Labrador Iron Mines Holdings Limited

PRESS RELEASE

Labrador Iron Mines acquires an additional 50 million tons of DSO iron ore in Quebec and initiates manganese development

For Immediate Release

TORONTO, Ontario, December 17, 2009. Labrador Iron Mines Holdings Limited (TSX: “LIM”) is pleased to announce that in a series of five recent transactions it has acquired control over an additional 50 million tons of direct shipping iron ore (DSO) in the Province of Quebec, together with a large package of mineral claims in the Schefferville area which are considered prospective for exploration for iron ore and which also host a number of small high grade manganese deposits.

The properties are all located in the Schefferville area, mostly in Quebec, and are located in the same general vicinity as LIM’s planned DSO iron ore operations in Western Labrador which are scheduled to commence production in mid 2010.

“The acquisition of these properties represents a very significant increase in the resource base available to LIM and will both complement LIM’s planned DSO operations in Labrador as well as providing LIM with an excellent base and adjacent portfolio of properties within the Labrador Trough in the Province of Quebec,” said John F. Kearney, Chairman.

“Subject to future technical studies and environmental approvals, the addition of 50 million tons of DSO resource will enable LIM to increase its planned DSO production and potentially extend the mine life of its Schefferville Iron Ore Project. Development of the manganese properties should enable LIM to commence production of manganese concentrate as an additional feed material to our iron ore customers,” added Mr. Kearney.

FINANCIAL ADVISOR

Canaccord Financial Ltd. acted as Financial Advisor to the Company in connection with these transactions.

QUEBEC IRON ORE PROPERTIES

In the first transaction, through a new wholly owned subsidiary Schefferville Mines Inc (“SMI”), LIM has acquired from Hollinger North Shore Exploration Inc. (“Hollinger”), subject to the approval of the Government of Quebec, a 100% exclusive operating interest in the remaining properties which are part of the original mining lease issued to Hollinger in 1953 under a Special Act of the Quebec Parliament enacted in 1946.

The iron ore properties are part of the former operations identified and partially developed, under a sub-lease from Hollinger, by the Iron Ore Company of Canada in the Schefferville region between 1954 and 1982 and comprise interests in a number of separate deposits which collectively contain an estimated historical resource of approximately 50 million tons of direct shipping iron ore.

Two of these iron ore properties, estimated to contain a combined historical resource of about 5
million tons of iron ore, are located close to existing infrastructure near the town of Schefferville and close to LIM’s planned Phase One DSO mining operations in Western Labrador.

Another two of the properties are estimated to contain a combined historical resource of approximately 10 million tons of iron ore and may form an expansion of LIM’s Phase Three operations.

Two more properties, estimated to contain a historical resource of approximately 30 million and 5 million tons of iron ore, respectively, are located approximately 35 kilometers north of LIM’s Kivivic Phase Three Property and could potentially form the basis for a new fourth phase of operations.

The 1953 Hollinger mining lease remains valid under its current term to 2013 and is renewable for a further twenty years to 2033. The lease covers an area of approximately 2,800 hectares and includes fourteen separate properties some of which contain all or parts of various known mineral deposits. SMI has the option to take a sublease of the properties subject to the approval of the Government of Quebec.

Under its Operating Agreement with Hollinger SMI will be responsible for all capital and operating costs to bring the deposits into production and will be required to pay Hollinger a royalty of $2.00 per tonne of iron ore shipped from the Port of Sept Îles. The properties are subject to some outstanding litigation of various disputes, including claims for breach of contract by Hollinger. SMI has also agreed to assume responsibility for certain outstanding liens, judgments and other obligations of approximately $1.5 million.

In a second transaction, SMI has acquired from Fonteneau Resources Inc. seventeen mining claims covering 800 hectares in the Province of Quebec, some of which adjoin the Hollinger land package, and are prospective for DSO. The properties are subject to a royalty of $2.00 per tonne of iron ore shipped from the Port of Sept Îles and LIM has made advance royalty payments totaling $2 million which will be credited against any future royalty payments on certain of the properties.

The historical resources referred to in this press release are based on work completed and estimates prepared by the Iron Ore Company of Canada prior to 1983 and were not prepared in accordance with National Instrument 43-101. The historical resource estimate is still considered relevant and reliable. The Company is not treating the historical resource estimate as a defined current resource verified by a Qualified Person and this historical resource estimate should not be relied upon.

MANGANESE PROPERTIES ACQUIRED

In two separate transactions, through its wholly owned subsidiaries Labrador Iron Mines Limited and Schefferville Mines Inc., LIM has acquired approximately 4,200 hectares in mineral claims located partly in Labrador and partly in Quebec, giving LIM a very large land package on which a number of manganese deposits have been identified. In addition these manganese properties also contain some historical DSO resources. These claims were acquired from MRB & Associates and some from Fonteneau Resources Inc. and are subject to a royalty of 3% of the FOB value of manganese ore and $2.00 per ton of iron ore shipped from the Port of Sept Îles. LIM has made payments totaling $200,000 for the acquisition of technical data and to cover 2009 assessment work.

The principal manganese deposits found in the Schefferville area can be grouped into three types: manganiferous iron deposits which typical contain from 5-10% Mn; ferruginous manganese deposits
which generally contain 10-35% Mn; and manganese deposits formed as a result of secondary 
enrichment which typically are high grade containing at least 35% Mn.

A primary manganese content of greater than 5% Mn is considered to be potentially economic but other 
factors including amenability to beneficiation and presence of deleterious elements such as silica, 
aluminum, phosphorus and sulphur may affect this cut-off.

These newly acquired claim holdings contain fourteen occurrences or deposits of manganese located 
within the Sokoman, Ruth and Wishart geological formations. Historic reports indicate these deposits 
have manganese content that range from 5% to 55% Mn. It is expected that these deposits can be 
beneficiated to commercial grades of around 48% Mn by a similar washing and screening process to 
that planned for LIM’s DSO deposits.

The major users of manganese concentrate are steel producers, with Chinese demand being the prime 
price determinant. Prices for concentrate grading 48% Mn are currently in the US$260 per tonne 
range, having reached highs in excess of US$850 per tonne in 2008, and are forecast to increase to 
around US$350 per tonne by 2012.

NEW EXPLORATION PROPERTIES

In the final transaction, SMI has entered into an Exploration and Development Agreement on certain 
other mining claims in Quebec totaling 2,500 hectares which are considered prospective for exploration 
for iron ore. These claims are located approximately 100 kilometers north of Schefferville, within the 
Labrador Trough, and are considered to have high regional exploration potential for iron ore. Limited 
historical information is available on these properties.

Under the Exploration and Development Agreement SMI has agreed to make a payment of $250,000 
on signing, with further payments of $250,000 payable on June 30, 2010 and $500,000 payable on each 
of December 31, 2010, June 30, 2011 and December 31, 2011. SMI is obligated to maintain the 
properties in good standing through December 31, 2011 and to carry out minimum programs of 
reconnaissance and exploration on the properties. These claims will also be subject to a $2.00 per 
 tonne royalty payment.

QUALIFIED PERSON AND CAUTIONARY STATEMENTS

Information of a scientific or technical nature contained in this release has been prepared by or under 
the supervision of Terence McKillen, P.Geo., Executive Vice President of the Corporation and a 
Qualified Person within the meaning of National Instrument 43-101 of the Canadian Securities 
Administrators.

The resources referred to in this press release are historical and have not been confirmed in accordance 
with the standards in National Instrument 43-101. The terms “iron ore” and “ore” in this press release 
are used in a descriptive sense and should not be construed as representing current economic viability.

Historical mineral resources do not have demonstrated economic viability and there is no certainty that 
all or any part of a historical mineral resource will ever be upgraded to a current inferred or indicated 
mineral resource or to a mineral reserve. Inferred mineral resources are considered geologically too 
speculative to have economic considerations applied to them that would enable them to be categorized 
as mineral reserves.
About Labrador Iron Mines Holdings Limited (LIM)

Labrador Iron Mines Holdings Limited is developing a direct shipping iron ore mining operation on properties on which it holds interests located in the Province of Newfoundland and Labrador, near Schefferville, Quebec, and within the Labrador Trough which is Canada’s main iron ore producing region.

LIM’s Schefferville Area Iron Ore project as initially planned involved the development of eight direct shipping iron ore deposits in Western Labrador, which contain historical resources of over 90 million tonnes of DSO. These original LIM properties and some of the newly acquired properties are part of the historic Schefferville area iron ore district where mining of adjacent deposits was previously carried out by the Iron Ore Company of Canada from 1954 to 1982 during which period a total of approximately 150 million tons of iron ore was mined.

Labrador Iron Mines originally planned mining in three phases, Part One of the First Phase comprises the James and Redmond deposits, which are located in close proximity to existing infrastructure, and on which a N.I. 43-101 compliant resource of 11.0 million tonnes grading 57.4% Fe in the indicated category has been confirmed. (See LIM Press Release November 12, 2009). The plan for the development of these deposits has completed the environmental assessment phase and, subject to timely receipt of permits, LIM plans to commence iron ore production from these two properties in mid-2010.

For further information, please view the Company’s website at www.labradorironmines.ca or contact:

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**Forward Looking Statements:**

Some of the statements contained herein may be forward-looking statements which involve known and unknown risks and uncertainties. Without limitation, statements regarding potential mineralization and resources, exploration results, and future plans and objectives of the Company are forward looking statements that involve various degrees of risk. The following are important factors that could cause the Company’s actual results to differ materially from those expressed or implied by such forward looking statements: changes in the world wide price of mineral commodities, general market conditions, the uncertainty of future profitability and access to additional capital, risks inherent in mineral exploration and risks associated with development, construction and mining operations, delays in obtaining or failures to obtain required governmental, environmental or other project approvals. Caution should be exercised on placing undue reliance on forward looking information.