Labrador Iron Mines

Houston Project

Preliminary Economic Assessment

March 2021

Forward Looking Information and Cautionary Statements

Labrador Iron Mines Holdings Limited (“LIMH”, “LIM” or the “Company”) has prepared this presentation for information purposes only. It contains forward-looking statements about the Company's plans for the exploration, development, and mining of its properties.

Forward-looking information includes mineral resource estimates, estimates of future production, capital costs, operating costs, and timing of commencement of operations, and is based on current expectations that involve a number of business risks and uncertainties. Factors that could cause actual results to differ materially from any forward-looking statement include, but are not limited to, failure to establish estimated resources and reserves the grade and recovery of ore which is mined varying from estimates, capital and operating costs varying significantly from estimates, delays in obtaining or failures to obtain required governmental, environmental or other project approvals, delays in the development of projects, changes in exchange rates, fluctuations in commodity prices, inflation and other factors.

Forward-looking statements are subject to risks, uncertainties and other factors that could cause actual results to differ materially from expected results. There can be no assurance that the Company will be successful in maintaining agreements with First Nations groups who may assert aboriginal rights or may have a claim which affects the Company’s properties or may be impacted by the Schefferville Projects.

Shareholders and prospective investors should be aware that these statements are subject to known and unknown risks, uncertainties, and other factors that could cause actual results to differ materially from those suggested by the forward-looking statements. Shareholders are cautioned not to place undue reliance on forward-looking information. By its nature, forward-looking information involves numerous assumptions, inherent risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and various future events will not occur. The Company undertakes no obligation to update publicly or otherwise revise any forward- looking information whether as a result of new information, future events or other such factors which affect this information, except as required by law.

Cautionary Statements: The terms “iron ore” and “ore” in this document are used in a descriptive sense and should not be considered as representing current economic viability. A Feasibility Study has not been conducted on any of the Company’s Schefferville Projects, including the Houston Project.

The economic analysis contained in the PEA is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

Canadian dollars and metric units of measurement are used throughout this presentation unless otherwise noted.

Qualified Person: Information in the presentation has been approved by Rodney Cooper, P.Eng., Chief Operating Officer of the Company

Experienced Mine Developer

In 2011, LIM Achieved First Iron Ore Production in the Schefferville Region in **30 years**

LIM's Iron Ore Projects

Schefferville Region, Labrador Trough

LIM's Advantages

15 Years Experience in Labrador

- **5 years in exploration & development (2005 – 2010)**
- **5 years construction & mining – James Mine (2010 – 2014)**
- **5 years rehabilitation & reclamation (2015 – 2020)**

Mining Experience

James Mine:
Three Successful Operating Seasons

(2011-2013)

~4.6 million tonnes of ore mined
~8.2 million tonnes of waste rock removed

Houston Project
Preliminary Economic Assessment (PEA)
Key Takeaways

- Updated Resource Estimate
- 2 million tonnes / year for 12-year mine life
- High grade (>62% Fe) lump and sinter fines
- Low Capital Costs
- Strong Projected Economics
- Ready for Construction


Houston Northern Access Road


Houston Massive Hematite


Houston Coarse Ore Sample


Houston Fine Ore Sample

Houston PEA & Technical Report

- The independent PEA and Technical Report was prepared by Roscoe Postle Associates Inc. (RPA), now part of SLR Consulting Ltd.
- Technical Report effective date: December 31, 2020

Qualified Person	Title	Technical Report Responsibilities
Glen Ehasoo, P.Eng.	**Principal Mining Engineer**	**Sections 2 to 6, 13, 15 to 19, and 21 to 24; parts of Sections 1, 25, 26, and 27.**
Dorota El Rassi, P.Eng.	**Senior Geological Engineer**	**Sections 7 to 12, 14; parts of Sections 1, 25, 26, and 27.**
Marc Lavigne, M.Sc., ing.	**Principal Mining Engineer**	**Sections 13, 15 to 19, and 21 to 24; parts of Sections 1, 25, 26, and 27.**
Luke Evans, M.Sc., ing.	**Technical Director, Geology Group Leader**	**Sections 2 to 12, and 14; parts of Sections 1, 25, 26, and 27.**
Stephan Theben, SME R.M.	**Mining Sector Lead, Managing Principal**	**Section 20; parts of Sections 1, 25, 26, and 27.**

PEA results are presented on a 100% project basis. The Houston Project is 100% owned by Labrador Iron Mines Limited (LIM) and its wholly-owned subsidiary Schefferville Mines Inc. (SMI). Labrador Iron Mines Holdings Limited (LIMH) owns 52% of Labrador Iron Mines Limited.

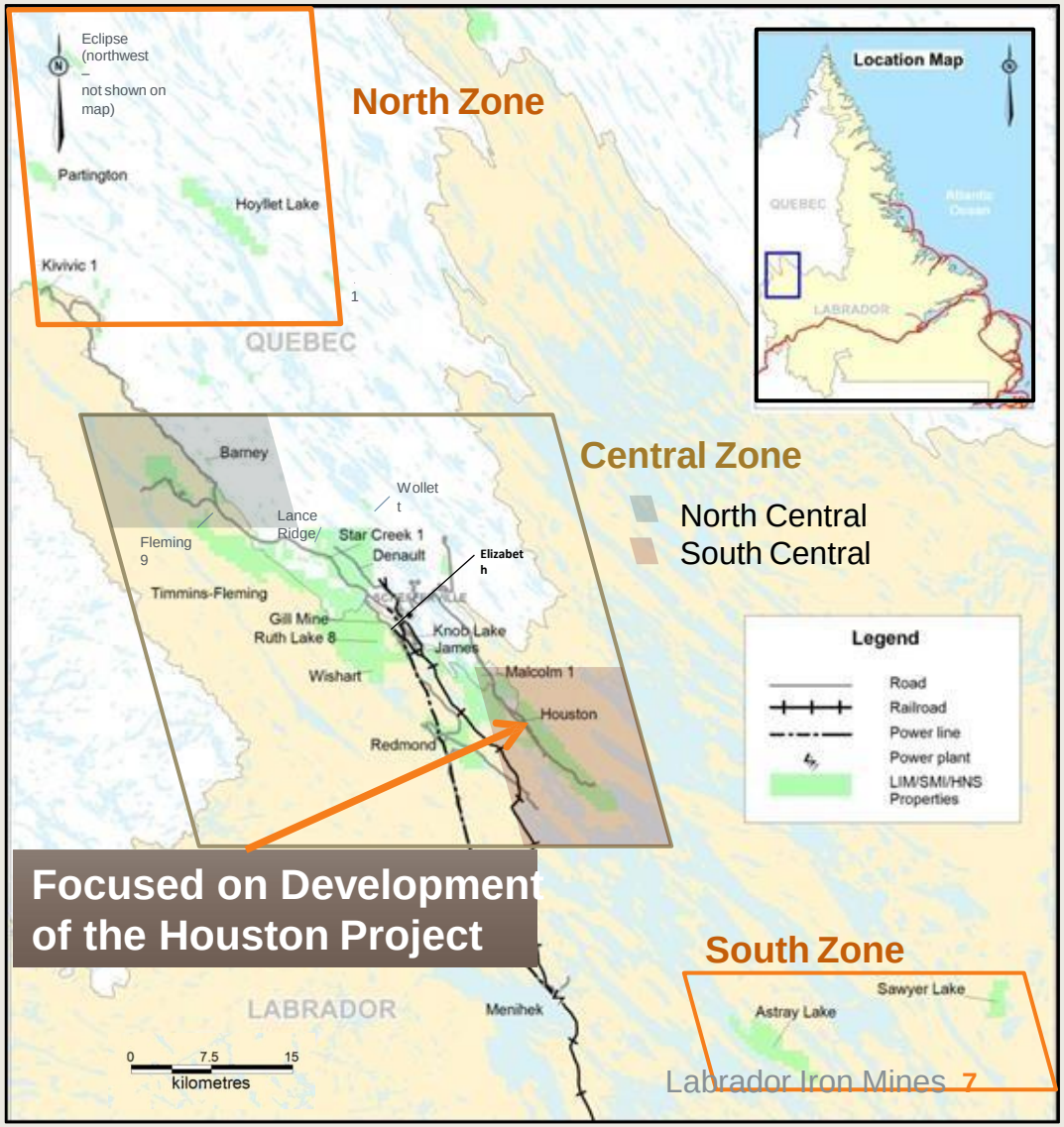
Location of Houston Project

Houston & Malcolm

4 mineralized deposits –
- Houston 1, Houston 2, Houston 3 in Labrador,
- Malcolm in Quebec

15 km from the town of Schefferville

Close to existing infrastructure and rail line



Houston Project
Updated Mineral Resource Estimate

Mineral Resource Estimate						
Category	Tonnes (Mdmt)	Fe %	SiO_2 %	Mn %	P %	Al_2O_3 %
Measured	11.4	62.7	6.8	0.52	0.07	0.68
Indicated	9.1	62.7	7.3	0.41	0.06	0.54
M + I	20.5	62.7	7.0	0.47	0.06	0.62
Inferred	14.3	59.4	13.7	1.02	0.07	0.83

Houston and Malcolm deposits remain open along strike

Notes:

- Mineral Resources were classified using the following criteria:
  - Measured Mineral Resources: within an interpreted mineralized domain and within 50 m of the nearest informing sample.
  - Indicated Mineral Resources: within an interpreted mineralized domain and greater than 50 m and less than 100 m of the nearest informing sample.
  - Inferred Mineral Resources: within an interpreted mineralized domain and greater than 100 m of the nearest informing sample.
- CIM (2014) definitions are followed for Mineral Resources.
- Mineral Resources are estimated based on an open pit mining scenario.
- Mineral Resources are estimated based on a cut-off of 50% Fe.
- Mineral Resources are estimated using a long-term benchmark iron price of US$100/dmt for 62% Fe fines CFR China and a metallurgical recovery of 50% to 100% dependent on mineralization domain.
- Bulk density is based on a formula relating bulk density to iron content.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- Numbers may not add exactly due to rounding.

Houston Project

Houston Bulk Sampling Program

Houston Hematite

Houston banded iron formation

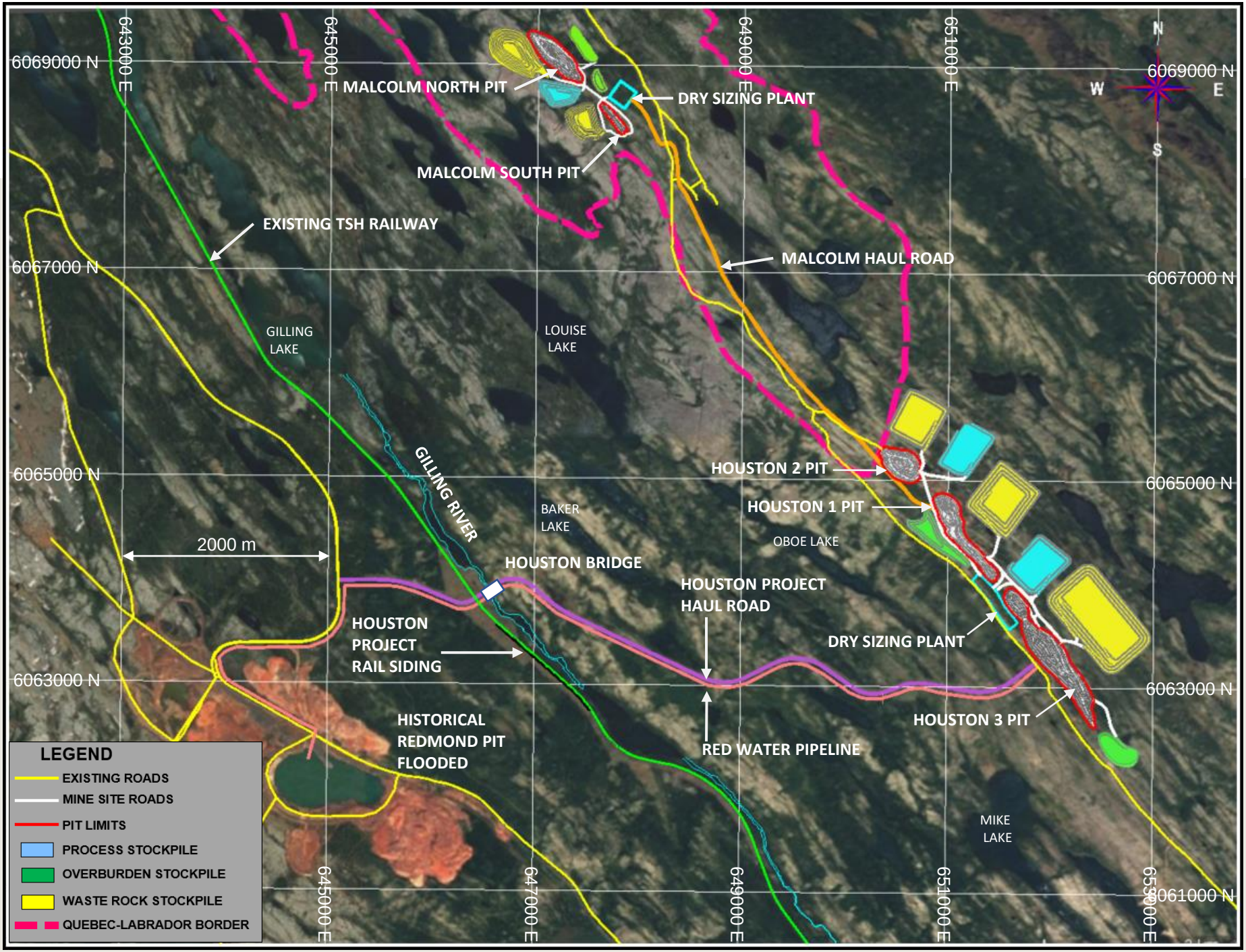
Houston massive hematite dipping 45°

Houston Project
PEA Development Plan

- Mining Operations - Year-round
- ~5,500 tonnes / day - Mining
- Dry Crush and Screen
- Rail Operations – May to November
- ~10,000 tonnes /day - Rail
- ~2,000,000 tonnes / year production
- New rail siding
- Houston 1 & 2, rail and road permitted
- New access road cleared

Dry Crushing and Screening Plant

Houston access road tree clearing complete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MALCOLM NORTH PIT
DRY SIZING PLANT
MALCOLM SOUTH PIT
EXISTING TSH RAILWAY
MALCOLM HAUL ROAD
GILLING LAKE
LOUISE LAKE
GILLING RIVER
HOUSTON 2 PIT
HOUSTON 1 PIT
BAKER LAKE
OBOE LAKE
2000 m
HOUSTON BRIDGE
HOUSTON PROJECT HAUL ROAD
HOUSTON PROJECT RAIL SIDING
DRY SIZING PLANT
HISTORICAL REDMOND PIT FLOODED
RED WATER PIPELINE
HOUSTON 3 PIT
MIKE LAKE
LEGEND
EXISTING ROADS
MINE SITE ROADS
PIT LIMITS
PROCESS STOCKPILE
OVERBURDEN STOCKPILE
WASTE ROCK STOCKPILE
QUEBEC-LABRADOR BORDER

Permitting and Community Support

- **Permitting**
  - Houston 1 and 2 completed full regulatory review and permitting for construction
  - Houston 1 and 2 support production in the first five years of operations
  - Malcolm will be permitted in Quebec with production in year 6 of the mine life
  - Houston 3 will be permitted in Newfoundland and Labrador with production in year 9
- **Community Support Established**
  - Agreements with five First Nations
  - Newfoundland and Labrador Benefits Plan
  - Newfoundland and Labrador Women's Employment Plan

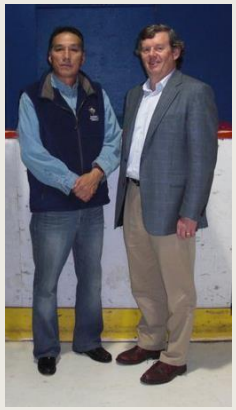
Relationships with First Nations

Social License to Operate

- Local employment
- Training programs
- Business opportunities
- Community engagement
- Environmental protection

Impact and Benefit Agreements	
July 2008	Innu Nation of Labrador (left)
September 2010	Naskapi Nation of Kawawachikamach (2nd from left)
June 2011	Innu Matimekush-Lac John (2nd from right)
February 2012	Innu of Uashat (right)
December 2012	Economic Partnership Agreement with NunatuKavut



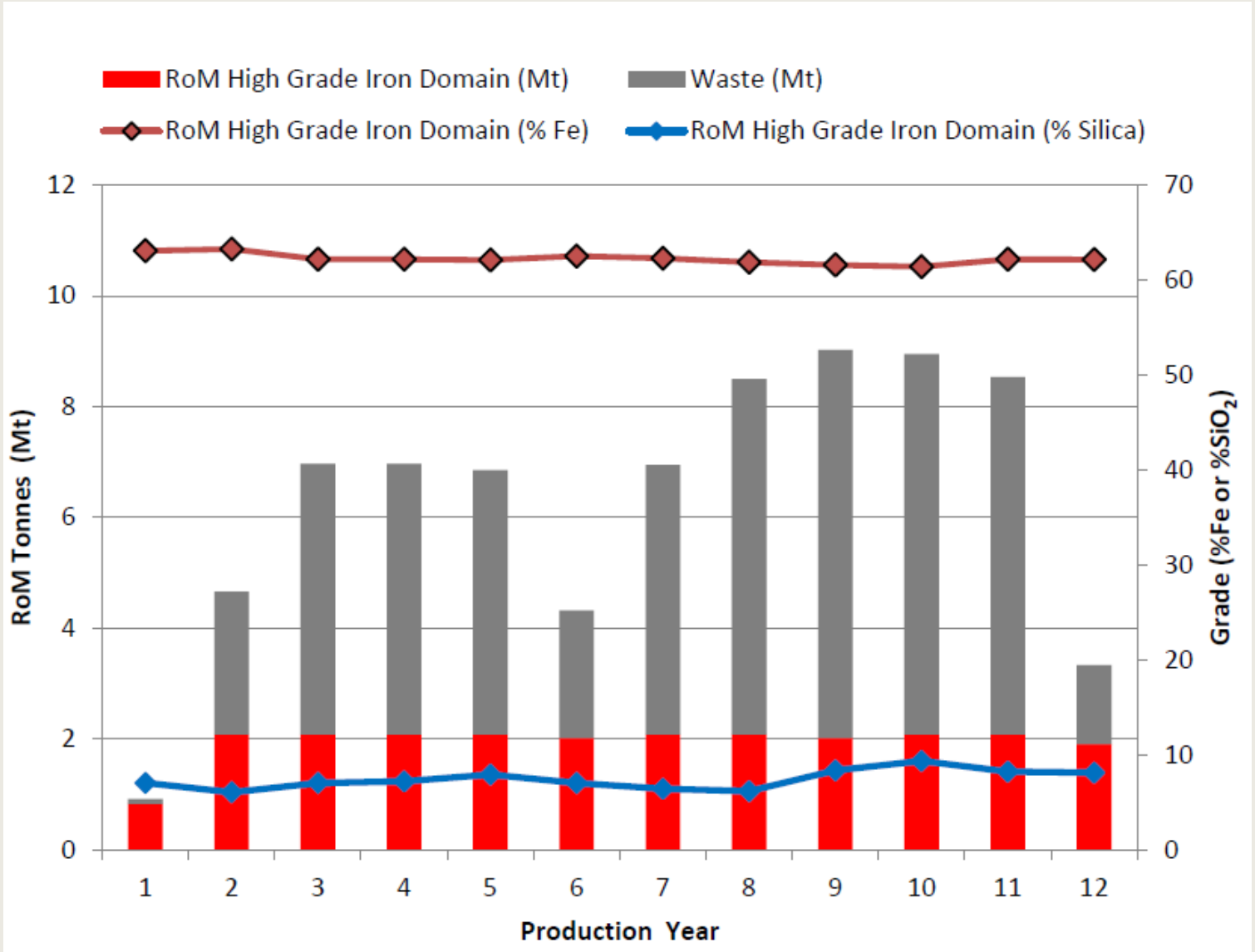



PEA Production by Deposit

Production Schedule								
Pit	High Grade Iron Domain (Mdmt)	Fe (%)	SiO_2 (%)	P (%)	Mn (%)	Al_2O_3 (%)	Strip Ratio	Total Mined (Mdmt)
Houston 1	6.1	62.3	7.1	0.08	0.60	0.64	1.4:1	14.6
Houston 2	4.5	62.7	7.2	0.05	0.44	0.72	2.2:1	14.3
Houston 3	8.1	61.8	8.5	0.06	0.50	0.61	2.9:1	31.3
Malcolm	4.7	62.2	6.3	0.06	0.53	0.51	2.4:1	15.8
Total	23.4	62.2	7.4	0.06	0.52	0.62	2.2:1	76.7

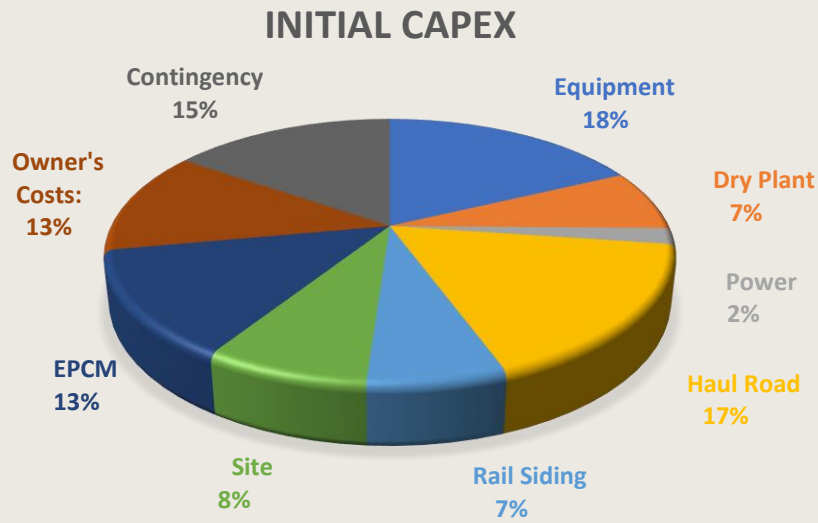
- ~100% of production from Houston 1 & 2 from measured and indicated resources
- ~100% of production in the first five years from measured and indicated resources
- Mining dilution of 5% at model grade
- Mining recovery 99%
- Product losses in stockpile are estimated at 1.5% (not deducted in above table)
- Mass yield with dry crushing and screening is assumed at 100%

PEA Production Schedule



PEA Capital Costs

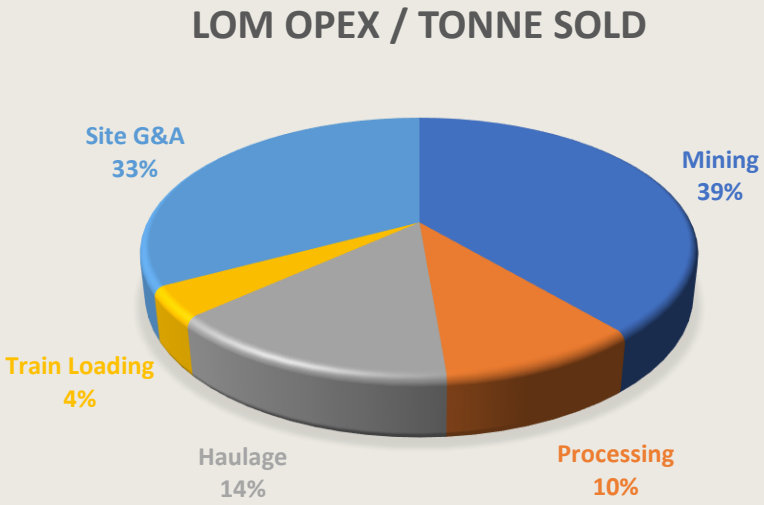
Capital Cost Summary			
Area	Initial Capital (C$ millions)	Sustaining Capital (C$ millions)	LOM Capital (C$ millions)
Direct Costs:			
Equipment	15.5	36.7	52.2
Infrastructure:			
Dry Sizing Plant	6.4	0.6	7.0
Power and Site Distribution	1.7	3.0	4.7
Product Haul Road	14.9	2.5	17.4
Rail Siding	5.8	-	5.8
Site Buildings and Other Facilities	3.3	1.8	5.1
Site General	1.3	-	1.3
Development	2.3	11.6	13.9
Subtotal - Directs	51.3	56.3	107.6
Indirect Costs:			
EPCM Costs	11.3	2.4	13.7
Owner's Costs:			-
Personnel	2.3	-	2.3
Personnel (non-payroll)	3.5	-	3.5
Site Services	2.2	2.9	5.1
Equipment, Supplies, Other	2.9	0.9	3.8
Subtotal – Indirect Costs	22.2	6.2	28.4
Contingency	13.3	5.2	18.6
Initial Capital Costs	86.8	67.7	154.5
Closure and Reclamation	3.5	4.9	8.4



- The estimating cost accuracy for the study is +/- 35% (AACE Class 4).
- Major mining equipment capital leases are included with capital costs
- Pre-production capital intensity: US$33 per tonne of annual production

PEA Operating Costs

Operating Cost Summary		
Department	Unit Cost (C$/dmt sold)	LOM Cost (C$ millions)
Mining	12.75	290
Processing and power	3.24	74
Product haulage	4.79	109
Train loading	1.27	29
Site general and administrative	10.79	245
Total Operating Costs	32.84	747



- Operating costs have been developed from first principles
- Operating costs are stated on an FOB basis, Houston rail siding, and exclude costs for onward rail, port, and ocean freight (off-take partner responsibilities)
- Cost escalation, exploration costs, corporate costs, project financing and working capital are excluded from the estimates
- Major mine equipment leases are considered as capital leases

PEA Operating Assumptions

Base Case Operating Assumptions	
Production schedule	- **Mining and processing for 12 months/year at approximately 5,500 tpd** - **Train loading at approximately 10,000 tpd for 200 days/year (May to November)**
Power source	- **Diesel**
Operator	- **Mining, crushing, screening, hauling and train loading by owner** - **Blasting by contractor**
Labour	- **80% Fly-in / Fly-out (2 weeks in / 2 weeks out); 20% Local** - **Two 12-hour shifts per day** - **297 employees at the peak** - **Accommodation in locally owned mine accommodation camp (to be rented)**
Point of sale	- **FOB Houston rail siding** - **The realized price by the Company FOB Houston rail siding reflects an adjustment to the CFR China benchmark price to include all onward rail, port and ocean shipping costs, value-in-use adjustments and an assumed price discount to the off-take partner.**

PEA Financial Assumptions

PEA Base Case Financial Assumptions		
Benchmark Iron Ore Price (62% Fe Sinter Fines CFR China basis)	US$90/dmt	= 3-year trailing average price
Lump Premium	+ US$10/dmt	= US$100/dmt
Houston Product Mix	30% Lump; 70% Sinter	
Silica Penalty	US$1.50/dmt	for each percentage point of silica over 4%
Price Adjustment (FOB Houston Rail Siding)	US$52/dmt	Includes onward rail, port, value-in-use deductions, and ocean freight
Royalty Deduction	~US$2.40/dmt	
FX Rate	C$1.33 : US$1.00	

- Tax pools significantly reduce tax burden under base case scenario

PEA Economics Summary

- Base Case: benchmark iron ore price US$90/dmt (62% Fe CFR China basis)
- Base Case undiscounted cash flow after tax: C$234 m

Summary Economics - 100% Basis			
Item	**Discount Rate**	**Units**	**Value**
Pre-tax IRR		**%**	**39%**
Pre-tax NPV at 7% discount	**7%**	**C$ million**	**123.5**
Pre-tax NPV at 8% discount	**8%**	**C$ million**	**112.5**
Pre-tax NPV at 10% discount	**10%**	**C$ million**	**93.5**
After-tax IRR		**%**	**39%**
After-tax NPV at 7% discount	**7%**	**C$ million**	**119.8**
After-tax NPV at 8% discount	**8%**	**C$ million**	**109.1**
After-tax NPV at 10% discount	**10%**	**C$ million**	**90.6**
After-tax payback		**years**	**2.6**

- Current Price Case: US$160/dmt assuming no price participation by off-taker:
  - After-tax $NPV_{8\%}$ C$778m and after-tax IRR to 514%
- Current Price Case: US$160/dmt adjusted for an assumed 50% price participation by the off-taker above base case price:
  - After-tax $NPV_{8\%}$ C$459m and after-tax IRR of 209%

The economic analysis contained in the PEA is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

PEA Highlights

PEA Highlights	
NPV	- **$NPV_{8\%}$ = C$109 million (after-tax) using US$90/t iron ore price (base case)** - **$NPV_{8\%}$ = C$459 million (after-tax) using US$160/t iron ore price (current price)**
IRR	- **IRR = 39% (after-tax) using US$90/t iron ore price (base case)** - **IRR = 209% (after-tax) using US$160/t iron ore price (current price including assumed off-take partner participation)**
Pay Back	- **2.6 years (after-tax)**
Iron ore price	- **Base case US$90/t (62% Fe Sinter Fines CFR China)**
Initial CAPEX	- **C$86.8 million (US$65 million) including EPCM + contingency**
Sustaining capital	- **C$67.7 million**
Mine life	- **12 years with payback of initial capital at 2.6 years**
Production	- **2 million tonnes per annum ("Mtpa") (62.2% Fe) from 23.4 million tonnes mined**
Production Schedule	- **Mining and processing at 12 months/year at approximately 5,500 tonnes per day ("tpd") processed** - **Train loading at approximately 10,000 tpd for 200 days/year (May to November)**
Product mix	- **30% lump; 70% sinter**

The economic analysis contained in the PEA is based, in part, on Inferred Resources, and is preliminary in nature. Inferred Resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that economic forecasts on which this PEA is based will be realized.

PEA Strengths

- **LIM's Safety Record is Excellent**
  - FY 2012-2020: 1 lost time injury
- **Very Low Technical and Execution Risks by Industry Standards**
  - 8 km gravel road, 2 km rail siding, dry crushing and screening
  - Low stripping ratio (waste:ore)
  - Extensive existing local infrastructure
- **Short 18 months construction period**
- **Initial Capital intensity US$33 per tonne annual production (lowest quartile)**
- **Product Quality is Excellent**
  - 30% lump iron ore at initial 63% Fe content
  - Low Mn, Low P, no S, Low Alumina
- **Environmental and Permitting Approvals**
  - Houston 1 and 2 permitted for construction
  - Houston is a "zero discharge" mining development
  - Record of responsible reclamation of former James Mine
  - Local communities and government support
- **Tax pools significantly reduce Federal and Provincial Taxes**

PEA Strengths
Extensive Existing Infrastructure

- Access roads to property
- Local town with airport
- Direct to port rail access
- Hydro power potentially available


Hydro Power Connection


Ore Shipment to Port


LIM Substation


Direct to Port Railway


Town of Schefferville with airstrip


Access Road to Project

Record of Environmental Compliance

Redmond Creek Fish Habitat Compensation Facility - 2015

Redmond Creek Habitat Compensation Facility - 2015

PEA Risks

- Iron Ore Price
- Ocean Freight Price
- Diesel Fuel Cost
- Foreign Exchange
- Permitting of Malcolm and Houston 3 – considered low
- Cost Escalation – considered low
- Construction Execution Risk – considered low
- Carbon Tax Risk – considered low impact

PEA Recommended Future Studies

- **Exploration Potential Along Strike**
- **Potential to Backfill Open Pits**
  - Houston 3 waste rock (2.9:1 stripping ratio) into Houston 1 open pit
  - Reduce overall closure obligations and haulage costs
- **Redmond Rail Loop:**
  - more efficient train loading, potential to increase annual production
- **Grid Power – Potential Summer Operating Cost Savings**
  - Relocate Silver Yard substation to Houston crusher site
  - 69 kv powerline connection to Nalcor service line
- **Aerial Tramway – Potential Summer Operating Cost Savings**
  - Transport crusher products to rail siding if grid power is available
- **Mining Equipment Initiatives**
  - Tele-remote blasthole drilling is now an “off-the-shelf” product – increase productivity
  - Haulage trucks battery power / grid power – lower operating costs

Houston Project Summary

- **PEA Completed**
  - Updated Resource Estimate
  - New Technical Report – March 2021
- **DSO Resources**
  - High-grade (>62% Fe) Iron Ore
- **Excellent Product Quality**
  - 30% Lump: 70% Sinter
- **Existing Infrastructure**
  - Town of Schefferville, Airport, Rail to Port
- **Proven Track Record of Responsible Mining**
  - Operated nearby James Mine 2010 – 2014
  - Reclamation of James Mine Completed
- **Strategic Relationships**
  - Government, First Nations & Local Communities
- **Houston Advancing to Development**
  - Low CAPEX Development Plan
  - Projected 12 Year Mine Life at 2 Mtpa

James Mine Mining Operations


LIM Train - 2012

James Mine Mining Operations - 2013

Labrador Iron Mines

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