
LABRADOR IRON MINES ANNOUNCES 33% INCREASE IN YEAR-END MINERAL RESOURCE

Stage 2 Mineral Resources Double to 40.6 Million Tonnes

Toronto, Ontario, May 23, 2013. **Labrador Iron Mines Holdings Limited** (“LIM” or the “Company”) (TSX: LIM) is pleased to announce its updated mineral resource as at its fiscal year-end March 31, 2013 for the Schefferville/Menihek direct shipping iron ore (“DSO”) operations and projects located in Western Labrador and Quebec.

Year-End Mineral Resource Highlights

- At March 31, 2013, LIM’s total measured and indicated mineral resource (excluding stockpiles) totalled **59.5 million tonnes grading 56.7% iron (“Fe”), a 33% increase from March 31, 2012.**
- The measured and indicated resource for the Houston 1, 2 and 3 deposits increased to **31.3 million tonnes grading 57.5% Fe, a 37% increase over 2012.**
- A new measured and indicated mineral resource estimate was calculated for the Malcolm-1 deposit, located adjacent to the Houston deposits, totalling **9.2 million tonnes grading 57.8% Fe.** This represents a significant increase over the historical estimate of 2.9 million tonnes grading 56.2% Fe¹.
- Overall, the Stage 2 Houston and Malcolm deposits are estimated to contain **40.6 million tonnes of measured and indicated resource grading 57.6% Fe.**
- The mineral resource for LIM’s Stage 1 Silver Yards deposits decreased to **18.9 million tonnes grading 54.9% Fe,** from 21.7 million tonnes grading 55.7% Fe in 2012, due to mine depletion and reconciliation at the James Mine.
- An initial mineral resource was estimated for selected historical stockpiles, totalling **3.5 million tonnes of indicated resource grading 49.1% Fe and 2.9 million tonnes of inferred resource grading 48.8% Fe.**

*“We are extremely pleased with the new year-end resource estimates and, in particular, the Houston and adjacent Malcolm-1 deposits, which have increased to over 40 million tonnes” commented **Rod Cooper, LIM’s President and Chief Operating Officer.** “Our excellent track record of resource conversion continues to confirm and expand the tonnage and grade of LIM’s resources, enhancing our production profile over the near and longer-term. In addition, the upgrade of some historical stockpiles, which are now in the indicated and inferred categories, will supplement feed to the Silver Yards wet process plant over the next five years.”*

In its 2012 exploration field program, LIM completed approximately 14,000 metres (“m”) of diamond and reverse circulation (“RC”) drilling in 196 holes, which were used to complete National Instrument 43-101 (“NI 43-101”) compliant mineral resource estimates as at March 31, 2013. In addition, the 2012 exploration program successfully achieved the objectives of acquiring geological information for detailed mine planning and carrying out further metallurgical testing.

¹ The historical resources referred to in this press release are based on work completed and estimates prepared by the Iron Ore Company of Canada (“IOC”), with grades relative to natural analysis, prior to 1983 and were not prepared in accordance with NI 43-101.

LIM engaged SGS Canada Inc. (“SGS”) to carry out an independent review of each of the iron ore deposits and stockpiles included in its 2013 year-end mineral resource estimates. A summary of LIM’s total mineral resource, compared to that previously reported for the year-ended March 31, 2012, (see Technical Reports filed on www.sedar.com) is provided in the table below. The 2013 year-end mineral resource estimates are net of mine depletion and reconciliation at the James Mine during the 2012 operating season. Detailed resource estimates for each of the deposits are provided in the Appendix at the end of this press release.

Table 1: Consolidated Year-End Mineral Resource (NI 43-101 Compliant)

		As at March 31, 2013				As at March 31, 2012			
	Classification	Tonnes (x 1000)	Fe (%)	SiO ₂ (%)	Mn (%)	Tonnes (x 1000)	Fe (%)	SiO ₂ (%)	Mn (%)
Deposits	Measured	36,949	57.0	11.9	1.2	26,977	56.6	12.1	1.3
	Indicated	22,504	56.2	12.9	1.0	17,605	56.2	12.6	0.9
	Total Measured & Indicated	59,453	56.7	12.3	1.1	44,582	56.5	12.3	1.1
	Total Inferred	4,665	55.8	13.2	1.4	5,189	55.4	14.9	0.9
TRX	Total Indicated	3,545	49.1	23.4	0.8	—	—	—	—
Stockpiles	Total Inferred	2,896	48.8	24.5	0.7	—	—	—	—

Note: Tonnage rounded to the nearest thousand.

Year-End Mineral Resource Overview

Stage 2 Houston Resource Continues to Expand

LIM is very pleased to report that resources at the Houston 1, 2 and 3 deposits continue to expand. The updated measured and indicated mineral resource estimate of 31.3 million tonnes grading 57.5% Fe represents a 37% increase over the 2012 estimate. In addition, the Houston deposits contain an inferred resource of 3.2 million tonnes grading 56.9% Fe at March 31, 2013.

The 2012 exploration drill program for the Houston 1, 2 and 3 deposits consisted of 24 RC holes totalling 1,468 m and 42 HQ triple-tube diamond drill holes totalling 4,504 m. The Houston deposits remain open along strike, particularly to the southeast and further drilling is planned to test for possible extensions. Houston is located approximately 15 kilometres from the James Mine and is planned to be a major expansion project for the next several years.

Initial NI 43-101 Resource for the Malcolm-1 Deposit

LIM is also pleased to report a new measured and indicated mineral resource estimate for its Malcolm-1 deposit of 9.2 million tonnes grading 57.8% Fe, which has more than tripled the previous historical resource estimate.

The Malcolm-1 deposit is located approximately four kilometres from Houston and is considered to be the northwest extension. Together, the Houston and Malcolm deposits are currently estimated to contain 40.6 million tonnes grading 57.6% Fe and are included in LIM’s Stage 2 DSO operations. The new Malcolm-1 resource estimate was completed using a total of 18 RC holes for 2,011 m drilled in 2011 and 14 RC holes for 1,599 m drilled in 2012.

Upgrading Historical Stockpiles

During the 2012 field season, a mineral resource definition and bulk sampling program on two of seven historical stockpiles was initiated with a view to providing supplemental plant feed. These previously-mined stockpiles are located within 15 kilometres of the Silver Yards processing plant and form part of LIM's Stage 1 deposits. Initial mineral resource estimates have been calculated on two stockpiles, which have been upgraded to the indicated and inferred categories: 3.5 million tonnes of indicated resource grading 49.1% Fe and 2.9 million tonnes of inferred resource grading 48.8% Fe.

James Mine Reconciliation

As part of its independent review, SGS examined the average dry bulk density ("DBD") of ore from the James Mine, calculated from the total volume of ore extracted in 2011 and 2012 (from June 2011 to November 2012) to the total tonnes of ore railed during that period, plus ending inventories. The review calculated an average DBD of 2.85 tonnes per cubic metre ("t/m³"), which is 18% less than the average DBD of 3.46 t/m³ that was estimated in the previous SGS resource model.

Accordingly, SGS has recommended that predicted volumes and grades for ore at the James Mine be maintained, but has also recommended that predicted densities in ore blocks be reduced by another 15% (to 25%) to account for greater porosity than originally anticipated.

After depletion during the 2012 operating season and the above DBD reconciliation, the measured and indicated mineral resource at the James Mine is estimated to be 3.5 million tonnes at a grade of 56.2% Fe at March 31, 2013.

Independent Review of Denault

An independent review for the Stage 1 Denault deposit, located approximately 10 kilometres from the Silver Yards processing facility, was carried out by SGS. The new, independent mineral resource estimate totals 6.8 million tonnes grading 54.0% Fe, confirming the previous non-Independent resource estimate of 6.4 million tonnes grading 54.8% Fe (see March 2011 Technical Report filed on www.sedar.com).

Diamond Drilling

As a result of recovering core for the first time in 2012, LIM was able to acquire better bulk density, geotechnical, metallurgical and hydrogeological interpretations required for detailed mine planning. LIM plans to use diamond drilling almost exclusively going forward to optimize the development of mineral resource estimation in future years.

Elizabeth Lake Taconite

All chemical assays, Satmagan and Davis Tube test results from the Elizabeth Lake Taconite exploration program have been compiled and an independent review is currently underway, with an initial mineral resource expected shortly. The drilling program consisted of five HQ diamond drill holes totalling 1,728 m on four different cross sections spaced 400 to 500 m apart. The target was previously covered with ground magnetometer and gravity detailed surveys.

Historical Resources

In addition to the NI 43-101 compliant resource estimates mentioned in this press release, a significant amount of historical resources have been defined on LIM's properties by the Iron Ore Company of Canada ("IOC") during its historical operations in the area. The historical estimates are not current and do not meet the standards prescribed by NI 43-101. However, they provide an indication of the potential of the properties and are relevant to ongoing exploration and evaluation.

A summary of the historical IOC mineral resource estimates, non-compliant with NI 43-101, can be found on LIM's website at www.labradorironmines.ca.

Quality Assurance / Quality Control (QA / QC)

From the beginning of the 2008 RC drilling and trenching programs, LIM initiated a quality assurance and quality control protocol. The procedure includes the systematic addition of in-house blanks, in-house reference standards, field duplicates, and preparation laboratory duplicates to approximately each 25 sample batch sent for analysis at Actlabs facilities.

Analyses

Analyses for all of the samples from the 2012 drilling programs were carried out by Activation Laboratories (Actlabs). The analytical method used was borate fusion whole rock X-Ray Fluorescence.

Block Model

The 2013 year-end mineral resource estimates were completed using a 3D block modeling and ordinary kriging interpolation methodology (inverse distance squared for Malcolm-1, Wishart and Ferriman).

Qualified Person

The current resource estimates disclosed herein have been prepared by Maxime Dupéré, P. Geo of SGS Canada Inc. who is an Independent Qualified Person within the meaning of NI 43-101. This release has been prepared under the supervision of Michel Cormier, Vice President, Exploration of the Company and a Qualified Person within the meaning of NI 43-101.

Technical Reports

NI 43-101 compliant Technical Reports, containing the 2013 year-end mineral resource estimates disclosed in this press release, will be filed on SEDAR (www.sedar.com) within 45 days.

About Labrador Iron Mines Holdings Limited (LIM)

Labrador Iron Mines (LIM) is Canada's newest iron ore producer with a portfolio of direct shipping (DSO) iron ore operations and projects located in the prolific Labrador Trough. Initial production commenced at the James Mine in June 2011, and through 2012, iron ore sales have totalled 2.0 million dry tonnes in 13 shipments into the Chinese spot market.

LIM has commenced its third year of operations and is targeting 1.75 to 2.0 million tonnes of saleable iron ore production in 2013.

Labrador Iron Mines

News Release

TSX: LIM

The James Mine is connected by a direct rail link to the Port of Sept-Îles, Québec. The operation also benefits from established infrastructure including the town, airport, hydro power and railway service. Starting with the James Mine and leading to the development of the expanding Houston flagship project, LIM's objective is to provide shareholders with long-term value with a plan to increase production towards 5 million tonnes per year from its iron ore deposits in Labrador and Quebec, all within 50 kilometres of the town of Schefferville.

LIM is currently the only independently-owned Canadian iron ore producer listed on the Toronto Stock Exchange and trades under the symbol LIM.

For further information, please visit LIM's website at www.labradorironmines.ca or contact:

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Cautionary Statements:

Mineral resources that are not mineral reserves do not have demonstrated economic viability. Inferred mineral resources are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that mineral resources will be converted into mineral reserves.

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.

Historical Resources:

The historical resources estimates in this Press Release are based on work completed and estimates prepared by Iron Ore Company of Canada ("IOC") prior to 1983, they are not current and were not prepared in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101"). The IOC classification reported all resources (measured, indicated and inferred) within the total mineral resource. A qualified person has not done sufficient work to classify the historical estimates as current mineral reserves. These historical results provide an indication of the potential of the properties and are relevant to ongoing exploration. However, the historical estimates should not be relied upon.

Forward Looking Statement:

Some of the statements contained in this Press Release may be forward-looking statements which involve known and unknown risks and uncertainties relating to, but not limited to, the Company's expectations, intentions, plans and beliefs. Forward-looking information can often be identified by forward-looking words such as "anticipate", "believe", "expect", "goal", "plan", "intend", "estimate", "may" and "will" or similar words suggesting future outcomes, or other expectations, beliefs, plans, objectives, assumptions, intentions or statements about future events or performance. Forward-looking information may include reserve and resource estimates, estimates of future production, unit costs, costs of capital projects 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 any agreement with any 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 and prospective investors 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.

Appendix

Measured and Indicated Mineral Resource Estimates, by Deposit, as at March 31, 2013

Deposit	Classification	Tonnes (x1000)	Fe %	SiO ₂ %	Mn %	P %	Al ₂ O ₃ %
James – Fe	Indicated	3,480	56.2	16.3	0.7	0.02	0.42
Redmond 2B – Fe	Indicated	849	59.9	5.1	0.4	0.12	2.09
Redmond 5 – Fe	Indicated	2,084	55.0	11.0	1.2	0.05	0.81
Knob Lake – Fe	Measured (M)	2,836	55.0	10.2	1.0	0.07	0.48
	Indicated (I)	2,266	54.3	11.2	1.1	0.06	0.46
	Total (M+I)	5,102	54.7	10.6	1.0	0.07	0.47
Knob Lake – Mn	Measured	377	50.6	8.4	5.6	0.09	0.68
	Indicated	214	49.4	9.5	4.9	0.08	0.79
	Total (M+I)	591	50.2	8.8	5.3	0.08	0.72
Denault – Fe	Measured	4,417	54.9	9.8	0.8	0.07	1.11
	Indicated	572	53.2	12.0	1.0	0.08	0.95
	Total (M+I)	4,989	54.7	10.0	0.8	0.08	1.09
Denault – Mn	Measured	1,448	52.1	6.0	6.4	0.08	1.09
	Indicated	362	51.7	6.6	6.5	0.07	0.97
	Total (M+I)	1,810	52.0	6.1	6.4	0.08	1.07
Houston – Fe	Measured	24,385	57.9	13.1	0.8	0.06	0.75
	Indicated	5,736	56.8	14.8	0.8	0.06	0.69
	Total (M+I)	30,121	57.7	13.4	0.8	0.06	0.74
Houston – Mn	Measured	1,099	53.7	10.1	5.2	0.08	1.17
	Indicated	106	53.4	11.7	4.6	0.08	0.94
	Total (M+I)	1,205	53.6	10.3	5.1	0.08	1.15
Malcolm-1 – Fe	Measured	2,374	60.2	9.8	0.8	0.05	0.51
	Indicated	6,686	57.1	12.3	0.8	0.07	0.53
	Total (M+I)	9,060	57.9	11.6	0.8	0.06	0.52
Malcolm-1 – Mn	Measured	13	58.4	7.7	4.3	0.04	0.47
	Indicated	149	54.1	11.9	4.6	0.06	0.47
	Total (M+I)	162	54.5	11.6	4.5	0.06	0.47
Total Resource	Measured	36,949	57.0	11.9	1.2	0.07	0.78
	Indicated	22,504	56.2	12.9	1.0	0.06	0.65
	Total (M+I)	59,453	56.7	12.3	1.1	0.06	0.73

Inferred Mineral Resource Estimates, by Deposit, as at March 31, 2013

Deposit	Classification	Tonnes (x1000)	Fe %	SiO ₂ %	Mn %	P %	Al ₂ O ₃ %
James – Fe	Inferred	83	53.5	19.5	0.1	0.04	0.49
Redmond 2B – Fe	Inferred	30	57.3	5.9	0.6	0.13	4.09
Redmond 5 – Fe	Inferred	78	52.3	10.8	2.0	0.07	0.96
Knob Lake – Fe	Inferred	655	51.8	13.5	1.2	0.09	0.45
Knob Lake – Mn	Inferred	138	49.12	9.85	4.8	0.05	0.40
Houston – Fe	Inferred	2,707	57.5	13.7	0.9	0.07	0.74
Houston – Mn	Inferred	455	53.4	11.2	4.9	0.11	1.09
Malcolm-1 – Fe	Inferred	520	56.4	12.9	0.8	0.06	0.44
Total Inferred Resource		4,665	55.8	13.2	1.4	0.07	0.71

Stockpiles Mineral Resource Estimates, as at March 31, 2013

TRX Stockpiles	Classification	Tonnes (x1000)	Fe %	SiO ₂ %	Mn %	P %	Al ₂ O ₃ %
Wishart	Indicated	1,151	48.6	27.1	0.1	0.04	0.50
	Inferred	1,280	48.2	27.5	0.1	0.04	0.50
Ferriman 1 (C&D)	Indicated	2,394	49.3	21.6	1.2	0.05	1.01
	Inferred	1,616	49.3	22.1	1.2	0.05	0.87
Total Resource	Indicated	3,545	49.1	23.4	0.8	0.05	0.84
	Inferred	2,896	48.8	24.5	0.7	0.05	0.71

Note: Tonnage information in tables rounded to the nearest thousand; totals may not add due to rounding.