Technical Report
Mineral Resource estimation of the Houston Property mineral deposit
For
Labrador Iron Mines Limited

Respectfully submitted to:
Labrador Iron Mines Holdings Limited

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Geostat

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1. SUMMARY (ITEM 3)

SGS Canada inc. Ltd. was given a mandate to prepare a 43-101 compliant Resource estimation technical report on the Houston mineral deposits on behalf of the client in order to assess their resources.

This report describes the Houston deposits compliant with the requirements of National Instrument 43-101.

The author of this report is independent of Labrador Iron Mines Holdings Limited ("LIMHL") and of Labrador Iron Mines Limited ("LIM"), a wholly owned subsidiary of LIMHL which holds the mineral claims on which the Houston iron deposits are located.

The author is a "qualified person" within the meaning of National Instrument 43-101 – Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators. The author is independent as described in section 1.4 of NI 43-101.

The Houston Deposits

The current resource estimates for the Houston deposits is 22.1 million tonnes at an average grade of 57.3%Fe in the Measured and Indicated categories. The Houston deposits remain open to the northwest and southeast and to depth. The following table shows a summary of the Houston resources compared to the 1982 historical estimates.

		SGS (March 2011)				LIM (February 2011)				Historical 1982			
Ore Type	**Class**	**Tonnes x1000**	**Fe %**	**Mn %**	**SiO2 %**	**Tonnes x1000**	**Fe %**	**Mn %**	**SiO2 %**	**Tonnes x1000**	**Fe %**	**Mn %**	**SiO2 %**
Fe Ore	Measured	17,800	57.9	0.8	12.9	9,873	59.2	0.6	11.5	-	-	-	-
	Indicated	3,340	55.7	0.9	16.7	8,710	57.7	0.8	13.6	9,000	57.4	-	7.1
	Inferred	690	54.9	0.8	18.2	1,014	55.9	1.0	16.5	-	-	-	-
Mn Ore	Measured	900	53.6	5	10.6	566	54.2	5.7	9.0	-	-	-	-
	Indicated	130	52.7	5.1	11.2	351	54.5	4.8	9.8	-	-	-	-
	Inferred	0	0	0	0	10	52.4	4.3	11.8	-	-	-	-
TOTAL	Measured	18,700	57.7	1.0	12.8	10,439	58.9	0.9	11.3	-	-	-	-
	Indicated	3,470	55.6	1.1	16.5	9,060	57.6	1.0	13.5	9,000	57.4	-	7.1
	Inferred	690	54.9	0.8	18.2	1,024	55.8	1.0	16.5	-	-	-	-

1.1 PROPERTY DESCRIPTION AND LOCATION

As of February 14th 2011, the Houston property comprises 12 Mineral Rights Licenses issued by the Department of Natural Resources, Province of Newfoundland and Labrador, representing 112 mineral claims located in western Labrador covering approximately 2,800 hectares.

LIM holds 100% interest in the title to the Mineral Rights subject to a Royalty equal to 3% of the selling price freight on board (FOB) port of iron ore produced and shipped from the properties, subject to such royalty being not greater than $1.50 per tonne.

The Houston project is located in the Province of Newfoundland and Labrador and is the western central part of the Labrador Trough Iron Range about 1,140 km northeast of Montreal and about 20 kilometres southeast of the town of Schefferville (Quebec).

The Houston deposits comprise a number of separate deposits currently identified as Houston 1, 2 and 3.

There are no roads connecting the area to southern Labrador or elsewhere in Canada. Access to the area is by rail from Sept-Îles to Schefferville and by air from Montreal and Quebec City via Sept-Îles and Wabush.

The Iron Ore Company of Canada ("IOC") had previous mining activities close to the Houston property during the period of operations from 1954 to 1982 when part of the Houston deposit formed part of the IOC resource base.

LIM is also currently preparing the James deposit, located approximately 15 km to the north-west of the Houston deposits, for production start-up during the spring of 2011, and has substantially completed the construction of a processing plant located at Silver Yard and an accommodation camp at Bean Lake.

1.2 History

The following information was provided by LIM

The Quebec-Labrador Iron Range has a tradition of iron ore mining since the early 1950s and is one of the largest iron producing regions in the world. The former direct shipping iron ore ("DSO") operations at Schefferville operated by IOC produced in excess of 150 million tons of lump and sinter fine ores over the period 1954-1982.

The first serious exploration in the Labrador Trough occurred in the late 1930s and early 1940s when Hollinger North Shore Exploration Company Limited ("Hollinger") and Labrador Mining and Exploration Mining Company Limited ("LM&E") acquired large mineral concessions in the Quebec and Labrador portions of the Trough. Mining and shipping from the Hollinger lands began in 1954 under the management of the IOC, a company specifically formed to exploit the Schefferville area iron deposits.

As the technology of the steel industry changed over the ensuing years more emphasis was placed on the concentrating ores of the Wabush area and interest in and markets for the direct shipping Schefferville ores declined. In 1982, IOC closed its operations in the Schefferville area.

Following the closure of the IOC mining operations the mining rights held by IOC in Labrador reverted to the Crown. Between September 2003 and March 2006, Fenton and Graeme Scott, Energold Minerals Inc. ("Energold") and New Millennium Capital Corp. ("NML") began staking claims over the soft iron ores in the Labrador part of the Schefferville camp. Recognizing a need to consolidate the mineral ownership, Energold and subsequently LIM, entered into agreements bringing the southern deposits under one ownership. LIM subsequently acquired additional properties in Labrador by staking. All of the properties, including Houston, comprising LIM's Schefferville area projects were part of the original IOC Schefferville holdings and formed part of the 250 million tons of reserves and resources identified but not mined by IOC in the area.

LIM initiated ongoing environmental baseline data collection programs in 2006 in the Schefferville project area, including programs in traditional environmental knowledge, heritage and archaeological resources, wildlife, avifauna, fish and fish habitat, air quality, surface and groundwater quality, geochemistry etc. This information formed the basis of the Schefferville Area Iron Ore Mine Project Registration Document for the James and Redmond properties, formally submitted to the Newfoundland and Labrador Department of Environment and Conservation (NL DOEC) by LIM in April 2008, as well as the revised Environmental Impact Statement (EIS) submitted to NL DOEC in August, 2009.

In November 2009, LIM was advised by the NL Minister of Environment and Conservation that the EIS complied with the Environmental Protection Act and required no further work under the Provincial environmental assessment process. On February 12, 2010, LIM was informed that, under authority of Section 67(3) (a) of the Environmental Protection Act, the Lieutenant-Governor in Council has released the Schefferville Area Iron Ore Mine Project (James and Redmond deposits and Silver Yards processing site) from further environmental assessment.

1.3 GEOLOGY

At least 45 hematite-goethite ore deposits have been discovered in an area 20 km wide that extends 100 km northwest of Astray Lake, referred to as the Knob Lake Iron Range, which consists of a tightly folded and faulted iron-formation exposed along the height of land that forms the boundary between Quebec and Labrador. The Knob Lake properties are located on the western margin of the Labrador Trough adjacent to Archean basement gneisses. The Central or Knob Lake Range section extends for 550 km south from the Koksoak River to the Grenville Front located 30 km north of Wabush Lake. The principal iron formation unit, the Sokoman Formation, part of the Knob Lake Group, forms a continuous stratigraphic unit that thickens and thins from sub-basin to sub-basin throughout the fold belt.

The sedimentary rocks in the Knob Lake Range strike northwest, and their corrugated surface appearance is due to parallel ridges of quartzite and iron formation which alternate with low valleys of shales and slates. The Hudsonian Orogeny compressed the sediments into a series of synclines and anticlines, which are cut by steep angle reverse faults that dip primarily to the east. The synclines are overturned to the southwest with the east limits commonly truncated by strike faults. Most of the secondary earthy textured iron deposits occur in canoe-shaped synclines, someare tabular bodies extending to a depth of at least 200m, and one or two deposits are relatively flat lying and cut by several faults. Subsequent supergene processes converted some of the iron formations into high-grade ores, preferentially in synclinal depressions and/or down-faulted blocks.

The Labrador Trough contains four main types of iron deposits:

- Soft iron ores formed by supergene leaching and enrichment of the weakly metamorphosed cherty iron formation; they are composed mainly of friable fine-grained secondary iron oxides (hematite, goethite, limonite);

- Taconites, the fine-grained, weakly metamorphosed iron formations with above average magnetite content and which are also commonly called magnetite iron formation;
- More intensely metamorphosed, coarser-grained iron formations, termed metataconites which contain specular hematite and subordinate amounts of magnetite as the dominant iron minerals;
- Minor occurrences of hard high-grade hematite ore occur southeast of Schefferville at Sawyer Lake, Astray Lake and in some of the Houston deposits.

Secondary enrichment included the addition of secondary iron and manganese which appear to have moved in solution and filled pore spaces with limonite-goethite. Secondary manganese minerals, i.e., pyrolusite and manganite, form veinlets and vuggy pockets. The types of iron ores developed in the deposits are directly related to the original mineral facies. The predominant blue granular ore was formed from the oxide facies of the middle iron formation. The yellowish-brown ore, composed of limonite-goethite, formed from the carbonate-silicate facies, and the red painty hematite ore originated from mixed facies in the argillaceous slaty members.

Only the direct shipping ore is considered amenable to beneficiation to produce lump and sinter fines and forms part of the resources for LIM's DSO Projects.

1.4 EXPLORATION

Most historic exploration on the Schefferville area iron ore properties was carried out by IOC until the closure of its operation in the 1980s. A considerable amount of data used in the evaluation of the resource and reserve estimates is provided in the documents, sections and maps produced by IOC or their consultants. More recent exploration has been carried out by LIM during the period 2006 to 2010 and includes tricone reverse circulation and diamond drilling, trenching, bulk sampling and data collation and verification.

Additional RC drilling will be required to evaluate further extensions of the Houston deposits to the north, south and down-dip and particularly Houston 3 to the south east. The majority of the additional resource discovered in the 2010 program has resulted from the drilling of a new mineralized zone located between the Houston 1 and 2 deposits, as well as infill drilling within the deposit outlines during 2010. The Houston deposits remain open along strike particularly to the southeast and further drilling is planned on Houston 3 during 2011. Additional bulk sampling for metallurgical testing may also be necessary to prepare the final process flow sheet for treatment of the iron and manganiferous ore resources.

1.5 DRILLING AND SAMPLING

Diamond drilling of the Schefferville area iron deposits has proven to be a challenge historically as the alternating hard and soft mineralized zones tend to preclude good core recovery. Traditionally IOC used a combination of reverse circulation drilling, diamond drilling and trenching to generate data for reserve and resource calculation. A large quantity of original IOC data has been recovered, reviewed and digitized by LIM.

For the most recent calculations of the resources for the Houston deposits, data from 4,418 metres of drilling in 84 historical reverse circulation drill holes comprising 1,485 samples has been used. The systematic drilling had been carried out on sections 100 feet (30 metres) apart.

IOC also sampled targets by trenching and test pits in addition to drilling. The test pits and trenches were to determine lithologies, ore body limits and quality of ore on surface. A total of 200 metres in 64 test pits and 6,700 metres in 159 trenches with their 2,086 samples from historical records were considered in this report. Samples were usually collected over 10 feet (3.0 metres) intervals.

In addition to historical data, LIM carried out several exploration programs at Houston since 2006 with the purpose of verifying the historical resources and evaluating its extensions. This included 5,985 metres in 89drill holes, 554 metres in 10 trenches and 2,074 samples. Most of the drilling completed was using tricone reverse circulation.

The geological sections originally prepared by IOC have been updated with the information obtained through LIM's exploration work.

1.6 SAMPLE PREPARATION, SECURITY AND DATA VERIFICATION

The precise sampling procedures used by IOC are not known but it is believed that LIM has followed procedures that are similar to those used by IOC in the past. All samples were processed in a preparation laboratory, located in Schefferville that was established by LIM. Sampling as well as the preparation was carried out under supervision of LIM and SGS Canada inc. personnel in 2008 and by LIM personnel in 2006, 2009 and 2010 by experienced geologists or technicians following well-established sampling and preparation procedures. The samples were reduced to representative, smaller size samples that were sent to SGS Lakefield laboratory or to ACTLABS laboratory for analysis and testing.

1.7 METALLURGICAL TESTING

The information below was provided by LIM

A bulk sample program was carried out in 2006 (2,400kg from Houston) and a further major bulk sampling program was carried out in 2008 when 2,000 tonnes of material were excavated from the Houston 1 deposit.

Four bulk trench samples of 600kg each taken in 2006 from the Houston No. 1 deposit were tested for compressive strength, crusher index and abrasion index at SGS Lakefield. Composite crushing, dry and wet screen analysis, washing and classification tests were done at "rpc-The Technical Solutions Centre" in Fredericton, New Brunswick.

During the 2008 bulk sample program, a total of 2,000 tonnes of ore was collected from the Houston No. 1 deposit from which 200 kg representative samples were taken for each of the raw ore types. At Houston, only blue ore was collected and sent to SGS Lakefield laboratories for metallurgical testing. Other tests (angle of repose, bulk density, moisture, and direct head assay and particle size analysis determinations) were also carried out.

1.8 MINERAL RESOURCES AND MINERAL RESERVES

Table 1 summarizes an updated resource estimate for the Houston deposits, on both iron and manganiferous iron resources, which has been carried out in compliance with NI 43-101. No mineral reserves are reported in this document.

Houston Deposits - NI 43-101 Compliant (Direct Shipping) Resources

Area	Ore Type	Classification	Tonnage	SG	Fe(%)	MN(%)	SiO2(%)
Houston 1	HiSiO2	Measured (M)	1,300,000	3.3	52.7	0.8	21.0
Houston 1	LMN-HMN	Measured (M)	470,000	3.4	54.4	4.9	10.3
Houston 1	LNB-NB	Measured (M)	5,210,000	3.5	59.8	0.8	10.2
Houston 2N	HiSiO2	Measured (M)	20,000	3.3	52.2	0.4	22.7
Houston 2N	HMN-LMN	Measured (M)	-	0.0	0.0	0.0	0.0
Houston 2N	LNB-NB	Measured (M)	20,000	3.5	60.1	0.4	11.6
Houston 2S	HiSiO2	Measured (M)	2,300,000	3.3	52.4	0.8	21.2
Houston 2S	HMN-LMN	Measured (M)	50,000	3.4	56.2	4.5	9.7
Houston 2S	LNB-NB	Measured (M)	5,250,000	3.5	59.8	0.6	10.6
Houston 3	HiSiO2	Measured (M)	630,000	3.3	52.7	0.6	21.0
Houston 3	HMN-LMN	Measured (M)	380,000	3.3	52.3	5.2	11.0
Houston 3	LNB-NB	Measured (M)	3,070,000	3.5	58.6	1.1	10.1
			18,700,000	**3.4**	**57.7**	**1.0**	**12.8**
Houston 1	HiSiO2	Indicated(I)	290,000	3.3	52.9	0.4	21.3
Houston 1	LMN-HMN	Indicated(I)	-	3.3	52.4	5.3	13.7
Houston 1	LNB-NB	Indicated(I)	620,000	3.5	59.5	0.6	12.1
Houston 2N	HiSiO2	Indicated(I)	20,000	3.3	53.2	0.7	21.4
Houston 2N	HMN-LMN	Indicated(I)	-	0.0	0.0	0.0	0.0
Houston 2N	LNB-NB	Indicated(I)	30,000	3.5	60.1	0.6	12.0
Houston 2S	HiSiO2	Indicated(I)	880,000	3.3	52.1	0.9	22.2
Houston 2S	HMN-LMN	Indicated(I)	-	0.0	0.0	0.0	0.0
Houston 2S	LNB-NB	Indicated(I)	690,000	3.5	58.4	1.0	13.0
Houston 3	HiSiO2	Indicated(I)	290,000	3.3	52.4	0.7	21.3
Houston 3	HMN-LMN	Indicated(I)	130,000	3.3	52.7	5.1	11.2
Houston 3	LNB-NB	Indicated(I)	520,000	3.4	57.0	1.4	12.8
			3,470,000	**3.4**	**55.6**	**1.0**	**16.5**
Houston 1	HiSiO2	Inferred	50,000	3.3	52.4	0.6	21.3
Houston 1	LMN-HMN	Inferred	-	3.2	48.8	7.7	15.8
Houston 1	LNB-NB	Inferred	70,000	3.5	58.3	0.5	13.5
Houston 2N	HiSiO2	Inferred	30,000	3.3	51.7	0.8	23.7
Houston 2N	HMN-LMN	Inferred	-	0.0	0.0	0.0	0.0
Houston 2N	LNB-NB	Inferred	-	3.5	58.3	0.9	14.6
Houston 2S	HiSiO2	Inferred	150,000	3.3	52.3	1.1	21.3
Houston 2S	HMN-LMN	Inferred	-	0.0	0.0	0.0	0.0
Houston 2S	LNB-NB	Inferred	200,000	3.4	57.4	1.0	14.8
Houston 3	HiSiO2	Inferred	130,000	3.3	52.8	0.5	21.0
Houston 3	HMN-LMN	Inferred	-	0.0	0.0	0.0	0.0
Houston 3	LNB-NB	Inferred	60,000	3.4	57.0	0.6	16.0
			690,000	**3.4**	**54.9**	**0.8**	**18.2**

Measured (M)	18,700,000	3.4	57.7	1.0	12.8
Indicated(I)	3,470,000	3.4	55.6	1.0	16.5
M+I	**22,170,000**	**3.4**	**57.3**	**1.0**	**13.4**

Inferred	**690,000**	**3.4**	**54.9**	**0.8**	**18.2**

The current resource estimates for the Houston deposits total 22.1 million tonnes (including manganiferous iron and high-silica ores) at a grade of 57.3% Fe in the Measured and Indicated categories. The Houston deposit remains open to the northwest and southeast and to depth. Table 2 shows the comparison of the resources obtained with historical IOC.

Table 2
Houston Deposits–Comparison of resources of the Houston deposit

43-101 March 2011 (SGS)					Historical (IOC) 1982				
Classification	**Tonnage**	**Fe(%)**	**MN(%)**	**SiO2(%)**	**Classification**	**Tonnage**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Measured (M)	18,700,000	57.7	1.0	12.8	Measured (M)	9,000,000	57.4	-	7.1
Indicated(I)	3,470,000	55.6	1.0	16.5	Indicated(I)	-	-	-	-
M+I	**22,170,000**	**57.3**	**1.0**	**13.4**	**M+I**	**9,000,000**	**57.4**	**-**	**7.1**
Inferred	690,000	54.9	0.8	18.2	Inferred	-	-	-	-

The next information on the IOC historical resources was provided by LIM.

IOC's estimated mineral resources and reserves were published in their Direct-Shipping Ore (DSO) Reserve Book prepared in 1983. The estimates were based on geological interpretations on cross sections and the calculations were done manually. IOC categorized their estimates as "reserves". The author has adopted the same principle as the 2007 Technical Report on LIM's Western Labrador Iron Deposits prepared by SNC-Lavalin that these "reserves" should be categorized at "resources" as defined by NI 43-101.

The IOC classification reported all resources (measured, indicated and inferred) within the total mineral resource. These historical estimates are not current and do not meet NI 43-101 Definition Standards and are reported here for historical purposes only. The historical estimates should not be relied upon.

The original IOC ore definition was: >=50% Fe, <=18% SiO_2 dry basis. LIM's resource definitions includes Hi-SiO2 ores (>=50% Fe <=30% SiO_2 dry basis).

1.9 BLOCK MODELING

In March 2011, SGS was mandated to review and update the February 2011, resource and block model previously disclosed in the February 2011 technical report. SGS identified certain differences and re-estimated the block model using the same number of blocks with a different approach, using better defined parameters such as variograms of each relevant element involved in the ore types. The following information is a brief description of the differences found by SGS.

In February 2011, LIM computed a resource block model for the DSO envelope of Houston using the same 72,276 blocks 5x5x5m with grade estimates derived from the same 3,282 3m-composites in trenches and RC holes. Although they did the block grade interpolation with ordinary kriging, they had different variogram models and their search conditions were also different. Based on the LIM report the author understands based that:

- variograms are computed from more than just the composites within the DSO envelope and with a 40%Fe low cut-off (4064 composites). Variograms of %Fe are applied to the other four variables
- variogram model has a 29% relative nugget effect, a long range of 88m along the horizontal strike, an intermediate range of 60m along the horizontal of section lines and a short range of 55m along the vertical . There is no mention of a long=intermediate range in the average dip to the NE.
- first interpolation run uses a search ellipsoid of fairly restricted size with radii corresponding to 20% of ranges (i.e. 18mx12x11m). Given the average spacing of 30m between trenches and holes, it means that for most blocks interpolated in that run, all the sample information is coming from a single hole or trench on the nearest section.
- second and third interpolation runs use search ellipsoids with radii corresponding to respectively 40% and 100% of ranges.
- the LIM report does not mention any additional restriction on composites in the search ellipsoid (minimum number, maximum number overall and in the same hole or trench).
- Block estimates of %Fe are compared in the Resources estimation section. Correlation is a mere R=0.74 with a significant number of blocks having a very low grade estimate in the LIM model but a higher grade estimate in the SGS model. Average LIM estimate (52.9%) is slightly less than the average SGS estimate (54.0%). The main difference between the two sets of estimates lies in their variability (CV of 17.6% for LIM estimates and 12.6% for SGS estimates) which in turn is linked to the smoothing of block data in the two models. With its fairly restrictive search of the first interpolation run, LIM generates block values which are more like nearest neighbour estimates (the grade estimate of a block is the grade of the composites in the nearest hole or trench) than truly kriged estimates. A potential danger of nearest neighbour estimates is that it implies a very high degree of selectivity at the time of mining (i.e. low tonnage but high grade) which might not be achievable in practice.

SGS used its own software called BlockCad for the resource estimation. The SGS set of geotatistial software programs are reliable and validated and constantly improved by SGS experienced software and geostatistical team. The ordinary kriging interpolation method was used to estimate the resources by block modeling with block sizes of 5x5x5 metres and block rotation of 45.6° which corresponds to the general strike of the deposit. SGS used LIM' geological and ore models interpreted in the Gemcom software. The mineralised envelope prepared by LIM is considered reliable and current.

1.10 ANALYSES

Analyses for all of the samples from the 2006, 2008, 2009 and 2010 drilling and trenching programs were carried out by SGS-Lakefield Laboratory and/or by Activation Laboratories. The analytical method used was borate fusion whole rock X-Ray Fluorescence.

1.11 DENSITY

A variable specific gravity (density) was used for the modeled ore blocks using the following equation: SG (in-situ) = (2.3388 + Fe x 0.0258) x 0.9. The regression formula was calculated by LIM and validated by SGS based upon 229 specific gravity tests. The SG formula is considered reliable and current.

1.12 OTHER RELEVANT DATA AND INFORMATION

The Knob Lake Iron Range is well known for its hematite-goethite iron deposits and this region was exploited for approximately 30 years by IOC.LIM proposes to reactivate DSO operations from the same general area, commencing initially with the James and Redmond deposits and subsequently, adding the Houston and other deposits, located relatively close to Schefferville, before developing deposits further removed from existing infrastructure. LIM plans to systematically bring the historic resources of the various deposits into compliance with NI 43-101 on a staged basis as required for future development.

It is believed that the DSO iron ore produced by IOC required little processing and that only crushing and screening was performed, and then blending to achieve the required grade and product specifications, before being loaded on to trains for transportation to Sept-Îles.

LIM has evaluated washing and screening of the ore to improve the quality and grade of products and to ensure a greater degree of consistency in the production of lump ore and sinter fines. It is expected that LIM's proposed washing and screening process will remove low grade iron and silica material and should increase the grades of the final product by up to 10% of the mined grade.

The market for iron ores and related products has seen substantial increases in recent years. It is expected that the European market is the most likely destination for products from LIM's projects given the freight advantage from the Port of Sept-Îles due to its proximity to Europe. However, there remains a very strong demand for iron ore from the Far East and in particular from China.

1.13 CONCLUSIONS

The author has reviewed all of the technical data in the possession of LIM relating to the Houston deposit owned by LIM and has detailed personal knowledge of LIM's projects from 2008. LIM's exploration work programs and technical evaluation programs carried out in 2008 were conducted under the supervision of the author. The author visited the site from August 31st to September 02nd, 2009 as part of the reconnaissance visit of the all the properties of the Schefferville area for the 2009 RC drilling and trenching campaign. SGS Canada Inc. reviewed the different field, laboratory and QA/QC protocols and procedures. The 2009 and 2010 exploration work programs and technical evaluation programs follow the same methods and protocols (updated and ameliorated) and although the author did not do a site visit in 2010, the information in this report according to the author's knowledge does not appear to be misleading.

The geological interpretation of the Houston deposits is restricted to the zones considered of economic quality. The historical IOC parameters of the Non-Bessemer and Bessemer ore types were considered together for the geological interpretations and modeling. The High Silica ($HiSiO_2$) ore types containing>=50% Fe and from 18% up to 30% SiO_2 were also considered for the geological interpretation and modeling of the selected mineral deposits.

The geological modeling of the Houston deposits was performed using standard sectional modeling of 30-metre spacing. Geological interpretation and modeling of the mineral deposits on paper sections and plans from IOC were digitized and updated with new information acquired during the recent field work seasons.

SGS used its own software called BlockCad for the resource estimation. The SGS set of geotatistial softwares are reliable and validated and constantly improved by SGS experienced software and geostatistical team. The ordinary kriging interpolation method was used to estimate the resources by block modeling with block sizes of 5x5x5 metres and block rotation of 45.6° which corresponds to the general strike of the deposit. SGS used LIM' geological and ore models interpreted in the Gemcom software. The mineralised envelope prepared by LIM is considered reliable and current.

The results of LIM's work to date on the Houston deposits has shown that there is more than sufficient merit to continue with the development of the Houston 1 and 2 deposits and to carry out further exploration work to confirm and expand the resource potential of the Houston 3 deposit, as well as to conduct preliminary evaluation of the potential for lower grade taconite deposits along the eastern flank of the Houston DSO resource zones.

1.14 RECOMMENDATIONS

The results of exploration to date at Houston have been very positive, have confirmed the reliability of the historic IOC data and substantially increased the resource base at Houston.

Following a review of all data relative to the Houston deposits and the interpretation and conclusions of this review, there is more than sufficient justification to move towards a production and development decision with respect to the Houston 1 and Houston 2 deposits and simultaneously continue additional exploration to further expand the resource base of the Houston 3 deposit, as well as to evaluate the potential for lower grade taconite iron deposits along the eastern flank of the Houston iron ore deposits.

2. INTRODUCTION (ITEM 4)

SGS Canada inc. Ltd. was retained to prepare a 43-101 compliant Resource estimation technical report of the Houston mineral deposits in the Labrador province, near Schefferville, Quebec on behalf of the Client, Labrador Iron Mines Holdings Limited ("LIMH"), in order to confirm their resources.

The author is a "qualified person" within the meaning of National Instrument 43-101 – Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators but is independent of the LIMHL or LIM.

Previous resource estimates for the Houston deposits were based on estimates made by IOC in 1982 and were consequently of an historic nature and are not compliant with NI 43-101. The present report describes the Houston iron ore deposits located in western Labrador and presents a resource estimate compliant with the requirements of NI 43-101.

The author has personal knowledge of the Houston deposits and the other nearby iron deposits held by LIM in western Labrador and directed exploration of the properties in 2008/09.

LIM engaged SNC Lavalin in 2007 to prepare an independent Technical Report (October 2007) on its western Labrador iron properties. In March 2010, LIM engaged an author of the SNC Lavalin report (A. Kroon) to co-author, with Maxime Dupéré of SGS Canada Inc., a Revised Technical Report on an Iron Ore Project in Western Labrador, Province of Newfoundland and Labrador (March 2010) (filed on SEDAR March 11, 2010 with a revised version filed on SEDAR March 19, 2010) and an independent Technical Report of an adjacent Iron Project in Northern Quebec (March 2010) (filed on SEDAR March 11, 2010).

LIM has carried out significant geological exploration programs on the Houston and other Labrador properties held by LIM during the 2006, 2008, 2009 and 2010 summer seasons.

The author has visited the site of the Houston project and the general Schefferville area iron deposits on numerous occasions May 26th to May 28th, 2008 and from August 31st to September 2nd, 2009. The author did not visit the site during 2010. However as all the exploration work at Houston in 2010 was infill and extension drilling the author is of the opinion that no material additional technical or scientific information has been generated and therefore the 2009 visit remains a current personal inspection under the requirement of NI 43-101.

The necessary data for this study was provided by LIM and SNC-Lavalin of Montreal (Quebec) Canada in electronic and paper format. The author first visited the sites from May 26th to May 28th 2008 as part of the site visit and reconnaissance visit of the all the properties of the Schefferville area. SGS Canada inc. participated in the summer-fall 2008 RC drilling campaign for the supervision of the sampling and preparation before dispatch to the analytical laboratories. Samples were taken for estimation and validation of the different mineral deposits. The author assisted and instructed LIM on RC drilling and sampling procedures for the Houston mineral deposits as well as other targets during this campaign. SGS Canada inc. implemented a QA/QC procedure as part of the standard RC drilling and sampling program.

The author visited the site from August 31st to September 02nd, 2009 as part of the reconnaissance visit of the all the properties of the Schefferville area for the 2009 RC drilling and trenching campaign. SGS Canada inc. reviewed the different field, laboratory and QA/QC protocols and procedures.

This report was written by SGS Canada inc. in accordance with the National Instrument 43-101 Policy guidelines. This report was requested by Bill Hooley, President & COO of Labrador Iron Mines Limited for the resources estimation of the Houston mineral deposits. The author met on a regular basis with LIM management and relevant personnel by phone and in the SGS office located in Montréal, Quebec.

3. RELIANCE ON OTHER EXPERTS (ITEM 5)

In this report, the author did not rely on any other experts.

A number of metallurgical testing laboratories have carried out work on this project at the request of LIM. These include "rpc – The Technical Solutions" and, SGS Lakefield.

The author has verified the ownership of the mineral claims by reference to the website of the Department of Natural Resources of the province of Newfoundland and Labrador as of the date of this report but do not offer an opinion to the legal status of such claims.

In this document, the following terms are used:

IOC: Iron Ore Company of Canada: Former producer of iron ore in the Schefferville area from 1954 to 1982.

LIM: Labrador Iron Mines Limited.

Fonteneau: Fonteneau Resources Ltd., a junior exploration company having a joint venture agreement with LIM.

Energold: Energold Minerals Inc., a junior exploration company having a joint venture agreement with LIM.

SGS: SGS Canada inc. Limited, part of SGS SA, a firm of consultants mandated to complete this study.

SNC-Lavalin: SNC-Lavalin, an international engineering firm.

SGS-Lakefield: SGS Mineral services Laboratory, Accredited independent Laboratory and Member of the SGS group, used for XRF analysis in Lakefield, Ontario, Canada.

Actlabs: Activation Laboratories Ltd. Accredited independent Laboratory used for XRF analysis in Ancaster, Ontario, Canada.

XRF: X Ray Diffraction Spectrometry. The type of analysis used for the assay analysis of 2008.

DATUM NAD 27: North American Datum 1927 coordinates system

Property: In this report, a property is described as an area comprised of one or a series of continuous claims and/or mineral licenses outlining in part or in total a mineral deposit, exploration target or a geological feature.

Mineral deposit: A mineral deposit is a continuous, well-defined mass of material containing a sufficient volume of mineralized material.

DSO: Direct Shipping Ore, Fe content must be greater than 50% on a dry basis; SiO_2 must be less than 18% on a dry basis.

List of abbreviations

The metric units and measurements system is used throughout the report except for historical data mentioned in section 6.

A table showing abbreviations used in this report is provided below.

Table 1 List of abbreviations

tonnes or mt	Metric tonnes
tpd	Tonnes per day
tons	Short tons (0.907185 tonnes)
Long Tons	Long tons (1.016047 tonnes)
kg	Kilograms
g	Grams
ppm, ppb	Parts per million, parts per billion
%	Percentage
ha	Hectares
m	Metres
km	Kilometres
m^3	Cubic metres

4. Property Description and Location (Item 6)

The Houston property is located in the western central part of the Labrador Trough iron range and about 1,140 km northeast of Montreal and 20 km southeast of the town of Schefferville, Quebec (Figure 1).

There are no roads connecting this area to southern Labrador or elsewhere in Quebec. Access to the area is by rail from Sept-Îles to Schefferville or by air from Montreal and Sept-Îles.

With respect to the Houston property, LIM holds title to 12 Mineral Rights Licenses (as of February 14 2011) issued by the Department of Natural Resources, Province of Newfoundland and Labrador, representing 112 mineral claims located in northwest Labrador covering approximately 2,800 hectares (Table 3 and Figure 2).

Under the terms of an Option and Joint Venture Agreement dated September 15, 2005 between Fonteneau Resources Limited ("Fonteneau") and Energold, as amended, and subsequently assigned to LIM, a royalty in the amount 3% of the selling price FOB port per tonne of iron ore produced and shipped from any of the properties shall be payable to Fonteneau. This royalty will be capped at US$1.50 per tonne on the Houston property.

On October 22, 2009, LIM announced that it had entered into an agreement with NML to exchange certain of their respective mineral licences in Labrador. The exchange eliminated the fragmentation of the ownership of certain mining rights in the Schefferville area and will enable both parties to separately mine and optimise their respective DSO deposits in as efficient a manner as possible. As part of the Agreement, NML transferred to LIM 125 hectares in five mineral licenses in Labrador that adjoin or form part of LIM's Houston deposit.

Under the Agreement the parties have agreed to work collaboratively to facilitate their respective extraction, processing and transportation activities by enabling each party to apply for all required surface rights. The parties have also agreed to finalize the layout or detailed technical descriptions of the surface rights that each requires to access the DSO deposits on their respective mineral claims, including any necessary roads, rail lines, processing and storage areas.

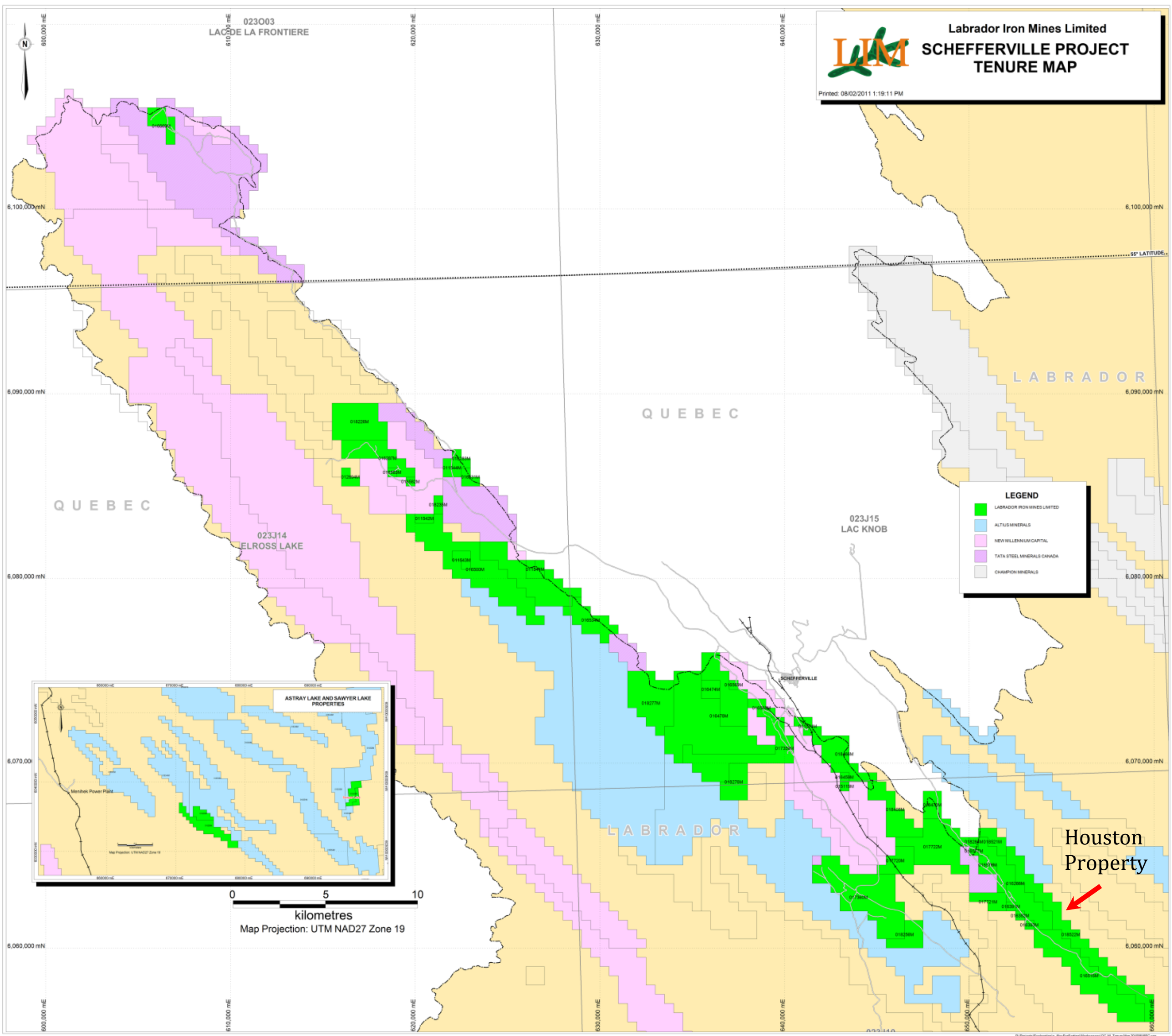
Table 2
List of Licenses Comprising the Houston Project

(as of February 14, 2011)

License Number	Location	Status	Claims	Area (Has)	Date Issued
016286M	Gilling River	Issued	22	550	12-Apr-04
016391M	Gilling River	Issued	1	25	27-Aug-09
016392M	Gilling River	Issued	1	25	27-Aug-09
016393M	Gilling River	Issued	1	25	27-Aug-09
016516M	Astray Lake	Issued	36	900	2-Oct-09
016575M	Huston Lake	Issued	1	25	10-Feb-05
016576M	Huston Lake	Issued	3	75	10-Feb-05
016577M	Huston Lake	Issued	1	25	10-Feb-05
017721M	Huston Lake	Issued	6	150	3-Jun-10
018284M	Gilling River	Issued	1	25	24-Dec-10
018521M	Petitsikapau Lake Area	Issued	5	125	14-Feb-11
018522M	Petitsikapau Lake Area	Issued	34	850	14-Feb-11
		TOTAL	112	2,800	

Figure 1- Project Location Map

Figure 2 - Map of LIM Mining Licenses



5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, PHYSIOGRAPHY (ITEM 7)

5.1 ACCESSIBILITY

The Houston property is located in the west central part of the Labrador Trough iron range. The mineral properties are located about 1,140 km northeast of Montreal and adjacent to or within 70 km of the town of Schefferville (Quebec). There are no roads connecting the area to southern Labrador or to Quebec. Access to the area is by rail from Sept-Îles to Schefferville or by air from Montreal and Sept-Îles.

The Houston deposit is located within reach of existing infrastructure approximately 20 km southeast of Schefferville and can be reached by existing gravel roads, although LIM plans to construct a new 10km all-weather access road to directly connect Houston with the Silver Yards and the Redmond mine site to facilitate ore haulage from Houston to the proposed beneficiation plant.

5.2 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.

5.3 LOCAL RESOURCES

It is assumed that the majority of the workforce will come from Labrador or Newfoundland and employees will also be recruited from the Quebec communities close to the project site.

5.4 INFRASTRUCTURE

The Houston property is located approximately 20 km southeast of Schefferville and approximately 10 km from the Redmond deposit which, together with the James deposit, currently forms part of LIM's first phase mine development.

The town of Schefferville has a Fire Department with mainly volunteer firemen, a fire station and firefighting equipment. The Sûreté Du Québec Police Force is present in the town of Schefferville and the Matimekush-Lac John reserve. A clinic is present in Schefferville with limited medical care. A municipal garage, small motor repair shops, a local hardware store, a mechanical shop, and a local convenient store, 2 hotels, numerous outfitters accommodations are also present in Schefferville.

A modern airport includes a 2,000 metre paved runway and navigational aids for passenger jet aircraft. Air service is provided three times per week to and from Wabush, Labrador, with less frequent service to Montreal or Quebec City, via Sept-Îles.

A community radio station, recreation centre, parish hall, gymnasium, playground, childcare centre, drop-in centre are also present in Schefferville.

The Menihek power plant is located 35 km southeast of Schefferville. The hydro power plant was built to support iron ore mining and services in Schefferville. Back-up diesel generators are also present.

5.4.1 THE RAILROAD

Schefferville is accessible by train from Sept-Îles.

The Quebec North Shore & Labrador Railway ("QNS&L") was established by IOC to haul iron ore from Schefferville area mines to Sept-Îles a distance of some 568 km starting in 1954. After shipping some 150 million tons of iron ore from the area the mining operation was closed in 1982, and, QNS&L maintained a passenger and freight service between Sept-Îles, Labrador City and Schefferville up to 2005.In 2005 IOC sold the 208 km section of the railway between Emeril Yard at Ross Bay Junction and Schefferville (the Menihek Division)to Tshiuetin Rail Transportation Inc. (TSH), a company owned by three Quebec First Nations. The mandate of TSH is to maintain the passenger and light freight traffic between Sept-Îles and Schefferville. Train departures from Sept-Îles and Schefferville occur three times a week.

Five railway companies operate in the area; TSH which runs passengers and freight from Schefferville to Ross Bay Junction; QNS&L hauling iron concentrates and pellets from Labrador City/Wabush area via Ross Bay Junction to Sept-Îles; Bloom Lake Railway hauling ore from the CML mine to Wabush; and Arnault Railways hauling iron ore for Wabush Mines ("Wabush") and Consolidated Thompson Limited ("CLM") between Arnault Junction and Pointe Noire, CRC hauls iron concentrates from Fermont area to Port-Cartier for Quebec Cartier Mining Company. The latter railway is not connected to TSH, QNS&L, Bloom Lake or Arnault.

5.5 PHYSIOGRAPHY

The topography of the Schefferville mining district is bedrock controlled with the average elevation of the properties varying between 500 m and 700m above sea level. The terrain is generally gently rolling to flat, sloping north-westerly, with a total relief of approximately 50 to 100 m. In the main mining district, the topography consists of a series of NW-SE trending ridges while the Astray Lake and Sawyer Lake areas are within the Labrador Lake Plateau. Topographic highs in the area are normally formed by more resistant quartzites, cherts and silicified horizons of the iron formation itself. Lows are commonly underlain by softer siltstones and shales.

Generally, the area slopes gently west to northeast away from the land representing the Quebec – Labrador border and towards the Howells River valley parallel to the dip of the deposits. The finger-shaped area of Labrador that encloses the Howells River drains southwards into the Hamilton River watershed and from there into the Atlantic Ocean. Streams to the east and west of the height of land in Quebec, flow into the Kaniapiskau watershed, which flows north into Ungava Bay.

The mining district is within a "zone of erosion" in that the last period of glaciation has eroded away any pre-existing soil/overburden cover, with the zone of deposition of these sediments being well away from the area of interest. Glaciation ended in the area as little as 10,000 years ago and there is very little subsequent soil development. Vegetation commonly grows directly on glacial sediments and the landscape consists of bedrock, a thin veneer of till as well as lakes and bogs.

The thin veneer of till in the area is composed of both glacial and glacial fluvial sediments. Tills deposited during the early phases of glaciations were strongly affected by later sub glacial melt waters during glacial retreat. Commonly, the composition of till is sandy gravel with lesser silty clay, mostly preserved in topographic lows. Glacial melt water channels are preserved in the sides of ridges both north and south of Schefferville.

Glacial ice flow in the area has been recorded as an early major NW to SE flow and a later less pronounced SW to NE flow. The early phase was along strike with the major geological features and the final episode was against the topography. The later NE flow becomes more pronounced towards the southern end of the district near Astray Lake or Dyke Lake.

6. HISTORY (ITEM 8)

The following information was provided by LIM

The Quebec-Labrador Iron Range has a tradition of mining since the early 1950's and is one of the largest iron producing regions in the world. The former direct shipping iron ore operations at Schefferville operated by IOC produced in excess of 150 million tons of lump and sinter fine ores over the period 1954-1982.The properties comprising LIM's Schefferville area projects were part of the original IOC Schefferville operations and formed part of the 250 million tons of reserves and resources identified by IOC but were not part of IOC's producing properties. This is a historic estimate made in compliance with the standards used by IOC.

There are currently four major iron ore producers in the Labrador City-Wabush region to the south, IOC, Quebec Cartier Mining Company, Consolidated Thompson Mines and Wabush Mines. New Millennium Capital in joint venture with Tata Steel is currently planning a Direct Shipping Ore project 30 kms north of Schefferville. A number of other projects in the Labrador area are in the exploration and review process.

The Labrador Trough which forms the central part of the Quebec-Labrador Peninsula, is a remote region which remained largely unexplored until the late 1930's and early 1940's when the first serious mineral exploration was initiated by Hollinger and LM&E. These companies were granted large mineral concessions in the Quebec and Labrador portions of the Trough. Initially, the emphasis was on exploring for base and precious metals but, as the magnitude of the iron deposits in the area became apparent, development of these resources became the exclusive priority for a number of years.

Mining and shipping from the Schefferville area began in 1954 under the management of the IOC, a company specifically formed to exploit the Schefferville area iron deposits.

In 1954, IOC started to operate open pit mines in Schefferville containing 56-58% Fe, and exported the direct-shipping product to steel companies in the United States and Western Europe. The properties and iron deposits that currently form LIM's Houston Project were part of the original IOC Schefferville area operations.

As the technology of the steel industry changed over the ensuing years more emphasis was placed on the concentrating ores of the Wabush area and interest and markets for the direct shipping Schefferville ores declined.

During the 1960's, higher-grade iron deposits were developed in Australia and South America and customers' preferences shifted to products containing +62% Fe or higher. In 1963, IOC developed the Carol Lake deposit near Labrador City and started to produce concentrates and pellets with +64% Fe, so as to satisfy the customers' requirements for higher-grade products. High growth in the demand for steel, which began after the end of World War II, came to an abrupt end in the early 1980's due to the impact of increasing oil prices. The energy crisis affected steel production in the U.S. and Western Europe as consumers switched to energy-efficient products. As a result, the demand for iron ore plummeted, creating a severe overcapacity in the industry. In 1982, the IOC closed its operations in the Schefferville area. From 1954 to 1982, a total of some 150 million tons of ore was produced from the area.

Hollinger, a subsidiary of Norcen Energy Ltd., was the underlying owner of the Quebec iron ore mining leases in Schefferville area. Following the closure of the IOC mining operations, ownership of the mining rights held by IOC in Labrador reverted to the Crown. In the early 1990's, Hollinger was acquired by La Fosse Platinum Group Inc. ("La Fosse") who conducted feasibility studies on marketing, bulk sampling, metallurgical test work and carried out some stripping of overburden at the James deposit. La Fosse sought and was granted a project release under the Environmental Assessment Act for the James deposit in June 1990 but did not go ahead with project development and the claims subsequently were permitted to lapse.

With the exception of the pre-stripping work carried out on the James deposit and the mining of the Redmond #1 orebody by IOC (adjacent to LIM's current Redmond property), none of the iron deposits within the LIM mineral claims were previously developed for production during the IOC period of ownership.

Between September 2003 and March 2006, Fenton and Graeme Scott, Energold and NML began staking claims over the soft iron ores in the Labrador part of the Schefferville camp. Recognizing a need to consolidate the mineral ownership, Energold entered into agreements with the various parties that have subsequently been assumed by LIM. LIM later acquired additional properties in Labrador by staking.

In December 2009, LIMHL, through a wholly-owned subsidiary, acquired control over an additional 50 million tons of historical direct shipping iron ore in the Province of Quebec, together with a large package of mineral claims in Quebec 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.

During the period from September 2005 to 2010, LIM conducted exploration, development and other work in the Schefferville area. Such work consisted of geological evaluation, sampling, geophysical surveys, trenching, drilling, bulk sampling, resource verification, assaying, metallurgical test work, mine planning, community consultation, transportation studies and other work.

7. GEOLOGICAL SETTING (ITEM 9)

7.1 REGIONAL GEOLOGY

The following summarizes the general geological settings of the Houston property and the other properties making up LIM's western Labrador iron ore project. The regional geological descriptions are based on published reports by Gross (1965), Zajac (1974), Wardel (1979) and Neale (2000) and were first prepared by the first named author (McKillen) for an internal scoping study report for LIM in 2006.

At least 45 hematite-goethite ore deposits have been discovered in an area 20 km wide that extends 100 km northwest of Astray Lake, referred to as the Knob Lake Iron Range, which consists of tightly folded and faulted iron-formation exposed along the height of land that forms the boundary between Quebec and Labrador. The iron deposits occur in deformed segments of iron-formation, and the ore content of single deposits varies from one million to more than 50 million tonnes.

The Knob Lake properties are located on the western margin of the Labrador Trough adjacent to Archean basement gneisses. The Labrador Trough otherwise known as the Labrador-Quebec Fold Belt extends for more than 1,000 km along the eastern margin of the Superior craton from Ungava Bay to Lake Pletipi, Quebec. The belt is about 100 km wide in its central part and narrows considerably to the north and south.

The western half of the Labrador Trough, consisting of a thick sedimentary sequence, can be divided into three sections based on changes in lithology and metamorphism (North, Central and South). The Trough is comprised of a sequence of Proterozoic sedimentary rocks including iron formation, volcanic rocks and mafic intrusions known as the Kaniapiskau Supergroup (Gross, 1968). The Kaniapiskau Supergroup consists of the Knob Lake Group in the western part of the Trough and the Doublet Group, which is primarily volcanic, in the eastern part.

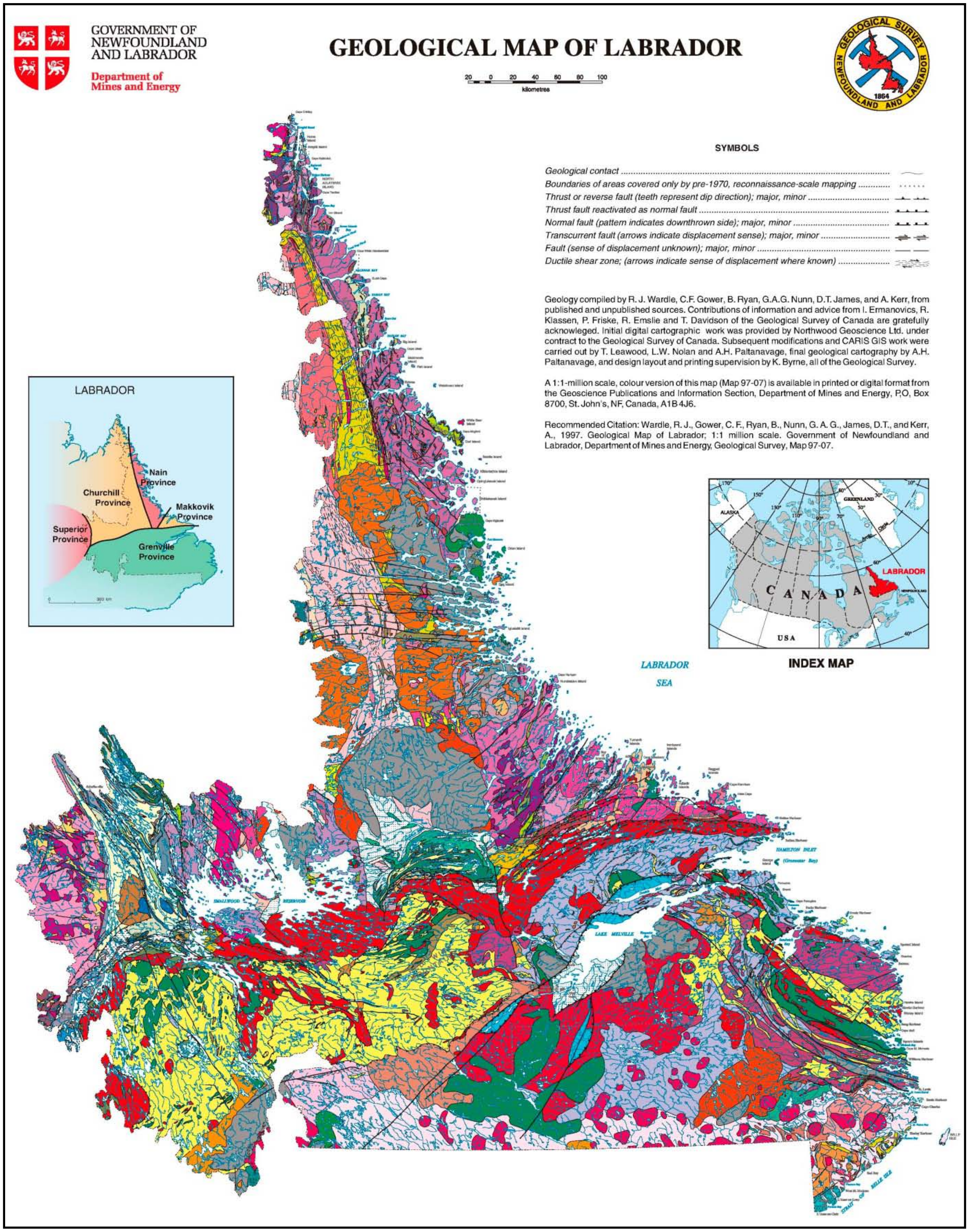
The Central or Knob Lake Range section extends for 550 km south from the Koksoak River to the Grenville Front located 30 km north of Wabush Lake. The principal iron formation unit, the Sokoman Formation, part of the Knob Lake Group, forms a continuous stratigraphic unit that thickens and thins from sub-basin to sub-basin throughout the fold belt.

The southern part of the Trough is crossed by the Grenville Front. Trough rocks in the Grenville Province to the south are highly metamorphosed and complexly folded. Iron deposits in the Grenville part of the Labrador Trough include Lac Jeannine, Fire Lake, Mounts Wright and Reed and the Luce, Humphrey and Scully deposits in the Wabush area. The high-grade metamorphism of the Grenville Province is responsible for recrystallization of both iron oxides and silica in primary iron formation producing coarse-grained sugary quartz, magnetite, specular hematite schists (meta-taconites) that are of improved quality for concentrating and processing.

The main part of the Trough north of the Grenville Front is in the Churchill Province and has been subjected to low-grade (greenschist facies) metamorphism. In areas west of Ungava Bay, metamorphism increases to lower amphibolite grade. The mines developed in the Schefferville area by IOC exploited residually enriched earthy iron deposits derived from taconite-type protores.

Geological conditions throughout the central division of the Labrador Trough are generally similar to those in the Knob Lake Range.A general geological map of Labrador is shown in Figure 3.

Figure 3


GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Mines and Energy
GEOLOGICAL MAP OF LABRADOR
20 0 20 40 60 80 100
kilometres
GEOLOGICAL SURVEY NEWFOUNDLAND AND LABRADOR 1864
SYMBOLS
Geological contact
Boundaries of areas covered only by pre-1970, reconnaissance-scale mapping
Thrust or reverse fault (teeth represent dip direction); major, minor
Thrust fault reactivated as normal fault
Normal fault (pattern indicates downthrown side); major, minor
Transcurrent fault (arrows indicate displacement sense); major, minor
Fault (sense of displacement unknown); major, minor
Ductile shear zone; (arrows indicate sense of displacement where known)
Geology compiled by R. J. Wardle, C.F. Gower, B. Ryan, G.A.G. Nunn, D.T. James, and A. Kerr, from published and unpublished sources. Contributions of information and advice from I. Ermanovics, R. Klassen, P. Friske, R. Emslie and T. Davidson of the Geological Survey of Canada are gratefully acknowleged. Initial digital cartographic work was provided by Northwood Geoscience Ltd. under contract to the Geological Survey of Canada. Subsequent modifications and CARIS GIS work were carried out by T. Leawood, L.W. Nolan and A.H. Paltanavage, final geological cartography by A.H. Paltanavage, and design layout and printing supervision by K. Byrne, all of the Geological Survey.
A 1:1-million scale, colour version of this map (Map 97-07) is available in printed or digital format from the Geoscience Publications and Information Section, Department of Mines and Energy, P.O. Box 8700, St. John's, NF, Canada, A1B 4J6.
Recommended Citation: Wardle, R. J., Gower, C. F., Ryan, B., Nunn, G. A. G., James, D.T., and Kerr, A., 1997. Geological Map of Labrador; 1:1 million scale. Government of Newfoundland and Labrador, Department of Mines and Energy, Geological Survey, Map 97-07.
LABRADOR
Nain Province
Churchill Province
Makkovik Province
Superior Province
Grenville Province
ALASKA
GREENLAND
CANADA
LABRADOR
USA
INDEX MAP
LABRADOR SEA
HAMILTON INLET
LAKE MELVILLE
SMALLWOOD RESERVOIR

7.2 Local Geology

The general stratigraphy of the Knob Lake area is representative of most of the Knob Lake Range, except that the Denault dolomite and Fleming Formation are not uniformly distributed. The Knob Lake Range occupies an area 100 km in length by 8 km in width. The sedimentary rocks, including the cherty iron formation, are weakly metamorphosed to greenschist facies. In the structurally complex areas, leaching and secondary enrichment have produced earthy-textured iron deposits. Unaltered, banded, magnetite iron formation, often referred to as taconite, occurs as gently dipping beds west of Schefferville, in the Howells River area.

The sedimentary rocks in the Knob Lake Range strike northwest, and their corrugated surface appearance is due to parallel ridges of quartzite and iron formation which alternate with low valleys of shales and slates. The Hudsonian Orogeny compressed the sediments into a series of synclines and anticlines, which are cut by steep angle reverse faults that dip primarily to the east. The synclines are generally overturned to the southwest with the east limbs commonly truncated by strike faults.

Most of the secondary, earthy textured iron deposits occur in canoe-shaped synclines; some are tabular bodies extending to a depth of at least 200 m, and one or two deposits are relatively flat lying and cut by several faults. In the western part of the Knob Range, the iron formation dips gently eastward over the Archean basement rocks for about 10 km to the east, then forms an imbricate fault structure with bands of iron formation, repeated up to seven times.

Subsequent, supergene processes converted some of the iron formations into high-grade ores, preferentially in synclinal depressions and/or down-faulted blocks. Original sedimentary textures are commonly preserved by selected leaching and replacement of the original deposits. Jumbled breccias of enriched ore and altered iron formations, locally called rubble ores, are also present. Fossil trees and leaves of Cretaceous age have been found in rubble ores in some of the deposits (Neal, 2000).

7.3 Geology of Schefferville Area

The stratigraphy of the Schefferville area is as follows:

Attikamagen Formation **–** is exposed in folded and faulted segments of the stratigraphic succession where it varies in thickness from 30 metres near the western margin of the belt to more than 365 metres near Knob Lake. The lower part of the formation has not been observed. It consists of argillaceous material that is thinly bedded (2-3mm), fine grained (0.02 to 0.05mm), grayish green, dark grey to black, or reddish grey. Calcareous or arenaceous lenses as much as 30 cm in thickness occur locally interbedded with the argillite and slate, and lenses of chert are common. The formation grades upwards into Denault dolomite, or into Wishart quartzite in area where dolomite is absent. Beds are intricately drag-folded, and cleavage is well developed parallel with axial planes, perpendicular to axial lines of folds and parallel with bedding planes.

Denault Formation **–** is interbedded with the slates of the Attikamagen Formation at its base and grades upwards into the chert breccia or quartzite of the Fleming Formation. The Denault Formation consists primarily of dolomite, which weathers buff-grey to brown. Most of it occurs in fairly massive beds which vary in thickness from a few centimetres to about one metre, some of which are composed of aggregates of dolomite fragments.

Near Knob Lake the formation probably has a maximum thickness of 180 metres but in many other places it forms discontinuous lenses that are, at most, 30 metres thick. Leached and altered beds near the iron deposits are rubbly, brown or cream coloured and contain an abundance of chert or quartz fragments in a soft white siliceous matrix.

***Fleming Formation* –** occurs a few kilometres southwest of Knob Lake and only above dolomite beds of the Denault Formation. It has a maximum thickness of about 100 metres and consists of rectangular fragments of chert and quartz within a matrix of fine chert. In the lower part of the formation the matrix is dominantly dolomite grading upwards into chert and siliceous material.

***Wishart Formation* –** Quartzite and arkose of the Wishart Formation form one of the most persistent units in the Kaniapiskau Supergroup. Thick beds of massive quartzite are composed of well-rounded fragments of glassy quartz and 10-30% rounded fragments of pink and grey feldspar, well cemented by quartz and minor amounts of hematite and other iron oxides. Fresh surfaces of the rock are medium grey to pink or red. The thickness of the beds varies from a few centimetres to about one metre but exposures of massive quartzite with no apparent bedding occur most frequently.

***Ruth Formation* –** Overlying the Wishart Formation is a black, grey-green or maroon ferruginous slate, 3 to 36 metres thick. This thinly banded, fissile material contains lenses of black chert and various amounts of iron oxides. It is composed of angular fragments of quartz with K-feldspar sparsely distributed through a very fine mass of chlorite, white mica, iron oxides and abundant finely disseminated carbon and opaque material. Much of the slate contains more than 20% iron.

***Sokoman Formation* –** More than 80% of the ore in the Knob Lake Range occurs within this formation. Lithologically the iron formation varies in detail in different parts of the range and the thickness of individual members is not consistent.

A thinly bedded, slaty facies at the base of the formation consists largely of fine chert with an abundance of iron silicates and disseminated magnetite and siderite. Fresh surfaces are grey to olive green and weathered surfaces brownish yellow to bright orange where minnesotaite is abundant.

Thin-banded oxide facies of iron formation occurs above the silicate-carbonate facies in nearly all parts of the area. The jasper bands, which are 1.25 cm or less wide and deep red, or in a few places greenish yellow to grey, are interbanded with hard, blue layers of fine-grained hematite and a little magnetite.

The thin jasper beds grade upwards into thick massive beds of grey to pinkish chert and beds that are very rich in blue and black iron oxides. These massive beds are commonly referred to as "cherty metallic" iron formation and make up most of the Sokoman Formation. The iron oxides are usually concentrated in layers a few centimetres thick interbedded with leaner cherty beds. In many places iron-rich layers and lenses contain more than 50% hematite and magnetite.

The upper part of the Sokoman Formation comprises beds of dull green to grey or black massive chert that contains considerable siderite or other ferruginous carbonate. Bedding is discontinuous and the rock as a whole contains much less iron than the lower part of the formation.

***Menihek Formation* –** A thin-banded, fissile, grey to black argillaceous slate conformably overlies the Sokoman Formation in the Knob Lake area. Total thickness is not known, as the slate is only found in faulted blocks in the main ore zone. East or south of Knob Lake, the Menihek Formation is more than 300 metres thick but tight folding and lack of exposure prevent determination of its true thickness.

The Menihek slate is mostly dark grey or jet black. It has a dull sooty appearance but weathers light grey or becomes buff coloured where leached. Bedding is less distinct than in the slates of other slate formations but thin laminae or beds are visible in thin sections.

8. DEPOSIT TYPES (ITEM 10)

8.1 IRON ORE

The Labrador Trough contains four main types of iron deposits:

Soft iron ores formed by supergene leaching and enrichment of the weakly metamorphosed cherty iron formation; they are composed mainly of friable fine-grained secondary iron oxides (hematite, goethite, limonite).

Taconites, the fine-grained, weakly metamorphosed iron formations with above average magnetite content and which are also commonly called magnetite iron formation.

More intensely metamorphosed, coarser-grained iron formations, termed metataconites; which contain specular hematite and subordinate amounts of magnetite as the dominant iron minerals.

Occurrences of hard high-grade hematite ore occur southeast of Schefferville at Sawyer Lake, Astray Lake and in some of the Houston deposits.

The LIM deposits are composed of iron formations of the Lake Superior-type. The Lake Superior-type iron formation consists of banded sedimentary rocks composed principally of bands of iron oxides, magnetite and hematite within quartz (chert)-rich rock, with variable amounts of silicate, carbonate and sulphide lithofacies. Such iron formations have been the principal sources of iron throughout the world.

The Sokoman iron formation was formed as a chemical sediment under varied conditions of oxidation-reduction potential (Eh) and hydrogen ion concentrations (pH) in varied depth of seawater. The resulting irregularly bedded, jasper-bearing, granular, oolite and locally conglomeratic sediments are typical of the predominant oxide facies of the Superior-type iron formations, and the Labrador Trough is the largest example of this type.

The facies changes consist commonly of carbonate, silicate and oxide facies. Typical sulphide facies are poorly developed. The mineralogy of the rocks is related to the change in facies during deposition, which reflects changes from shallow to deep-water environments of sedimentation. In general, the oxide facies are irregularly bedded, and locally conglomeratic, having formed in oxidizing shallow-water conditions. Most carbonate facies show deep-water features, except for the presence of minor amounts of granules. The silicate facies are present in between the oxide and carbonate facies, with some textural features indicating deep-water formation.

Facies contains typical primary minerals, ranging from siderite, minnesotaite, and magnetite-hematite in the carbonate, silicate and oxide facies, respectively. The most common mineral in the Sokoman Formation is chert, which is closely associated with all facies, although it occurs in minor quantities with the silicate facies. Carbonate and silicate lithofacies are present in varying amounts in the oxide members.

The sediments of the Labrador Trough were initially deposited in a stable basin which was subsequently modified by penecontemporaneous tectonic and volcanic activity. Deposition of the iron formation indicates intraformational erosion, redistribution of sediments, and local contamination by volcanic and related clastic material derived from the volcanic centers in the Dyke-Astray area.

8.1.1 HOUSTON

The Houston property is located approximately 20 km southeast of Schefferville and can be reached by existing gravel roads. The Houston project area is composed of what appear to be at least three separate areas of iron enrichment with a continuously mineralized zone of over 3 km in strike length and which remains open to the south. These three areas of enrichment are referred to as the Houston 1, Houston 2 and Houston 3 deposits. Houston 3 is currently less well explored and there appears to be significant additional DSO potential to the south of Houston 3 which requires additional drilling.

The Houston DSO iron deposits are stratigraphically and structurally controlled, and consist of hard and friable banded, blue and red hematite that locally becomes massive. Airborne magnetometer survey data available from the Geoscience Data Repository of Natural Resources Canada suggests that the iron ore is concentrated along the western flank (gradient) of a modest to strong magnetic feature, which trends approximately 330°. The Houston 1 and Houston 2S deposits are not coincident with the strongest magnetic features, due to the poor magnetic susceptibility of this type of mineralization. IOC drilled and trenched the Houston deposit and prepared reserve and resource calculations which were contained in their Statement of Reserves at December 31, 1982.

LIM carried out drilling during the 2006, 2008, 2009 and 2010 programs which indicated that the majority of the potentially economic iron mineralization in the Houston area occurs within the upper iron formation (UIF) and middle iron formation (MIF) with lesser amounts in the SCIF (silicate-carbonate iron formation). The amount of red ore associated with the Ruth Formation appears to be minimal if not absent. Mineralization in several holes is found to terminate in a red chert, which may be the Lower Red Chert member that occurs at the boundary of the MIF and SCIF.

Striking northwest and dipping to the northeast, both Houston 1 and 2 mineralization has been found to extend down dip to the northeast. These down dip extensions had not been previously tested by IOC when mining operations in the area ended. At the present time there remains potential for additional resources to be developed at deeper levels in both the Houston 1 and 2 deposits (down dip).

The Houston 3 deposit appears to be more vertical in nature and drill holes testing the eastern margin of the known deposit have not intercepted any eastward extensions. However, this deposit has yet to be tested to its maximum vertical depth or for at least an additional 2 km of strike to the south.

Menihek Slate was encountered in drill chips in hole RC-HU011-2008 in the most southerly hole drilled on the Houston 3 property. At this location Menihek Slate has been thrust up and over the Sokoman Iron Formation. Cross sections of the Houston deposit dating from IOC exploration indicate the presence of a reverse fault striking NW through the Houston 1 and 2 deposits.

8.2 MANGANESE DEPOSITS

The manganese deposits in the Schefferville area were formed by residual and second stage (supergene) enrichment that affected the Sokoman (iron) Formation, some members of which contain up to 1% Mn in their unaltered state. The residual enrichment process involved the migration of meteoric fluids circulated through the proto-ore sequence oxidizing the iron formation, recrystallizing iron minerals to hematite, and leaching silica and carbonate. The result is a residually enriched iron formation that may contain up to 10% Mn. The second phase of this process, where it has occurred, is a true enrichment process (rather than a residual enrichment), whereby iron oxides (goethite, limonite), hematite and manganese are redistributed laterally or stratigraphically downward into the secondary porosity created by the removal of material during the primary enrichment phase.

Deposition along faults, fractures and cleavage surfaces, and in veins and veinlets is also seen, and corroborates the accepted belief that the structural breaks act as channel-ways for migrating hydrothermal fluids causing metasomatic alteration and formation of manganiferous deposits. All the manganese occurrences in the Labrador Trough are considered to have been deposited by the processes described above.

8.2.1 HOUSTON

The manganese mineralization in the Houston deposits is present in relatively low concentrations (~5% average) with sporadic concentrations of up to 24% hosted in the Middle Iron Formation apparently structurally controlled by folding and faulting along the western block of the east dipping reverse fault system.

9. MINERALIZATION (ITEM 11)

9.1 IRON ORE

The earthy bedded iron deposits are a residually enriched type within the Sokoman iron formation that formed after two periods of intense folding and faulting, followed by the circulation of meteoric waters in the fractured rocks. The enrichment process was caused largely by leaching and the loss of silica, resulting in a strong increase in porosity. This produced a friable, granular and earthy-textured iron ore. The siderite and silica minerals were altered to hydrated oxides of goethite and limonite. The second stage of enrichment included the addition of secondary iron and manganese which appear to have moved in solution and filled pore spaces with limonite-goethite. Secondary manganese minerals, i.e., pyrolusite and manganite, form veinlets and vuggy pockets. The types of iron ores developed in the deposits are directly related to the original mineral facies. The predominant blue granular ore was formed from the oxide facies of the middle iron formation. The yellowish-brown ore, composed of limonite-goethite, formed from the carbonate-silicate facies, and the red painty hematite ore originated from mixed facies in the argillaceous slaty members. The overall ratio of blue to yellow to red ore in the Schefferville area deposits is approximately 70:15:15 but can vary widely within and between the deposits.

Only the direct shipping ore is considered amenable to beneficiation to produce lump and sinter feed which will be part of the resources for LIM's development projects. The direct shipping ore was classified by IOC in categories based on chemical, mineralogical and textural compositions. This classification is shown in Table 4.

Table 3 Classification of Ore Type

Schefferville Ore Types (From IOC)					
TYPE	**ORE COLOURS**	**T_Fe%**	**T_Mn%**	**SiO2%**	**Al2O3%**
NB (Non-bessemer)	Blue, Red, Yellow	>=55.0	<3.5	<10.0	<5.0
LNB (Lean non-bessemer)	Blue, Red, Yellow	>=50.0	<3.5	<18.0	<5.0
HMN (High Manganiferous)	Blue, Red, Yellow	(Fe+Mn) >=50.0	>=6.0	<18.0	<5.0
LMN (Low Manganiferous)	Blue, Red, Yellow	(Fe+Mn) >=50.0	3.5-6.0	<18.0	<5.0
HiSiO2 (High Silica)	Blue	>=50.0		18.0-30.0	<5.0
TRX (Treat Rock)	Blue	40.0-50.0		18.0-30.0	<5.0
HiAl (High Aluminum)	Blue, Red, Yellow	>=50.0		<18.0	>5.0
Waste	All material that does not fall into any of these categories.				

The blue ores, which are composed mainly of the minerals hematite and martite, are generally coarse grained and friable. They are usually found in the middle section of the iron formation.

The yellow ores, which are made up of the minerals limonite and goethite, are located in the lower section of the iron formation in a unit referred to as the "silicate carbonate iron formation" or SCIF.

The red ore is predominantly a red earthy hematite. It forms the basal layer that underlies the lower section of the iron formation. Red ore is characterized by its clay and slate-like texture.

Direct shipping ores and lean ores mined in the Schefferville area during the period 1954-1982 amounted to some 150 million tons. Based on the original ore definition of IOC (+50% Fe <18%

SiO_2 dry basis), approximately 250 million tonnes of iron resources remain in the Schefferville area, exclusive of magnetite taconite. LIM has acquired the rights to approximately 50% of this remaining historic iron resource in Labrador. These numbers are based on historic stimates made in compliance with the standards used by IOC. The information in this paragraph was provided by LIM.

9.2 MANGANESE ORE

For an economic manganese deposit, there needs to be a minimum primary manganese content at a given market price (generally greater than 5% Mn), but also the manganese oxides must be amenable to concentration (beneficiation) and the resultant concentrates must be low in deleterious elements such as silica, aluminum, phosphorus, sulphur and alkalis. Beneficiation involves segregating the silicate and carbonate lithofacies and other rock types interbedded within the manganese-rich oxides.

The principle manganese deposits found in the Schefferville area can be grouped into three types:

Manganiferous iron deposits that occur within the lower Sokoman Formation. These are associated with in-situ residual enrichment processes related to downward and lateral percolation of meteoric water and ground water along structural discontinuities such as faults and fractures, penetrative cleavage associated with fold hinges, and near surface penetration. These typically contain from 5-10 % Mn.

Ferruginous manganese deposit, generally contain 10-35% Mn. These types of deposits are also associated with structural discontinuities (e.g., fault, well developed cleavage, fracture-zones) and may be hosted by the Sokoman (iron) Formation (e.g., the Ryan, Dannick and Avison deposits), or by the stratigraphically lower silica-rich Fleming and Wishart formations (e.g. the Ruth A, B and C deposits). These are the result of residual and supergene enrichment processes.

So called *manganese-occurrences or manganese-ore deposits* contain at least 35% Mn. These deposits are the result of secondary (supergene) enrichment and are typically hosted in the Wishart and Fleming formations, stratigraphically below the iron formation.

10. EXPLORATION (ITEM 12)

10.1 PAST EXPLORATION

In 1929, a party led by J.E. Gill and W.F. James explored the geology around Schefferville, Quebec and named the area Ferrimango Hills. In the course of their field work, they discovered enriched iron-ore, or "direct-shipping ore" deposits west of Schefferville, which they named Ferrimango Hills 1, 2 and 3. These were later renamed the Ruth Lake 1, 2 and 3 deposits by J.A. Retty.

In 1936, J.S. Wishart, a member of the 1929 mapping expedition, mapped the area around Ruth Lake and Wishart Lake in greater detail, with the objective of outlining new iron ore occurrences.

In 1937, W.C. Howells traversed the area of the Ruth Lake Property as part of a watercourse survey between the Kivivic and Astray lakes – now known as Howells River.

In 1945, a report by LM&E describes the work of A.T. Griffis in the "Wishart – Ruth – Fleming" area. The report includes geological maps and detailed descriptions of the physiography, stratigraphy and geology of the area, and of the Ruth Lake 1, 2 and 3 ore bodies. Griffis recognized that the iron ore unit (Sokoman Formation) was structurally repeated by folding and faulting and remarked that "The potential tonnage of high-grade iron deposits is considered to be great."

In 1946 and 1947, geological mapping of the southeast area of the Wishart Knob Lake area towards Astray Lake carried out by LM&E noted a number of areas with potential economic mineralization that led the discovery of the Houston 1 and 2 deposits in 1950.

Most exploration on the properties was carried out by the IOC from 1954 until the closure of their Schefferville operation in 1982.Most data used in the evaluation of the current status provided in the numerous documents, sections and maps produced by IOC or by consultants working for them.

In 1989 and 1990, La Fosse and Hollinger undertook an extensive exploration program for manganese on 46 known occurrences in the Schefferville area, including those on the Ruth Lake Property, divided at the time into Ruth Lake prospects, Ryan showing and Avison showing.

Work performed during the summer and fall of 1989 consisted of geological mapping, prospecting and sampling, airtrac drilling (26 holes totalling 478 ft = 146 m), and a VLF ground geophysical survey. Also in 1989, the La Fosse Platinum Group carried out exploration on the Ryan manganese showing. Work consisted of stripping and trenching (12 trenches totalling 1970 ft = 601 m), chip sampling and airtrac drilling (25 holes) coupled with sampling of cuttings. In addition, an 1,800 ton bulk sample was obtained and stockpiled for analysis. Representative samples were taken from the bulk sample stockpile and yielded an average of 23.1% Mn and 20.4% Fe.

In 1990, La Fosse returned to the Ryan manganese showing to continue exploration. Their work further defined the two manganese lenses into Zone 1 (560 ft x 30 ft = 171 m x 9 m) containing up to 25% Mn with Mn: Fe ratios around 1.0 and, Zone 2 (600 ft x 30 ft = 183 m x 9 m) containing 16.2% Mn and 10.7% Fe. The two zones are separated by approximately 30 ft (9 m) of barren, fault-gouge material.

Work consisted of stripping and trenching (14 trenches totalling 1600 ft = 488m), 3 diamond-drill holes (447 ft = 136 m), and 4 airtrac drill holes (97 ft = 30 m) with simultaneous sampling of cuttings. In addition, another 400 tons of manganese “ore” was mined and added to the 1800 ton stockpile from the previous year. The average grade of the 400 ton addition was 18.8% Mn and 24.2% Fe, whereas the average grade for the 2200 ton bulk sample was 22.3% Mn and 21.1% Fe.

During 1990, Hollinger investigated and named the Avison manganese showing (Geofile 23J/15/0290), located 1.5 miles (2.4 km) southeast of the Ruth deposit and along the same fault zone as the Ruth and Ryan deposits. Work consisted of geological mapping and sampling, stripping and trenching totalling ~150 ft (46 m), and airtrac drilling totalling 125 ft (38 m) with concomitant sampling. Selected samples from the zone returned values of up to 42% Mn, whereas channel samples from across the showing ranged from 15% to 25% Mn. It’s location along the same fault zone as the Ruth and Ryan deposits were noteworthy to the project geologist.

A large part of Hollinger’s efforts in 1990 were devoted to the Ruth Lake deposit(s). Work included detailed geological mapping, trenching, sampling, airtrac drilling (5 holes) with concurrent sampling and diamond drilling (21 holes totalling 2393 ft = 729 m) that outlined two new deposits: Ruth B and Ruth C.

10.2 LIM Exploration from 2005 - 2010

10.2.1 2005 Program

Initial exploration was conducted over LIM’s Labrador area properties during the summer of 2005, including the Houston project. The work consisted of surveying old workings (trenches, pits and drill holes), prospecting, mapping and collecting rock samples.

10.2.2 2006 Program

A diamond drill program totalled 605 metres in 11 holes during the summer season of 2006 on the Houston as well as the James, Knob Lake No.1, and Astray Lake deposits using Cartwright Drilling Inc. of Goose Bay, Labrador. Also, a short program of bulk sampling was carried out in 2006consisting of 75 metres of trenching for bulk sampling at the Houston deposit.

A summary of the drilling program is given in Section 13. A summary of the bulk sampling and trench sampling of 2006 is shown in Table 5 for the Houston Deposit.

10.2.3 2007 Program

The exploration program for 2007comprised prospecting and trenching.

Table 4 Trench Sample Results – Houston 1 Deposit

From (m)	To (m)	Len (m)	Fe%	SiO_2%	Ore Type
0.00	26.00	26.00	66.14	1.39	NB
26.00	50.00	24.00	60.50	6.82	NBY
50.00	69.00	19.00	59.26	11.57	LNB
69.00	75.00	6.00	44.52	34.07	TRX

10.2.4 2008 Program

In addition to a drilling program, LIM contracted Eagle Mapping Ltd of Port Coquitlam, BC to carry out an aerial topographic survey flown over its properties in the Schefferville Area, including the Houston property. The survey covered an area of 16,230 ha and 233,825 ha at map scale of 1:1,000 and 1:5,000 respectively. Using a differential GPS (with an accuracy within 40 cm), LIM surveyed the 2008 RC drill holes, as well as the trenches and a total of 90 old IOC RC drill hole collars that were still visible and could be located.

A bulk sampling program was carried out with material from the Houston as well as the James, Redmond and Knob Lake deposits. A total of 2,000 tonnes of blue ore was excavated from the Houston deposit as well as 1,400 tonnes of blue ore from the James South deposit, 1,500 tonnes of blue ore from the Redmond 5 deposit and 1,100 tonnes of red ore from the Knob Lake deposit.

The material was excavated with a T330 backhoe and a 950G front end loader and loaded into 25 ton dump trucks for transport to their individual stockpiles at the Silver Yard area where the crushing and screening activities were carried out. The samples were crushed and screened to produce two products:

Lump Ore (-50 mm + 6 mm)
Sinter Fines (- 6 mm)

Representative samples of 200 kg of each raw ore type were collected and sent to SGS Lakefield laboratories for metallurgical test work and assays. Representative samples of 2 kg of each product were collected and sent to SGS Lakefield laboratories for assays. Other samples were collected for additional screening tests. Five train cars were used for the transport of the samples to Sept-Îles, the rest of the sample material remains at the Silver Yard.

10.2.5 2009 Program

In addition to a drilling program, LIM completed a survey the 2009 RC drill holes, trenches as well as any historical IOC RC drill holes using a differential GPS.

The 2009 Houston trenching program was focused on the Houston 3 deposit, completing 479 metres in 9 trenches.

The exploration programs were intended to confirm and validate historic resources reported by IOC and to bring them into compliance with NI-43-101. Appendix I list drill holes and trenches completed by LIM between 2006 and 2010.

10.2.6 2010 Program

The 2010 program in Houston consisted of reverse circulation drilling. Drilling was targeted to test the presence of mineralization between cross sections 330 and 340 and as infill drilling in Houston 1 and Houston 2S.In 2010, 26 RC drill holes were completed at Houston for a total of 1,804 metres.

During the 2010 exploration season an airborne gravity and magnetic survey was flown over four claim blocks of LIM's Schefferville area properties centered on the Howse, Houston/Redmond, Astray and Sawyer Lake areas. High gravity anomalies associated with lower magnetism are considered prospective for DSO deposits. In total 1895.7 line kms was flown for the gravity and magnetic surveys. A total of 473.6 line kms were surveyed over the Howse area, 851.8 kms over Houston/Redmond areas, 354.6 kms over Astray and 215.7 line kms over the Sawyer Lake area.

An interim interpretation and evaluation of the processed and plotted airborne gravity gradiometer and magnetic data has confirmed the utility of the survey in detecting and outlining iron deposits and identified a number of new drill targets with the potential to expand currently known resources. Several of the new targets identified will be tested in 2011 using reverse circulation or diamond drilling.

11. DRILLING (ITEM 13)

Diamond drilling of the Schefferville iron deposits has been historically challenging in that the alternating hard and soft ore zones tend to preclude good core recovery. Traditionally IOC used a combination of reverse circulation (RC) drilling, diamond drilling and trenching to generate data for reserve and resource calculation. A large number of original IOC data have been recovered and reviewed by LIM and are included in the data base that is used for the estimation of resources.

LIM carried out exploration drilling programs in the 2006, 2008, 2009 and 2010 summer-fall seasons.

In 2006, 253 metres in 5 holes BQ size diamond core drilling were drilled in the Houston property using Cartwright Drilling Inc. of Goose Bay, of which only 1 drill hole was successfully completed.

Between 2008 and 2010, LIM used Acker RC tricone drill rigs Cabo Drilling using 75mm ($2^{7/8}$inch) diameter rods. The drill rigs were mounted on Flex Trac Nodwell carriers or skids and outfitted with sample cyclones.

In 2008, 11 RC drill holes were drilled in Houston for a total of 791 metres.

In 2009, 46 RC drill holes were completed at Houston for a total of 3,136 metres.

In 2010, 26 RC drill holes were completed at Houston for a total of 1,804 metres.

Table 6summarizes LIM's drilling programs at Houston.

Table 5 - Houston Drilling Programs

Year	Type	Holes	Length (m)
2006	DD	5	253
2008	RC	11	791
2009	RC	46	3,136
2010	RC	26	1,804

DD – diamond drill, RC – reverse circulation

12. SAMPLING METHOD AND APPROACH (ITEM 14)

During the time that IOC operated in the area, sampling of the exploration targets were by trenches and test pits as well as by drilling. In the test pits and trenches geological mapping determined the lithologies and the samples were taken over 10 feet (3.0 metres).The results were plotted on vertical cross sections. No further information was provided regarding the sampling procedures followed by IOC but verbal information from consultants, former IOC employees and others suggests that the procedures used by LIM were similar to IOC's during its activities in the Schefferville area.

LIM followed industry sampling standards and protocols for exploration. Sealed boxes and sample bags were handled by authorized personnel and sent to the preparation lab in Schefferville. RC sampling was done on site at the drill site and at the preparation laboratory in Schefferville. Logging was carried out at the preparation laboratory in Schefferville by LIM geologists.

Samples obtained during the 2008 and 2009 programs were prepared in the sample preparation laboratory installed in Schefferville by LIM.

The sampling procedures outlined below were designed and formulated by SGS Canada inc..

The entire lengths of the RC drill holes were sampled. The average length of the RC samples was metres. A description of the cuttings was made at every metre drilled. A representative sample was collected and placed in plastic chip trays for every metre drilled. The chip trays were labelled with Hole ID and the interval represented in each compartment. The metres drilled with no recovery were marked with an X inside the chip tray compartment.

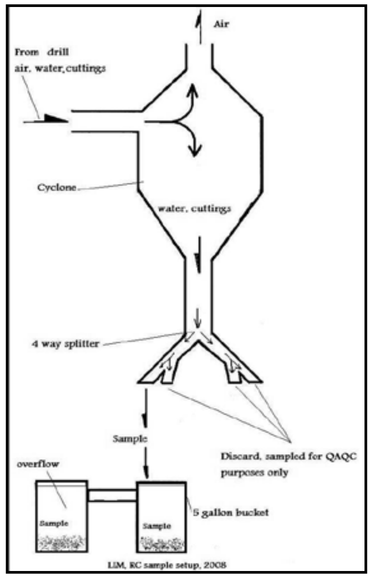
12.1 RC SAMPLE SIZE REDUCTION (2008)

In order to reduce the size of the sample at the RC drill site to approximately 7.5 kg, the drill cuttings were split 4 ways after leaving the cyclone, during the 2008 drilling program (Figure 4).

The cuttings from three of the exit ports were discarded and the cuttings from the fourth exit were collected in a 5 gallon buckets. As part of the QA/QC program the cuttings from three of the four exits were routinely sampled.

Samples were taken by truck directly to the preparation lab in Schefferville under supervision of SGS Canada inc.. Upon arrival at the Preparation Lab, samples came under the care of SGS Canada inc. personnel.

Figure 4 - RC Size Reduction and Sampling (Method used in the 2008 drilling Program)



12.2 Rotary Splitter RC Sample Size Reduction (2009)

In the 2009 RC drill program, drill cuttings were split with a rotary splitter mounted directly under the cyclone. The Rotary splitter is divided into pie shape spaces and is equipped with a hydraulic motor. The speed of the rotation of the splitter and the closing of the pie shape spaces was set in order to have a 7.5-10 kg sample from the 3 metre rod sample. Cuttings from the remaining material were discarded on site. As part of the QA/QC program the cuttings from the remaining discarded material were routinely sampled.

Upon arrival at the Sample Preparation Lab in Schefferville, samples came under the care of LIM personnel. The use of the rotary splitter sampling system demonstrated efficacy, therefore LIM decided to continue its use in future programs.

12.3 Rotary Splitter RC Sample Size Reduction (2010)

In the 2010 RC drill program, LIM followed the same on-site sample reduction as described above; however the samples were collected in the pails lined with Sentry II Micro Pore bags which allowed water to slowly drain thru while capturing very fine sample material (Figure 5).

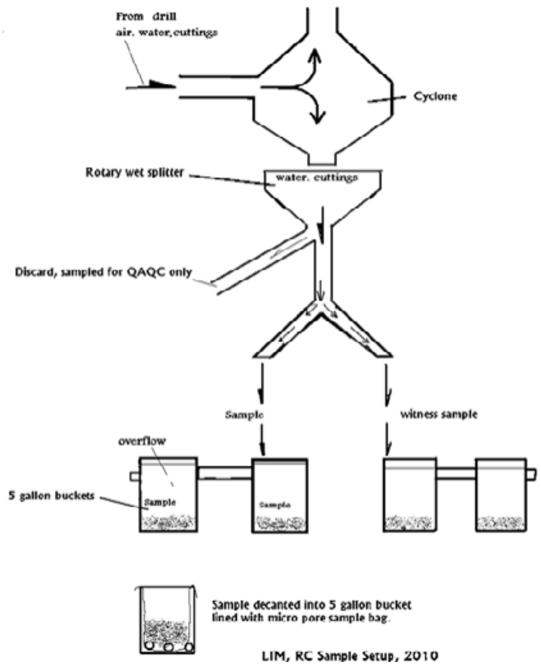


Figure 5 2010 Reverse Circulation sampling setup diagram

12.4 2006, 2008 AND 2009 TRENCH SAMPLING

In 2006, 2008 and 2009 trenches were dug in several properties for resource estimations and ore body surface definition. The trenches were excavated with a Caterpillar 330 excavator with a 3-yard bucket. The excavator was able to dig a 1metre-wide trench with depths down to 3 metres, which was enough to penetrate the overburden.

Trenches were sampled on 3-metre intervals with the sample considered to be representative of the mineral content over that interval. After cleaning off the exposure, samples were collected from the sides of trenches. Samples were collected with a small rock pick along a line designated by the supervising geologist. In most cases the material sampled was soft and friable.

LIM completed a total of 554 metres of trenching in 10 trenches between 2006 and 2009 at Houston and collected a total of 135 samples.

13. SAMPLE PREPARATION, ANALYSIS AND SECURITY (ITEM15)

The standardized procedures for the preparation and reduction of samples collected during the 2008 and 2009 RC drilling campaigns were prepared by SGS Canada inc. and adopted by LIM for its sample preparation laboratory in Schefferville.

SGS Canada inc. were not in possession of the exact sampling procedures carried out historically by IOC but verbal information from former employees and drillers, suggests that the described procedures is similar to that used by IOC during their activities in Schefferville.

The relevant sample results and sample composites used for the resources estimation are described in section 19.

13.1 SAMPLE PREPARATION AND SIZE REDUCTION IN SCHEFFERVILLE

At the end of every shift, the samplers and geologist delivered the samples to the preparation laboratory. Sample bags were placed in sequential order on a draining table and a "Sample Drop Off" form was completed noting the date, time, person, number of samples and sample sequence. These bags were left over night, so that the fine material could settle.

13.1.1 2008

Sample preparation and reduction was done at LIM's preparation lab in Schefferville which was operated by SGS Canada inc. personnel. In addition to the preparation lab personnel, SGS Canada inc. also provided a geologist and two geo-technicians to perform sampling duties on one of the two rigs utilized for the drill program. This procedure was implemented in order to facilitate the shipping and analysis to the SGS-Lakefield laboratory in Ontario.

The majority of samples have a width of 3 metres, equal to the length of the drill rods. As soon as samples were delivered to the Schefferville preparation laboratory, they fell under the responsibility of SGS Canada inc.. The sampling procedures were designed and formulated by SGS Canada Inc.. These procedures were followed in the preparation laboratory of Schefferville, Quebec. Note that samples obtained from RC drills were wet. All samples were dried and reduced by riffle splitting and then sent to SGS-Lakefield in Ontario. A witness portion of the samples is kept in Schefferville.

13.1.2 2009

The 2008 procedures were adopted in 2009 for sample preparation and sample reduction and were carried out by LIM in its sample preparation laboratory in Schefferville. LIM had a lab supervisor and well trained geo-technicians to perform the sampling duties on the two rigs utilized for the drill program. Some later improvements were made to the procedures but overall they followed guidelines developed by SGS in 2008. All samples were dried and reduced by riffle splitting prior to shipment for analyses at Actlabs in Ancaster, Ontario.

13.1.3 2010

The 2010 sample preparation consisted entirely on cataloguing and drying of samples before shipping. No sample reduction was carried out in Schefferville before shipping.

13.2 SAMPLE PREPARATION AT SGS-LAKEFIELD LABORATORY

The following is a table taken from the SGS Canada inc. report, describing the RC drill hole sample preparation protocols used at the SGS Lakefield laboratory facility in Lakefield, Ontario.

Table 6 SGS-Lakefield Sample Preparation Methodology

Parameter	Methodology
Met Plant/Control quality assays - not suitable for commercial exchange	
PRP89	Crush up to 3kg of sample to 75% passing 9 mesh (2mm)
	Pulverize up to 250g of riffle split sample to 200 mesh (75µm)

13.3 SAMPLE ANALYSES AT SGS-LAKEFIELD

All of the 2008 RC drilling and trenching program were sent for analysis to the SGS-Lakefield Laboratory in Lakefield, Ontario, Canada. The analysis used was Borate fusion whole rock XRF (X-Ray Fluorescence). The following is a description of the exploration drill hole analysis protocols used at the SGS-Lakefield laboratory facility in Lakefield, Ontario. This description was given by SGS-Lakefield.

- X-Ray Fluorescence Analysis Code: XRF76Z
- Parameters measured, units:SiO_2, Al_2O_3, Fe_2O_3, MgO, CaO, Na_2O, K_2O, P_2O_5, MnO, TiO_2, Cr_2O_3, Ni, Co, La_2O_3, Ce_2O_3,Nd_2O_3, Pr_2O_3, Sm_2O_3, BaO, SrO, ZrO_2, HfO_2, Y_2O_3, Nb_2O_5, ThO_2, U_3O_8, SnO_2, WO_3, Ta_2O_5,LOI; %
- Typical sample size: 0.2 to 0.5 g
- Type of sample applicable (media): Rocks, oxide ores and concentrates.
- Method of analysis used: The disk specimen is analyzed by WDXRF spectrometry.
- Data reduction by: The results are exported via computer, on line, data fed to the Laboratory Information Management System with secure audit trail.
- Corrections for dilution and summation with the LOI are made prior to reporting.

Table 7 Table Borate Fusion Whole Rock XRF Reporting Limits

Element	Limit (%)	Element	Limit (%)	Element	Limit (%)
SiO_2	0.01	Na_2O	0.01	CaO	0.01
Al_2O_3	0.01	TiO_2	0.01	MgO	0.01
Fe_{total} as Fe_2O_3	0.01	Cr_2O_3	0.01	K_2O	0.01
P_2O_5	0.01	V_2O_5	0.01	MnO	0.01
Also includes Loss on Ignition					

13.4 SAMPLE PREPARATION AT ACTLABS

During the 2009 exploration programme all trench and RC drill samples were shipped to Activation Laboratories (ACTLABS) facility in Ancaster, Ontario. Trench samples were taken to the preparation lab in Schefferville at the end of the day. The trench samples were not prepared in the same way as RC drill samples, being just bagged and shipped to the analytical laboratory.

As a routine practice with rock and core samples, ACTLABS ensured the entire sample was crushed to a nominal minus 10 mesh (1.7 mm), mechanically split (riffled) to obtain a representative sample, and then pulverized to at least 95% minus 150 mesh (105 microns). All of their steel mills are now mild steel, and do not induce Cr or Ni contamination. As a routine practice, ACTLABS automatically used cleaner sand between each sample at no cost to the customer.

Quality of crushing and pulverization is routinely checked as part of their quality assurance program. Randomization of samples in larger orders (>100) provides an excellent means to monitor data for systematic errors. The data is resorted after analysis according to sample number. The following is a table describing the rock, core and drill cuttings sample preparation protocols used at the ACTLABS.

Table 8 Rock, Core and Drill Cuttings Sample Preparation Protocols - ACTLABS

Rock, Core and Drill Cuttings	
code RX1	crush (< 5 kg) up to 75% passing 2 mm, split (250 g), and pulverize (hardened steel) to 95% passing 105 μ
code RX1 Terminator	crush (< 5 kg) up to 90% passing 2 mm, split (250 g), and pulverize (hardened steel) to 95% passing 105 μ
code RX1+500	500 grams pulverized
code RX1+800	800 grams pulverized
code RX1+1.3	1.3 kg pulverized
code RX2	crush (< 5 kg), split and pulverize with mild steel (100 g) (best for low
code RX3	oversize charge per kilogram for crushing
code RX4	pulverization only (mild steel) coarse pulp or crushed rock) (< 800 g)
code RX5	pulverize ceramic (100 g)
code RX6	hand pulverize small samples (agate mortar & pestle)
code RX7	crush and split (< 5 kg)
code RX8	sample prep only surcharge, no analyses
code RX9	compositing (per composite) dry weight
code RX10	dry drill cuttings in plastic bags
code RX11	checking quality of pulps or rejects

The following table shows the Pulverization Contaminants that are added by ACTLABS.

Table 9 Pulverization Contaminants that are added by – ACTLABS

Mill Type	Contaminant Added

Mild Steel (best choice)	Fe (up to 0.2%)
Hardened Steel	Fe (up to 0.2%). Cr (up to 200ppm), trace Ni, Si, Mn, and C
Ceramic	Al (up to 0.2%), Ba, Trace REE
Tungsten Carbide	W (up to 0.1%), Co, C, Ta, Nb, Ti
Agate	Si (up to 0.3%), Al, Na, Fe, K, Ca, Mg, Pb

13.5 SAMPLE ANALYSIS AT ACTLABS

Following is a description of the exploration analysis protocols used at the Actlabsfacility in Ancaster, Ontario.

13.5.1 X-RAY FLUORESCENCE ANALYSIS CODE: 4C

To minimize the matrix effects of the samples, the heavy absorber fusion technique of Norrish and Hutton (1969, Geochim. Cosmochim. Acta, volume 33, pp. 431-453) are used for major element oxide) analysis. Prior to fusion, the loss on ignition (LOI), which includes H_2O+, CO_2, S and other volatiles, can be determined from the weight loss after roasting the sample at 1050°C for 2 hours. The fusion disk is made by mixing a 0.5 g equivalent of the roasted sample with 6.5 g of a combination of lithium metaborate and lithium tetraborate with lithium bromide as a releasing agent. Samples are fused in Pt crucibles using an AFT fluxer and automatically poured into Ptmolds for casting. Samples are analyzed on a Panalytical Axios Advanced XRF. The intensities are then measured and the concentrations are calculated against the standard G-16 provided by Dr. K. Norrish of CSIRO, Australia. Matrix corrections were done by using the oxide alpha – influence coefficients provided also by K. Norrish. In general, the limit of detection is about 0.01 wt% for most of the elements.

13.5.2 ELEMENTS ANALYZED

SiO_2 $Al2O_3$ Fe_2O_3(T) MnO MgO CaO Na_2O K_2O TiO_2 P_2O_5 Cr_2O_3, LOI

13.5.3 CODE 4C OXIDES AND DETECTION LIMITS (%)

The following table shows the Code 4C Oxides and Detection Limits (%)

Table 10 Code 4C Oxides and Detection Limits (%)

Oxide	Detection Limit
SiO_2	0.01
TiO_2	0.01
Al_2O_3	0.01
Fe_2O_3	0.01
MnO	0.001
MgO	0.01
CaO	0.01
Na_2O	0.01
K_2O	0.01
P_2O_5	0.01
Cr_2O_3	0.01
LOI	0.01

13.6 SAMPLE SECURITY AND CONTROL

13.6.1 LIM SAMPLE QUALITY ASSURANCE, QUALITY CONTROL AND SECURITY

LIM initiated a quality assurance and quality control protocol for its 2008 RC, DDH, and trench sampling program, which also was applied for its 2009 and 2010 programs. The procedure included the systematic addition of blanks, in-house reference standards, field duplicates, and preparation lab duplicates (not included in 2010 sequence) to approximately each 25 batch samples sent for analysis at SGS Lakefield.

The sealed sample bags were handled by authorized personnel from LIM and SGS Canada inc. and sent to the preparation lab in Schefferville. Authorized personnel did the logging and sampling in the secured and guarded preparation lab.

Each sample was transported back to the preparation lab with a truck at the end of each shift by the lab supervisor on a regular basis. The samples were transported to the lab near Schefferville, a warehouse facility rented by LIM. The lab was locked down during the night. Sample batches were sealed and sent by train or by express mail (by air). Traceability was present throughout the shipment to Lakefield and/or Ancaster.

13.6.1.1 Field Duplicates

The procedure included the systematic addition of field duplicates to approximately each 25 batch samples sent for analysis to the lab. In 2008, the cuttings from the second and third exits were routinely sampled every 25th batch. The 24thsample was collected at exit 2. The 26th sample was collected at exit 3. These samples went through the same sample preparation, analysis and security procedures and protocols as the regular 3 metre samples collected from the exit 1. In 2009 and 2010, the sample was split by a cyclone rotary splitter. One half of the material was discarded outside the drill, and the second half was sent into sampling buckets underneath the splitter. The field duplicate was taken for the material discarded outside the rig at every 25th sample. The 26th

sample was the duplicate of the 25th sample. This QA/QC procedure enabled SGS and LIM any bias in the RC sampling program to be verified.

13.6.1.2 Preparation Lab Duplicates

The procedure included the systematic addition of preparation lab duplicates to approximately each batch of 25 samples sent for analysis at SGS-Lakefield. In 2008, a second portion of cuttings from the first exit size reduction procedure was routinely sampled every 25 batch similarly as described above. In 2009, the every 25th sample was taken the same way as a regular sample describe above. Its duplicate sample was tied empty to it. Once at the lab, the sample was dried, and riffle split 4 times. From the material riffle split, a lab duplicate was composed. In 2010, there was no lab duplicates because the sample bags were not riffle split.

13.6.1.3 Blanks

Blank samples were created onsite in Schefferville from barren slates located south east of the town. These blanks were used to check for possible contamination in laboratories. Some were sent to SGS-Lakefield and others to Corem and ALS-Chemex for verification of the average tenure in the blanks. Blank samples were inserted every 50 samples.

13.6.1.4 Standard Material

LIM introduced in-house standards with high grade James ore collected from a bulk sample taken in 2008. In 2009, LIM sent 20 samples to Actlabs and 10 sent to both SGS Lakefield and ALS Chemex starting the process of characterizing the standard material. In 2010, there were additional 30 samples of the high grade James standard material sent to Actlabs and 40 samples sent to both SGS and ALS Chemex. There was a second standard picked which was composed of medium grade Knob Lake ore material with 50 samples sent to SGS, Actlabs and ALS Chemex. The James Standard material was the only standards inserted into the sample sequence until 2010. The medium grade standard ore material will be incorporated in later programs.

13.6.2 SGS-Lakefield Sample Quality Assurance, Quality Control and Security

The following is a description of the quality assurance and quality control protocols used at the SGS-Lakefield laboratory facility in Lakefield, Ontario. The following description was given by SGS-Lakefield.

13.6.2.1 Quality control

One blank, one duplicate and a matrix-suitable certified or in-house reference material per batch of 20 samples.

The data approval steps are shown in the following table.

Table 11 SGS-Lakefield Laboratory Data Approval Steps

Step	Approval Criteria
1. Sum of oxides	Majors 98 - 101%
2. Batch reagent blank	2 x LOQ
3. Inserted weighed reference material	Statistical Control Limits
4. Weighed Lab Duplicates	Statistical Control Limits by Range

13.6.3 ACTLAB Sample Quality Assurance, Quality Control and Security

Following is a description of the quality assurance and quality control protocols used at the ACTLABS facility. This description is based on input from ACTLABS.

A total of 34 standards are used in the calibration of the method and 28 standards are checked weekly to ensure that there are no problems with the calibration.

Certified Standard Reference Materials (CSRM) are used and the standards that are reported to the client vary depending on the concentration range of the samples.

The re-checks are done by checking the sample's oxide total. If the total is less than 98% the samples are reweighed, fused and ran.

The amount of duplicates done is decided by the Prep Department, their procedure is for every 50 samples only if there is adequate material. If the work order is over 100 samples they will pick duplicates every 30 samples.

General QC procedure for XRF is: The standards are checked by control charting the elements. The repeats and pulp duplicates are checked by using a statistical program which highlights any sample that fail the assigned criteria. These results are analyzed and any failures are investigated using our QCP Non-Conformance (error or omission made that was in contrast with a test method (QOP), Quality Control Method (QCP) or Quality Administrative Method (QAP).

14. DATA VERIFICATION (ITEM 16)

14.1 QAQC PROCEDURES AND PROTOCOLS

The data verification of the iron (Fe), phosphorus (P), manganese (Mn), silica (SiO_2) and alumina (Al_2O_3) values was done with the assay results from the 2008 through 2010 RC drilling program.

SGS Canada inc. introduced a series of quality control procedures for the 2008 program including the addition of preparation lab duplicates, exit 2 duplicates, exit 3 duplicates and blanks.

In 2009, LIM followed the same QAQC protocols and procedures that SGS Canada inc. implemented for the 2008 exploration program. LIM introduced high grade standards at every 50th sample. LIM also developed an internal QAQC and Sampling Protocol and Method Manual in 2009 which specifies the procedures to follow thereafter.

In 2010, LIM completed the characterization of the standard ore material for high grade (60.93 ± 1.47%Fe, 9.96 ±1.36%SiO2) and medium grade (56.47 ± 1.21%Fe, 8.31 ±1.07%SiO2). Such materials were analyses in 3 different laboratories in order to get them certified.

14.1.1 DUPLICATES

LIM started a quality assurance and quality control protocol for its 2008 RC, DDH, and trench sampling program. The procedure included the systematic addition of field duplicates, preparation lab duplicates to approximately each 25 samples sent for analysis at SGS-Lakefield along with a blank at every 50 sample. This protocol was adopted and used during the 2009 and 2010 exploration programs with modifications mentioned above.

14.1.1.1 2008 Exploration Program

The data verification of the iron (Fe), Phosphorus (P), Manganese (Mn), silica (SiO2) and alumina (Al2O3) values was done with the assay results from the 2008 RC drilling program. As explained in section 13, SGS Canada inc. introduced a series of quality control procedures including the addition of preparation lab duplicates, exit 2 duplicates, exit 3 duplicates and blanks. SGS Canada inc. supervised the RC sampling.

In 2008, a total of 166 duplicates were taken and analyzed. The chart in Figure 6produced by SGS Canada inc. in 2008 based on the results of the 2008 duplicates show that the data is precise and dependable.

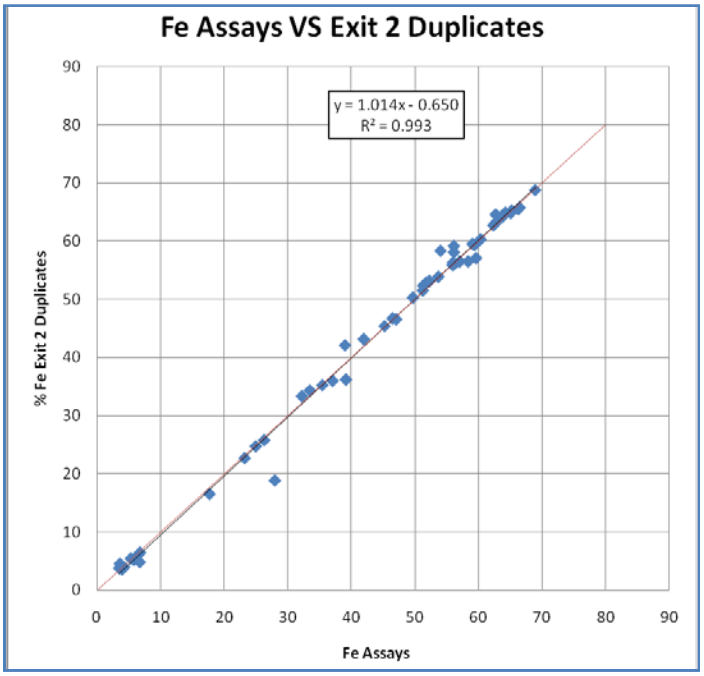
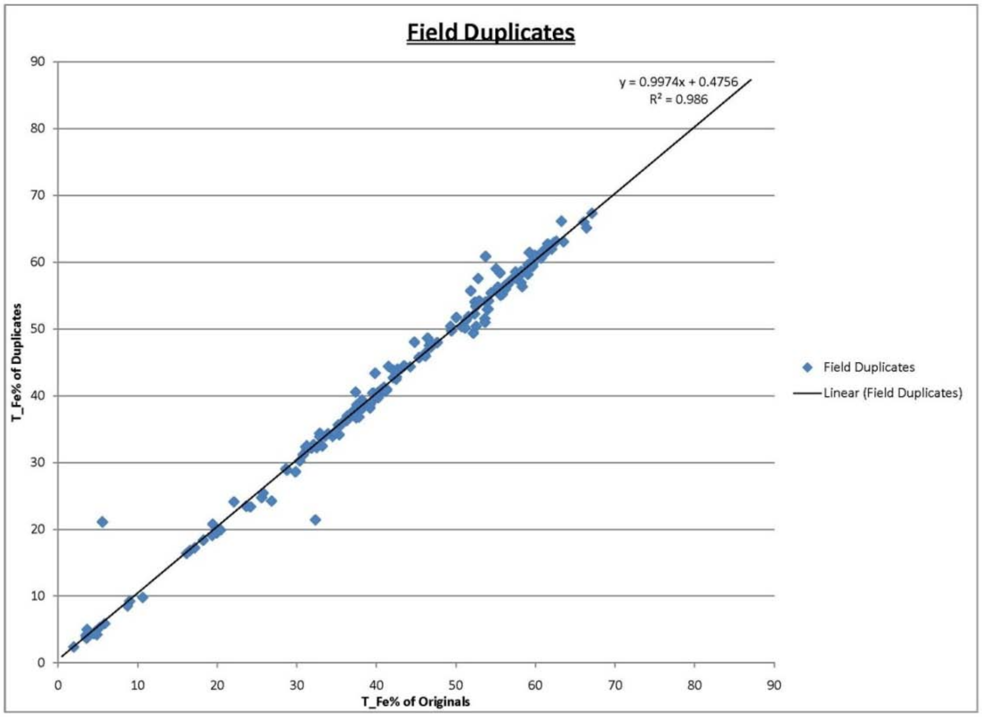


Figure 6 Fe Assay Correlation between original and Exit 2 Duplicate samples (2008)

14.1.1.2 2009 Exploration Program

LIM followed the same method of taking duplicates as in 2008. However, the field duplicate did not come from 3 exits but from two. The field duplicate came from a single discharge tube that flowed outside of the rig into a bucket. The lab duplicate sample bag was left empty and stapled to the sample bag that contained the sample that would at as the lab duplicate. The duplicates were treated as a normal sample, and were prepared, riffle split and sent to Actlabs for analysis.

The analysis of data plotted in charts in Figure 7indicates that the repeatability of results is acceptable and the process of taking duplicates is good and reliable. There is very little variation in the data except for two few outliers, which could be a result of contamination while processing or taking the sample. The plot is linear, which means that there was no bias towards the analysis.



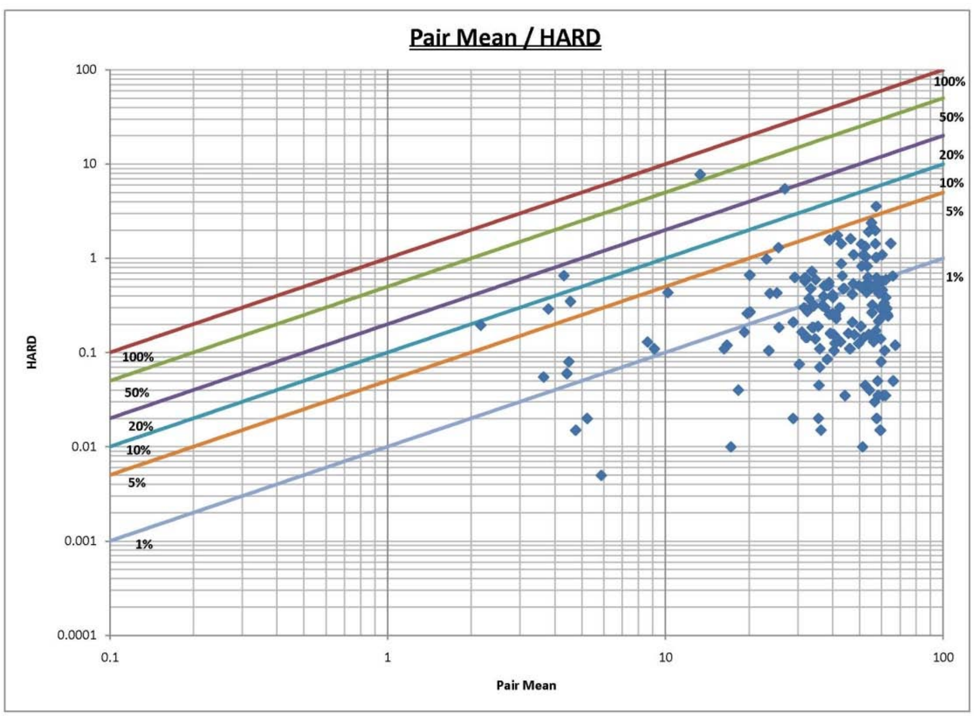


Figure 7 Plot of results of duplicate samples (2009)

14.1.1.3 2010 Exploration Program

During 2010, the field duplicate came from a single discharge tube that flowed outside of the rig into a bucket. There were no lab duplicates taken because no riffle splitting was necessary. Samples and duplicates were collected and sealed using Sentry II Micropore Polywoven bags. These bags allowed the excess water to flow through catching the fines. The samples were dried in ovens for 3-4hrs prior shipping or storing. There were a total of 54 duplicates taken over the course of the 2010 program.

The overall Fe analysis of duplicates is good and repeatable as indicated in Figure 8by the linear correlation of the samples versus their duplicates.

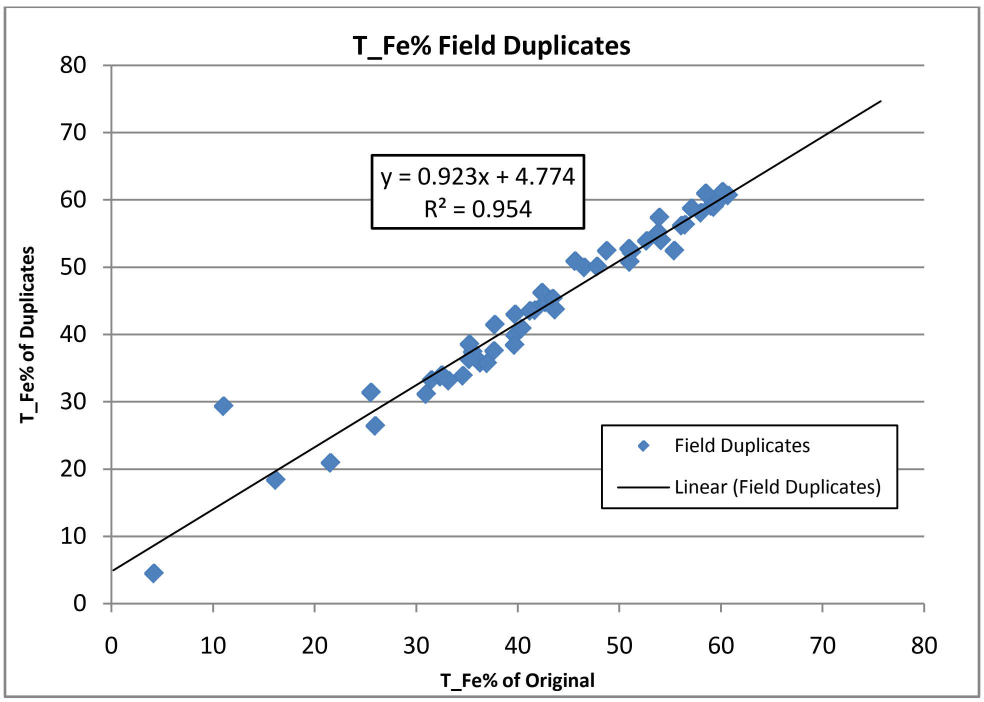


Figure 8 Duplicates 2010

14.1.2 Standards

The insertion of standard samples in the sampling sequence started in 2010 once characterization and analysis of the materials used was completed; however, only the high grade standard was used. A total of 39 standards were inserted and figure 9shows the results plotted. Samples 310008 and 310108 were over the 3σ limits, which indicate that there were some issues with the assays in that period, perhaps equipment calibration.

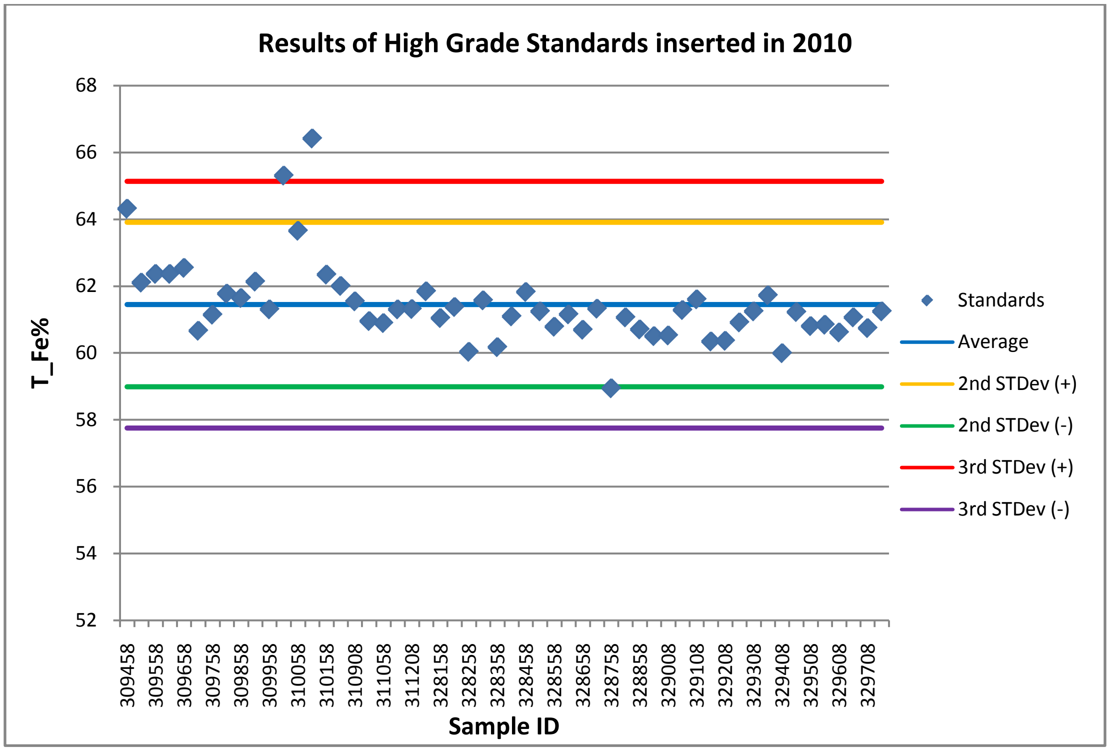


Figure 9– Fe high grade standards in 2010

14.2 Assay Correlation of Twinned Holes

The data verification was done on the iron (Fe) and silica (SiO_2) assay results from the IOC historical RC drill results and the 2008-2010 RC drilling programs results. LIM twinned some IOC RC holes in order to verify the iron (Fe) content. A total of 6 paired RC holes from Houston were considered. Correlation coefficients showed adequate correlation. Refer to Figures 10 and 11.

Visual analyses of the selected pairs also show satisfactory correlation. A hole showed lower correlation due to low grade ore layers within the orebody and sharp changes because of the structural complexity (Figure 12).

Figure 9Graphic of Fe Assay Correlation of Twinned Holes

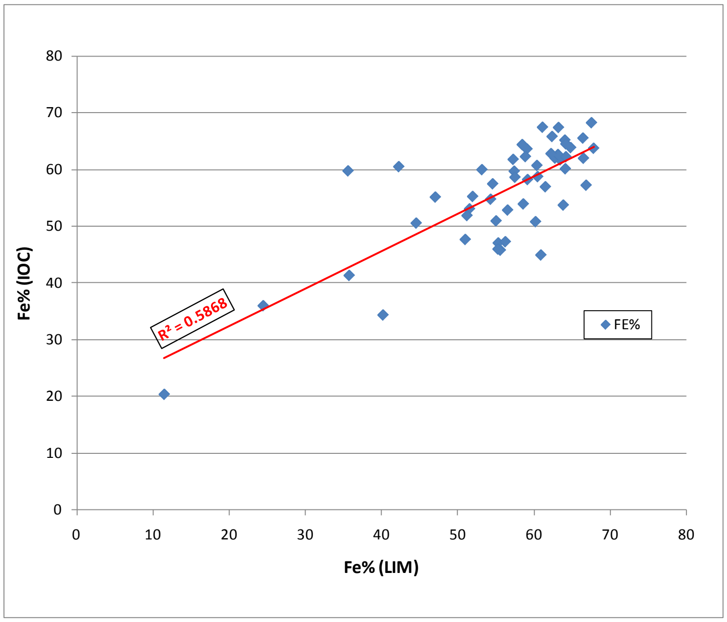


Figure 10Graphic of SiO2 Assay Correlation of Twinned Holes

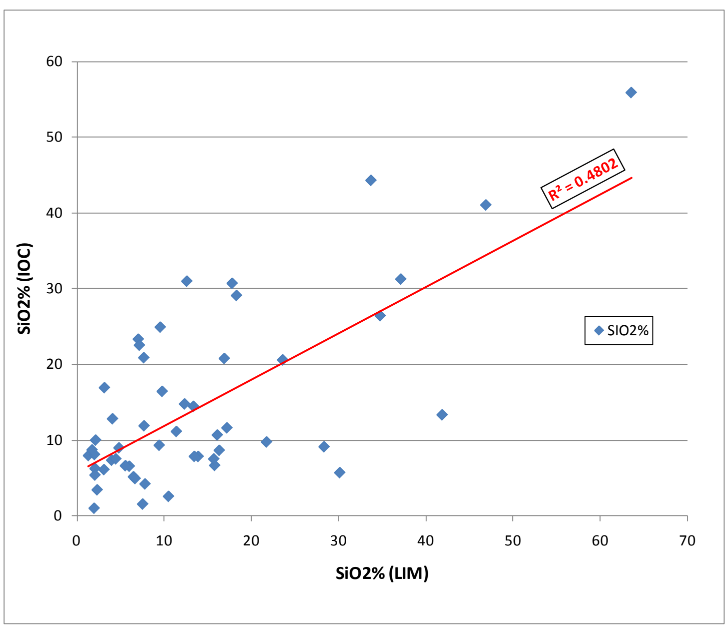
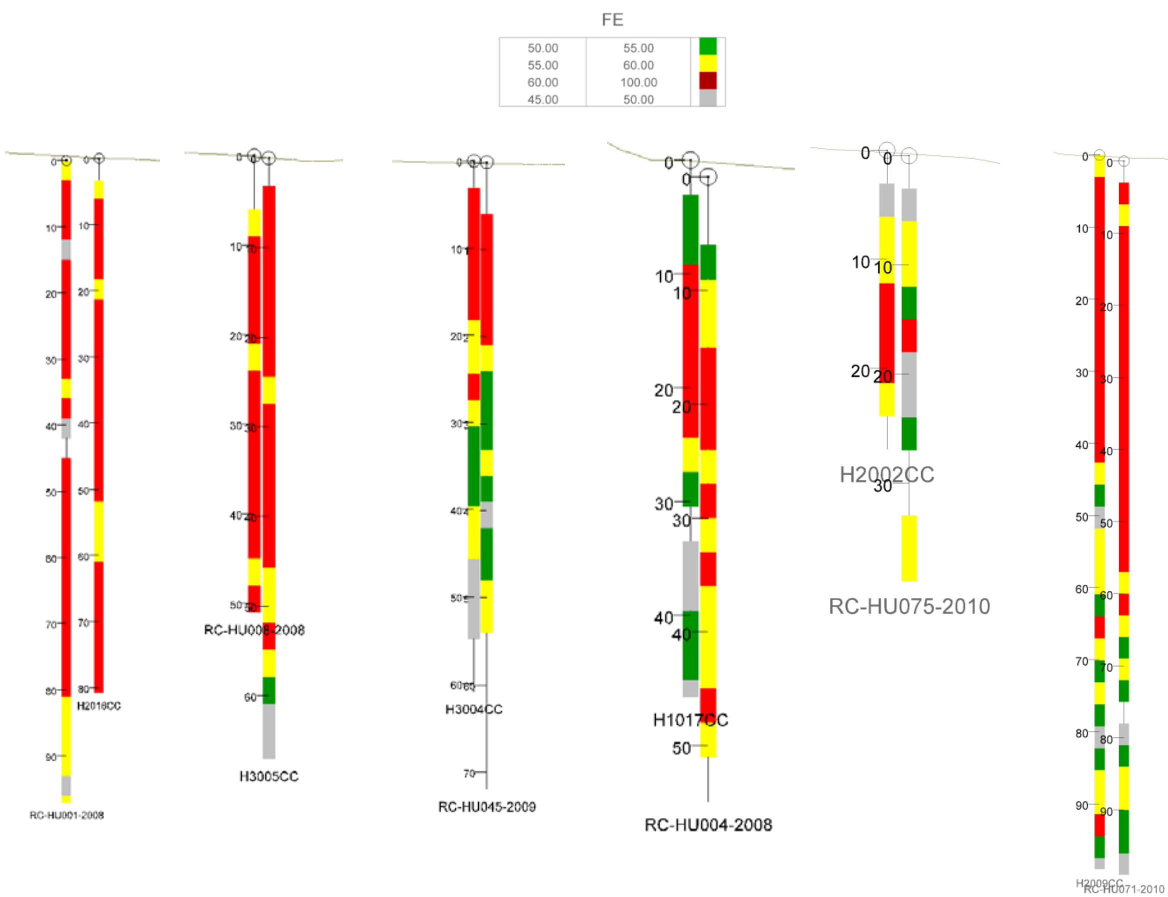


Figure 11Visual comparison of Fe grades of 6 pairs of holes



14.3 BLANKS

A total of 60 blank samples were used to check for possible contamination in the analytical laboratories. SGS Canada Inc. prepared the blank sample from a known slate outcrop located near Schefferville. SGS Canada Inc. homogenized an average 200 kg of material on site at the preparation lab in Schefferville. LIM and SGS Canada Inc. also sent two separate batches of fifteen (15) blank samples to the Corem and ALS-Chemex independent laboratories of Vancouver and Quebec City, respectively, for analysis.

An average 4.82% Fe and 61.96% SiO_2 was noted for the entire batch of 60 blank samples. For SGS-Lakefield, an average of 5.37% Fe and 61.40% SiO_2 was noted. For ALS-Chemex, an average of 4.22% Fe and 62.60% SiO_2 was noted. For COREM, an average of 4.34% Fe and 62.25% SiO_2 was noted.

During the 2009 program, a total of 46 blanks were inserted. The analytical results showing that the results remained within +/-1%, which is relatively good and unbiased.

During the 2010 program, a total of 62 samples of blank material were systematically inserted in the sample batches sent for analyses. The results remained within the zone between the average value and the 2σ. This states that the sampling procedures within the lab are very good, and there is very little to no bias. Blank sample 329707 that went outside the (+/-)3σ zones is possibly related to contaminated blank since the standards and duplicates included in the same batch showed not apparent problems. The figures 13 and 14 show of the results of the analysis of the blank material for the 2010 program.

Figure Fe analysis on blank samples inserted in 2010

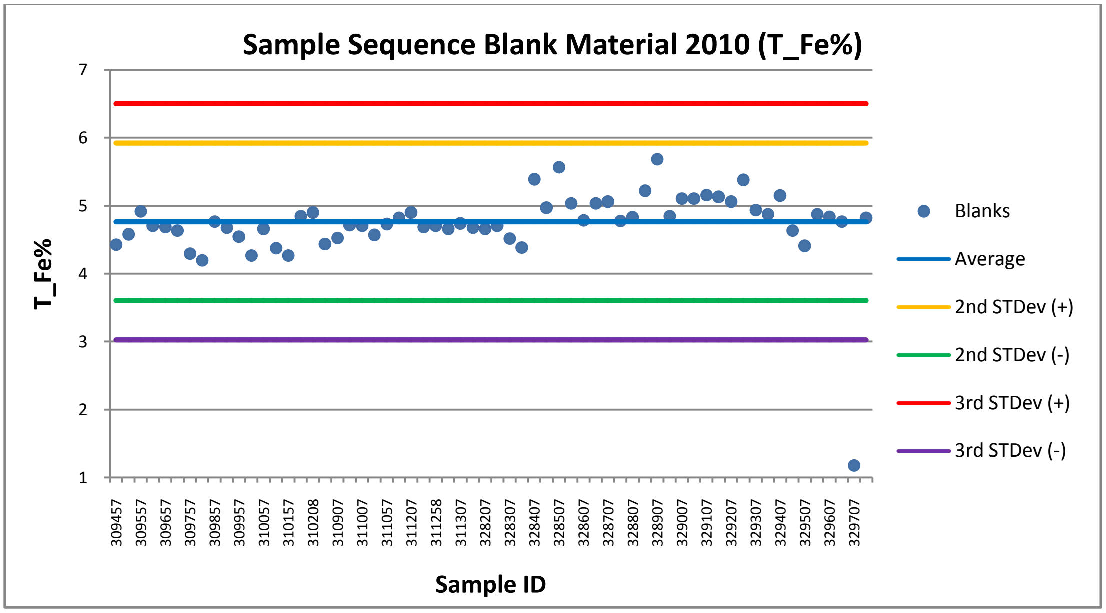
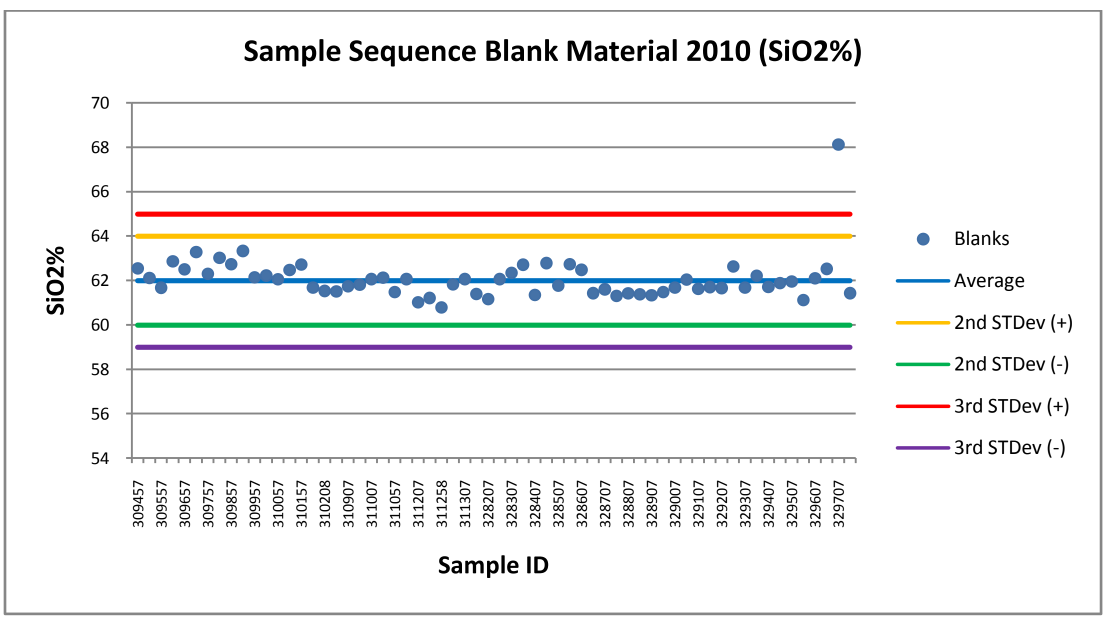


Figure SiO2 analysis on blank samples inserted in 2010



14.4 2010 SAMPLE INDEPENDENT SAMPLING BY SGS

Within and following the framework of the 2008 and 2010 site visit done by the author, SGS carried out an independent sampling program and an analytical check of the samples from pulverised witness samples (pulps) stored at the Actlabs facility in Ancaster, Ontario. The laboratory is considered as independent. SGS considers that the chain of custody was not broken and is adequate.

The objective of the 2011 drilling sample results verification was to confirm the presence of iron and values in the drill holes drilled during the 2010 RC drilling campaign that got good values. Total of 51 samples were sent for analysis from 4 drill holes were targeted: RC-HU-053-2010, RC-HU-061-2010, RC-HU-064-2010 and RC-HU-074-2010. The samples were sent to the SGS-Lakefield Laboratory in Lakefield, Ontario analysis.

SGS followed the sample analysis as described in section 13.3

The assay results of the SGS sampling campaign allowed confirming the presence and the iron and SiO2 content of the selected samples, as well as the integrity of the sample results used in the 2010 Houston resource estimation. With the exception of a limited number of assay results with a significant difference we found the results to be adequate. A series of tests was performed considering the small amount of samples: Sign test, Student logarithmic test, Student normal test.

Overall it shows good assay correlation. The Mn and Al2O3 and P sign tests and student normal T tests were inconcluent. However, the average difference LIM and SGS sample results were low. For the Mn (1%). The difference of the average grades of the P (16%) and Mn (13%) appear high. SGS recommends the continuation of the QAQC procedures in order to verify more precisely these differences.

In the author's opinion, the information in the section appears to be consistent and not misleading

Figure 12 Iron correlation LIMH and SGS

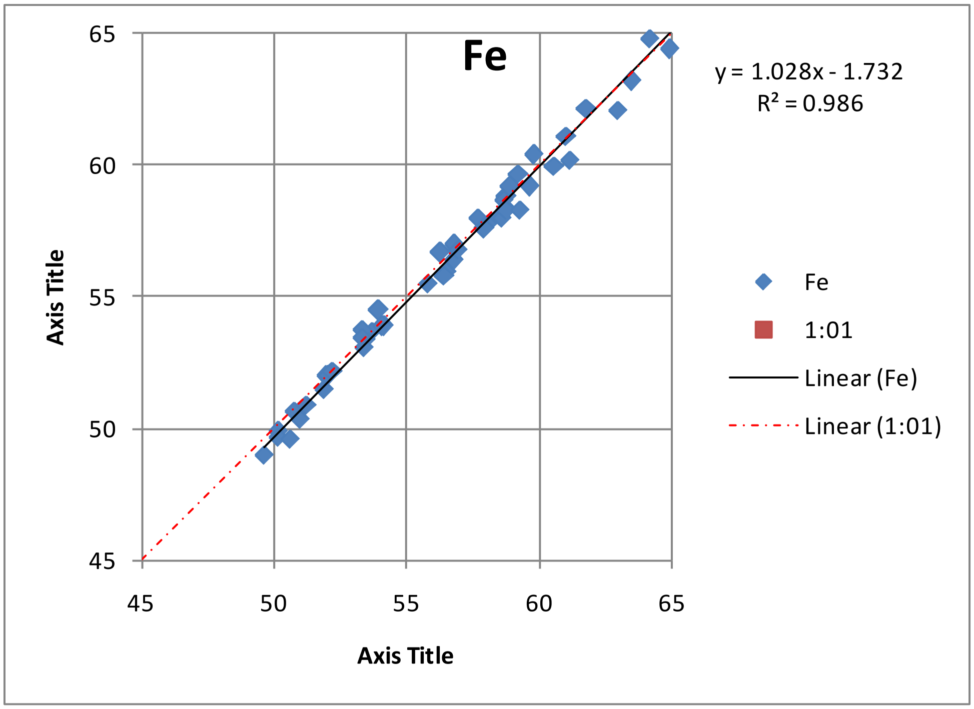


Figure 13 SiO2 correlation LIMH and SGS

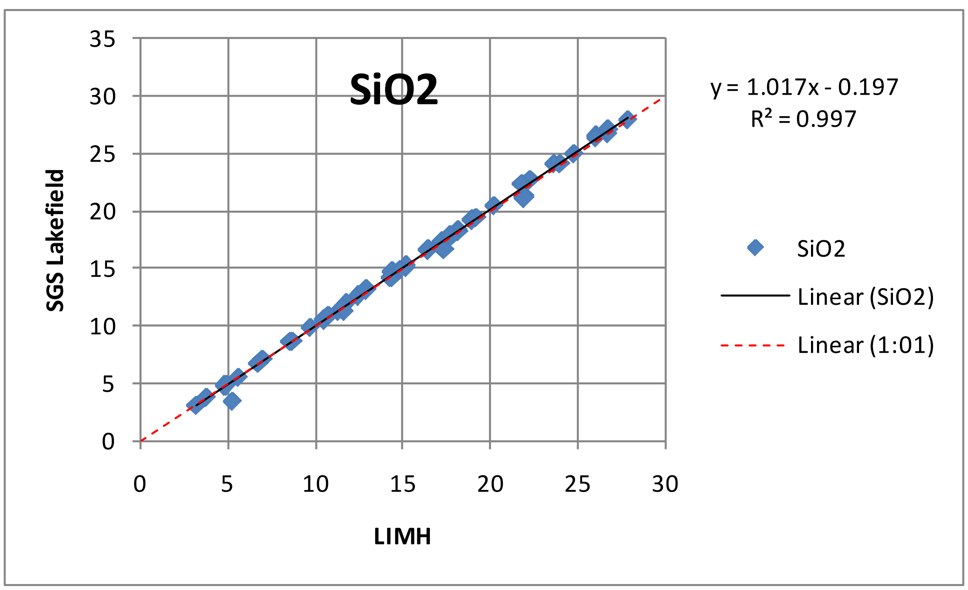


Figure 14 Mn correlation LIMH and SGS

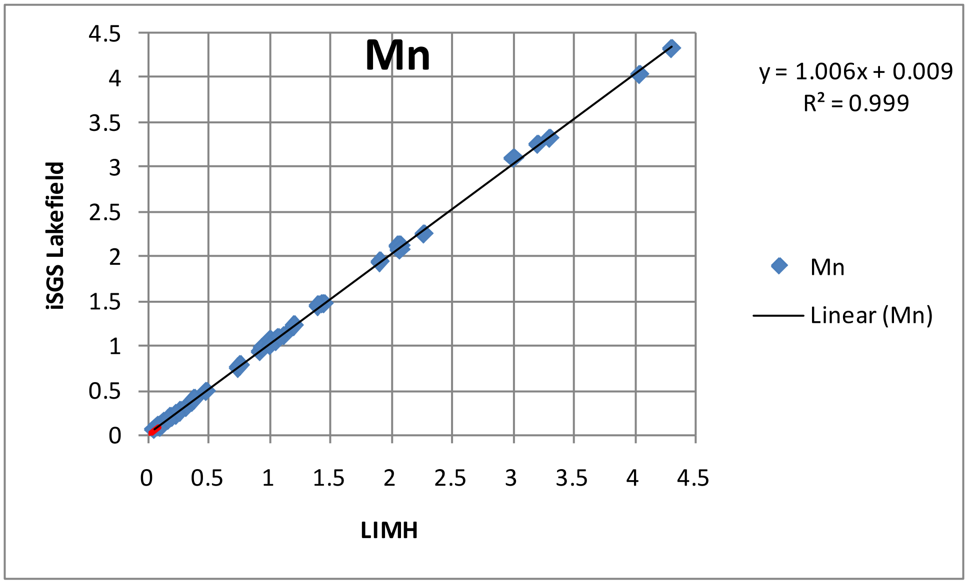


Figure 15 P correlation LIMH and SGS

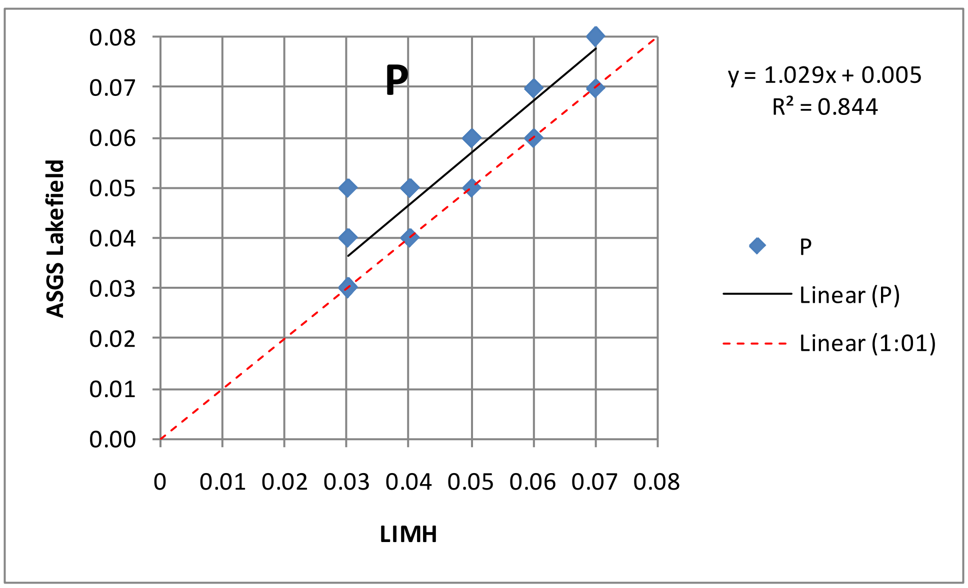
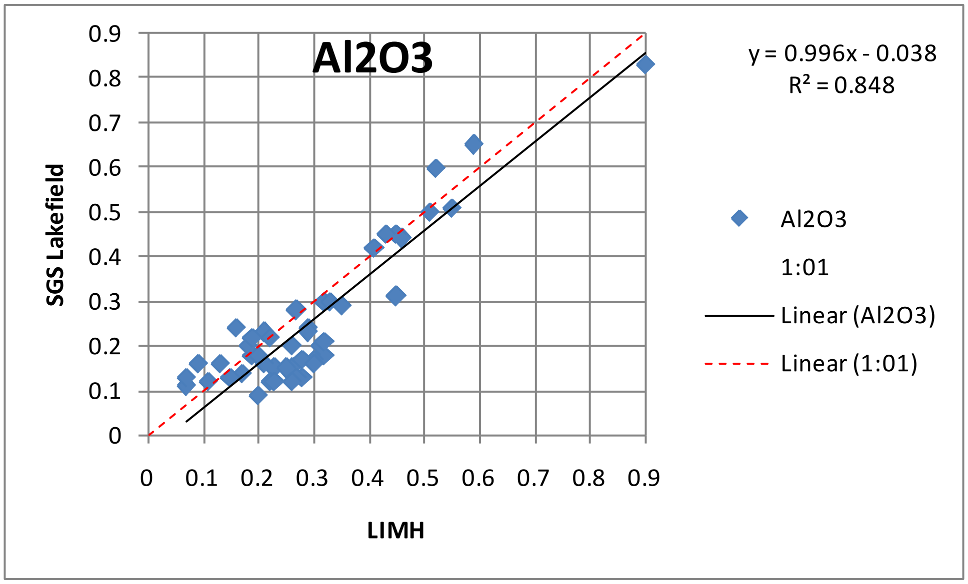


Figure 16 Al2O3 correlation LIMH and SGS



15. ADJACENT PROPERTIES (ITEM 17)

Adjacent to the Houston property are several other iron ore deposits and claims owned by LIMH subsidiaries in Labrador and Quebec, which formed part of the former DSO operations of IOC during the period 1954-1982.

IOC produced an approximate total of some 150 million tons of direct shipping iron ore from all their properties in Quebec and Labrador during the operating years of 1954 to 1982.IOC is currently operating the Carol Lake iron property some 200 km south of Schefferville near Labrador City in Labrador. After closure, previously owned IOC operations in Labrador reverted to the Crown, while the mining leases in Quebec remained with the underlying owner, Hollinger. The balance of the former IOC properties not held by LIMH are mainly held by NML.

Through its wholly-owned subsidiary Labrador Iron Mines Limited, LIMH holds three Mining Leases and 38 Mining Rights Licenses (including 12 Licenses covering the Houston Property), issued by the Department of Natural Resources, Province of Newfoundland and Labrador, covering approximately 11,475 hectares. These Mineral Rights Licenses are held subject to a royalty of 3% of the selling price freight on board ("FOB") port of iron ore produced and shipped from the properties, subject to such royalty being not greater than $1.50 per tonne.

Through its wholly-owned subsidiary, Schefferville Mines Inc. ("SMI"), LIMH holds interests in 278 Mining Rights issued by the Ministry of Natural Resources, Province of Quebec, covering approximately 11,579 hectares. SMI also holds an exclusive operating license in a mining lease covering 23 parcels totalling about 2,036 hectares. These mining rights and the operating license are held subject to a royalty of $2.00 per tonne of iron ore produced from the properties.

LIM is developing the James and Redmond deposits for commercial production start-up in the spring of 2011. LIM has reported an NI 43-101 compliant indicated resource at James of 8.1 million tonnes at a grade of 57.7% iron, while the Redmond 5 deposit contains an indicated resource of 2.1 million tonnes at a grade of 54.9% iron and at the Redmond 2B deposit contains an indicated resource of 0.85 million tonnes at a grade of 59.8% iron.

LIM has reported a measured and indicated resource of 6.1 million tonnes at the Denault deposit in Quebec. The remaining seventeen deposits (excluding James, Redmond, Denault and Houston), have a total combined historical resource estimated to be approximately 125 million tons based on work carried out by IOC prior to the closure of its Schefferville operations in 1984. The historical estimate was prepared according to the standards used by IOC and, while still considered relevant, is not compliant with NI 43-101. The Company plans to bring the historical resources on these other deposits into NI 43-101 compliant status sequentially in line with their intended phases of production.

The Astray and Sawyer deposits in Labrador (Stage 4), located approximately 50km to 65 km southeast of Schefferville (South Zone), do not currently have road access but can be reached by float plane or by helicopter.

The Kivivic deposit in Labrador and the Eclipse deposit in Quebec are located between 40 km to 70 km northwest of Schefferville (North Zone) and may eventually become Stage 5, but will require substantial infrastructure and building of road access.

A Joint Venture between Tata Steel Global Minerals Holdings, (80%) (a member of the Tata Group, the world's sixth largest steel producer) and New Millennium Capital Corp. NML (20%) is developing an adjacent DSO project on some of their claims in Labrador and Quebec about 30 km north of Schefferville.

NML published a Pre-Feasibility Study in April 2009 and on April 12, 2010 published a Feasibility Study on the development of the same project.

A Feasibility Study has also been carried out for NML on a taconite iron deposit known as the LabMag Property in the Howells River area of Labrador located some 30 km northwest of Schefferville. The property is owned by the partnership of New Millennium Capital Corp. and the Naskapi LabMag Trust and a Pre-Feasibility study has been carried out by NML on the adjacent K Mag taconite Property in Quebec.

16. MINERAL PROCESSING AND METALLURGICAL TESTING (ITEM 18)

The information below was provided by LIM.

16.1 METALLURGICAL TEST PROGRAMS

16.1.1 MIDREX TEST PROGRAM

In 1989 Midrex Technologies, Inc. ("Midrex"), an international iron and steel making technology company based in Charlotte, North Carolina, sampled and tested lump ore samples # 625 from the Houston 1 deposit for standard raw material evaluation purposes. The sample analyses are presented in Table 13.

Table 12
Midrex Lump Ore Samples Analyses

Sample #	Dry Wt% Yield at +6.7 mm	Fe %	S %	P %
625/ Houston 1	92.33	68.32	0.007	0.057

All lump ore samples were estimated by Midrex to be suitable for commercial production using its technology.

16.1.2 2006 BULK SAMPLING BY LIM

Bulk samples from trenches at the Houston deposit were collected during the summer of 2006 from two trenches 113 metres and 78 metres long respectively. Three bulk samples of some 600 kg each were collected from the Houston deposit trench for testing. The testing for compressive strength, crusher index and abrasion index were done at SGS Lakefield. The composite crushing, dry and wet screen analysis, washing and classification tests were done at "rpc – The Technical Solutions Centre" in Fredericton, New Brunswick. An additional five composite samples from the different ore zones in the trench were collected and tested in the ALS Chemex Lab in Sudbury for chemical testing.

The bulk sampling tests produced data for rock hardness and work indices for crushing and grinding, average density data for the various ore zones as well as chemical data. The specific gravity tests, completed on the bulk samples, have shown that there was a possibility that the average SG is higher than the 3.5 kg/t which was used in the IOC calculations. Additional SG testing was completed during the 2009 exploration program, obtaining a Fe-dependant variable SG (See Section 19.4).

The SG data have been and will continue to be used in the calculation of resource and reserve volumes while the chemical test results will be used to compare them with the historical IOC data from neighbouring drill holes. Table 14 shows the summary of the results of the tests on the 2006 bulk samples for the various ore types.

Table 13Summary of Tests by SGS-Lakefield

Sample Name	CWI (kWh/t)	AI (g)	UCS (Mpa)	Density CWI (g/cm^3)	Density UCS (g/cm^3)
NB-Houston A	8.2	0.187	106.4	4.26	4.61
NB-Houston B	-	0.213	48.9	-	4.42
LNB Houston A	7.3	0.108	-	3.95	-
LNB Houston B	-	0.189	-	-	-
TRX-Houston A	6.7	0.098	22.3	3.47	3.00
TRX-Houston B	-	0.067	-	-	-
NB4-Houston A	5.7	0.086	73.0	3.77	4.36
NB4-Houston B	-	0.080	-	-	-

16.1.3 SGS Lakefield Program

A Bulk Sample program was undertaken during the summer of 2008. 2,000 tonne samples were excavated with a CAT-330 type excavator from the Houston 1 deposit. The excavated material was hauled to the Silver Yard area for crushing and screening. The raw material was screened at approximately 6 mm into two products – a lump product (-50 mm+6 mm) and a sinter fine product (-6 mm). The material excavated from each deposit and the products produced from each deposit were kept separate from the others.

Representative 200 kg samples of each raw ore type was collected and sent to SGS Lakefield Laboratories for metallurgical tests and other (angle of repose, bulk density, moisture, direct head assay and particle size analysis determinations).

Preliminary scrubber tests were performed. The potential of beneficiation by gravity was explored by Heavy Liquid Separation. Vacuum filtration test work was also carried out. The results of the bulk sample test are shown in Tables 15 and 16.

Table 14Calculated Grades from 2008 Bulk Samples (SGS-Lakefield)

Deposit	Houston
Ore Type	Blue Ore
Fe[1]	66.1
SiO_2	2.22
P[1]	0.07
Al_2O_3	0.30
LOI	1.33

[1] Calculated from WRA oxides

Table 15 2008 Bulk Samples Test Results (SGS-Lakefield)

Houston	(Blue Ore)	Assays %					Distribution
Lump Ore	50 mm +6.7 mm	68.1	1.08	0.20	0.060	1.00	33.9
Sinter Feed	-6.7mm +150 μ m	66.2	3.30	0.41	0.078	1.22	35.5
Pellet Feed	-150 μ m +38 μ m	65.8	3.84	0.38	0.082	1.37	6.43
Slimes	- 38 μ m	63.7	1.99	0.54	0.089	2.17	24.1
Calc. Head		66.2	2.27	0.37	0.075	1.38	100.0

The material collected from the 2008 bulk samples at both Houston and the James deposits was sent to a number of other laboratories for additional test work, including Derrick Corporation for screening tests, Outotec.

Derrick Corporation (2008)

Eight - 45-gallon drums of the sample were sent to Derrick Corporation in Buffalo, NY for screening test work. The purpose of the test work was to determine optimum screen capacity and design for sinter fines production.

Different screen openings were used to investigate the dependence of the recovery from the size of the product.

The test results proved that both 300 μm and 600 μm openings give very promising recoveries:

Table 16
Derrick Screen Tests Results

Screen	Feed	Oversize	Undersize	Efficiency
Openings	$Fe_{tot,}$ %	$Fe_{tot,}$ %	$Fe_{tot,}$ %	%
300 μm Screen	61.23	68.26	58.91	99.2
600 μm Screen	61.23	66.62	59.28	99.6

17. MINERAL RESOURCE ESTIMATION (ITEM 19)

17.1 INTRODUCTION

The mineral resources presented herein are reported in accordance with the National Instrument43-101 and have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

LIM published an initial NI 43-101 compliant resource estimate for Houston in May 2010 of 8.03 million tonnes in the Measured category at an average grade of 59.71% iron; 6.66 million tonnes in the Indicated category at an average grade of 58.80% iron and 1.49 million tonnes in the Inferred category at an average grade of 56.99% iron.

LIM published second NI 43-101 compliant resource estimate for Houston in February 2011, of 19.5 million tonnes in the Measured and Indicated category at an average grade of 58.3% iron and 1.02 million tonnes in the Inferred category at an average grade of 55.8% iron.

The Houston deposit had historical reserves (non-compliant with NI 43-101) of DSO quality totalling 9.1Mt @ 57.4% Fe and 7.1% SiO2 (IOC Ore Reserves, 1983), which was based on geological interpretations on cross sections and calculations were done manually. It should be noted that the historical estimates are based on economics of 1983 and that although the geological, mineralogical and processing data will be the same today, economics and market conditions have changed.

The classification used in the IOC reports is as follows:

Measured: The ore is measured accurately in three dimensions. All development and engineering Evaluations (economics, ore testing) are complete. The deposit is physically accessible and has a complete pit design. The reserve is economic and is marketable under current conditions.

Indicated: Development and engineering evaluations (economics, ore testing) are complete.

Deposits in this category do not meet all the criteria of measured ore.

Inferred: Only preliminary development and evaluation are completed. Deposits may not be mineable because of location, engineering considerations, economics and quality.

The above shown terms, definitions and classification are not compliant with NI 43-101 but were used by IOC for their production reports. Current compliant mineral resources are categorized on the basis of the degree of confidence in the estimate of quantity and grade or quality of the deposit, as follows:

Inferred mineral resources,

Indicated mineral resources and

Measured mineral resources.

Compliant mineral reserves are that part of a measured mineral resource or indicated mineral resource which can be extracted legally and at a profit under economic conditions that are specified and generally accepted as reasonable by the mining industry and which are demonstrated by a preliminary feasibility study or feasibility study as follows:

Probable mineral reserve and

Proven mineral reserve

The Houston data used for the estimation of current mineral resources was initially compiled and validated by LIM using MapInfo Professional software in combination with Encom Discover and Microsoft Office Access. Data was then imported into Gemcom GEMS Software Version 6.2.4.1., which was used to perform the final validation of the Houston database, to construct solids, to build composites, to run geostatistical analyses, to build the block model, to run grades interpolation and to estimate mineral resources.

The data used for the resource estimation is based on data obtained as of December 2010 and has been compiled, collected, managed and collected, managed and verified using industry's best practices.

17.2 DATABASE AND VALIDATION

No significant inconsistencies were observed. LIM entered the historical data was entered from IOC's data bank listing print outs of drill holes, trenching and surface analyses. All of the data entering was done by LIM. SGS did a limited validation of the data in 2009 but did not do a full validation in 2010.

Most collar coordinate locations of drill holes were obtained using a Trimble DGPS with accuracies under 30cms. The locations of the remaining holes and trenches as well as geology were digitized using MapInfo v9.5 on historical maps that were geo-referenced using the DGPS surveyed points. The estimated accuracy of the digitized data is approximately 5 metres. Historical cross sections were also digitized using MapInfo/Discover software then imported into Gemcom

The Houston database contains a total of 10,403 metres of drilling in 173 drill holes (including RC and diamond drilling), a total of 7,454 metres of trenching and a total of 5,645 samples. Table 17provides a summary of the Houston database.

17.3 GEOLOGICAL INTERPRETATION AND MODELING

This information was provided by LIM. The geological interpretation of the Houston deposit was entirely constructed by LIM according to available data of the area.

The geological and ore model interpretation of the Houston deposit was completed considering a cut-off grade of 40% Fe+Mn; however the resources reported are based on a cut-off grade of 50%Fe for iron ore and 50% Fe+Mn for manganiferous iron ore. The IOC ore type parameters of Non-Bessemer (NB), lean non-Bessemer (LNB), high silica (HiSiO2), high manganiferous (HMN) and low manganiferous (LMN) were considered for the resource estimation. See Table 4 for details.

The geological modeling of the Houston mineral deposit was done using 90 vertical cross sections with a direction of N043° spaced approximately 30 metres apart (100 feet). The cross section configuration is the same as the one used by IOC. Fifty two (52) available historical paper cross sections from IOC were digitized and used for the geological interpretation and modeling. The original geological and ore interpretations were updated with information obtained during recent exploration programs. The solids were created from the sectional wireframes combining geological and mineralization interpretation.

The study area of the Houston deposit included in this report covers an extension of 2,680m long x450m wide and 160m vertical. Further infill drilling will be required to better define mineralization in some areas within the ore body subject of this report. A remaining 2kms strike-length to the south-east of underexplored mineralization will be subject to a separate technical report once enough exploration work is completed.

17.4 SPECIFIC GRAVITY (SG)

The information below was provided by LIM and is taken from SGS prior reports on the Schefferville area DSO properties.

The SG testing was carried out on reverse circulation drill chips. The SG was obtained by measuring a quantity of chips in air and then pouring the chips into a graduated cylinder containing a measured amount of water to determine the volume of water displacement. A volume of water equal to the observed displacement is then weighed and the SG of the chips is calculated using the equation listed below.

$$SG = \frac{A}{Ww}$$

SG=Specific Gravity of Sample

A=Weight of Sample in air (dry)

Ww=Weight of Water displaced

A variable specific gravity, Fe dependant, was used for the resource estimation which was calculated using the formula below.

SG(in situ) = [(0.0258 * Fe) + 2.338] * 0.9

The formula was calculated from regression analyses in MS Excel using 229 specific gravity tests completed during the 2009 drilling program. The 0.9 factor corresponds to a security factor to take into account porosity of an estimated average of 10% volume. This formula was validated and used by SGS in prior technical reports.

17.5 RESOURCES ESTIMATION

The Resources Estimation and classification section (Item 17) of this report on the Houston property mineral resource estimate was prepared by Maxime Dupéré P.Geo. The author, Maxime Dupéré P.Geo, is responsible for this report. He is a qualified person by virtue of education, experience and membership in a professional organization. The author of this section was validated by SGS senior geostatistician.

SGS did not do an extensive validation of the database but rather a validation of the composites dataset used for the resources estimation. SGS found the composites to be current and to the author's knowledge, the information. The parameters of the Block Model were done using the following parameters.

Number of Blocks	
Columns	130
Rows	580
Levels	45
Origin and Orientation	
X	651840
Y	6063200
Z	630
Orientation (Counterclockwise)	45.6°
Block Size	
Column Size	5
Row Size	5
Level Size	5

Table 17 Parameters of Block Model

In March2011, SGS was mandated for the review of the estimation parameters and the update of the resources of the Houston deposit. (After review it was noted the estimation method needed to be improved.) The comprehension and the general aspects of estimation are considered adequate according to the available data and are not misleading.

The current classified resources of the Houston Deposit reported below are compliant with standards as outlined in the National Instrument 43-101. These resources were estimated using the IOC Classification of Ore described in the next table.

Schefferville Ore Types (From IOC)					
TYPE	**ORE COLOURS**	**T_Fe%**	**T_Mn%**	**SiO2%**	**Al2O3%**
NB (Non▯]bessemer)	Blue, Red, Yellow	>=55.0	<3.5	<10.0	<5.0
LNB (Lean non▯]bessemer)	Blue, Red, Yellow	>=50.0	<3.5	<18.0	<5.0
HMN (High Manganiferous)	Blue, Red, Yellow	(Fe+Mn) >=50.0	>=6.0	<18.0	<5.0
LMN (Low Manganiferous)	Blue, Red, Yellow	(Fe+Mn) >=50.0	3.5-6.0	<18.0	<5.0
HiSiO2 (High Silica)	Blue	>=50.0		18.0▯-30.0	<5.0
TRX (Treat Rock)	Blue	40.0▯-50.0		18.0▯-30.0	<5.0
HiAl (High Aluminum)	Blue, Red, Yellow	>=50.0		<18.0	>5.0

Table 18 Statistics of composite data used in the interpolation of resource blocks

17.6 RESOURCE ESTIMATION

As usual, Houston DSO resources are estimated through the construction of a resource block model with small blocks on a regular grid filling an interpreted mineralized envelope and with grades interpolated from measured grades of composites drill hole or trench samples around the blocks and within the same envelope. Blocks are then categorized according to average proximity to samples.

17.7 BLOCKS TO BE INTERPOLATED

Blocks are 5x5x5m on a grid within a rotated local coordinate system with a long axis along the N314.4. Maximum number of columns (along the N44.4) is 130 and maximum number of rows (along the N314.4) is 580. Vertically, the maximum number of 5m benches is 45. In practice (blocks within the interpreted DSO envelope), we maximum number of columns is 76 (380m), that of rows is 526 (2630m) and that of bench is 30 (150m). All together, we have 72,276 blocks on that grid with a center within the DSO envelope interpreted by LIM geologists. This represents about 30Mt with an average density of about 3.35t/m3 (see below). They are no partial blocks (i.e. a block straddling the topo surface is all in if its center is below and all out if it is above)

17.8 COMPOSITES TO INTERPOLATE BLOCKS

They 3m composited assay intervals along subhorizontal trenches and vertical RC holes. Spacing between holes and trenches varies along the 2.6km strike length but at the best, we have trenches and RC holes on cross-sections at 30m distance along the N314.4 strike and the spacing between holes on the section is the same 30m. In practice most sections just have a single hole (owing to the narrow width of the mineralized zone) plus a trench at the top. Only composite with a center within the same mineralized envelope as blocks are kept (some trench composites are outside blocks because of the yes/no block elimination around the topo surface) and they need have a minimum 1.5m documented length. All together we have 3282 composites with at least a %Fe and a %SiO2 grade within the DSO envelope.

17.9 DISTRIBUTION OF COMPOSITE GRADES

Data to be populated in blocks around composites are the %Fe, %SiO2, %Al2O3, %Mn and %P grades. Statistics of composite grades for those elements are on Table 1. Histograms are on Figure 17. Some correlation plots appear on Figure 18.

As expected the distribution of the %Fe of composites is negatively skewed (tail of low values) while the distribution of the %SiO2 is almost its mirror image (positively skewed with a tail of high values). This can be explained by the high negative correlation of %Fe and %SiO2 (Figure 182). Distribution of alumina and manganese are heavily skewed with a long tail of high values and a high coefficient of variation (%CV in Table 19) in both cases. By comparison, the skewness of phosphorus is moderate (CV of 56%). Besides that of %Fe and %SiO2, all other correlations between variables are weak (best with R around 0.25 are between %SiO2 and %Al2O3 (positive), %Mn and %Fe (negative) and %Al2O3 and %P (positive).

Variable	# composites	Min.	Med.	Max.	Mean	%CV
%Fe	3282	2	56.72	69.44	54.50	19.3
%SiO2	3282	0.14	13.15	82.78	16.83	80.9
%Al2O3	3126	0.01	0.51	22.22	1.03	166.8
%Mn	3251	0.01	0.26	19.87	1.11	185.9
%P	3281	0.01	0.06	0.47	0.063	56.0

Table 19 Statistics of composite data used in the interpolation of resource blocks

17.10 VARIOGRAMS OF COMPOSITE GRADES

The spatial continuity of the grades of composites is assessed through experimental correlograms computed along specific directions. A correlogram looks at the decrease of the correlation between samples as the distance between samples is increasing. It is presented like a variogram with a sill of 1 by graphing the function 1- correlogram (Figure 3).

Correlograms have been computed along the following directions:

- vertical holes and horizontal trenches at the same time i.e.an average of all directions with a short 3m lag to get the nugget effect and average range (in black on Figure 19)
- vertical holes only with the same short 3m lag (in light green on Figure 19)
- horizontal trenches only with the same 3m lag (in dark green on Figure 19)
- average N144 horizontal strike with a lag of 35m corresponding to the spacing between sections (in red on Figure 19)
- average dip of 60^o to the N54 with a lag of 45m between holes and trenches on sections (in blue on Figure 19)
- average cross dip and strike with a dip of 30^o to the N234 with the same lag of 45m between holes and trenches on sections (in brown on Figure 19)

The correlograms of %Fe show (1) a moderate nugget effect of 15% (2) ranges between 50 and 100m (3) the same long range of about 100m in both dip and strike (the two experimental correlograms are at the same place) (4) a very similar continuity for vertical drill hole samples and horizontal trench samples.

As it could be expected from the strong negative correlation between %Fe and %SiO2 in composites, the correlograms of %SiO2 are basically the same as those of %Fe (Figure 3).

The correlograms of all three minor elements (%Al2O3, %Mn and %P) show a higher relative nugget effect of 0.25%. For %Al2O3, the anisotropy pattern looks the same as with %Fe and %SiO2 (best in strike and dip) but ranges are shorter (30m for short and 60m for long). For %Mn, the range along strike is longer (90m) than the range along dip (60m). For %P, the range along strike looks even longer (135m) while that along dip is about 75m and the short range is 45m.

All experimental variograms are modelled with the sum of a nugget effect and an exponential function.

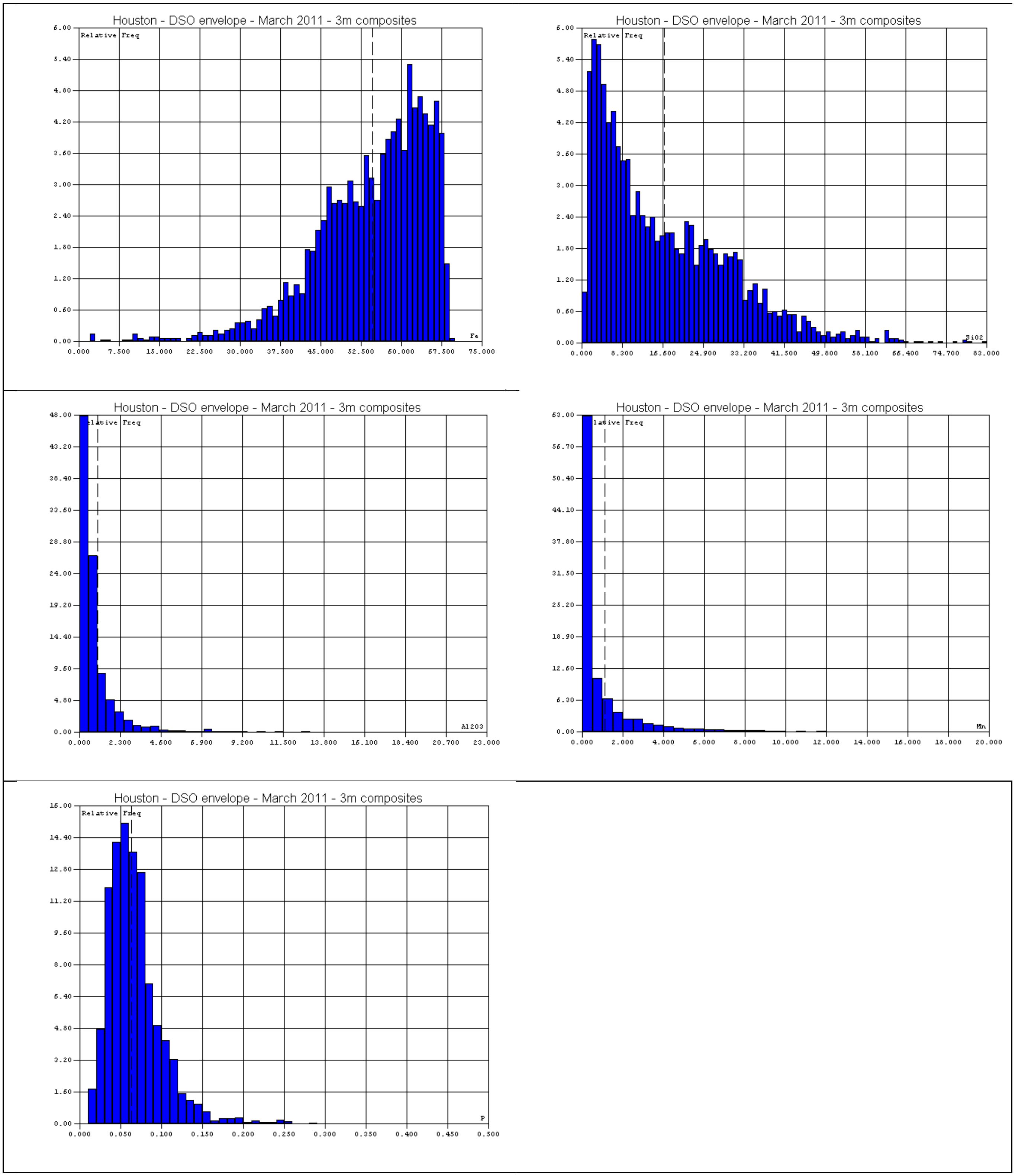


Figure 17 Histograms of DSO composite grade data

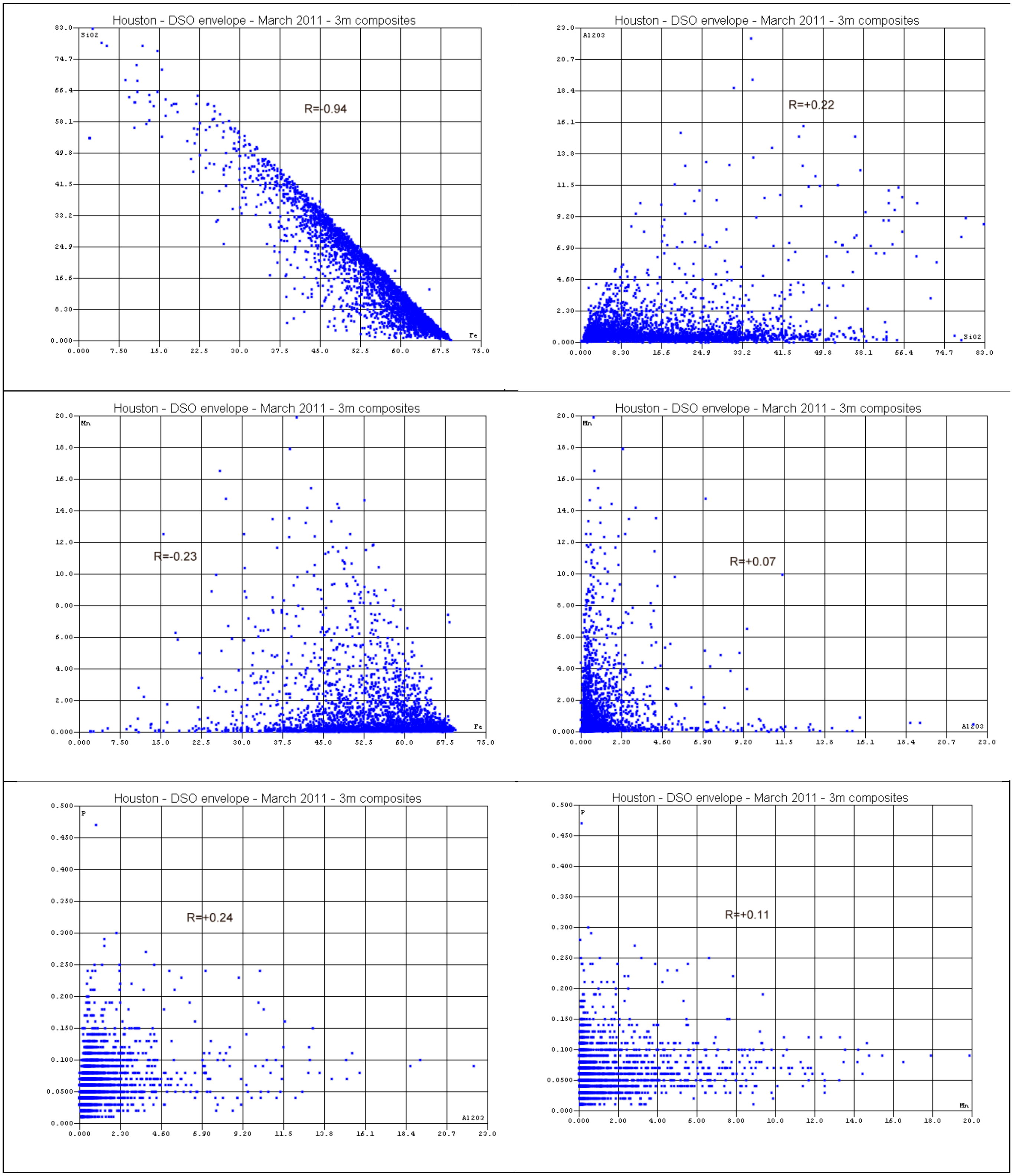


Figure 18Some correlation plots of DSO composite grade data

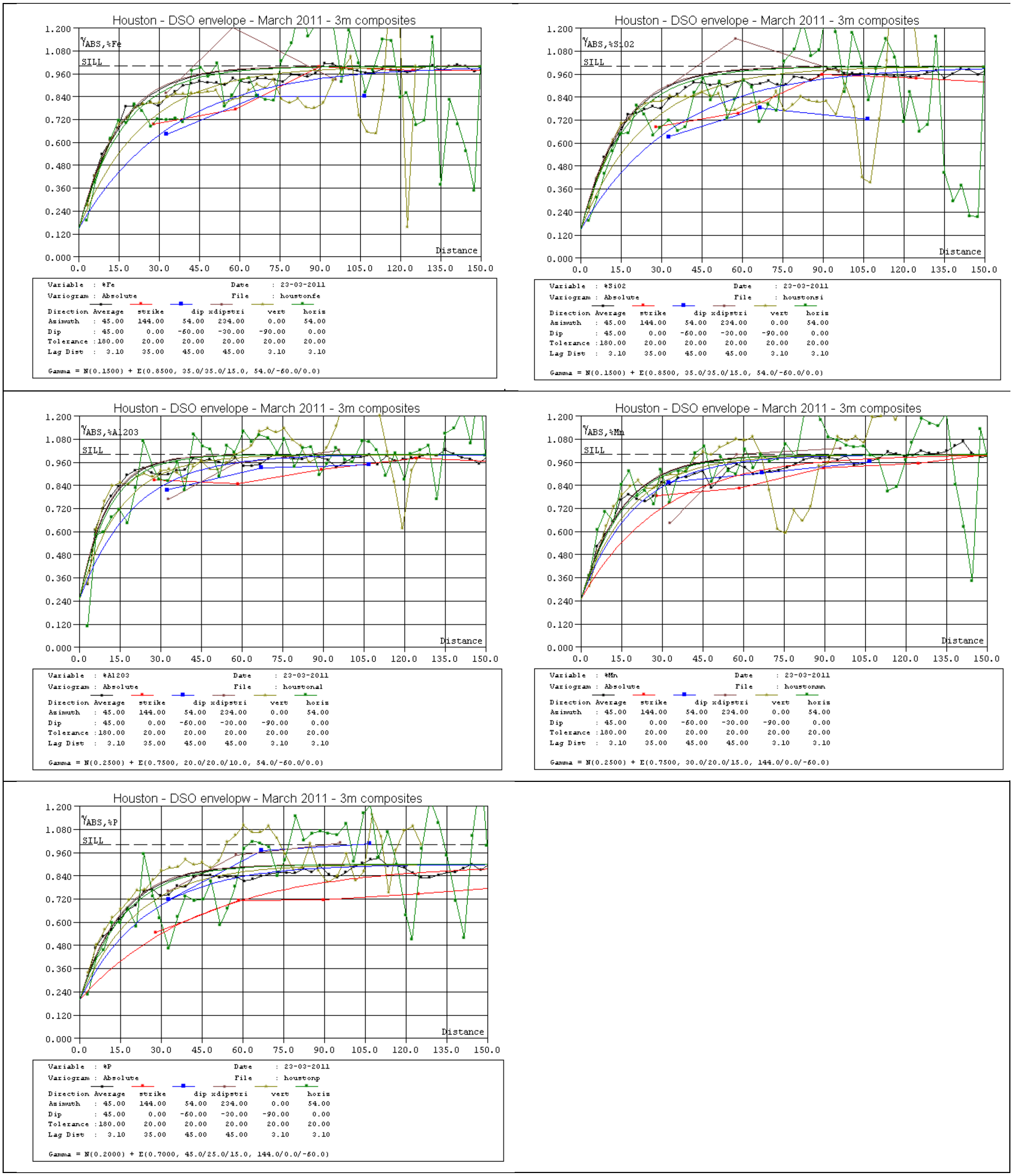


Figure 19Variograms of DSO composite grade data

17.11 BLOCK GRADES INTERPOLATION

The %Fe, %SiO2, %Al2O3, %Mn and %P grades of each of the 72,276 blocks 5x5x5m within the DSO envelope are interpolated from the grades of nearby composites through the ordinary kriging method which fully uses the characteristics of variograms of each variable.

As usual, the interpolation is done in successive runs with minimum search conditions relaxed from one run to the next until all blocks are interpolated.

The basic search ellipsoid (to collect the nearby composites around a block to interpolate) is oriented according to the anisotropy of variogram i.e. its long radius is along the horizontal N144 strike, its intermediate radius is along the average dip of 60^{o} to the N54 and its short radius is along the perpendicular to the average strike+dip i.e. a dip of 30^{o} to the N234. For all variables the long radius is set to either 40m (%Al2O3) or 50m (all others) in order to catch samples on at least two adjacent sections. In the case of %Fe and %SiO2, the intermediate radius is the same 50m and the short radius is 25m. In the case of %Al2O3, the intermediate radius is 40m and the short radius is 20m. In the case of %Mn, the intermediate radius is 35m and the short radius is 25m. In the case of %P, the intermediate radius is 30m and the short radius is 20m. Those dimensions are simply doubled in the second interpolation run.

The maximum number of composites kept in the search ellipsoid is 30 with a maximum of 3 composites from the same hole or trench. The minimum number of composites required in order to the interpolation to proceed is 7 (i.e. in a minimum of 3 different holes or trenches). That minimum is simply lifted in the third run in order to interpolate the very few un-interpolated blocks at that stage. Those conditions are set to insure that a block grade is truly interpolated from samples in several holes and trenches (on different sides of the block) and not extrapolated from a few samples in the same drill hole or trench.

Statistics of block grade estimates from the different runs are on Table 20. As a general rule, the variability of estimates (difference max.-min., %CV) decreases from first run to second run. A large majority of blocks is interpolated in the first run while just a few blocks are interpolated in the third and last run.

17.12 BLOCK GRADE VALIDATION

Block grade validation revolves around the idea that grade estimates of blocks close to samples should reflect the grades of those samples (which is not necessarily the case when variograms show a high nugget effect). Hence it involves looking at sections and benches with blocks and composites, using the same color scale for grade and making sure that they visually match. Alternatively, we can collect all blocks with a composite inside and look at the correlation of block grade estimate and composite grade. Results are on Figure 20 and Table 21. In all cases, the average block grade estimate is equal to the average composite grade (no bias) while the correlation is about R=0.9 for both %Fe and %SiO2 with low relative nugget effect and about R=0.87 for the three minor elements with higher nugget effect. Hence our block estimates are consistent with the sample data and their spatial continuity at short distance.

Variable	Composites	Run	Blocks	Min	Max	Mean	%CV
%Fe	3282	1	60578	11.5	68.1	54.5	12.6
		2	11690	15.7	65.5	51.2	11.5
		3	8	49.7	50.7	50.2	0.6
		All	72276	11.5	68.1	54	12.6
%SiO2	3282	1	60578	1.1	70.4	17	53.9
		2	11690	4.2	55.4	22.4	34.6
		3	8	25	26.6	25.8	1.9
		All	72276	1.1	70.4	17.8	51.3
%Al2O3	3126	1	44068	0.1	14.4	1	97.7
		2	21856	0.09	11.1	0.88	105.3
		3	6352	0.15	5.16	0.81	71.3
		All	72276	0.09	14.4	0.95	98.8
%MN	3251	1	53704	0.04	10.32	1.1	115.4
		2	18368	0.06	7.1	0.93	92.9
		3	204	0.21	2.64	0.68	59.4
		All	72276	0.04	10.32	1.06	11.9
%P	3281	1	46483	0.013	0.237	0.063	37.8
		2	25249	0.011	0.248	0.057	35.1
		3	544	0.014	0.109	0.049	35.1
		All	72276	0.011	0.248	0.061	37.3

Table 20 Statistics of block interpolated grades in the various interpolation runs

Variable	# blocks+composites	Average composite	Average block	Correlation composite/block
%Fe	2677	54.89	54.90	0.895
%SiO2	2677	16.40	16.39	0.903
%Al2O3	2589	0.98	0.98	0.865
%Mn	2655	1.10	1.08	0.870
%P	2676	0.063	0.063	0.868

Table 21 Statistics of grades of blocks and composites at the same place

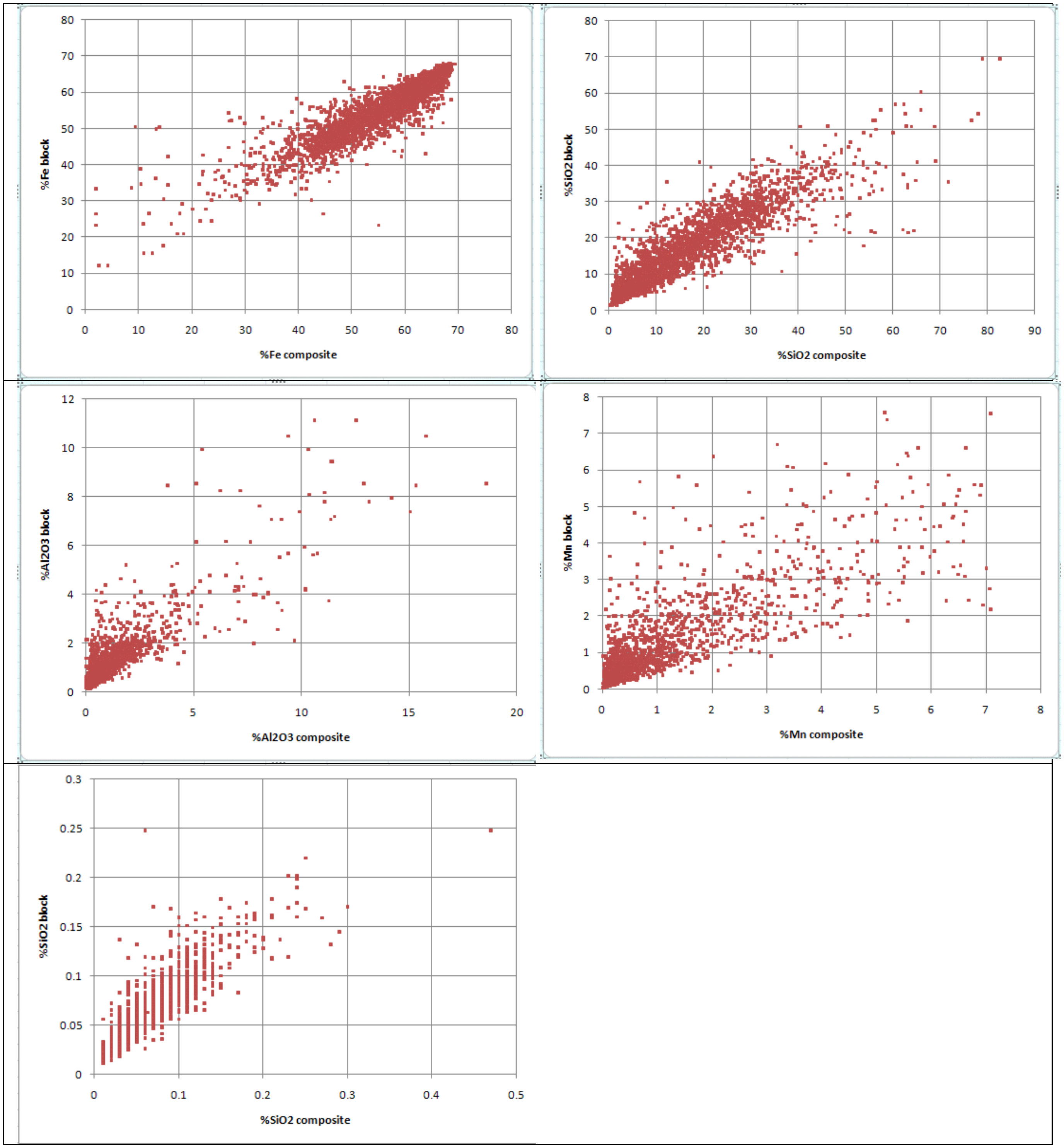


Figure 20 Block grade estimate vs. grade of composite inside the block

17.13 COMPARISON OF LIM AND SGS RESOURCE BLOCK MODELS

In February 2011, LIM computed a resource block model for the DSO envelope of Houston using the same 72,276 blocks 5x5x5m with grade estimates derived from the same 3282 3m composites in trenches and RC holes. Although they did the block grade interpolation with ordinary kriging, they had different variogram models and their search conditions were also different. Based on the LIM report the author understands based that:

+ variograms are computed from more than just the composites within the DSO envelope and with a 40%Fe low cut-off (4064 composites). Variograms of %Fe are applied to the other four variables

+ variogram model has a 29% relative nugget effect, a long range of 88m along the horizontal strike, an intermediate range of 60m along the horizontal of section lines and a short range of 55m along the vertical . There is no mention of a long=intermediate range in the average dip to the NE.

+ first interpolation run uses a search ellipsoid of fairly restricted size with radii corresponding to 20% of ranges (i.e. 18mx12x11m). Given the average spacing of 30m between trenches and holes, it means that for most blocks interpolated in that run, all the sample information is coming from a single hole or trench on the nearest section .

+ second and third interpolation runs use search ellipsoids with radii corresponding to respectively 40% and 100% of ranges.

+ the LIM report does not mention any additional restriction on composites in the search ellipsoid (minimum number, maximum number overall and in the same hole or trench).

Block estimates of %Fe are compared on Figure 5. Correlation is a mere R=0.74 with a significant number of blocks having a very low grade estimate in the LIM model but a higher grade estimate in the SGS model. Average LIM estimate (52.9%) is slightly less than the average SGS estimate (54.0%). The main difference between the two sets of estimates lies in their variability (CV of 17.6% for LIM estimates and 12.6% for SGS estimates) which in turn is linked to the smoothing of block data in the two models. With its fairly restrictive search of the first interpolation run, LIM generates block values which are more like nearest neighbour estimates (the grade estimate of a block is the grade of the composites in the nearest hole or trench) than truly kriged estimates. A potential danger of nearest neighbour estimates is that it implies a very high degree of selectivity at the time of mining (i.e. low tonnage but high grade) which might not be achievable in practice.

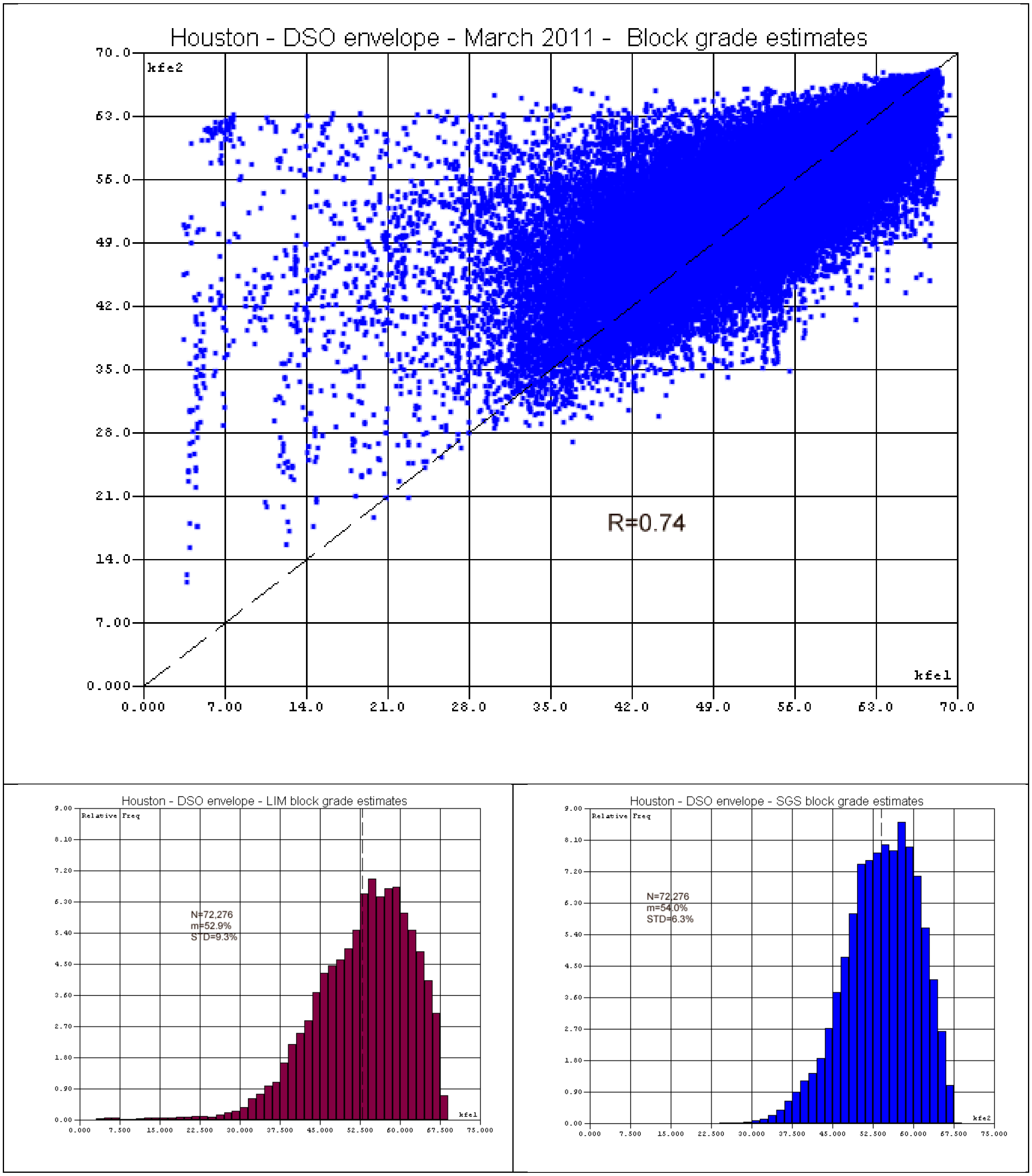


Figure 21 Comparison of LIM and SGS block %Fe grade estimates

17.14 RESOURCE CLASSIFICATION

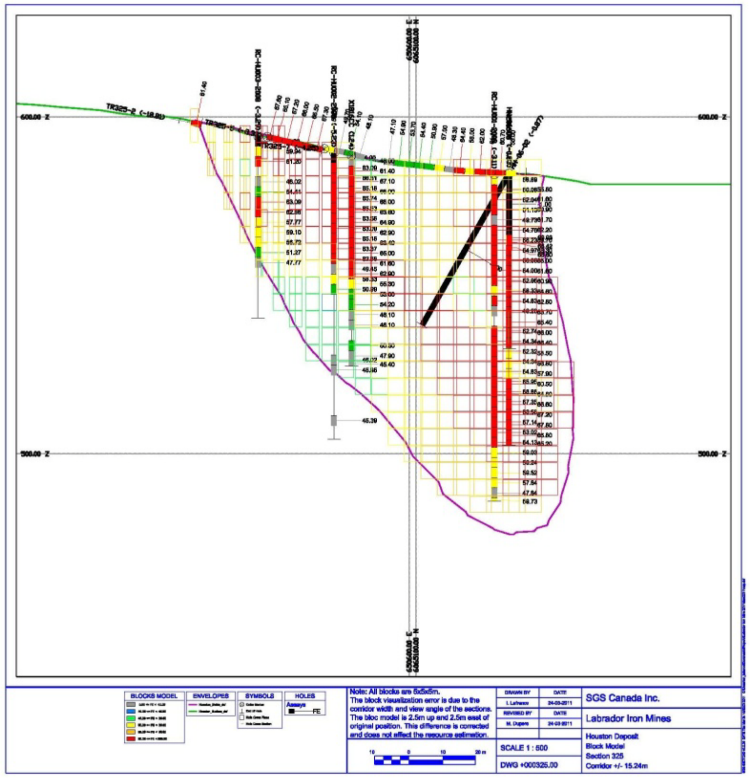
The estimated resources were classified in accordance with the specifications of the NI 43-101 Policy, namely in measured, indicated, and inferred resources.

The current resource estimates for the Houston deposit are of 22.1 million tonnes including LMN, HMN and HiSiO2 at a grade of 57.3% Fe in the Measured and Indicated categories. The resources presented in this section are all inside the property boundary. An approximate 4000 estimated measured and indicated tonnes are outside the Houston property and were not included in the resources. The block model was cut by the topography. The block percentage had to be at least 50% inside the mineralised solid in order to be considered in the resource estimation.

The Houston deposit remains open to the northwest and southeast and to depth. The results of the resource estimates for the Houston deposit are shown in Table 6. The Mineral resources were classified using the following parameters:

SGS used the kriging variance as a factor of classification. The kriging variance is a statistical method of describing the quality of the estimation on each block and ranges from 0 to 1. This could also be considered as semi qualitative. The kriging variance on the Fe grade was retained. Kriging variance of each block was shown bench by bench and a manual selection by contouring was done in order to construct two solids of Measured and Indicated category.

Blocks having a kriging variance from 0 to 0.7 were taken into account for the measured category solid construction. Blocks having a kriging variance from 0.7 to 0.8 were taken into account for the indicated category solid construction. Blocks having a kriging variance from 0.8 and up were taken into account for the indicated category selection. The drilling grid of 30m and the presence of trenches on most of the cross sections helped acknowledge the kriging variance and classification boundary as a preferred tool for classification.



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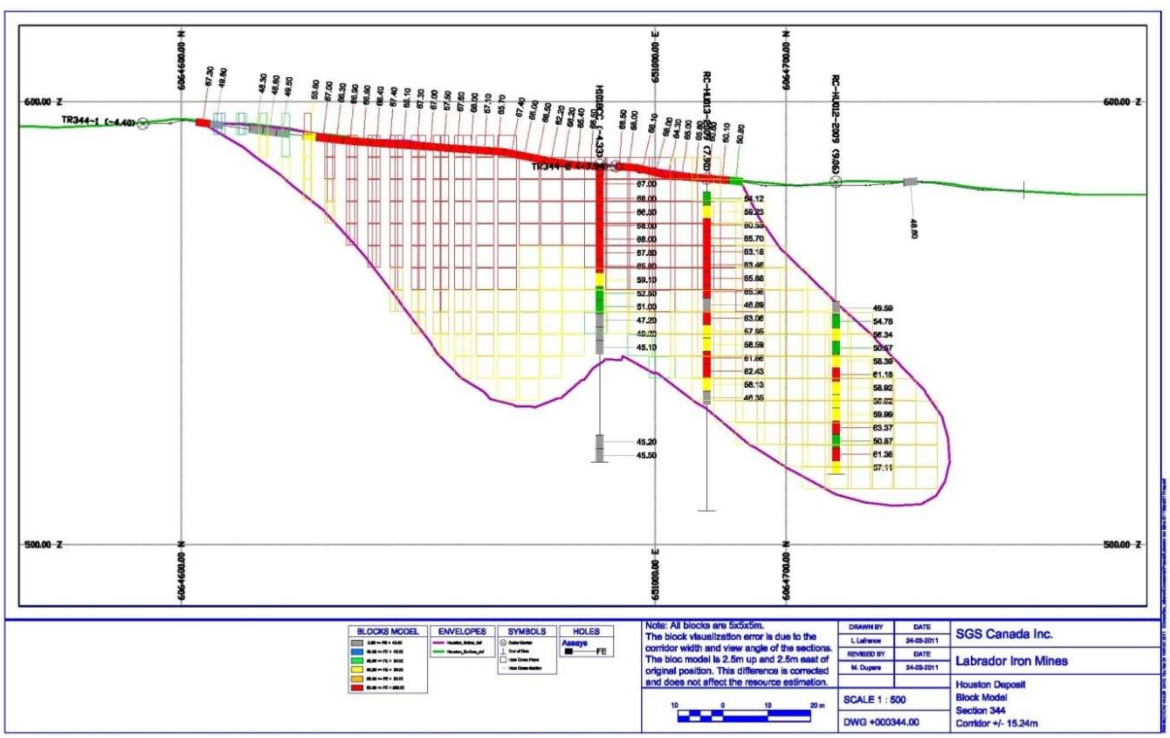

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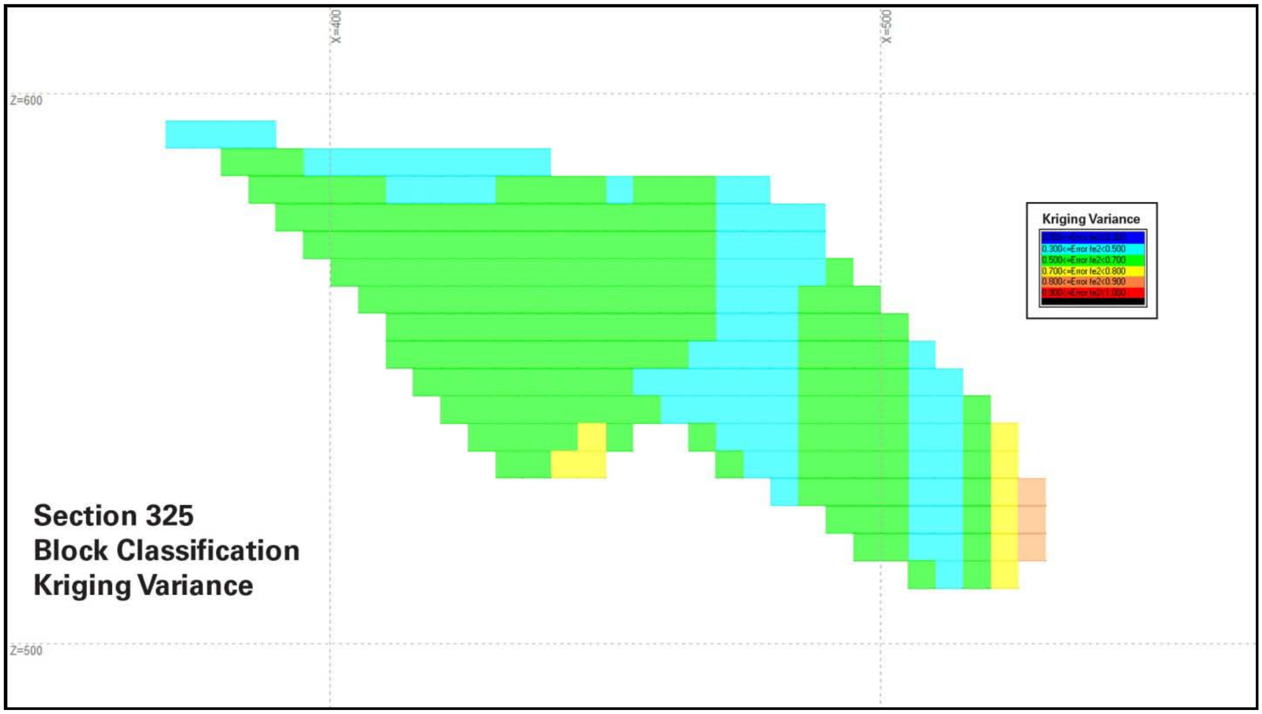
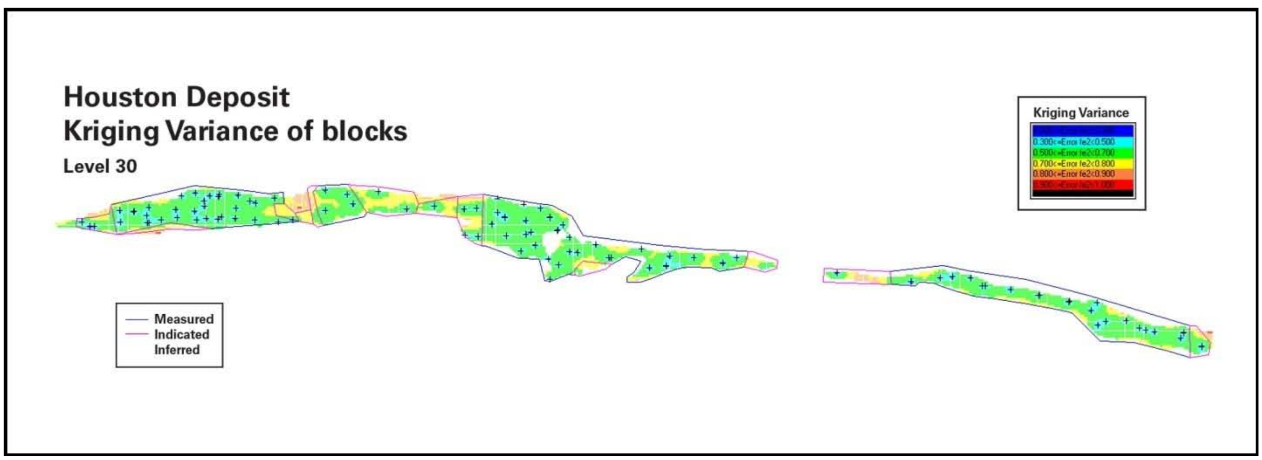


Section 325 Block Classification by Kriging Variance



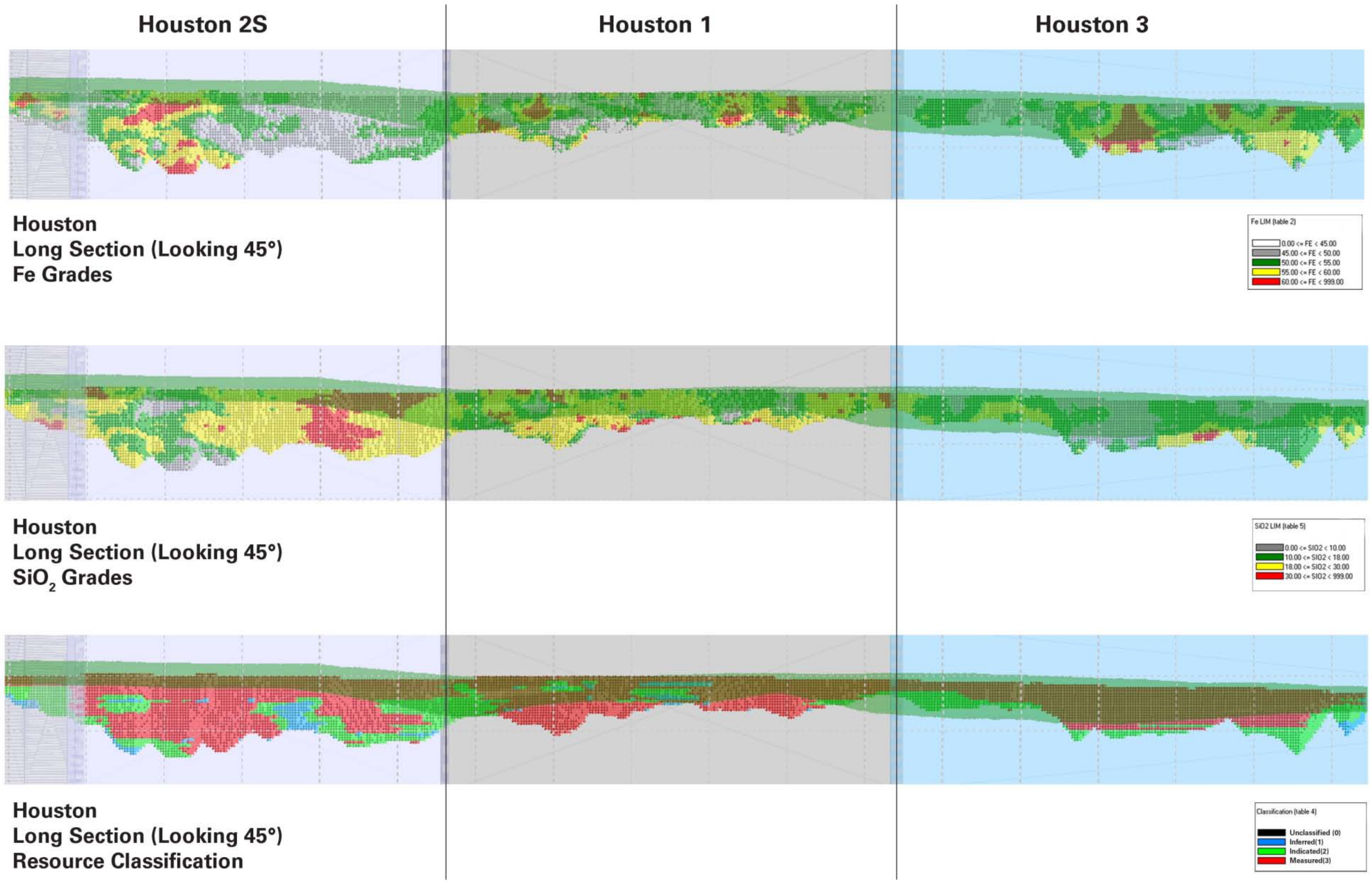
Level 30(index) Block Classification by Kriging Variance

Table 22- Houston Deposit 43-101 Compliant Iron Ore Resources

Area	Ore Type	Classification	Tonnage	SG	Fe(%)	MN(%)	SiO2(%)
Houston 1	HiSiO2	Measured (M)	1,300,000	3.3	52.7	0.8	21.0
Houston 1	LMN-HMN	Measured (M)	470,000	3.4	54.4	4.9	10.3
Houston 1	LNB-NB	Measured (M)	5,210,000	3.5	59.8	0.8	10.2
Houston 2N	HiSiO2	Measured (M)	20,000	3.3	52.2	0.4	22.7
Houston 2N	HMN-LMN	Measured (M)	-	0.0	0.0	0.0	0.0
Houston 2N	LNB-NB	Measured (M)	20,000	3.5	60.1	0.4	11.6
Houston 2S	HiSiO2	Measured (M)	2,300,000	3.3	52.4	0.8	21.2
Houston 2S	HMN-LMN	Measured (M)	50,000	3.4	56.2	4.5	9.7
Houston 2S	LNB-NB	Measured (M)	5,250,000	3.5	59.8	0.6	10.6
Houston 3	HiSiO2	Measured (M)	630,000	3.3	52.7	0.6	21.0
Houston 3	HMN-LMN	Measured (M)	380,000	3.3	52.3	5.2	11.0
Houston 3	LNB-NB	Measured (M)	3,070,000	3.5	58.6	1.1	10.1
			18,700,000	**3.4**	**57.7**	**1.0**	**12.8**
Houston 1	HiSiO2	Indicated(I)	290,000	3.3	52.9	0.4	21.3
Houston 1	LMN-HMN	Indicated(I)	-	3.3	52.4	5.3	13.7
Houston 1	LNB-NB	Indicated(I)	620,000	3.5	59.5	0.6	12.1
Houston 2N	HiSiO2	Indicated(I)	20,000	3.3	53.2	0.7	21.4
Houston 2N	HMN-LMN	Indicated(I)	-	0.0	0.0	0.0	0.0
Houston 2N	LNB-NB	Indicated(I)	30,000	3.5	60.1	0.6	12.0
Houston 2S	HiSiO2	Indicated(I)	880,000	3.3	52.1	0.9	22.2
Houston 2S	HMN-LMN	Indicated(I)	-	0.0	0.0	0.0	0.0
Houston 2S	LNB-NB	Indicated(I)	690,000	3.5	58.4	1.0	13.0
Houston 3	HiSiO2	Indicated(I)	290,000	3.3	52.4	0.7	21.3
Houston 3	HMN-LMN	Indicated(I)	130,000	3.3	52.7	5.1	11.2
Houston 3	LNB-NB	Indicated(I)	520,000	3.4	57.0	1.4	12.8
			3,470,000	**3.4**	**55.6**	**1.0**	**16.5**
Houston 1	HiSiO2	Inferred	50,000	3.3	52.4	0.6	21.3
Houston 1	LMN-HMN	Inferred	-	3.2	48.8	7.7	15.8
Houston 1	LNB-NB	Inferred	70,000	3.5	58.3	0.5	13.5
Houston 2N	HiSiO2	Inferred	30,000	3.3	51.7	0.8	23.7
Houston 2N	HMN-LMN	Inferred	-	0.0	0.0	0.0	0.0
Houston 2N	LNB-NB	Inferred	-	3.5	58.3	0.9	14.6
Houston 2S	HiSiO2	Inferred	150,000	3.3	52.3	1.1	21.3
Houston 2S	HMN-LMN	Inferred	-	0.0	0.0	0.0	0.0
Houston 2S	LNB-NB	Inferred	200,000	3.4	57.4	1.0	14.8
Houston 3	HiSiO2	Inferred	130,000	3.3	52.8	0.5	21.0
Houston 3	HMN-LMN	Inferred	-	0.0	0.0	0.0	0.0
Houston 3	LNB-NB	Inferred	60,000	3.4	57.0	0.6	16.0
			690,000	**3.4**	**54.9**	**0.8**	**18.2**

Measured (M)	18,700,000	3.4	57.7	1.0	12.8
Indicated(I)	3,470,000	3.4	55.6	1.0	16.5
M+I	**22,170,000**	**3.4**	**57.3**	**1.0**	**13.4**

Inferred	**690,000**	**3.4**	**54.9**	**0.8**	**18.2**


Houston 2S
Houston 1
Houston 3
Houston
Long Section (Looking 45°)
Fe Grades
Fe LIM (table 2)
0.00 <= FE < 45.00
45.00 <= FE < 50.00
50.00 <= FE < 55.00
55.00 <= FE < 60.00
60.00 <= FE < 999.00
Houston
Long Section (Looking 45°)
SiO2 Grades
SiO2 LIM (table 5)
0.00 <= SIO2 < 10.00
10.00 <= SIO2 < 18.00
18.00 <= SIO2 < 30.00
30.00 <= SIO2 < 999.00
Houston
Long Section (Looking 45°)
Resource Classification
Classification (table 4)
Unclassified (0)
Inferred(1)
Indicated(2)
Measured(3)

18. OTHER RELEVANT DATA AND INFORMATION (ITEM 20)

There is no other relevant data that needs reporting.

19. CONCLUSIONS (ITEM 21)

There are no reserves reported in this document. The resources reported in this document are compliant with current standards as outlined in NI 43-101.

All of the classified Resource estimates given in this report are within LIM's minerals licences boundaries for each corresponding property.

The resources estimated by block modelling can be established as follows:

Area	Ore Type	Classification	Tonnage	SG	Fe(%)	MN(%)	SiO2(%)
Houston 1	LNB-NB	Measured (M)	5,210,000	3.5	59.8	0.8	10.2
		Indicated(I)	620,000	3.5	59.5	0.6	12.1
		Total M+I	**5,830,000**	**3.5**	**59.8**	**0.8**	**10.4**
		Inferred	70,000	3.5	58.3	0.5	13.5
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	HiSiO2	Measured (M)	1,300,000	3.3	52.7	0.8	21.0
		Indicated(I)	290,000	3.3	52.9	0.4	21.3
		Total M+I	**1,590,000**	**3.3**	**52.7**	**0.7**	**21.1**
		Inferred	50,000	3.3	52.4	0.6	21.3
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	LMN-HMN	Measured (M)	470,000	3.4	54.4	4.9	10.3
		Indicated(I)	0	3.3	52.4	5.3	13.7
		Total M+I	**480,000**	**3.4**	**54.4**	**4.9**	**10.3**
		Inferred	0	3.2	48.8	7.7	15.8
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	LNB-NB	Measured (M)	5,250,000	3.5	59.8	0.6	10.6
		Indicated(I)	690,000	3.5	58.4	1.0	13.0
		Total M+I	**5,940,000**	**3.5**	**59.6**	**0.7**	**10.9**
		Inferred	200,000	3.4	57.4	1.0	14.8
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	HiSiO2	Measured (M)	2,300,000	3.3	52.4	0.8	21.2
		Indicated(I)	880,000	3.3	52.1	0.9	22.2
		Total M+I	**3,190,000**	**3.3**	**52.3**	**0.8**	**21.5**
		Inferred	150,000	3.3	52.3	1.1	21.3
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	HMN-LMN	Measured (M)	50,000	3.4	56.2	4.5	9.7
		Indicated(I)	0	0.0	0.0	0.0	0.0
		Total M+I	**50,000**	**3.4**	**56.2**	**4.5**	**9.7**
		Inferred	0	0.0	0.0	0.0	0.0
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	LNB-NB	Measured (M)	20,000	3.5	60.1	0.4	11.6
		Indicated(I)	30,000	3.5	60.1	0.6	12.0
		Total M+I	**50,000**	**3.5**	**60.1**	**0.5**	**11.8**
		Inferred	0	3.5	58.3	0.9	14.6
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	HiSiO2	Measured (M)	20,000	3.3	52.2	0.4	22.7
		Indicated(I)	20,000	3.3	53.2	0.7	21.4
		Total M+I	**40,000**	**3.3**	**52.6**	**0.5**	**22.2**
		Inferred	30,000	3.3	51.7	0.8	23.7
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	HMN-LMN	Measured (M)	0	0.0	0.0	0.0	0.0
		Indicated(I)	0	0.0	0.0	0.0	0.0
		Total M+I	**0**	**0.0**	**0.0**	**0.0**	**0.0**
		Inferred	0	0.0	0.0	0.0	0.0
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	LNB-NB	Measured (M)	3,070,000	3.5	58.6	1.1	10.1
		Indicated(I)	520,000	3.4	57.0	1.4	12.8
		Total M+I	**3,580,000**	**3.5**	**58.4**	**1.1**	**10.5**
		Inferred	60,000	3.4	57.0	0.6	16.0
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	HiSiO2	Measured (M)	630,000	3.3	52.7	0.6	21.0
		Indicated(I)	290,000	3.3	52.4	0.7	21.3
		Total M+I	**920,000**	**3.3**	**52.6**	**0.6**	**21.1**
		Inferred	130,000	3.3	52.8	0.5	21.0
Area	**Ore Type**	**Classification**	**Tonnage**	**SG**	**Fe(%)**	**MN(%)**	**SiO2(%)**
Houston 1	HMN-LMN	Measured (M)	380,000	3.3	52.3	5.2	11.0
		Indicated(I)	130,000	3.3	52.7	5.1	11.2
		Total M+I	**510,000**	**3.3**	**52.4**	**5.2**	**11.1**
		Inferred	0	0.0	0.0	0.0	0.0

Area	Ore Type	Classification	Tonnage	SG	Fe(%)	MN(%)	SiO2(%)
Houston Deposit	Total	Measured (M)	18,710,000	3.4	57.7	1.0	12.8
		Indicated(I)	3,460,000	3.4	55.6	1.0	16.5
		M+I	**22,170,000**	**3.4**	**57.3**	**1.0**	**13.4**
		Inferred	690,000	3.4	54.9	0.8	18.2

The author review of data together with his knowledge of LIM's projects obtained during the period 2005-2010 indicates that there is more than sufficient merit to proceed with the development and permitting of the Houston deposits to enable them to be brought to commercial production, while at the same time continuing the further exploration of the Houston 3 deposit and the lower grade taconite potential along the eastern margin of the Houston zone.

It has been demonstrated that the historical resources calculated by IOC are reliable although they were not based on the full extent of the deposit as currently known.

20. RECOMMENDATIONS (ITEM 22)

Following the review of all relevant data and the interpretation and conclusions of this review, it is recommended that the Houston deposits be prepared for development, while at the same time continuing exploration on the Houston property, especially to the south of Houston 3 to fully evaluate the additional resource potential, as well as to investigate the lower grade taconite potential along the eastern margin of the Houston deposits.

Some additional infill drilling is necessary to evaluate the deeper, down dip, potential of the Houston 1 and 2 deposits as well as some further drilling between the Houston 2 and 3 deposits and to the north of the Houston 1 deposit.

A program of reverse circulation drilling is proposed for the Houston project (36 holes):

8 holes to the north of Houston 1	800m
8 holes to the south of Houston 2	800m
20 holes to the south of Houston 3 and along the eastern flank of the entire Houston zone	2,000m

Total: 3,600m

The estimated budget for such drilling is:

3,600m @ $400/metre	$1,440,000
Support (geology, etc.)	$ 170,000
Analytical	$ 100,000
Sub-total:	$1,710,000
Contingency:	$ 290,000
Total:	$2,000,000

21. REFERENCES (ITEM 23)

The following documents are in LIM's files and have been reviewed by the authors:

"Geology of Iron Deposits in Canada".Volume I.General Geology and Evaluation on Iron Deposits. G.A. Gross. Department of Mines and Technical Surveys Canada. 1965;

"Reserve and Stripping Estimate". Iron Ore Company of Canada, January 1st, 1983.

"Overview Report on Hollinger Knob Lake Iron Deposits". Fenton Scott. November 2000.

"Assessment of an Investment Proposal for the Hollinger Iron Ore Development Project. Final Report".SOQUEM Inc. February 2002;

"Preliminary Scoping Study for the Labrador Iron Ore Project. Province of Newfoundland & Labrador, Canada.Volume I. Labrador Iron Mines Ltd. September 28, 2006.

"Technical Report of an Iron Project in Northwest Labrador, Province of Newfoundland and Labrador".D. Dufort, P.Eng and A.S. Kroon, P.Eng SNC-Lavalin, Original Date September 10th, 2007, Amended October 10th, 2007.

"Report on Summer-Fall 2008 Exploration Program". Labrador Iron Mines Limited. February 2009.

"A Mineralogical Characterization of Five Composite Samples from James Iron Ore Deposit Located in Labrador Newfoundland". SGS Lakefield Research Ltd., February 2009.

"An Investigation into Direct Shipping Iron Ore from Labrador Iron Mine prepared for SNC-Lavalin Inc. on behalf Labrador Iron Mines Limited. Project 12010-001 – Final Report".SGS Lakefield Research Limited. February 2009.

"Report on Chemical, physical and metallurgical properties of James South Lump ore".Studien-GesellschaftfürEisenerz-Aufbereitung. May 2009.

"Report on Chemical, physical and metallurgical properties of Knob Lake Lump ore".Studien-GesellschaftfürEisenerz-Aufbereitung. May 2009.

"Upgrading Iron Ore Using Wet Gravity Separation", Outotec (USA) Inc. May 2009.

"Magnetic Separation of Iron Ore Using HGMS Magnet", Outotec (USA) Inc. June 2009.

"Schefferville Area Iron Ore Mine Western Labrador Environmental Impact Assessment". August 2009.

"Work Assessment Report, The Ruth Lake Property, Western Labrador Province of Newfoundland & Labrador". MRB & Associates, John Langton M.Sc, P.Geo. October 30th, 2009.

"Report on Batch Stratification Test Work for LIM Labrador Iron Mines Limited". MBE Coal & Minerals Technology GmbH. November 2009.

"Report on Sintering tests with Labrador Iron Mines sinter fines", Studien-GesellschaftfürEisenerz-Aufbereitung, November 2009;

"Technical Report Resource Estimation of the James, Redmond 2B and Redmond 5 Mineral Deposits Located in Labrador, Canada for Labrador Iron Mines Ltd". SGS Canada inc. Ltd.December 18th, 2009.

"Labrador Iron Mines Ltd. Ore Beneficiation Potential and Physical Properties Determination Final Report No. T1054", COREM, December 2009.

"Report on 2009 Exploration Program". Prepared by Labrador Iron Mines Limited. December 2009.

"Report on 2010 Exploration Program". Prepared by Labrador Iron Mines Limited.January 18th, 2011.

"Technical Report on an Iron Project in Northern Quebec.Province of Quebec".A.S. Kroon.March 10th, 2010.

"Revised Technical Report on an Iron Ore Project in Western Labrador.Province of Newfoundland and Labrador".A. Kroon, SGS Canada Inc. March 18th, 2010.

"Technical Report Pre-Feasibility Study of the DSO Project, New Millennium Capital Corp."Met-Chem Canada Inc. April 15, 2009.

"Technical Report Feasibility Study of the Direct Shipping Iron ore (DSO) Project", New Millennium Capital Corp. April 9, 2010.

"Technical Report on the Houston Iron Ore Deposit Western Labrador", Labrador Iron Mines Holdings Limited, T.N. McKillen *et al.*, May 18, 2010.

"Technical Report on the Houston Iron Ore Deposit Western Labrador". Labrador Iron Mines Limited. T.N. McKillen, D.W. Hooley, D. Dufort. February 21, 2011;

22. DATE AND SIGNATURE PAGE (ITEM 24)

This report entitled "Mineral Resource estimation of the Houston property mineral deposit for Labrador Iron Mines Limited" dated March 25th, 2011 was prepared and signed by the author.

Signed

____

Maxime Dupéré P.Geo.
Geologist
SGS Canada Inc.

23. CERTIFICATE OF QUALIFICATION

Certificate of Maxime Dupéré, P.Geo.

To accompany the Report entitled:"Mineral Resource estimation of the Houston property mineral deposit for Labrador Iron Mines Limited" dated March 25th, 2011.

1. I, Maxime Dupéré, reside at 9660, Rue de la Chouette, Mirabel, Quebec, Canada, J7N 0C9.
2. I am a graduate from the Université de Montréal, Quebec in 1999 with a B.Sc. in geology and I have practiced my profession continuously since 2001.
3. I am a registered member of the Ordre des Géologues du Québec (#501), and I am currently employed by SGS Canada Inc. since May 2006.
4. I have 10 years experience in mining exploration in diamonds, gold, silver, base metals, and Iron Ore. I worked on several resources estimation technical reports and I have prepared and made several mineral resource calculations for different exploration projects at different stages of exploration. I am aware of the different methods of calculation and the geostatistics applied to metallic and non metallic projects as well as industrial mineral projects.
5. I am responsible for the preparation of this report entitled:"Mineral Resource estimation of the Houston property mineral deposit for Labrador Iron Mines Limited" dated March25th, 2011.
6. I visited the site from May 26th to May 28th, 2008 and from August 31st to September 2nd, 2009 and I helped to supervise the sampling and QAQC procedures during the 2008 RC Drilling Program.
7. I certify that there is no circumstance that could interfere with my judgment regarding the preparation of the section 17 of this technical report.
8. Neither I, nor any affiliated entity of mine, is at present, under an agreement, arrangement or understanding or expects to become, an insider, associate, affiliated entity or employee of Labrador Iron Mines Limited, or any associated or affiliated entities.
9. Neither I, nor any affiliated entity of mine, own directly or indirectly, nor expect to receive, any interest in the properties or securities of Labrador Iron Mines Limited, or any associated or affiliated companies.
10. I have read NI 43-101 and Form 43-101F1 and have prepared this report entitled**:"Mineral Resource estimation of the Houston property mineral deposit for Labrador Iron Mines Limited" dated March25th, 2011** in compliance with NI 43-101 and Form 43-101F1.
11. To the best of my knowledge, information and belief, and, as of the date of this certificate, this technical report contains all scientific and technical information that is required to be disclosed to make this section of the technical not misleading.

Signed at Blainville, Quebec this March 25th, 2011.

(Signed and Sealed)"MaximeDupéré"

MaximeDupéré, P.Geo.

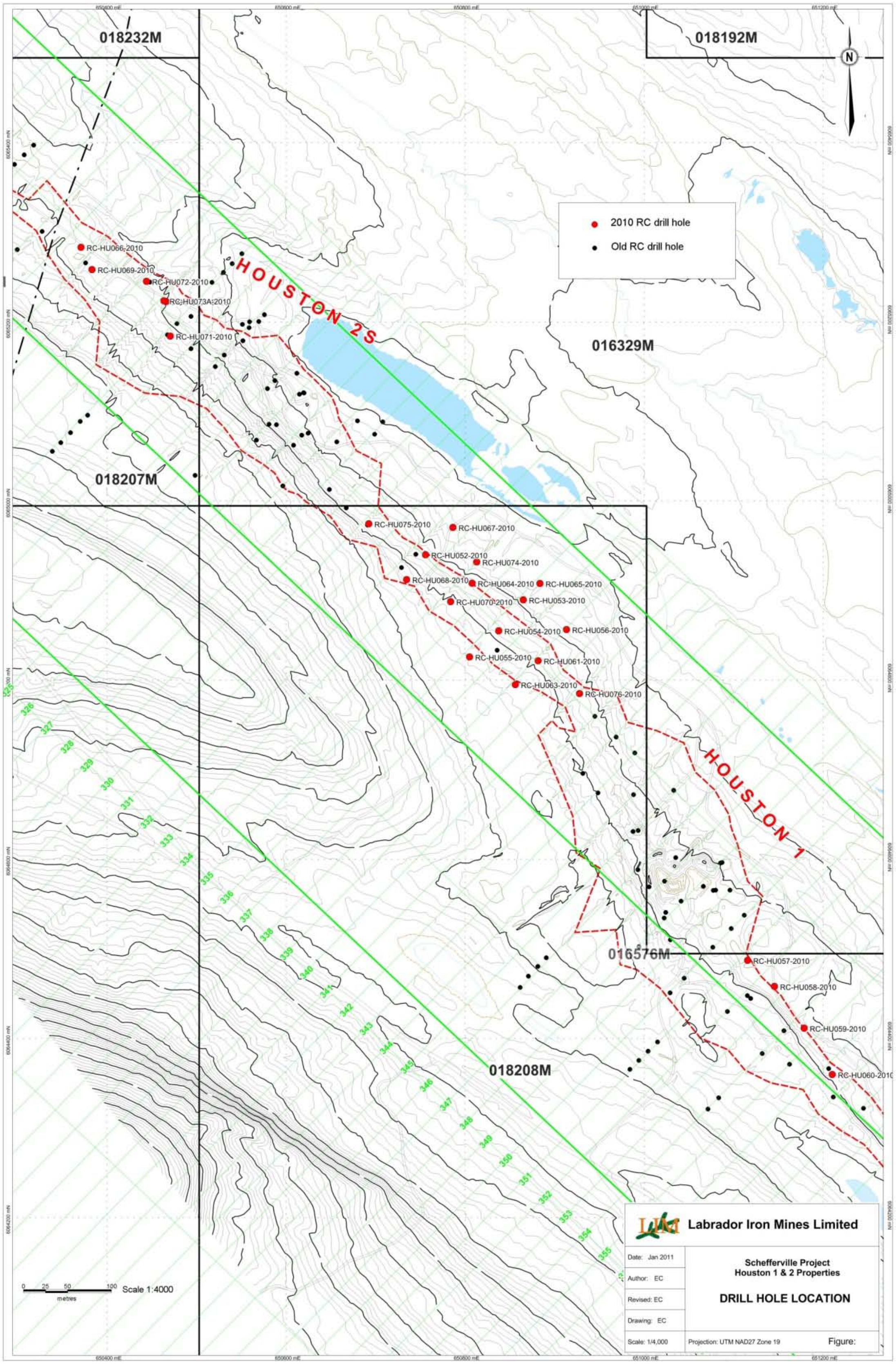
24. ILLUSTRATIONS (ITEM 26)

The following plans are attached as illustrations of the exploration drilling and trench sampling programs carried out on the Houston Property by LIM to date.

List of Plans and Sections

Houston 1 & 2 Drill Holes

Houston 1 & 2S Drill Holes


018232M
018192M
N
2010 RC drill hole
Old RC drill hole
HOUSTON 2S
016329M
018207M
RC-HU066-2010
RC-HU069-2010
RC-HU072-2010
RC-HU073A-2010
RC-HU071-2010
RC-HU075-2010
RC-HU067-2010
RC-HU052-2010
RC-HU074-2010
RC-HU068-2010
RC-HU064-2010
RC-HU065-2010
RC-HU070-2010
RC-HU053-2010
RC-HU054-2010
RC-HU056-2010
RC-HU055-2010
RC-HU061-2010
RC-HU063-2010
RC-HU076-2010
HOUSTON 1
016576M
RC-HU057-2010
RC-HU058-2010
RC-HU059-2010
RC-HU060-2010
018208M
Scale 1:4000
metres
Labrador Iron Mines Limited
Date: Jan 2011
Author: EC
Revised: EC
Drawing: EC
Scale: 1/4,000
Schefferville Project
Houston 1 & 2 Properties
DRILL HOLE LOCATION
Projection: UTM NAD27 Zone 19
Figure:

APPENDIX I

(List of drill holes and trenches completed by LIM in the Houston property)

	Hole ID	Easting	Northing	Elev (m)	Len	Az	Dip	Type	Status	Start	Finish
1	HN-06-01	650617	6065073	586	32.0	0	-90	DD	Cancelled	03-Aug-06	03-Aug-06
2	HN-06-02	650620	6065121	583	52.0	230	-60	DD	Cancelled	17-Aug-06	17-Aug-06
3	HN-06-03	651022	6064534	590	72.0	0	-90	DD	Completed	23-Jul-06	02-Aug-06
4	HN-06-04	650620	6065121	583	52.0	0	-90	DD	Cancelled	18-Aug-06	19-Aug-06
5	HN-06-05	651644	6063846	574	45.0	0	-90	DD	Abandoned	20-Aug-06	20-Aug-06
6	RC-HU001-2008	650615	6065119	583	97.0	0	-90	RC	Completed	28-Aug-08	01-Sep-08
7	RC-HU002-2008	650581	6065086	589	85.0	0	-90	RC	Completed	02-Sep-08	04-Sep-08
8	RC-HU003-2008	650567	6065068	594	54.0	0	-90	RC	Completed	04-Sep-08	06-Sep-08
9	RC-HU004-2008	651087	6064596	584	55.0	0	-90	RC	Completed	04-Sep-08	06-Sep-08
10	RC-HU005-2008	651077	6064565	585	33.0	0	-90	RC	Abandoned	01-Sep-08	03-Sep-08
11	RC-HU005A-2008	651080	6064566	585	87.0	0	-90	RC	Completed	01-Sep-08	03-Sep-08
12	RC-HU006-2008	651029	6064510	590	66.0	0	-90	RC	Completed	30-Aug-08	01-Sep-08
13	RC-HU007-2008	651723	6063804	570	45.0	0	-90	RC	Completed	07-Sep-08	08-Sep-08
14	RC-HU008-2008	651712	6063753	571	51.0	0	-90	RC	Completed	08-Sep-08	10-Sep-08
15	RC-HU009-2008	652125	6063154	565	93.0	0	-90	RC	Completed	09-Oct-08	11-Oct-08
16	RC-HU010-2008	652176	6063083	561	53.0	0	-90	RC	Completed	12-Oct-08	13-Oct-08
17	RC-HU011-2008	652144	6063065	565	72.0	0	-90	RC	Completed	13-Oct-08	15-Oct-08
18	RC-HU012-2009	651035	6064702	582	66.0	0	-90	RC	Completed	14-Aug-09	15-Aug-09
19	RC-HU013-2009	651014	6064682	583	75.0	0	-90	RC	Completed	15-Aug-09	17-Aug-09
20	RC-HU014-2009	651066	6064655	582	90.0	0	-90	RC	Completed	20-Aug-09	22-Aug-09
21	RC-HU015-2009	651045	6064627	584	69.0	0	-90	RC	Completed	22-Aug-09	23-Aug-09
22	RC-HU016-2009	651025	6064606	586	70.0	0	-90	RC	Completed	23-Aug-09	24-Aug-09
23	RC-HU017-2009	651086	6064624	581	79.0	0	-90	RC	Completed	24-Aug-09	27-Aug-09
24	RC-HU018-2009	651013	6064547	589	28.0	0	-90	RC	Completed	17-Aug-09	18-Aug-09
25	RC-HU018A-2009	651015	6064543	589	9.0	0	-90	RC	Completed	18-Aug-09	18-Aug-09
26	RC-HU019-2009	651087	6064537	586	69.0	0	-90	RC	Completed	27-Aug-09	28-Aug-09
27	RC-HU020-2009	651063	6064514	588	15.0	0	-90	RC	Abandoned	18-Aug-09	18-Aug-09
28	RC-HU020A-2009	651064	6064515	588	73.0	0	-90	RC	Completed	18-Aug-09	20-Aug-09
29	RC-HU021-2009	650538	6065192	585	30.0	0	-90	RC	Completed	29-Jul-09	29-Jul-09
30	RC-HU022-2009	650586	6065159	581	111.0	0	-90	RC	Completed	30-Aug-09	01-Sep-09
31	RC-HU023-2009	650557	6065133	589	99.0	0	-90	RC	Completed	02-Aug-09	04-Aug-09
32	RC-HU024-2009	650547	6065117	590	69.0	0	-90	RC	Completed	31-Jul-09	02-Aug-09
33	RC-HU025-2009	650603	6065134	583	126.0	0	-90	RC	Completed	28-Aug-09	30-Aug-09
34	RC-HU026-2009	650564	6065105	589	99.0	0	-90	RC	Completed	29-Jul-09	31-Jul-09
35	RC-HU027-2009	650647	6065093	581	120.0	0	-90	RC	Completed	04-Aug-09	06-Aug-09
36	RC-HU028-2009	650588	6065032	596	67.0	0	-90	RC	Completed	10-Aug-09	12-Aug-09
37	RC-HU029-2009	650661	6065055	583	93.0	0	-90	RC	Completed	06-Aug-09	08-Aug-09
38	RC-HU030-2009	650636	6065029	589	63.0	0	-90	RC	Completed	12-Aug-09	13-Aug-09
39	RC-HU031-2009	650617	6065012	594	33.0	0	-90	RC	Completed	13-Aug-09	14-Aug-09
40	RC-HU032-2009	650698	6065034	583	97.0	0	-90	RC	Completed	08-Aug-09	10-Aug-09

	Hole ID	Easting	Northing	Elev (m)	Len	Az	Dip	Type	Status	Start	Finish
41	RC-HU033-2009	650560	6065175	584	90.0	0	-90	RC	Completed	01-Sep-09	02-Sep-09
42	RC-HU034-2009	651543	6064009	579	9.0	0	-90	RC	Completed	03-Sep-09	05-Sep-09
43	RC-HU034A-2009	651543	6064009	579	117.0	0	-90	RC	Completed	03-Sep-09	05-Sep-09
44	RC-HU035-2009	651559	6063977	578	82.0	0	-90	RC	Completed	05-Sep-09	06-Sep-09
45	RC-HU036-2009	651604	6063971	577	78.0	0	-90	RC	Completed	06-Sep-09	07-Sep-09
46	RC-HU037-2009	651666	6063868	573	81.0	0	-90	RC	Completed	07-Sep-09	08-Sep-09
47	RC-HU038-2009	651672	6063821	572	102.0	0	-90	RC	Completed	08-Sep-09	09-Sep-09
48	RC-HU039-2009	651634	6063880	574	96.0	0	-90	RC	Completed	09-Sep-09	11-Sep-09
49	RC-HU040-2009	651607	6063941	576	78.0	0	-90	RC	Completed	11-Sep-09	12-Sep-09
50	RC-HU041-2009	651539	6063962	580	72.0	0	-90	RC	Completed	12-Sep-09	14-Sep-09
51	RC-HU042-2009	651531	6063940	585	39.0	0	-90	RC	Completed	14-Sep-09	15-Sep-09
52	RC-HU043-2009	651624	6063835	578	42.0	0	-90	RC	Completed	15-Sep-09	16-Sep-09
53	RC-HU044-2009	651589	6063925	579	90.0	0	-90	RC	Completed	16-Sep-09	17-Sep-09
54	RC-HU045-2009	651750	6063698	569	72.0	0	-90	RC	Abandoned	17-Sep-09	18-Sep-09
55	RC-HU046-2009	651753	6063583	574	60.0	0	-90	RC	Completed	18-Sep-09	20-Sep-09
56	RC-HU047-2009	651774	6063614	570	66.0	0	-90	RC	Completed	20-Sep-09	21-Sep-09
57	RC-HU048-2009	651769	6063652	569	69.0	0	-90	RC	Completed	21-Sep-09	23-Sep-09
58	RC-HU049-2009	651711	6063793	571	72.0	0	-90	RC	Completed	23-Sep-09	25-Sep-09
59	RC-HU050-2009	651822	6063540	567	36.0	0	-90	RC	Abandoned	26-Sep-09	27-Sep-09
60	RC-HU050A-2009	651815	6063554	567	51.0	0	-90	RC	Abandoned	27-Sep-09	28-Sep-09
61	RC-HU051-2009	652147	6063115	564	9.0	0	-90	RC	Abandoned	29-Sep-09	29-Sep-09
62	RC-HU051A-2009	652147	6063115	564	6.0	0	-90	RC	Abandoned	29-Sep-09	29-Sep-09
63	RC-HU051B-2009	652147	6063115	564	69.0	0	-90	RC	Abandoned	29-Sep-09	01-Oct-09
64	HN-TR-01-06	651006	6064569	587	75.0	41	-2	TR	Completed	22-Aug-06	23-Aug-06
65	TR-HU2-001-2009	650555	6065168	585	4.0	30	0	TR	Completed	25-Aug-09	25-Aug-09
66	TR-HU3-001-2009	651517	6063932	584	76.0	35	-1.2	TR	Completed	30-Aug-09	31-Aug-09
67	TR-HU3-002-2009	651561	6063896	584	85.0	52	-8.7	TR	Completed	01-Sep-09	01-Sep-09
68	TR-HU3-003-2009	651615	6063814	583	63.0	42	-10.7	TR	Completed	02-Sep-09	02-Sep-09
69	TR-HU3-004-2009	651668	6063738	579	49.0	49	-5.1	TR	Completed	02-Sep-09	02-Sep-09
70	TR-HU3-005-2009	651716	6063697	575	31.0	35	-20	TR	Completed	02-Sep-09	02-Sep-09
71	TR-HU3-006-2009	651748	6063573	575	48.0	41	-6.6	TR	Completed	03-Sep-09	03-Sep-09
72	TR-HU3-007-2009	651771	6063508	575	57.0	58	-24.2	TR	Completed	03-Sep-09	03-Sep-09
73	TR-HU3-008-2009	652124	6063073	564	66.0	49	-4	TR	Completed	08-Sep-09	08-Sep-09
74	RC-HU052-2010	650756	6064940	587	93.0	0	-90	RC	Completed	05-Oct-10	07-Oct-10
75	RC-HU053-2010	650865	6064890	583	93.0	0	-90	RC	Completed	07-Oct-10	08-Oct-10
76	RC-HU054-2010	650838	6064855	588	84.0	0	-90	RC	Completed	08-Oct-10	10-Oct-10
77	RC-HU055-2010	650805	6064826	592	60.0	0	-90	RC	Completed	10-Oct-10	11-Oct-10
78	RC-HU056-2010	650913	6064856	584	99.0	0	-90	RC	Completed	11-Oct-10	13-Oct-10
79	RC-HU057-2010	651116	6064487	585	60.0	0	-90	RC	Completed	13-Oct-10	14-Oct-10
80	RC-HU058-2010	651146	6064458	587	46.0	0	-90	RC	Completed	14-Oct-10	14-Oct-10

	Hole ID	Easting	Northing	Elev (m)	Len	Az	Dip	Type	Status	Start	Finish
81	RC-HU059-2010	651179	6064412	586	54.0	0	-90	RC	Completed	14-Oct-10	15-Oct-10
82	RC-HU060-2010	651210	6064360	589	67.0	0	-90	RC	Completed	15-Oct-10	16-Oct-10
83	RC-HU061-2010	650881	6064822	589	87.0	0	-90	RC	Completed	16-Oct-10	17-Oct-10
84	RC-HU062-2010	650271	6065363	596	32.0	0	-90	RC	Completed	17-Oct-10	24-Oct-10
85	RC-HU063-2010	650856	6064795	590	72.0	0	-90	RC	Completed	18-Oct-10	19-Oct-10
86	RC-HU064-2010	650808	6064908	586	105.0	0	-90	RC	Completed	19-Oct-10	22-Oct-10
87	RC-HU065-2010	650883	6064908	582	64.0	0	-90	RC	Completed	22-Oct-10	24-Oct-10
88	RC-HU066-2010	650371	6065283	594	66.0	0	-90	RC	Completed	24-Oct-10	26-Oct-10
89	RC-HU067-2010	650786	6064971	581	48.0	0	-90	RC	Completed	24-Oct-10	25-Oct-10
90	RC-HU068-2010	650735	6064912	591	67.0	0	-90	RC	Completed	25-Oct-10	26-Oct-10
91	RC-HU069-2010	650383	6065258	593	69.0	0	-90	RC	Completed	26-Oct-10	27-Oct-10
92	RC-HU070-2010	650784	6064888	590	66.0	0	-90	RC	Completed	26-Oct-10	27-Oct-10
93	RC-HU071-2010	650471	6065184	591	99.0	0	-90	RC	Completed	27-Oct-10	29-Oct-10
94	RC-HU072-2010	650444	6065245	590	73.0	0	-90	RC	Completed	27-Oct-10	29-Oct-10
95	RC-HU073-2010	650466	6065223	590	58.0	0	-90	RC	Abandoned	29-Oct-10	30-Oct-10
96	RC-HU073A-2010	650464	6065223	589	52.0	0	-90	RC	Abandoned	30-Oct-10	31-Oct-10
97	RC-HU074-2010	650813	6064932	582	105.0	0	-90	RC	Completed	29-Oct-10	31-Oct-10
98	RC-HU075-2010	650692	6064975	589	39.0	0	-90	RC	Completed	31-Oct-10	01-Nov-10
99	RC-HU076-2010	650928	6064785	586	46.0	0	-90	RC	Completed	01-Nov-10	02-Nov-10