
2019	2,000,000	1,500,000
2020	2,000,000	1,500,000
2021	2,000,000	1,500,000
2022	2,000,000	1,500,000
2023	2,000,000	1,500,000
2024	2,000,000	1,500,000
2025	2,000,000	1,500,000
2026	2,000,000	1,500,000
OVERALL	23,000,000	17,250,000

Table 4-3 Project Schedule



5.0 PROJECT RELATED DOCUMENTS

The following is a list of the various project-related documents used in the preparation of this document:

- AECOM, 2009, Breeding Bird Monitoring Report – James, Redmond, Silver Yards, Knob Lake, Houston, Howse, and Proposed Road Crossing Areas. Unpublished Report prepared for Labrador Iron Mines Ltd.
- AECOM 2011, Fish Habitat Assessment Report - Redmond Houston Road Corridor. Unpublished Report prepared for Labrador Iron Mines Ltd.
- AECOM 2011, Fish Habitat Assessment Report –Houston Property Unnamed Tributary. Unpublished Report prepared for Labrador Iron Mines Ltd.
- AECOM 2011, Environmental Noise and Vibration Baseline and Impact Assessment report – Houston Property. Unpublished Report prepared for Labrador Iron Mines Ltd.
- AECOM, 2012, Natural Environment Baseline Report – Road Corridor. Unpublished Report prepared for Labrador Iron Mines Ltd.
- Department of Fisheries and Oceans Canada. 2010 K. Simms. Letter of Advice, File NO.08-HNFL-NA1-0009. Labrador Iron Mines Schefferville Area Iron Ore.
- Labrador Iron Mines Limited, 2009, Environmental Impact Statement (Revised). Schefferville Area Iron Ore Mine (Western Labrador).
- Labrador Iron Mines Ltd. 2010. Avifauna Management Plan for Activities Associated with the James, Silver Yard and Redmond Properties.
- Labrador Iron Mines Ltd. 2010, Labrador Iron Mines Development Plan, Schefferville Area Iron Ore Mine (Western Labrador).
- Labrador Iron Mines Ltd. 2010, Labrador Iron Mines Rehabilitation and Closure Plan, Schefferville Area Iron Ore Mine (Western Labrador).
- Labrador Iron Mines Limited. 2011, Project Registration for the Houston 1 and 2 Deposits Mining Project.
- Labrador Iron Mines Limited, 2011, Waste Management Plan. Schefferville Area Iron Ore Mine.
- Labrador Iron Mines Limited. 2012, Houston 1 and 2 Deposits Mining Project Environmental Protection Plan (Supplemental to the Schefferville Area Iron Ore Mining Project Construction and Operation Activities EPP).
- Yetman D., Senior Habitat Biologist, DFO. 28/09/2008, Email to L. Wrong Labrador Iron Mines.