Mineral Resource Technical Report Elizabeth Taconite Project Labrador

Report Issued For:



Labrador Iron Mines 220 Bay St, Suite 700 Toronto ON

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Signed by QP: George H Wahl, PGeo



Summary

Introduction

The Elizabeth Taconite Project is at an early stage exploration project located in Labrador near Schefferville, Quebec. In April 2013, Labrador Iron Mines Ltd (LIM) retained G H Wahl (P Geo), a Qualified Person to complete an independent resource estimate for the Elizabeth Taconite Project.

This technical report follows National Instrument 43-101 and Form 43-101F1 guidelines and summarizes information available on the Elizabeth Taconite Project. The report estimates mineral resources and recommends that the project warrants further investigation.

Property Description

The Elizabeth Project is located in northwestern Labrador approximately 210-km north of Labrador City, Newfoundland and 550-km north of Sept-Îles, Quebec. The town of Schefferville, Quebec is located approximately 5.5-km to the east of the project.

The 1.5-km town-site airstrip is served by regularly scheduled commercial flights to Montreal, Wabush and Sept-Îles. The Tshiuetin Rail Transportation short line railway (formerly the Menihek Subdivision of the Quebec North Shore and Labrador Railway) provides service twice weekly between Schefferville and Sept-Îles. Access to the Elizabeth Project area is via a mine road that extends southwest from Schefferville.

The Elizabeth Taconite is contained within one contiguous block of claims called the James Wishart claim block which is part of a larger grouping of claim blocks held by LIM. The other deposits containing DSO mineral resources within the James Wishart claim block and the deposits contained within the other LIM claim blocks are not included in the scope of this technical report.

The James Wishart claim block which is comprised of 148 claims or 3,700 hectares held under Lic No 20432M in Labrador on National Topographic Map reference (NTS map areas) Map Sheets 23J10 and 23J15. The claims are registered 100% under Labrador Iron Mines Ltd, are in good standing. The next assessment work requirement date for this claim block is June of 2014.

The Elizabeth Taconite was initially explored by a mapping program conducted by the Iron Ore Company of Canada (IOCC) from the 1950's through to the 1970's. The IOCC had established the presence of a steeply dipping and broad thickness of Sokoman iron formation extending northeast through the project area. (IOCC Geol Maps unpublished)

Geology

The Elizabeth Taconite is situated in the Labrador Trough, stratigraphically above the Archean basement gneiss. The Trough, otherwise known as the Labrador-Québec Fold Belt, extends for more than 1,000 km along the eastern margin of the Superior Craton from Ungava Bay to Lake Pletipi, Québec. The belt is about 100 km wide in its central part and narrows considerably to the north and south.

The Sokoman Iron Formation which is part of the Knob Lake Group and hosts the Elizabeth Taconite is the source for most of the iron mineral resources and reserves outlined in the Labrador Trough. The Sokoman can be subject to thickening due to faulting or folding along a northwest trend with a northeast dip.

The Sokoman Iron Formation has been classified as Lake Superior Type consisting of alternating bands of hematite and/or magnetite with chert along with variable amounts of Fe-silicates, carbonates and sulphides. Metamorphism ranges up to greenschist in the vicinity of the Elizabeth Taconite.

Iron formation enrichment processes can occur through regional metamorphism associated with the Hudsonian orogeny which increased Fe oxide grain sizes and often resulted in conversion of hematite to coarse magnetite. Metamorphism during the Hudsonian also contributed to the leaching of silica and thereby enrichment of Fe taconite grades.

Exploration

The Elizabeth Taconite exploration program was managed in a professional manner by Eric Chavez (P. Geo) who provided direct oversight for the entire exploration program and acted as LIM's senior geologist and Qualified Person (QP).

During the 2012 season, a ground Gravity and Total Field Magnetic survey comprised of 3 survey lines totalling 6,400-m was completed by GeoSig Inc of Quebec City.

In 2011, an airborne magnetic and gravity survey was flow over the area on 200-m spaced lines. The survey was flown by Furgo Airborne Surveys Pty Ltd.

Both ground and airborne magnetic and gravity surveys were successful in defining two parallel northwest trending zones of the Sokoman Iron Formation which form the Elizabeth No 1 and Elizabeth No 2 deposits.

Drilling

The drill program was managed in a professional manner by Eric Chavez (P. Geo) who provided direct oversight for the entire drill program and acted as LIM's senior geologist and Qualified Person.

Drilling in 2012 was comprised of 5 HQ diameter core drill holes for a total of 1,728-m. Drill holes averaged 345-m in depth with a minimum depth of 300-m and maximum depth of 411-m. Assay samples ranged in length from 1-m to 2.6-m. Approximately 98.4% or 842 of the samples were 2-m in length. A total of 856 samples were collected for whole rock XRF assay. An additional 11 composites were selected for Davis Tube test work.

LIM contracted the drilling to Major Drilling Ltd of Rouyn-Noranda, Quebec. Core logging was completed by LIM personnel, while assaying and mineralogy was completed by Activation Laboratories in Ancaster, Ontario.

The drilling was successful in defining one northwest trending extent of the Sokoman Iron Formation which forms the Elizabeth No 1 deposit with 4 widely spaced drill holes on 4 drill sections and tested the southern extent of the Elizabeth No 2 deposit with two drill holes on a single drill section.

Database Validation and Resource Estimation

Database validation and resource estimation was completed by GH Wahl (P Geo) of GH Wahl & Associates Consulting. The review of the data collection methodologies and QAQC results indicated that the database was appropriate for resource estimation.

The mineral resources for the Elizabeth No 1 are included in the following Table 1. Total inferred tonnage available for a preliminary economic assessment is just over 620 million tonnes. Tonnage is based on dry tonnes. The resources are not reported within an economic pit shell.

Table 1 Mineral Resources Elizabeth No 1 Deposit

Inferred Mineral Resources	Zone Solids	Million Tonnes	Fe%	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	Р%
Magnetite Taconite	200	410	32.83	29.2	0.08	1.8	2.09	43.58	0.82	0.01
Hematite Taconite	100; 300	210	29.83	3.42	0.64	0.93	2.59	39.34	1.15	0.04
Total Inferred	100; 200; 300	620	31.81	20.47	0.27	1.51	2.26	42.14	0.93	0.02

The effective date of the mineral resource is June 15th, 2013. No information was available to assess the extent to which the estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing or other relevant issues. These items can only be effectively evaluated in a feasibility study. Mineral resources that have not been converted to mineral reserves do not have demonstrated economic viability. All figures have been rounded to reflect the relative accuracy of the estimate. The Mineral Resource Statement was prepared by G H Wahl, P.Geo, who is an independent Qualified Person.

Potential Tonnage and Grade

The following Table 2 provides an indication of exploration potential within Elizabeth No 2. The potential quantity and grade is conceptual in nature, in that there has been insufficient exploration to define a mineral resource and that it is uncertain if further exploration will result in the target being delineated as a mineral resource. The range of tonnage has been outlined based on the lateral extent of ground and airborne magnetic and gravity anomalies, surface mapping by the IOCC and a two drill hole intercepts which define the width and estimated grade at its southeastern extent.

Potential Tonnage	Zone Solids	Million Tonnes	Fe%	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	Р%
Magnetite Taconite	400	300-500	32.38	32.73	0.33	1.82	2.4	43.79	0.88	0.01
Hematite Taconite	500	50-100	29.59	1.44	0.31	1	4.01	34.57	1.56	0.05
Total Potential	400; 500	350-600	31.94	27.79	0.33	1.69	2.65	42.33	0.99	0.02

Table 2 Exploration Potential Tonnes and Grade of Elizabeth No 2

(Note: Above table does not comprise of NI-43101 defined mineral resources however does provide an inventory of exploration potential tonnage and grade per oretype).

Conclusions and Recommendations

The Elizabeth Taconite is made up of magnetite and hematite dominant zones within Elizabeth No 1, classified as an inferred mineral resource and a separate and parallel Elizabeth No 2 potential deposit classified as having exploration potential.

Elizabeth No 1 is attractive in that the deposit attains > 100m widths at the north end which will allow for low strip ratio.

Encouraging Fe weight recoveries and Fe concentrate grades were achieved in the Davis Tube test work completed on the magnetite taconite zones. Davis Tube test work also indicated a decrease in Mn grades to acceptable levels as a result of magnetic concentration.

Validation of the original Actlabs Davis Tube sample recoveries and assays were confirmed by duplicate testwork at SGS Lakefield.

Additional metallurgical test work will be required to determine whether a saleable product grade can be achieved for the hematite dominant taconite.

The Elizabeth Taconite is attractive in terms of its proximity to existing road, and power, as well as rail access to port and pellet plant facilities in Sept-Îles. A rail bed from a previous IOCC spur line crosses within 1 km of the Elizabeth 1 & 2 mineralization. As well, the property is well accessed via previous haul roads to former direct shipping ore mines in the area. Former IOCC mined out pits surrounding the Elizabeth Taconite such as the existing Ruth Lake and Wishart pits may also serve as easily accessible sites for waste rock and tailings.

The project warrants further evaluation which includes preliminary mineralogical test work on the hematite and magnetite taconite, further Davis Tube test work, step out drilling along strike with the aim to expand the inferred mineral resources. If results continue to be positive, this work should be followed by a preliminary economic assessment.

Database and Mineral Resource Estimate

The database was reviewed by G H Wahl and found to be appropriate for resource estimation.

Drill density was sufficient to estimate inferred mineral resources for the Elizabeth No 1 deposit.

A total of 620 million tonnes at 31.8% Fe of inferred mineral resources were estimated for Elizabeth No 1, while an exploration potential of 350 to 600 million tonnes at 32% Fe were estimate for Elizabeth No 2.

There is an opportunity to expand the estimated taconite mineral resources through field mapping and the additional widely 300-600-m spaced drilling on Elizabeth No 2.

Risk areas are as follows:

- Additional mineralogical and metallurgical results will need to be completed to demonstrate whether the hematite dominant oretype can be upgraded to a saleable product grade and if upgradeable, at what cut-off this potential oretype will be viable.
- Widely spaced drill holes may result in variances of estimated inferred tonnages. Future infill drill programs may vary the estimated tonnage due to variances in the true thickness of the iron formation.
- Because iron ore mining is largely a bulk material handling exercise, all iron resources are sensitive to material handling costs and iron ore prices.

Recommendations

The following recommendations pertain to continued exploration of the Elizabeth Taconite.

Mapping on at least 200-m cross lines across each of the taconite deposit areas. Mapped lithologies should reflect the subunits of the Sokoman Iron Formation. As well, thrust fault dips and azimuths as well as stratigraphic dips and strikes should be captured as well as location of all outcrops.

Davis Tube samples should be collected from all intervals that reflect >14% Satmagan as 4-6-m composite lengths.

Prior to the collection of deposit wide Davis Tube samples, a smaller suite of Davis Tube samples should be run to assess whether a coarser 140 mesh (105 micron) grind size or more can be achieved without significantly affecting the weight recoveries or concentrate grades.

Preliminary mineralogical work which includes Scanning Electron Microscope work to characterize the hematite rich taconites is recommended. If the hematite iron oxide grains are of sufficient size and quantity to liberate easily, further bench scale metallurgical test work should be considered.

Building of taconite based QAQC standards, one magnetite rich at a target grade of ~30%Fe and one a hematite rich sample at a target grade of ~30%Fe is recommended.

Duplicate pulps should be sent to a second independent referee laboratory.

Density data collection should be amended so that a relationship between density and Fe grades can be established. It is recommended that the same assay length samples used for water immersion methods representing a variety of magnetite and hematite rich and variable grade samples should also be retested via pycnometer. If a reasonable correlation can be established future taconite density sample can be based on the pycnometer so that a regression formula can be derived from the Fe assays.

Downhole surveys should be completed using a non-magnetic based instrument such as the Reflex Maxibor II.

As the taconite deposit will eventually require geotechnical evaluation of pit walls, it is recommended that LIM Geologists also log RQD, fracture zones, and faults in any future drill campaigns.

It is recommended that higher resolution wet and dry core photos should be collected. As much of the potential of taconite deposit is dependent on grain size liberation characteristics its worthwhile increasing the resolution as the photos can be useful in the selection of metallurgical variability samples.

A drill program is proposed which is comprised of 6 holes ~350-m in length and also spaced roughly 600-m apart stepped back from the existing fence of holes targeted at the depth portion of Elizabeth No 1. An additional 3 holes, 250-m in length, are targeted on the existing fence of holes with one step hole out to the southeast and two holes towards the northwest extent. A further 5 drill holes 250-m in length are targeted on the upper elevation of Elizabeth No 2 as 600-m steps outs along strike to the existing two drill holes. Another 4 holes 350-m in length are recommended to test the at depth portion of Elizabeth No 2 also on ~600-m step outs. The planned meterage is 5,500-m. Another 500-m has been added as contingency for a total of ~6,000-m.

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1 Introduction

1.1 Terms of Reference and Purpose of the Report

The Elizabeth Taconite Project is an early stage exploration project located in Labrador and 5.5-km southwest of Schefferville, Quebec. The project is wholly owned by Labrador Iron Mines Ltd (LIM) as 148 mineral claims representing 3,700 hectares.

In April of 2013, LIM commissioned GH Wahl of GH Wahl & Associates to prepare an independent technical report.

A site visit was completed by GH Wahl from June 17th to 21st of 2013 to review the drill core and complete a site inspection.

This report provides a mineral resource estimate for the Elizabeth Taconite and a classification of resources in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves: Definitions and Guidelines, November 27, 2010 (CIM).

1.2 Reliance on Other Experts

G H Wahl has relied on the following reports in preparation of this report:

- Furgo Airborne Surveying
- LIM Assessment Report
- Activation Laboratories Assay Results
- SGS Lakefield Assay Results
- Comments from LIM's legal counsel regarding ownership, royalties and agreements pertaining to the property

1.3 Effective Date

The effective date of this report is June 15, 2013.

1.4 Units of Measure

The metric system has been used throughout this report. Tonnes are metric.

2.1 **Property Location**

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The Elizabeth Taconite Project is located at Latitude 54° 46' North, Longitude 65° 50' West in Labrador as shown in Figure 2-1. The property is approximately 210-km north of Labrador City, Newfoundland and Labrador and 550-km north of Sept-Iles, Quebec. The town of Schefferville, Quebec is located 5.5-km to the east of the Project. See Figure 2-2. The projects are situated in the National Topographic System ("NTS") Map Sheets 23J10 and 23J15.



Figure 2-1 Elizabeth Taconite Property Location Map

(Source: Labrador Iron Mines Website, 2013)





2.2 Mineral Titles

The Property containing the Elizabeth Taconite Project consists of a total of 148 map-designated claims (Figure 2-3) which are part of the James Wishart group of claims (Lic No 20432M) covering a total area of approximately 3,700 Ha. Claims are registered under the ownership of Labrador Iron Mines Ltd. Work credits and fees have been applied to all claims and the next claim renewal assessment work requirement date is June of 2014.

The Property has not been legally surveyed. The claims were map-staked and are defined by Universal Mercator (UTM) coordinates for the corner points so the property location is accurate. The claim staking system is maintained by the Department of Natural Resources of Newfoundland and Labrador. Claims require renewal prior to the expiry of each two year term.



Figure 2-3 Mineral Title Boundaries

(Source: Newfoundland & Labrador Government, 2013)

2.3 Surface Rights

There are no known surface rights on the property.

2.4 **Royalties, Agreements and Encumbrances**

Under the terms of a September 15, 2005 Option and Joint Venture Agreement, the claims containing the Elizabeth Taconite are subject to a royalty of 3% of the selling price per tonne FOB port at Sept-Îles capped at \$1.50/tonne payable to Fonteneau Resources Limited. (LIM Corp Lawyer, N Steenberg, Personal Communication).

2.5 **Environmental Liabilities**

There are no known environmental liabilities. (VP Sustainable Development, L Drew, Personal Communication.

2.6 Required Permits and Status

In order to complete exploration work the following permits are required by LIM:

- 1. Application for Exploration Approval and Notice of Planned Mineral Exploration Work. http://www.nr.gov.nl.ca/mines&permits/mineral/ExplApproval.pdf
- 2. For drilling a water use permit is required that covers the usual exploration activities plus the building of drill roads. If the road is just to allow access for the drill it can be approved with this permit. If access via passenger vehicle is required then the permit needs to be registered for environmental assessment which requires a 45 day review.

LIM obtained a Water Use Licence/Permit (WUL-12-038 Issued May 7th, 2012 for the 2012 field season and has obtained Water Use Licence/Permit (WUL-13-032) Issued April 12, 2013 for the 2013 field season. The author of this report has reviewed these two permits and found them to be in good standing.

LIM obtained an exploration permit #L120024 issued April 12th, 2012 for the 2012 field season as well as exploration permit #L130025 issued April 25th, 2013 for the 2013 field season. The author of this report has reviewed these two permits and found them to be in good standing.

3 Accessibility, Climate, Local Resources, Infrastructure and Physiography

3.1 Topography, Elevation and Vegetation

Most of the Elizabeth Project area lies within a rolling glaciated terrain at about 600 to 700-m above sea level. The area is influenced by northeast trending elongate ridges which mimic the folding pattern of the area. Ridge tops are typically comprised of quartzites and silicified portions of the Sokoman Iron Formation whereas low areas are dominated by siltstones and shales.

The surface is comprised of a mixture of glacial boulder till and eskers and exposed bedrock. Lakes, swamps and grassy meadows fill depressions. Generally bedrock outcrop is more frequent in areas of higher relief.

Most of the Elizabeth Project area and surrounding terrain can be classified as boreal forest with a mixture of stunted trees, and brush. Ground cover in low lying areas is comprised of grasses, caribou moss, and shrubs such as willow, arctic birch, alders and Labrador tea.

3.2 Climate and Length of Operating Season

The Schefferville area has a sub-arctic continental climate with very severe winters, typical of north central Québec. Winter conditions last six to seven months, with heavy snow from December through to April. Daily average temperatures exceed 0°C for only five months a year. Daily mean temperatures for Schefferville average -23.4°C and -21.7°C in January and February, respectively. Snowfall in October, November, December, January, February and March generally exceeds 50 cm per month and the wettest summer month is July with an average rainfall of 103.3-mm. Mean daily average temperatures in July and August are respectively, 12.4°C and 11.0°C. Prevailing winds average 20-km/h with maximums of 90-km/h and wind gusts of up to 160-km/h. See Figures 3-1 and 3-2 for more detailed monthly weather characteristics.

Daylight in Figure 3-1 ranges from 7.5 hours in January to over 16.5 hours in June.

The local climate should not restrict a mine from operating throughout the year.



Figure 3-1 Schefferville Climate Data

Source:(http://www.climate-charts.com/Locations/c/CN71825085041750.php)

Statistic	Units	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
Precipitation Mean Monthly Value	Inches	2	1.6	2	2.2	2.1	2.9	4.2	3.7	3.9	3.1	2.8	2.2	2.7
Snowfall Mean Monthly Value	Inches	21.8	17.7	20.9	19.7	10.4	2.5	0.2	1	6.2	21.5	27.1	23.8	14.4
Temperature Mean Value	С	-23.4	-21.9	-15.7	-7.2	1.1	8.3	12.4	11.0	5.4	-1.4	-9.1	-19.5	-5.00
High Temperature Mean Value	С	-18.4	-16.3	-9.5	-1.6	5.7	13.6	17.2	15.4	9.0	1.5	-5.6	-15.0	-0.33
Low Temperature Mean Value	С	-28.6	-27.7	-22.0	-12.9	-3.6	3.0	7.6	6.5	1.6	-4.5	-12.7	-24.1	-9.78
Precipitation Mean Monthly Value	mm	48.8	38.9	47.8	52.6	51.0	70.0	103.3	89.4	94.3	75.7	68.2	53.4	66.12

Source:(http://www.climate-charts.com/Locations/c/CN71825085041750.php)

3.3 Accessibility and Transportation to the Property

The Elizabeth Taconite Project is located in Labrador approximately 5.5-km west-southwest of the town of Schefferville Quebec. Access to the Elizabeth Project area is via a mine road that extends southwest from Schefferville. The 1.5-km Schefferville town site airstrip is served by regularly scheduled commercial flights to Montreal, Wabush and Sept-Iles. The Tshiuetin Rail Transportation short line railway (formerly the Menihek Subdivision of the Quebec North Shore and Labrador Railway) provides service twice weekly between Schefferville and Sept-Îles.

3.4 Infrastructure Availability and Sources

3.4.1 **Proximity to Population Center**

The town of Schefferville and the neighbouring First Nations communities of Matimekosh-Lac-John (Innu) and Kawawachikamach (Naskapi) are the closest population centres to the project. In 2011 according to the Canadian Census, Schefferville had a population of 213 while Matimekosh located on Pearce Lake had a population of 540 and Lac-John 21. Kawawachikamach is a Naskapi First Nations reserve and community at the south end of Lake Matemace, approximately 15-km northeast of Schefferville, Quebec which hosts a population of 586.

3.4.2 Power

The Menihek Hydroelectric Generating Station located approximately 40km south of Schefferville was designed to receive four generating units but only two were installed when the plant came on

stream in 1954. Units 1 and 2 each have a capacity of 4,400-kW at a nominal hydraulic head of 10.4m. In 1960, the Iron Ore Company of Canada (IOCC) added unit 3, a 9,900-kW Kaplan turbine under a 12-m head. Power is supplied to local community of Schefferville and the neighbouring First Nations communities of Matimekosh-Lac-John and Kawawachikamach via 69-kV lines. ("Menihek Hydroelectric Generating Station - Wikipedia, the free encyclopedia." Wikipedia, the free encyclopedia. N.p., n.d. Web. 28 Apr. 2013. <http://en.wikipedia.org/wiki/Menihek_Hydroelectric).

3.4.3 Water

Fresh water sources on the site are plentiful throughout the area.

3.4.4 Mining Personnel

Mining Personnel will likely be sourced from local communities and will need to be brought in the site from Montreal and Quebec City via air charter through the Schefferville airport.

3.4.5 Potential Tailings Storage Areas

Potential tailings storage areas could be located within one of the lakes contained within the current property boundaries and which have already been affected by historic mining activity.

3.4.6 Potential Waste Rock Areas

There are currently a number of potential waste rock dump areas in already mined out pits in the vicinity of the Elizabeth Taconite Project.

3.4.7 Potential Processing Plant Sites

There are currently several potential sites for a potential processing site in the vicinity of the Elizabeth Taconite and within the current property boundary.

4 History

4.1 **Prior Ownership and Ownership Changes**

Prior ownership of the claims is unknown however based on available previous mapping, the property was most likely held by the IOCC since the 1950's and was subsequently allowed to lapse upon termination of their Schefferville mining operations.

4.2 **Previous Exploration and Development Results**

In 2011, LIM commissioned Furgo Airborne Surveys Pty Ltd to complete high sensitivity airborne magnetic and airborne gradiometer gravity surveys. The survey was flown over 1346-km at an altitude of 80-m at 200-m line spacing. Flight lines were flown at an azimuth of 38/218 degrees. The datum used by Furgo was WGS84 zone 19 which differs from the NAD 27 Zone 18 datum adopted by LIM for their Newfoundland & Labrador database.

These surveys were successful in defining the width and strike extent of the Elizabeth Taconite.

4.3 Historic Mineral Resource and Reserve Estimates

No previous resource estimates have been completed for the Elizabeth Taconite Project.

5 Geological Setting and Mineralization

5.1 Regional Geology

The Labrador Trough is a 1,600-km long and 100-km wide geological structure extending southsoutheast from Ungava Bay on the north through Quebec and Labrador and southwestward into central Quebec. The southern part of the Trough is crossed by the Grenville Front representing a metamorphic fold-thrust belt in which Archean basement and Early Proterozoic platformal cover were thrust north-westwards across the southern portion of the southern margin of the North American Craton during the 1,000-Ma Grenvillian orogeny (Gross, 1965). See Figures 5-1 and 5-2.



Figure 5-1 Regional Geological Map

The Trough forms the western extension of the Superior geosyncline. This sequence of continental margin rocks comprises Middle Paleoproterozoic alternating shallow and deep water marine sediments that were interrupted by two sequences of tholeiitic continental basalt flows. The stratigraphy was subsequently deformed during the Trans-Hudsonian orogeny into a series of NW-SE trending doubly plunging anticlines and synclines (Gross, 1968).

The metamorphism ranges from greenschist through upper amphibolite into granulite metamorphic facies from the margins to the orogenic centre of the Grenville Province. In the vicinity of Schefferville the metamorphism is greenschist facies. Alteration associated with the Hudsonian Orogeny is responsible for recrystallization of iron oxides and leaching of silica in the primary iron formation, producing coarse-grained sugary quartz, magnetite, and specular hematite schist or gneiss (meta-taconites) that are of improved quality for concentration and processing.



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(Source:Williams et al., 2004)

5.2 Local Geology

The geology of the Schefferville area encompassing the Elizabeth project was first mapped in detail by Harrison (1972) at a scale of 1:12,000 and Gross (1968) at scales ranging from 1:30,000 to 1:63,000. Based on these two phases of mapping Wardle (1982) compiled a regional geological map at a scale of 1:100,000. An age of about 1.87-Ga (Rb-Sr) was obtained for the Sokoman Iron Formation by Fryer (1972). The following Figure 5-3 is derived from a compilation of these maps.

Figure 5-3 Local Geology Map of the Elizabeth No 1 and Elizabeth No 2 Taconites



The following Figure 5-4 provides a regional stratigraphic column for the geology which hosts the Elizabeth Taconite. Source (Williams and Schmidt, 2004)





The following provides a description of the rock units within the various formations encountered within the Elizabeth Taconite Project area.

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 colored where leached. Bedding is less distinct than in the slates of other slate formations but thin laminae or beds are visible in thin sections.

Sokoman Iron 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, slatey 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.

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.

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.

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 colored and contain an abundance of chert or quartz fragments in a soft white siliceous matrix.

The following describes the local units within the Sokoman Iron Formation that host the Elizabeth Taconite. These units of the Sokoman were studied in detail by Klein and Fink (1976) during work carried out on the Howells River Taconite Deposit located on strike and to the north-northwest of the Elizabeth Taconite. A summary of the results of their work is included in Figure 5-5.





The Sokoman Iron Formation hosts most of the largest iron formation deposits in the Labrador Trough. The Sokoman varies in thickness form 120 to 240 metres. The upper hematite taconite in the Elizabeth Taconite is associated with the Upper Red Chert while the magnetite taconite is associated with the Pink Grey Chert and Lower Red Chert. The lower hematite taconite can be associated with portions of the Lower Red Chert and Lower Iron Formation. The members are described in the following from top to bottom.

Lean Chert (LC) – Generally a light green to greenish black lean chert, locally pitted and very consistent. It has a conformable contact with the Menihek shale.

Jasper Upper Iron Formation (JUIF) – The unit is characterized by up to 20-cm thick hematite-jasper rich layers within massive hematite rich- magnetite poor cherty matrix.

Green Chert (GC) – Pale green generally homogeneous iron silicate with variable amounts of carbonate and magnetite.

Upper Red Chert (URC) – Reddish chert contains 10-20cm hematite rich horizon with or without jasper within a massive hematite rich – sometimes magnetite poor layer.

Pink Grey Chert (PGC) – The rock is grey on fresh and altered surface and composed of white pinkish chert with disseminated magnetite.

Lower Red Chert and Lower Red Green Chert (LRC/LRGC) – This rock contains thinly banded hematite with or without jasper rich layers with carbonate blobs. The unit may contain disseminated magnetite.

Lower Iron Formation (LIF) – The unit is thinly bedded with a red-brown alteration surface with greenish-grey fresh surface and is comprised of iron carbonate and silicates with chert and variable magnetite and hematite.

6 Deposit Type

Lake Superior type iron formations have been the principal sources of iron ore throughout the world. These types of iron formations form in shelf and platformal basins along the margins of Early to Middle Proterezoic cratons. They are comprised of shelf-type sedimentary rocks including dolomite, quartzite, arkose, black shale, conglomerate, tuff and other volcanic rocks in the form of linear basins along craton margins (Gross, 1996).

Superior-type iron formations are typically regional scale stratigraphic units that are relatively easy to define by mapping or with the aid or aeromagnetic and gravity surveys. Detailed stratigraphic information is an essential part of the data base required to define grade, physical and chemical quality, structural complexities that can facilitate the enrichment of the iron formation and the distribution of different iron-formation lithofacies.

Superior type oxide facies iron formations, deposited in highly oxidizing environments, typically have a low content of deleterious elements such as sodium, potassium, sulphur, and arsenic, which can all have a negative effect on final product quality.

Granular, medium to coarse grained textures with well-defined grain boundaries enable easier liberation and separation of Fe oxide mineral grains in the concentration and beneficiation of crude ore. In terms of benefication, coarse grained oretypes are preferred over fine grained hematite dominant or mixed facies.

Superior-type iron formations typically exhibit low iron grades but can be elevated to "ore-grades" through a variety of enrichment processes such as leaching of silica and carbonates by meteoric or syn-orogenic heated fluids and recrystallization of magnetite ores by metamorphism.

6.1 Mineral Deposit Type Cross Section



Figure 6-1 Schematic Cross-section of Deposit Type

⁽Source: Gross, 1996)

6.2 Geological Model

The geological concepts applied in the current investigation of the Elizabeth Project include the typical extensive regional scale of deposition associated with Superior type iron formations, the relatively low deleterious grade ores associated with these types of deposits, stratigraphic understanding of the basin development, potential for enriched Fe grades associated with the metamorphism or silica leaching associated with the Hudsonian Orogeny, potential folding and faulting to increase thicknesses of the iron formation, and potential for coarser magnetite iron formation that may facilitate easier benefication characteristics.

7 Exploration

The Elizabeth exploration program was managed in a professional manner by Eric Chavez (P. Geo) who provided direct oversight for the entire exploration program and acted as LIM's senior geologist and Qualified Person.

Ground Based Surveys

Ground gravity and magnetic surveys were carried out in June and July 2012 by Geosig Inc on the Schefferville Properties of Labrador Iron Mines Limited (Hubert, 2012). Geosig inc is a geophysical firm based in Québec. The surveys were part of exploration programs completed on the following projects: Howse, James, Houston, Malcolm, Elisabeth and Gagnon. They were targeted to find extensions of known direct shipping ore deposits and validate some airborne gravity anomalies however results highlighted the potential for taconite deposits.

The ground survey on Elizabeth was comprised of three survey lines extending ENE for a total length of 6.5km and resulted in the collection of 9,284 magnetic data points and 133 gravity data points. A gravity meter Lacoste & Romberg Model D was used for the gravity field measurements and a RTD GPS R8 GNSS Rover System was used for the coordinates and the elevation readings of each gravity station. An Overhauser magnetometer GEM GSM-19, coupled with a proton base station GEM-GSM-19T, was used for the measurement of the total magnetic field.

The ground survey confirms the validity of airborne gravity anomalies, and confirms the interpreted strike extent of the mineralization in Elizabeth No 1 and Elizabeth No 2.

Airborne Surveys

In 2011 a high-sensitivity aeromagnetic and Falcon Airborne Gravity Gradiometer (AGG) survey was flow over the Schefferville area under contract to Labrador Iron Mines Ltd. See Figure 7-1. The survey by Furgo Airborne Surveys Pty Ltd of Australia was flown in October of 2011 and collected a total of 1,346 line kilometers of data. Survey line spacing was 200-m at an average altitude of 80-m. Tie lines were flown at 5,000-m spacing. Data was collected in a different datum than the ground geophysics and drill hole database datum. Furgo produced airborne data in UTM Zone 19N WGS84 datum.

The cesium magnetometer used to collect data was a Scintrex CS-2. GPS positioning was established with a Novatel OEMV L-band Positioning receiver which provides real-time differential GPS for the onboard navigation system.

The airborne survey was successful in outlining the extent of the mineralization within Elizabeth No 1 and Elizabeth No 2 sufficiently to help define step out drill targets. See Figures 7-1, 7-2, 7-3 and 7-4.



Figure 7-1 Local Airborne Vertical Derivative Magnetic Map







Figure 7-3 Airborne Total Field Magnetic Map

Figure 7-4 Gravity GDD E Map



8 Drilling

8.1 Type and Extent

The Elizabeth taconite project drill program was managed in a professional manner by Eric Chavez (P. Geo) who provided direct oversight for the entire drill program and acted as LIM's senior geologist and Qualified Person.

Drilling was comprised of HQ diameter core in 5 drill holes. Drill holes averaged 345-m in depth with a minimum depth of 300-m and a maximum depth of 411-m. A total of 856 samples were collected for XRF assay. An additional 11 composites were selected for Davis Tube test work. Assay samples ranged in width from 1-m to 2.6-m. Approximately 98.4% or 842 of the samples were 2-m in length. Casings were removed and drilling sites were labeled. Drilling is summarized in Table 8-1.

Hole ID	Az	Dip	Length (m)	Easting	Northing	Elv (m)	
DD-EL001-2012	230	-55	300	635301.62	6072429	642.26	
DD-EL003-2012	230	-44.9	339	635947.6	6071233	645.59	
DD-EL002-2012	230	-44.9	369	636127.53	6071418	632.38	
DD-EL004-2012	230	-45.5	309	635691.43	6071907	640.12	
DD-EL005-2012	230 -44.1		411	634986.06	6072942	647.76	
	Total 5 D	rill holes (m)	1,728				

 Table 8-1 Drill Hole Summary Elizabeth Lake 2012
8.2 Procedures

The Elizabeth Taconite exploration drill program was managed in a professional manner by Eric Chavez (P. Geo) who provided direct oversight for the entire drill program and acted as LIM's senior geologist and Qualified Person.

Drill holes were surveyed in the field by LIM's geological team using a Trimble GPS. Results were collected for a minimum of 30 seconds and a differential correction was applied using an OmniStar Satellite Differential Service in the field in real time or post processing a correction using the ground based GPS station located at the Schefferville Airport. The collar location and azimuth surveys were completed by LIM employees using a Reflex Single Shot instrument. (A. Odewande, Personal Communication)

LIM's Geological and Geotechnical personnel completed the logging and sampling of the drill core. This crew varied through the program and rotated in and out of the field.

Geological logging included both Descriptive Logging and Geotechnical Logging. Geotechnical logging included core recovery. Logging included a core tray inventory of meterage interval per tray, core photography (wet and dry) and magnetic susceptibility point measurements at 25-cm intervals. MS Excel logging forms were used to capture drill core geology and then imported into an MS Access database system. Descriptions of different stratigraphic units were based on color, texture, alteration, mineralogy and structural features.

9 Sample Preparation, Analysis and Security

9.1 Sampling Methods

Sampling procedures are in accordance with accepted industry standards and practices. The following descriptions are derived directly from LIM (Vatcher et al, 2012).

The demarcation of sampling boundaries was made generally on a geological basis as selected by the drill geologist during logging. Drill core was sampled by LIM geotechnicians from top to bottom every 2m constrained by stratigraphic contacts. Core was split by hydraulic splitters with half sent to LIM's nearby James Mine Laboratory while the other half was retained for reference.

The sampling process, in addition to the collection of Routine samples also included the sampling of pulp Duplicates, and the insertion of Blanks and Standards into the sampling sequence. This component is described under QA/QC. LIM's geotechnicians inserted standards and blanks at a rate of 1 in 20 into the sample stream while duplicates were collected at a rate of 1 in 25.

In total, 856 samples or 1,798.5-m of sample were collected from the 5 Elizabeth drill holes. Table 9-1 provides more details. Approximately 98.4% of the samples were 2-m in length.

 Table 9-1 Elizabeth Taconite Sample Summary

Routine Samples	856
Inserted Blank QAQC Samples	47
Inserted Standard QAQC Samples	46
Duplicate Pulp QAQC Samples	37

9.2 Security Measures

Drill core was delivered to the camp at the end of every shift by either the drill contractor or LIM employees. Geotechnicians would first calculate core recovery and photograph the core. Drill core would then be logged and sample intervals were marked. All sampling was completed in a secure camp area which is isolated from the main road. Geotechnicians would split the core and retain half the split core for reference. Core samples were delivered to LIM's James Mine Laboratory for sample preparation. This laboratory would prepare pulp and coarse rejects for each sample. Pulps were then shipped via courier to Activation Laboratories in Ancaster, Ontario. Coarse rejects were stored on site for future reference.

9.3 Sample Preparation

Upon receipt at the James Mine Laboratory sample preparation facility, samples were inventoried and dried at 70 degrees C until dry. Drying time varied based on moisture content. The entire sample was then passed through a jaw crusher. A 250 gram split wass then milled for 3 minutes to pass through a 200 mesh sieve. Mills, crusher and splitter were cleaned with a silica compound and compressed air for 30 seconds after each run.

9.4 Sample Analysis

Activation Laboratories Ltd (Actlabs)

Activation Laboratories Ltd (Actlabs) was retained by LIM to complete the XRF, Satmagan and Davis Tube test work. Assaying included major elements by XRF via lithium metaborate and lithium tetraborate with lithium bromide glass discs, (Code 8-Iron Ore Analysis XRF Fusion-XRF), and Fe_3O_4 (magnetite) by Satmagan. Detection limits for Actlabs XRF fusion method are provided in Table 9-2. Prior to XRF fusion, Loss on Ignition (LOI) is determined from loss of weight after roasting the sample at 1050 degrees C for 2 hours. The detection limit for LOI was 0.01%.

Table 9-2 Actlabs XRF Fusion Detection Limits

	SiO2 %	Al2O3 %	Fe2O3 %	MnO %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5%	Cr2O3 %	V2O5 %
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003

Original Davis Tube measurements were assayed by Actlabs and were based on a 30-g aliquot of pulp that was fed in a cylindrical glass tube oscillating at 60 strokes per minute. Davis Tube tests were completed on both 200 and 325 mesh pulp sizes. Both magnetic and non-magnetic fractions were dried weighed and assayed via XRF fusion (Code 8-Iron Ore Analysis XRF Fusion-XRF).

Actlabs is accredited by the Standards Council of Canada (SCC) which requires on-site assessment of the laboratory and also requires continued participation in proficiency testing programs like CANMET's PTP-MAL. Actlabs' Quality System is accredited to international quality standards through the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17025 (ISO/IEC 17025 includes ISO 9001 and ISO 9002 specifications) with CAN-P-1758 (Forensics), CAN-P-1579 (Mineral Analysis) and CAN-P-1585 (Environmental) for specific registered tests by the SCC.

9.5 QA/QC Procedures

Sampling and assaying QA/QC included procedures operated by LIM's geotechnical field personnel (In-Field QA/QC) and procedures operated in the Primary analytical laboratory (In-Laboratory QA/QC).

In-Field QA/QC

The in-field Sampling/assaying QA/QC protocol involved the insertion of Blanks, and Standards into the sample stream and collection of pulp duplicates.

The material used for Field Blanks (FBLK) for the program was collected from a roadside cut in the Dolly Shale on the road to the Houston deposit south of Schefferville. This rock is low in magnetite and low in hematite but does contain 2.95 to 6.53 percent Fe₂O₃. The sampling protocol called for insertion of Blanks into the sample stream at a frequency of one per 20 routine samples.

Two different Standards were inserted during the drilling program. Standards, similar to Blanks, were inserted into the sample stream at a frequency of approximately one per 20 Routine samples. The two Standards in use were alternated according to the last two digits of the sample number.

The two standards in use were designed for use in LIM's Direct Shipping Ore (DSO) deposits which represent ore grades which are far higher than the taconite mineralization and also reflect a form of Fe enrichment resulting from leaching of silica due to circulation of meteoric waters during the Cretaceous. This form of mineralization is quite different from the Taconites which have been far less enriched by metamorphism associated with the Hudsonian orogeny. Although acceptable for a first phase of exploration, it is recommended that these should be replaced with taconite standards.

The two standards that were used reflect a low grade DSO standard from the Knob Lake 1 deposit and a high grade DSO standard derived from the James deposit. (Vasher et al, 2012).

Three accredited laboratories Activation Laboratories Ltd, SGS Laboratories Ltd and ALS Chemex Ltd were used to establish the standard grades. For the James Standard, 30 samples were processed at Activation Laboratories Ltd, 40 samples at SGS Laboratories Ltd and 40 samples at ALS Chemex Laboratories Ltd. For the Knob standard 50 samples were assayed at each of the three laboratories.

Duplicate pulps were taken at a frequency of 1 per 25 Routine samples. The first sample is considered the "Original" sample and the second split considered as the "Duplicate".

In-Laboratory QA/QC

Actlabs operate their own internal QA/QC program which includes the insertion of Blanks, Certified Reference Standards and assay of Duplicates along with samples they receive from clients.

Certified Reference Standards and duplicates were assayed along with the Elizabeth samples from the field. In addition Actlabs prepared and assayed Preparation Duplicates, which it refers to as "Splits". Preparation Duplicates are Duplicates created at the crushing stage which proceed through the remainder of the assaying protocol as two distinct samples. Activation Laboratories did not use Preparation Blanks. Preparation Blanks are samples inserted into the preparation protocol at onset, that are crushed and pulverized and continue through the remainder of the assay protocol like regular samples.

9.5.1 QA/QC Results

The QAQC raw data and results compiled by LIM personnel were reviewed by G H Wahl. The following comprises an analysis of the blank, duplicate pulp and standard results.

In Field Blank Results

Blank results for Fe2O3 and SiO2 were generally consistent throughout the sampling period however two samples (525320 and 526900) were flagged as outliers and most likely sample mix-ups. No material issues were noted with the blank results. See Figures 9-1 and 9-2.

Figure 9-1 Blank Results for Fe₂O₃.







In Field Duplicate Results

The pulp duplicates in the following Figures demonstrate that the original assay results were well replicated by duplicate assays of the same pulp. It is recommended however that duplicate pulps be submitted to a second referee laboratory rather than the same laboratory.



Figure 9-3 Duplicates Fe%



Figure 9-4 HARD Plot of Pulp Duplicates Fe%

Figure 9-5 Duplicate Pulps SiO₂%





Figure 9-6 HARD Plot of Pulp Duplicates SiO₂%

In Field Standards

The following Figures indicate that all the Knob and James standard grades all report within 1 standard deviation delineated by the red colored upper and lower thresholds with one exception in the Knob SiO2 standard. As this single result is still within 2 standard deviations the results are considered reliable.



Figure 9-7 Knob Lake Standard Fe2O3%

Figure 9-8 James Standard Fe2O3%

Sample





Figure 9-9 Knob Lake Standard SiO2%

Figure 9-10 James Standard SiO2%

Sample



9.5.2 Independent Testwork

As part of an independent check by G H Wahl, the existing suite of 11 Davis Tube samples were forwarded to SGS Lakefield for an independent check of whole rock XRF analysis as well as of Davis Tube weight recoveries, concentrate and tails grades initially tested by Actlabs. The results indicated excellent replication of weight recoveries, head XRF assays and concentrate XRF assays. Figure 9-11 shows a high degree of correlation between the weight recoveries measured by the two laboratories. Figure 9-12 indicates that the head Fe XRF assays of the two laboratories are reasonably reliable.



Figure 9-11 Duplicate Weight Recovery Actlabs vs SGS Lakefield





Figure 9-13 comparing the Davis Tube Fe concentrate grades between Actlabs and SGS indicates reasonably good correlation indicating that the Actlabs Davis Tube testwork results were confirmed by a second referee laboratory.



Figure 9-13 Duplicate Davis Tube Fe XRF Mag Concentrate Grades Actlabs vs SGS Lakefield

9.6 Opinion on Adequacy

G H Wahl considers that the XRF database and total Fe, Satmagan and Davis Tube databases were appropriate for resource estimation. A few minor sample mix-ups were noted however they are of such a low frequency that they will not have a material effect on the resource estimate.

10 Data Verification

The following data verification was completed by G H Wahl. Data verification was comprised of reviewing drill hole elevations in the current database versus recent topographic surveys, reviewing drill logging and sampling procedures, querying the electronic database for data entry errors and comparing assay certificates to the current database.

10.1 Procedures

A comparison of hole collar elevations to topography indicated no significant discrepancies.

Approximately 5% of the assay certificate grades were compared against the drill hole assay database. No data entry errors were noted in the electronic database.

During the load of the electronic database into Surpac, the import was scanned for sample overlaps, odd hole ids, extreme assay results, and missing assay results. Nothing material was found.

10.2 Opinion on Data Adequacy

QAQC protocols and QAQC results were reviewed and found to be generally acceptable. Some recommendations for improvements are included below. The electronic assay database was checked against assay certificates and found to be appropriate for resource estimation. No material issues were identified during the database load. Generally, the total Fe, deleterious and Satmagan grades on which the resource estimate is based was found to be appropriate. If the project advances beyond scoping study, the following tasks are recommended:

- Pulp duplicates should be sent to a second referee laboratory
- The James and Knob standards should be replaced with taconite standards made up of material from the Elizabeth Taconite and should reflect separate hematite and magnetite dominant samples as well as the average resource grade.

11 Mineral Processing and Metallurgical Testing

A total of 11 composite samples were sent in 2012 to Activation Laboratory in Ancaster, Ontario for Davis Tube analysis. See Table 11-1. The samples were tested at a 200 and 325 mesh grind with marginally better weight recoveries and marginally lower Fe concentrate grades at the 200 mesh grind.

The results indicated that excellent magnetic Fe concentrate grades can be achieved at both grind sizes with little difference in results. It was demonstrated that weight recoveries up to 37.9% could be achieved and concentrate Fe grades as high as 69.1%. The nil Fe concentrate grades are from intervals within the Sokoman Iron Formation that are hematite dominant. Weight recoveries for the magnetite taconite zones are reasonably good ranging from 25 to 37.9%. For the samples with weight recoveries of only 9.4% and 13.8%, these are the result of heavy dilution of magnetic intervals with non-magnetite but strong hematite bearing intervals in zones either in the hanging wall or footwall of the magnetite dominant zone. These low weight recoveries are therefore not reflective of the actual recoveries associated with the magnetite dominant zones. This observation is supported by an analysis of the 2m satmagan data for the same intervals which show large intervals of very low satmagan results being included within these two composites.

The Davis Tube results are also encouraging in that the mean Davis Tube MnO head grade of 1.2% was reduced to 0.145% in the Davis Tube concentrate indicating that the magnetic separation can be effective in reducing the Mn grades to more easily saleable product grades. See Table 11-2. Average P₂O₅ grades were also significantly reduced in the magnetic concentrate. No other deleterious elements were flagged as being problematic in this dataset.

It is recommended that LIM conduct some trial Davis Tube test work at a coarser grind to assess the impact on weight recoveries and concentrate grades.

					200 MESH								325 MESH							
					HEAD	ASSAYS	CONCENTRATE		TAILINGS			HEAD ASSAYS		CONCENTRATE		TAILINGS				
HOLE_ID	From	То	Interval	DTWRT%	T_Fe%	SiO2%	T_Fe%	SiO2%	T_Fe%	SiO2%	DTWRT%	T_Fe%	SiO2%	T_Fe%	SiO2%	T_Fe%	SiO2%			
DD-EL001-2012	88.0	176.0	88.0	25.1	32.0	43.4	69.0	3.9	20.0	58.1	24.6	32.6	44.1	69.7	2.5	20.3	57.7			
DD-EL001-2012	176.0	202.0	26.0	-	27.6	34.6	-	-	27.4	34.5	-	27.4	34.5	-	-	27.6	35.2			
DD-EL002-2012	285.0	369.0	84.0	30.6	31.4	41.5	69.1	3.1	14.6	58.4	31.7	31.1	41.0	69.8	2.1	14.4	59.7			
DD-EL002-2012	235.0	261.0	26.0	37.9	33.8	40.7	66.5	6.3	14.1	63.2	37.0	34.5	40.6	69.1	3.1	13.9	63.5			
DD-EL002-2012	21.0	113.0	92.0	9.4	31.8	43.3	67.8	3.4	27.9	47.7	9.5	32.3	43.8	68.8	2.3	28.1	48.7			
DD-EL003-2012	93.0	197.0	104.0	31.0	33.0	45.1	68.1	4.1	17.2	64.2	30.9	34.2	44.2	69.8	2.7	17.5	64.9			
DD-EL003-2012	15.5	31.5	16.0	-	27.6	31.0	-	-	27.3	32.1	-	27.4	31.2	-	-	27.0	32.4			
DD-EL003-2012	61.5	69.5	8.0	-	33.7	43.4	-	-	34.1	44.1	-	33.9	42.8	-	-	33.5	43.4			
DD-EL004-2012	63.0	161.0	98.0	13.8	31.5	41.7	68.5	3.2	25.6	49.0	13.3	31.9	40.8	69.8	2.5	25.8	47.6			
DD-EL005-2012	84.0	222.0	138.0	29.1	32.6	41.9	67.8	4.4	18.3	57.9	28.4	32.8	41.9	69.5	2.8	18.3	56.9			
DD-EL005-2012	222.0	280.0	58.0	-	25.4	35.0	-	-	25.5	34.5	-	25.7	34.7	-	-	25.2	34.4			

Table 11-1 Davis Tube Results

Table 11-2 Impact of DT Magnetic Concentration on Deleterious Grades

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	SiO2 %	AI2O3 %	Fe2O3(T) %	MnO %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	Cr2O3 %	V2O5 %	LOI %	Total %
Aver Head Grade	40.06	0.74	44.46	1.204	2.37	1.40	0.00	0.14	0.07	0.07	0.00	0.006	9.21	99.52
	SiO2 %	AI2O3 %	Fe2O3(T) %	MnO %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	Cr2O3 %	V2O5 %	LOI %	Total %
Aver DT Conc Grade	3.30	0.00	98.38	0.145	0.17	0.16	0.00	0.00	0.01	0.01	0.01	0.004	-2.18	100.00

12.0 Resource Estimation

12.1 Elizabeth Taconite Drill Hole Database Description

The database for the Elizabeth Taconite was provided as separate MS Excel database files including, for collar, survey, lithology, magnetic susceptibility, density, core recovery, Davis Tube and assay, topography and interpreted mineralized solid and structural files. A summary of the drill hole database is contained in Table 12-1.

The collar file was comprised of 5 HQ diameter drill holes or 1728-m of HQ drilling. Drill holes ranged in depth form 300-m to 411-m with an average depth of 345-m. Average casing length was 3.8-m and ranged between 1.5-m and 7-m. Overburden was minimal and was comprised of glacial till. Collar elevations ranged from 632-m to 648-m above sea level. Drilling by LIM was comprised predominantly of drill holes dipping between 45-50 degrees towards the west at an azimuth of 230 degrees on 500-m to 650-m drill hole spacing on section. The southeastern most section was drilled with two holes. Core recovery averaged 97.45%.

The drill program data collection was supervised by Eric Chavez (P Geo) QP and senior geologist with LIM. All holes were drilled by Major Drilling Ltd based in Rouyn-Noranda in 2012.

A Reflex Single Shot instrument was used to generate downhole dip data. All collar and downhole measurements were collected by LIM personnel. A total of 73 downhole measurements were collected. Collar azimuths were assumed for the entire length of the hole as the Single Shot readings were erratic and were likely influenced by magnetite. GPS coordinate locations with an accuracy of <60cm. All coordinates were defined by datum NAD27 Zone 18.

The lithology file was generated from field logging which was supervised by LIM personnel. The lithology file was comprised of 91 rows of coded lithology data. The lithology code used in the database reflects the various sub-units of the Sokoman Iron Formation as well as the overlying Menihek formation and underlying Wishart Quartzite.

Magnetic Susceptibility readings were collected every 25cm as point data with a hand held magnetic susceptibility reader. A total of 6,569 results were collected which correlate well with both Satmagan and Davis Tube results.

A total of 70 samples of approximately 10cm of drill core were tested for density using the water immersion method. A total of 38 of these samples were collected within the resource solid domains of which 28 were collected within the magnetite dominant taconite zone. Excluding some lower outliers, the average magnetite dominant taconite returned an average density factor of 3.34 g/cc based on 23 samples while the hematite dominant zone returned an average density factor of 3.10 g/cc based on 8 samples. An average density of 2.74g/cc based on 25 samples was derived for waste rock.

A total of 856 assays were collected representing 1,708-m of sampled drill core.

Average assay sample length was 2.0-m while minimum sample length was 1.0-m and maximum sample length was 2.6-m. The assay file was comprised of the following fields: TFe %, Sat %, SiO₂%, Al₂O₃%, Fe₂O₃%, MgO %, CaO %, Na₂O%, K₂O %, TiO₂%, P₂O₅%, MnO %, Cr₂O₃%, LOI %, Sum %. Any assays at detection limit were reset at half the detection limit.

All grade data were imported in the Surpac database however only TFe, Sat%, FeO%, CaO%, SiO₂%, Al₂O₃%, MgO%, Mn% and P% assay data were estimated to the block model for resource estimation.

A hand colored geological maps of the deposit area by the IOCC retrieved from the Newfoundland & Labrador assessment files was also available for use. The map only provided partial coverage of the mineral resource and was based on very widely spaced traverse lines however it does differentiate the various sub-units of the Sokoman Iron Formation and included dip and strike information of faults and the iron formation stratigraphy.

Table 12-1 Summary of Dril	I holes in Database
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Company	Year	Year No of Holes		No of Samples	Meterage of Samples
LIM	2012	5	1,728	856	1,708.5



Figure 12-1 Drill Hole and Zone Plan Map



Figure 12-2 Domain Solids Oblique View

12.2 Geologic Model

The geological model was based on a sectional interpretation of drill hole assay intercepts in conjunction with surface geological mapping by the IOCC as well as ground and airborne magnetic and gravity surveys completed for LIM in 2011 and 2012. Dip information was largely derived from surface mapping as well as continuity between drill hole intercepts on the southeastern-most section.

The four sections extending north-northeast were largely centered roughly 600m apart. On the southern-most section two holes were drilled on a single section confirming the interpreted dip of the hematite and magnetite mineralized zones. There was relatively good correlation between the contacts defined by surface mapping and geophysical anomalies defined by the magnetic and gravity surveys.

The results indicate that core logging was classifying the lithologies with reasonable consistency. Minor issues such as logging of Wishart quartzite in several instances should be rechecked in light of its assigned location within the upper stratigraphy of the Sokoman Iron Formation. These intervals may actually be localized intervals which look like Wishart quartzite but reflect narrow granular chert horizons located within the upper Lean Chert unit.

A total of five solids were modeled and differentiated based on whether they were hematite or magnetite dominant taconites. The hematite taconite solids (100, 300 and 500) were defined by a Fe cut-off of 26% Fe while the magnetite taconite solids (200 and 400) were defined by a Satmagan cut-off of 14% and Fe cut-off of 26%. See Table 12-2.

Zone Codes	Volume m3	Comments
100	42,313,919	Hangingwall Hematite Elizabeth No 1 Zone
200	127,523,476	Magnetite Elizabeth No 1 Zone
300	42,354,679	Footwall Hematite Elizabeth No 1 Zone
400	126,715,594	Magnetite Elizabeth No 2 Zone
500	21,405,209	Footwall Magnetite Elizabeth No 2 Zone

Table 12-2 Summary of Elizabeth Taconite Zone Solid Volumes and Description

Figure 12-3 Southeastern-most Cross-section



12.3 Compositing and Capping

Raw assay samples were composited to a 2.0-m length. The choice of a 2.0-m composite length was driven by selecting the most common sample length. A minimum of 65% of the 2.0-m composite was required in order to be included in the composite dataset.

No capping was applied as the data was not strongly skewed. Separate composite files were created for assayed intervals within each solid domain. Composite statistics were completed for Zones 100, 200, 300 and 400 and are presented below in Tables 12-3 through to 12-6. Composite statistics were not generated for Zone 500 as the population was limited to only 8 composite intervals.

The following Table 12-3 describes the Composite statistics for the Hangingwall Hematite Dominant Zone 100 which has an average Fe grade of 29.26%. The average Satmagan of 3.96% is reflective of the higher hematite content of and lack of magnetite within this zone. The average Mn content of 0.719% is relatively high however process testwork on the hematite taconite oretype will need to be conducted to see if this can be lowered in the final concentrate grade. The remainder of the deleterious grades are relatively low. The correlation table indicates a high correlation between Al₂O₃ and TiO₂ and K₂O.

Table 12-3	Composite Statistics Hematite Hangingwall Elizabeth No 1 Zone 100	
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Statistics Report													
Zone 100 - 2m comps													
Variable	Fe %	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%	Cr2O3%	Na20%	K20%	TiO2%	LOI%
Number of samples	65	48	65	65	65	65	65	65	65	65	65	65	65
Minimum value	11.01	0.5	0.005	0.005	0.005	23.12	0.012	0.00	0.005	0.005	0.005	0.005	0.23
Maximum value	44.23	29.8	13.47	4.8	4.42	74.97	7.815	0.11	0.03	0.04	7.24	1.94	22.07
Mean	29.36	3.96	0.77	0.46	1.07	47.06	0.719	0.02	0.007	0.006	0.18	0.08	7.41
Median	29.63	1.40	0.17	0.02	0.05	46.39	0.513	0.02	0.005	0.005	0.01	0.01	4.92
Geometric Mean	28.42	2.06	0.11	0.05	0.13	45.89	0.319	0.02	0.007	0.005	0.03	0.02	4.62
Variance	48.30	28.00	3.33	0.90	2.51	105.98	1.313	0.00	0.000	0.000	0.79	0.06	43.60
Standard Deviation	6.95	5.29	1.82	0.95	1.59	10.29	1.146	0.02	0.005	0.006	0.89	0.24	6.60
Coefficient of variation	0.24	1.34	2.36	2.06	1.48	0.22	1.594	0.77	0.687	0.995	4.81	3.09	0.89
Skewness	-0.34	2.74	5.42	2.91	1.04	0.17	4.29	3.57	3.02	5.43	7.71	6.96	0.92
Kurtosis	2.64	12.56	36.67	11.93	2.28	3.14	24.62	21.50	12.68	30.53	61.24	53.34	2.39
10.0 Percentile	19.74	0.7	0.005	0.005	0.01	35.47	0.038	0.00	0.005	0.005	0.005	0.005	1.01
20.0 Percentile	22.875	0.7	0.005	0.01	0.02	38.65	0.076	0.01	0.005	0.005	0.005	0.01	1.85
30.0 Percentile	26.35	0.8	0.02	0.01	0.03	41.79	0.206	0.01	0.005	0.005	0.005	0.01	2.79
40.0 Percentile	27.395	1	0.07	0.01	0.04	43.06	0.264	0.02	0.005	0.005	0.01	0.01	3.82
50.0 Percentile (median)	29.63	1.4	0.17	0.02	0.05	46.39	0.513	0.02	0.005	0.005	0.01	0.01	4.92
60.0 Percentile	32.73	2.5	0.305	0.04	0.095	49.83	0.615	0.02	0.005	0.005	0.045	0.015	5.74
70.0 Percentile	33.77	3.95	0.67	0.22	1.02	52.73	0.796	0.02	0.010	0.005	0.1	0.06	7.72
80.0 Percentile	35.365	7.35	1.14	0.72	3.205	55.80	0.865	0.03	0.010	0.005	0.15	0.09	15.68
90.0 Percentile	38.35	10.3	2.01	1.39	3.94	59.86	1.083	0.03	0.010	0.005	0.23	0.18	18.62
Trimean	29.75	2.23	0.31	0.17	0.77	46.81	0.489	0.02	0.006	0.005	0.04	0.03	6.60
Biweight	29.64	2.26	0.31	0.13	0.83	46.71	0.456	0.02	0.006	Not Calcul	0.04	0.02	6.61
Correlation Coefficient Table													
	Fe %	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%	Cr2O3%	Na20%	K20%	TiO2%	LOI%
Fe%	1.000	0.375	-0.369	-0.347	-0.453	-0.507	-0.046	-0.167	-0.036	-0.255	-0.358	-0.366	-0.379
Satmagan %	0.375	1.000	-0.154	-0.053	-0.132	-0.025	-0.176	-0.069	0.125	-0.082	-0.151	-0.124	-0.226
AI2O3%	-0.369	-0.154	1.000	0.213	0.438	-0.181	0.037	0.824	0.210	0.639	0.916	0.970	0.271
CaO%	-0.347	-0.053	0.213	1.000	0.782	-0.412	0.015	0.071	-0.003	0.078	0.047	0.127	0.747
MgO%	-0.453	-0.132	0.438	0.782	1.000	-0.483	-0.016	0.257	0.052	0.287	0.236	0.329	0.924
SiO2%	-0.507	-0.025	-0.181	-0.412	-0.483	1.000	-0.112	-0.223	0.028	-0.053	-0.006	-0.090	-0.544
Mn%	-0.046	-0.176	0.037	0.015	-0.016	-0.112	1.000	0.064	-0.069	-0.024	-0.019	0.000	0.004
P%	-0.167	-0.069	0.824	0.071	0.257	-0.223	0.064	1.000	0.252	0.727	0.789	0.809	0.164
Cr2O3%	-0.036	0.125	0.210	-0.003	0.052	0.028	-0.069	0.252	1.000	0.262	0.294	0.262	-0.067
Na2O%	-0.255	-0.082	0.639	0.078	0.287	-0.053	-0.024	0.727	0.262	1.000	0.717	0.677	0.112
К2О%	-0.358	-0.151	0.916	0.047	0.236	-0.006	-0.019	0.789	0.294	0.717	1.000	0.982	0.077
TiO2%	-0.366	-0.124	0.970	0.127	0.329	-0.090	0.000	0.809	0.262	0.677	0.982	1.000	0.168
LOI%	-0.379	-0.226	0.271	0.747	0.924	-0.544	0.004	0.164	-0.067	0.112	0.077	0.168	1.000

The following Table 12-4 describes the composite statistics for the Magnetite Dominant Zone 200 which has an average Fe grade of 32.90%. The average Satmagan of 26.69% is reflective of the higher magnetite content of within this zone. The average Mn content of 0.984% is relatively high however initial Davis Tube testwork indicates that the magnetic separation methods tend to lower the Mn content in the final magnetic concentrate. The remainder of the deleterious grades are relatively low. The correlation table indicates a high correlation between Al₂O₃ and TiO₂ and K₂O.

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Zone 200 - 2m comps													├ ───┤
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Variable	Fe %	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%	Cr2O3%	Na20%	K20%	TiO2%	LOI%
Number of samples	136	133	136	136	136	136	136	136	136	136	136	136	136
Minimum value	14.14	1.2	0.005	0.04	0.15	26.23	0.062	0.00	0.005	0.005	0.005	0.005	0
Maximum value	43.84	48.4	7.71	5.08	5.48	70.1	3.107	0.08	0.06	0.005	3.32	0.88	13.99
Mean	32.90	26.69	0.10	1.68	2.25	43.02	0.984	0.02	0.007	0.005	0.06	0.02	4.38
Median	32.92	26.40	0.01	1.41	2.35	43.16	0.765	0.01	0.005	0.005	0.02	0.01	3.82
Geometric Mean	32.57	24.52	0.01	1.14	1.99	42.50	0.803	0.01	0.006	0.005	0.02	0.01	Not Calcula
Variance	18.96	89.16	0.44	1.49	0.96	45.45	0.368	0.00	0.000	0.000	0.08	0.01	7.38
Standard Deviation	4.35	9.44	0.67	1.22	0.98	6.74	0.607	0.01	0.007	0.000	0.28	0.08	2.72
Coefficient of variation	0.13	0.35	6.90	0.73	0.44	0.16	0.616	0.54	0.994	0.000	4.72	4.01	0.62
Skewness	-0.722	-0.002	10.989	0.682	0.178	0.559	0.970	3.872	4.698	-1.000	11.050	10.960	1.019
Kurtosis	5.910	2.517	125.130	2.699	2.784	4.877	3.436	26.536	28.270	1.000	126.456	124.441	4.009
						-							
10.0 Percentile	28.3	15.10	0.01	0.24	1.02	33.84	0.376	0.01	0.005	0.005	0.005	0.005	1.41
20.0 Percentile	29.9	17.30	0.01	0.46	1.29	37.27	0.493	0.01	0.005	0.005	0.005	0.01	2.29
30.0 Percentile	31.0	20.80	0.01	0.86	1.60	39.57	0 593	0.01	0.005	0.005	0.01	0.01	2 87
40.0 Percentile	31.9	24.00	0.01	1 12	1 92	41 17	0.676	0.01	0.005	0.005	0.01	0.01	3 37
50 0 Percentile (median)	32.9	26.40	0.01	1 41	2.35	43.16	0.765	0.01	0.005	0.005	0.02	0.01	3.82
60.0 Percentile	33.8	29.40	0.01	1.41	2.55	43.10	0.705	0.01	0.005	0.005	0.02	0.01	4 42
70.0 Percentile	3/ 8	32.00	0.01	2 31	2.50	46.81	1 217	0.01	0.005	0.005	0.03	0.01	5.05
80.0 Percentile	26.2	35.60	0.01	2.51	2.00	40.01	1.217	0.02	0.003	0.005	0.045	0.01	6.25
00.0 Percentile	29.4	33.00	0.05	2.90	2 50	50.22	1.555	0.02	0.01	0.005	0.003	0.01	8.04
50.0 Fercentile	30.4	35.40	0.10	5.51	3.30	50.52	1.050	0.02	0.01	0.005	0.08	0.02	0.04
Trimoon	27.00	26.20	0.01	1.40	2 20	42 OF		0.01	0.005	0.005	0.02	0.01	2.00
Diverget	32.00	20.30	0.01	1.49	2.20	45.05	0.030	0.01	0.005	0.005	0.03	0.01	3.99
Biweight	33.01	20.03	0.01	1.54	2.20	42.84	0.875	0.01	NOT Calcul	NOT CAICU	0.03	NOT CAICU	3.88
Correlation Coefficient 18	adie												├ ──┤
	5 0/	<u> </u>	412.0.20/	0.001	11.000	6:000		50/	0.0000/	1/2.00/	T :020/	1.010/	├─── ┤
F 0(Fe %	Satmagan %	AI203%	Ca0%	MgU%	SIO2%	IVIN%	P%	Cr203%	K20%	1102%	L01%	
Fe%	1	0.2043	-0.3947	-0.0302	-0.2343	-0.7742	0.2272	-0.2585	-0.1851	-0.3847	-0.3828	-0.2473	├ ───┤
Satmagan %	0.2043	1	-0.1521	0.3161	-0.2951	-0.0948	-0.1663	-0.226	-0.0221	-0.3049	-0.0927	-0.20/1	
AI2O3%	-0.3947	-0.1521	1	-0.0732	0.0565	0.105	0.0284	0.6819	0.6022	0.9935	0.9959	0.2597	
CaO%	-0.0302	0.3161	-0.0732	1	0.0143	-0.2143	-0.0545	0.0146	-0.1107	-0.0894	-0.0674	0.2354	
MgO%	-0.2343	-0.2951	0.0565	0.0143	1	-0.1244	0.3853	0.2547	-0.0326	0.1047	0.0665	0.3461	
SiO2%	-0.7742	-0.0948	0.105	-0.2143	-0.1244	1	-0.6167	-0.195	0.0876	0.0666	0.0892	-0.3628	$ \longrightarrow $
Mn%	0.2272	-0.1663	0.0284	-0.0545	0.3853	-0.6167	1	0.4034	-0.0604	0.0932	0.0349	0.5467	
P%	-0.2585	-0.226	0.6819	0.0146	0.2547	-0.195	0.4034	1	0.4399	0.7135	0.6794	0.6012	
Cr2O3%	-0.1851	-0.0221	0.6022	-0.1107	-0.0326	0.0876	-0.0604	0.4399	1	0.6014	0.6037	0.1	
K2O%	-0.3847	-0.3049	0.9935	-0.0894	0.1047	0.0666	0.0932	0.7135	0.6014	1	0.9904	0.3024	
TiO2%	-0.3828	-0.0927	0.9959	-0.0674	0.0665	0.0892	0.0349	0.6794	0.6037	0.9904	1	0.2655	
LOI%	-0.2473	-0.2071	0.2597	0.2354	0.3461	-0.3628	0.5467	0.6012	0.1	0.3024	0.2655	1	

The following Table 12-5 describes the composite statistics for the Footwall Hematite Dominant Zone 300 which has an average Fe grade of 28.89%. The average Satmagan of 2.99% is reflective of the higher magnetite content of within this zone. The average Mn content of 1.455% is relatively high however process testwork on the hematite taconite oretype will need to be conducted to see if this can be lowered in the final concentrate grade. The remainder of the deleterious grades are relatively low. The correlation table indicates a high correlation between Al₂O₃ and TiO₂.

Statistics Report													
Zone 300 - 2m comps													
Variable	Fe %	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%	Cr2O3%	Na20%	K20%	TiO2%	LOI%
Number of samples	52	49	52	52	52	52	52	52	52	52	52	52	52
Minimum value	22.74	0.2	0.005	0.52	3.02	26.32	0.435	0.01	0.005	0.005	0.02	0.005	1.47
Maximum value	33.6	18.1	3.22	2.89	4.99	45.95	2.675	0.08	0.070	0.050	0.44	0.22	23.22
Mean	28.89	2.99	0.64	1.35	3.93	33.91	1.455	0.05	0.010	0.007	0.20	0.06	16.68
Median	29.09	0.90	0.46	1.27	4.07	33.89	1.247	0.04	0.005	0.005	0.19	0.05	16.80
Geometric Mean	28.78	1.49	0.37	1.25	3.90	33.68	1.356	0.05	0.007	0.006	0.18	0.05	15.71
Variance	6.22	18.15	0.49	0.30	0.24	16.00	0.287	0.00	0.000	0.000	0.01	0.00	20.45
Standard Deviation	2.49	4.26	0.70	0.55	0.49	4.00	0.536	0.01	0.011	0.007	0.08	0.05	4.52
Coefficient of variation	0.09	1.43	1.09	0.41	0.12	0.12	0.368	0.23	1.140	1.013	0.41	0.76	0.27
Skewness	-0.317	1.932	2.372	0.742	-0.141	0.246	0.423	0.175	3.555	4.815	0.596	1.645	-0.715
Kurtosis	2.494	5.598	8.460	2.909	2.232	3.205	2.114	4.902	17.042	28.074	3.118	5.515	3.704
10.0 Percentile	26.13	0.70	0.08	0.70	3.15	27.87	0.829	0.04	0.005	0.005	0.11	0.02	11.08
20.0 Percentile	26.60	0.80	0.21	0.85	3.45	30.19	1.010	0.04	0.005	0.005	0.12	0.03	12.82
30.0 Percentile	27.09	0.80	0.30	0.98	3.65	32.34	1.118	0.04	0.005	0.005	0.15	0.03	14.46
40.0 Percentile	28.50	0.90	0.35	1.11	3.83	33.26	1.208	0.04	0.005	0.005	0.17	0.04	15.21
50.0 Percentile (median)	29.09	0.90	0.46	1.27	4.07	33.89	1.247	0.04	0.005	0.005	0.19	0.05	16.80
60.0 Percentile	29.81	1.00	0.51	1.45	4.10	34.95	1.409	0.05	0.005	0.005	0.22	0.07	18.15
70.0 Percentile	30.49	1.50	0.63	1.54	4.20	35.67	1.783	0.05	0.010	0.005	0.23	0.07	19.96
80.0 Percentile	31.18	4.40	0.81	1.70	4.27	37.09	2.120	0.06	0.010	0.005	0.28	0.09	20.97
90.0 Percentile	31.96	11.10	1.37	2.29	4.60	39.14	2.223	0.06	0.025	0.010	0.32	0.13	22.46
Trimean	29.00	1.09	0.47	1.27	3.98	33.74	1.381	0.05	0.006	0.005	0.19	0.05	16.99
Biweight	28.99	0.92	0.43	1.29	3.96	33.84	1.404	0.05	0.006	Not Calcul	0.19	0.05	16.96
Correlation Coefficient Ta	able												
	Fe %	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%	Cr2O3%	Na20%	K20%	TiO2%	LOI%
Fe%	1.000	0.602	-0.621	-0.542	-0.443	0.090	0.351	-0.377	0.168	-0.173	-0.501	-0.727	-0.661
Satmagan %	0.602	1.000	-0.334	-0.378	-0.533	0.539	0.320	-0.493	0.165	-0.139	-0.514	-0.407	-0.727
Al2O3%	-0.621	-0.334	1.000	0.453	0.387	-0.263	-0.017	0.458	-0.192	0.087	0.180	0.924	0.416
CaO%	-0.542	-0.378	0.453	1.000	0.369	-0.399	-0.201	0.408	-0.167	0.281	0.370	0.527	0.605
MgO%	-0.443	-0.533	0.387	0.369	1.000	-0.461	-0.628	0.219	-0.033	0.160	0.635	0.440	0.641
SiO2%	0.090	0.539	-0.263	-0.399	-0.461	1.000	-0.136	-0.467	0.266	-0.057	-0.296	-0.367	-0.769
Mn%	0.351	0.320	-0.017	-0.201	-0.628	-0.136	1.000	0.067	-0.196	-0.115	-0.457	-0.076	-0.228
P%	-0.377	-0.493	0.458	0.408	0.219	-0.467	0.067	1.000	-0.261	0.161	0.228	0.474	0.518
Cr2O3%	0.168	0.165	-0.192	-0.167	-0.033	0.266	-0.196	-0.261	1.000	-0.101	-0.147	-0.211	-0.252
Na2O%	-0.173	-0.139	0.087	0.281	0.160	-0.057	-0.115	0.161	-0.101	1.000	0.345	-0.014	0.159
K2O%	-0.501	-0.514	0.180	0.370	0.635	-0.296	-0.457	0.228	-0.147	0.345	1.000	0.199	0.572
TiO2%	-0.727	-0.407	0.924	0.527	0.440	-0.367	-0.076	0.474	-0.211	-0.014	0.199	1.000	0.607
LOI%	-0.661	-0.727	0.416	0.605	0.641	-0.769	-0.228	0.518	-0.252	0.159	0.572	0.607	1.000

The following Table 12-6 describes the composite statistics for the Elizabeth No 2 Magnetite Zone 400 which has the highest average Fe grade of all of the zones at 33.05%. The average Satmagan of 32.67% is reflective of the higher magnetite content of within this zone and also reflects the highest average Satmagan of the two magnetite zones. The average Mn content of 0.752% is relatively high however initial Davis Tube testwork indicates that the magnetic separation methods tend to lower the Mn content in the final magnetic concentrate. The remainder of the deleterious grades are relatively low. The correlation table indicates a high correlation between Al_2O_3 and TiO_2 and K_2O .

Statistics Report													
Zone 400 - 2m comps													
Variable	Fe %	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%	Cr2O3%	Na20%	K2O%	TiO2%	LOI%
Number of samples	85	83	85	85	85	85	85	85	85	85	85	85	78
Minimum value	2.06	15.7	0.005	0.005	0.02	32.97	0.002	0.00	0.005	0.005	0.005	0.005	0.1
Maximum value	43.85	50.3	16.42	4.68	4.25	65.67	2.485	0.03	0.05	0.005	5.21	0.62	13.03
Mean	33.05	32.67	0.22	1.57	2.01	44.08	0.752	0.01	0.008	0.005	0.08	0.02	3.86
Median	32.78	33.90	0.01	1.24	2.22	43.76	0.659	0.01	0.005	0.005	0.01	0.01	3.52
Geometric Mean	32.11	31.60	0.01	0.57	1.44	43.65	0.498	0.01	0.006	0.005	0.01	0.01	2.80
Variance	27.23	61.82	3.13	1.96	1.13	39.22	0.284	0.00	0.000	0.000	0.31	0.00	6.15
Standard Deviation	5.22	7.86	1.77	1.40	1.06	6.26	0.533	0.01	0.007	0.000	0.56	0.07	2.48
Coefficient of variation	0.16	0.24	8.07	0.89	0.53	0.14	0.709	0.41	0.915	0.000	6.62	3.55	0.64
Channes	2 220	0.247	0.024	0.501	0.200	0.750	1 205	0.050	2 5 4 2	1 000	0.015	0.005	0.644
Skewness	-2.228	-0.347	9.031	0.501	-0.280	0.759	1.205	0.958	3.543	-1.000	9.015	8.805	0.641
KURTOSIS	15.553	2.453	82.710	2.075	2.104	4.103	4.578	3.800	17.219	1.000	82.522	/9.8/4	3.725
10.0 Percentile	27.63	20.90	0.005	0.03	0.39	36.18	0.115	0.01	0.005	0.005	0.01	0.01	0.75
20.0 Percentile	30.17	26.45	0.005	0.10	0.82	38.56	0.322	0.01	0.005	0.005	0.01	0.01	1.15
30.0 Percentile	31.32	29.30	0.005	0.14	1.35	41.09	0.524	0.01	0.005	0.005	0.01	0.01	2.32
40.0 Percentile	31.97	31.70	0.005	1.03	1.81	42.84	0.574	0.01	0.005	0.005	0.01	0.01	3.12
50.0 Percentile (median)	32.78	33.90	0.005	1.24	2.22	43.76	0.659	0.01	0.005	0.005	0.01	0.01	3.52
60.0 Percentile	33.51	35.85	0.005	1.84	2.52	44.65	0.754	0.01	0.005	0.005	0.02	0.01	4.30
70.0 Percentile	35.62	37.20	0.005	2.48	2.67	46.48	0.865	0.01	0.005	0.005	0.02	0.01	5.28
80.0 Percentile	37.53	39.60	0.005	2.94	2.91	48.47	0.983	0.02	0.010	0.005	0.03	0.01	6.23
90.0 Percentile	38.40	42.00	0.08	3.68	3.30	51.91	1.580	0.02	0.010	0.005	0.07	0.02	6.97
Trimean	33.37	33.38	0.01	1.32	2.11	43.71	0.657	0.01	0.006	0.005	0.01	0.01	3.66
Biweight	33.24	33.28	Not Calcul	1.49	2.07	43.59	0.634	0.01	0.005	Not Calcul	0.01	Not Calcul	3.69
Correlation Coefficient Tab	le												
	F- 0/	Catura and O/	412020/	6-0%	NA-00/	6:00%	N.40/	D0/	6-2020/	1/200/	T:020/	1.019/	
Fo0/	Fe %	Satmagan %	AI2U3%	0.120%	NIgU%	0.7201	IVIN%	P%	0.0461	K2U%	0.6224	LUI%	
Fe%	0.2210	0.2216	-0.6465	-0.1268	-0.3378	-0.7201	0.0719	0.1322	-0.0461	-0.6491	-0.6324	-0.2226	
	0.2210	0.0524	-0.0524	0.1005	-0.0734	-0.1205	-0.1032	0.0020	0.0393	-0.10	0.0303	-0.0651	
AI203%	-0.0405	-0.0524	0 1271	-0.1271	-0.0418	0.3734	-0.1498	-0.0065	0.1308	0.9989	0.9930	0.1274	
Cd0%	-0.1208	-0.0724	-0.1271	0 5109	0.5108	-0.3337	0.2627	0.1700	-0.0947	-0.1213	-0.133	0.3003	
SiO2%	-0 7201	-0 1205	0.0410	-0 3322	-0 11/10	0.1149	-0 5/17	-0 1/20	-0.0027	0.0195	0.0409	-0 /109	
Mn%	0.7201	-0 1632	-0 1498	0.3337	0.1149	-0 5417	0.5417	0.5891	-0.0027	-0 119/	-0 1315	0.4108	
P%	0.0713	0.1032	-0.0065	0.2027	0.4217	-0 4489	0 5881	0.5651	-0.0593	0.1194	0.1313	0.4051	
Cr203%	-0.0461	0.0320	0 1808	0 131/	-0.0947	-0 0027	-0.0072	-0 0593	1	0 1806	0 1722	-0 0230	
K20%	-0 6491	-0.16	0.9989	-0.1215	-0.0193	0.3596	-0.1194	0.0145	0,1806	1	0.17.52	0.1482	
TiO2%	-0.6324	0.0565	0.9936	-0.135	-0.0409	0.3558	-0.1315	0.023	0.1732	0.993	1	0.1312	
LOI%	-0.2226	-0.0851	0.1274	0.5065	0.4509	-0.4108	0.6014	0.4051	-0.0239	0.1482	0.1312	1	

Table 12-6 Composite Statistics Magnetite Elizabeth No 2 Zone 400

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The following Table 12-7 highlights the sample support for each interpreted zone domain. Note that zones 400 and 500 are only intersected by two drillholes on a single drill section.

Zone #	IF Type & Zone	# of Intersecting Drill Holes	# Fe Composites
100	Hematite Hangingwall Elizabeth No 1	5	65
200	Magnetite Elizabeth No 1	5	136
300	Hematite Footwall Elizabeth No 1	5	52
400	Magnetite Elizabeth No 2	2	85
500	Hematite Footwall Elizabeth No 2	2	8

Table 12-7 Number of Drillholes & Composites Per Zone Domain

12.4 Variogram Analysis and Modeling

As the Elizabeth deposit was subject to a first phase of exploration drilling, the drill hole density was insufficient to derive meaningful variograms. As a result, interpolation ranges were based on drill hole spacing and continuity of surface mapping and geophysical anomalies.

12.5 Block Model

The block model is a rotated block model with a regularized block size. Block heights were set at 15m to reflect an approximate bench height typical of iron deposits in the area. The lateral 25m block size extent is less than typically used for the nominal 600-m drill hole spacing. However, the smaller block size better accommodates the geometry of the deposit. See Table 12-8, 12-9 and 12-10.

Туре	Northing	Easting	Elevation	
Minimum Coordinates	6073435	633100	300	
Maximum Coordinates	6075535	638800	810	
User Block Size	25	150	15	
Min. Block Size	25	150	15	
Rotation	49	0	0	

Table 12-8	Block	Model	Origin	and	Extents
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Attribute Name	Decimals	Background	Comments
Al2O3	2	0	ID2 Interpolation
av_dist	2	0	For Fe ID2 Interpolation
CaO	2	0	ID2 Interpolation
dist	2	0	For Fe ID2 Interpolation
Fe	2	0	ID2 Interpolation
MgO	2	0	ID2 Interpolation
MnO	2	0	ID2 Interpolation
no_samples	-	-99	For Fe ID2 Interpolation
P2O5	2	0	ID2 Interpolation
res_cat	-	0	Assigned - See description
rock_code	-	0	Assigned - See description
satmagan	2	0	ID2 Interpolation
SiO2	2	0	ID2 Interpolation
			Assigned Hem=3.1g/cc; Mag=3.34g/cc; Waste
density	2	0	2.74g/cc

Table 12-9 Block Model Attributes

The following Table 12-10 provides descriptions and locations for the various rock codes provided in the block model. All codes were assigned to the block model using solids, and topography constraints.

Rock_Code	Comments
100	Hangingwall Hematite Elizabeth No 1 Zone
200	Magnetite Elizabeth No 1 Zone
300	Footwall Hematite Elizabeth No 1 Zone
400	Magnetite Elizabeth No 2 Zone
500	Footwall Hematite Elizabeth No 2 Zone
0	Air
1000	Waste Rock

Table 12-10 Block Model Rock Code Descriptions

12.6 Estimation Methodology

For Elizabeth No 1 domain solids 100, 200, and 300 attributes Fe, CaO, MgO, Mn, P_, SiO₂, Al₂O₃, and Satmagan were assigned using an ellipsoid search range of 1300-m. For the Elizabeth No 2 solids 400 and 500 the same suite of grade attributes were interpolated however in order to fill in the interpreted zone solid a range of 3000-m was adopted (This range is the main driver in the classification of material in the 400 and 500 solids as "Exploration Potential". Major to semi-major and minor axis ratios were set to 1, the minimum number of composites was set to 8 while the maximum number of composites was set to 38. A restriction of a maximum number of composites per drill hole was set at 18.

12.7 Model Validation

The block model was validated by comparing assay grades with block grades on a section by section basis. This was followed by a comparison between estimated nearest neighbor and inverse distance squared grades.

The comparison of block grades with drill hole grades were reasonably comparable throughout the various drill sections.

A comparison of nearest neighbor versus inverse distance squared block grades reflect a reasonable estimate of block grades considering the current widely spaced holes and is included in the Table 12-11 below.

Interpolation Method	Fe %	Satmagan %	Al2O3 %	CaO %	MgO %	SiO2 %	Mn %	Р%
Inverse Distance Squared	31.81	20.46	0.27	1.5	2.26	42.14	0.93	0.02
Nearest Neighbour	31.77	20.91	0.25	1.21	2.14	43.09	0.98	0.02

Table 12-11 Inverse Distance Squared versus Nearest Neighbour Block Statistics

12.8 Resource Classification

Resource classification was based on drill hole spacing. As the project was subject to a first phase of exploration drilling on drill sections spaced ~600-m with relatively few drill holes only Inferred Mineral Resources and Potential Tonnage categories were estimated.

Inferred

Inferred was assigned to all blocks within the mineralized domain solids 100, 200 and 300.

Potential Tonnage

A potential tonnage exploration category was assigned to Elizabeth No 2 Zone solids 400 and 500. Generally there was too few drill holes to establish the true thickness or orientation of intercepts within the lateral extent of these zones.

12.9 Cut-Off Grade

Resource cut-offs for taconite iron projects are often driven by oretype process testwork which assesses the maximum contaminant level limits under which saleable products can be made or oretype specific minimum Fe head grades required to achieve economic recoveries and/or saleable Fe concentrate grades. As this information was not available at the time of this resource estimate, an 26% Fe cut-off grade was assumed for the hematite zones and a 26% Fe cut-off and 14% Satmagan cut-off was selected for the magnetite zones in order to define mineral resources. These thresholds have been assumed and are based on experience with similar deposits.

12.10 Mineral Resource Statement

The mineral resources for the Elizabeth Taconite are included in the following Table 12-12. Total inferred tonnage available for the preliminary economic assessment is just over 620 million tonnes. Tonnage is based on dry tonnes. The resources are not reported within an economic pit shell.

Inferred Mineral Resources	Zone Solids	Million Tonnes	Fe%	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%
Magnetite Taconite	200	410	32.83	29.2	0.08	1.8	2.09	43.58	0.82	0.01
Hematite Taconite	100; 300	210	29.83	3.42	0.64	0.93	2.59	39.34	1.15	0.04
Total Inferred	100; 200; 300	620	31.81	20.47	0.27	1.51	2.26	42.14	0.93	0.02

Table 12-12 Resource Statement

The effective date of the mineral resource is June 15th, 2013. No information was available to assess the extent to which the estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing or other relevant issues. These items can only be effectively evaluated in a feasibility study. Mineral resources that have not been converted to mineral reserves do not have demonstrated economic viability.

Potential Tonnage and Grade

The following Table 12-13 provides an indication of exploration potential. The potential quantity and grade is conceptual in nature, in that there has been insufficient exploration to define a mineral resource and that it is uncertain if further exploration will result in the target being delineated as a mineral resource. The range of tonnage has been outlined based on the lateral extent of ground and airborne magnetic and gravity anomalies, surface mapping by the IOCC and two drill hole intercepts which define the width and estimated grade at the southeast extent of Elizabeth No 2.

Table 12-13 Exploration Potential Tonnes and Grade

Potential Tonnage	Zone Solids	Million Tonnes	Fe%	Satmagan %	Al2O3%	CaO%	MgO%	SiO2%	Mn%	P%
Magnetite Taconite	400	300-500	32.38	32.73	0.33	1.82	2.4	43.79	0.88	0.01
Hematite Taconite	500	50-100	29.59	1.44	0.31	1	4.01	34.57	1.56	0.05
Total Potential	400; 500	350-600	31.94	27.79	0.33	1.69	2.65	42.33	0.99	0.02

(Note: Above table does not comprise of NI-43101 defined mineral resources however does provide an inventory of exploration potential tonnage and grade per oretype).

13 Adjacent Properties

The closest taconite project along strike of the Elizabeth Project is New Millenium's LabMag Iron Ore Project which contains the Howells River Taconite. The LabMag Project is located some 30-km to the northwest and along strike of the Elizabeth Project. The property is owned by the partnership of New Millennium Capital Corp and the Naskapi LabMag Trust.

A pre-feasibility study entitled, A Technical Review of the Pre-Feasibility Study of the LabMag Iron Ore Project, Labrador for Labmag Services Inc was completed in Aug 31, 2006. A Feasibility was commissioned by New Millenium Capital Corp and is due for release.

The Millennium Iron Range currently hosts two advanced projects that have current NI43-101 documented reserves and resources: LabMag is reported to contain 3.5 billion tonnes of Proven and Probable reserves at a grade of 29.6% Fe plus 1.0 billion tonnes of Measured and Indicated resources at an average grade of 29.5% Fe and 1.2 billion tonnes of Inferred resources at an average grade of 29.3% Fe (see news release 06- 13 dated July 5, 2006 and news release 07-11 dated July 17, 2007); KéMag is reported to contain 2.1 billion tonnes of Proven and Probable reserves at an average grade of 31.3% Fe, 0.3 billion tonnes of Measured and Indicated resources at an average grade of 31.3% Fe, 0.3 billion tonnes of Measured and Indicated resources at an average grade of 31.3% Fe and 1.0 billion tonnes of Inferred resources at an average grade of 31.2% Fe (see news release 09-01 dated January 16, 2009). Tata Steel exercised its exclusive right to negotiate and settle a proposed transaction in respect of the LabMag Project and the KéMag Project (see news release 11-09 dated March 6, 2011). Note the author of this report has not reviewed or audited the above resource and reserve estimates.

14 Other Relevant Data and Information

The following description of adjacent properties is derived from SGS LIM Technical Report (Dupere, 2012) has not been reviewed by the author of this report.

The 20 different iron ore deposits which comprise LIM's Schefferville Projects are divided into two separate portions, Labrador Iron Mines Limited (LIM) within the Province of Newfoundland and Labrador and the Schefferville Mines Inc (SMI) within the Province of Québec.

Labrador Iron Mines Limited holds three mining leases, nine surface leases covering approximately 1,545 hectares and 26 mineral rights licences (reduced from 60 licences due to the grouping of 40 licences into six new grouped licences) in Newfoundland and Labrador, covering approximately 16,475 hectares in western Newfoundland and Labrador;

Schefferville Mines Inc. (SMI) holds interests in 298 mining rights in Québec, covering approximately 12,097 hectares. SMI also holds an exclusive operating licence in a mining lease covering 22 parcels totalling approximately 2,036 hectares.

As at March 31, 2012, LIM had confirmed a total of approximately 44.6 million tonnes at an average grade of 56.5% iron of NI 43-101 compliant measured and indicated mineral resources on the Schefferville Projects. Of this total, approximately 27.0 million tonnes are measured mineral resources and approximately 17.6 million tonnes are indicated mineral resources.

The Schefferville Projects also encompass approximately 121 million tons of historical reserves and resources identified by Iron Ore Company of Canada (IOCC) which were part of the historical reserves and resources identified by IOC at the end of its original direct shipping operations conducted from 1954 to 1982. These historical resources estimates are based on work completed and estimates prepared by IOCC prior to 1983 and were not prepared in accordance with NI 43-101.

The IOCC classification reported all resources (measured, indicated and inferred) within the total mineral resource. A qualified person has not done sufficient work to classify the historical estimates as current mineral reserves. These historical results provide an indication of the potential of the properties and are relevant to ongoing exploration. The historical estimates have been provided for information purposes only and should not be relied upon.

LIM's Houston deposits are situated in Labrador approximately 20 km SE from Schefferville, Québec. Exploration drilling at the Houston deposits during 2010 and 2011 significantly increased the size of the resources and as a result, the Houston deposits are now of sufficient tonnage that merits evaluation of a stand-alone operation.

An updated independent mineral resource estimate of the Houston deposits, prepared as of March 31, 2012, confirmed the measured and indicated resource estimate of 23 million tonnes, compared to 22 million tonnes previously reported and increased the inferred resource to 3.7 million tonnes from the 690,000 tonnes previously reported. The Houston deposits remain open along strike, particularly to the southeast, and further drilling is underway in 2012 to test for possible extensions and to upgrade the inferred resource.

An independent review of the Houston deposits was carried out by Maxime Dupéré, P. Geo of SGS Canada Inc. ("SGS") entitled "Technical Report, Mineral Resource Update of the Houston Property,

Labrador West Area, Newfoundland Labrador, Canada for Labrador Iron Mines Holdings Limited". March 31st, 2012 Revised October 24, 2012 Page 221.

Within the Elizabeth Taconite property boundary LIM also holds the exploration rights to the Gagnon Taconite located immediately to the northwest of the town of Schefferville which according to LIM will be the subject of a preliminary exploration program in the 2013 field season. See Figure 14-1. The goal of this program is to work towards achieving a total taconite targeted resource of 1 billion tonnes. G Wahl conducted a site visit to the Gagnon Taconite and observed in outcrop an extensive package of taconite mineralization. Proximity of the Gagnon Taconite to within a few kilometers of existing rail service and infrastructure as well as the potential to define a large tonnage make it a viable target for further exploration.

Labrador Iron Mines Limited Elizabeth and Gagnon **Taconite Projects** NEARBY EXISITING FACILITIES By: E. Ch Date: June 6, 2013 Scale 1:48,000 ction: UTM NAD27 Zone 19 X LEGEND Road Existing Rail bed Existing p Power line corrido an Lake Carr Active mine Abandoned × Mining project ver Line Corric Camp / plant LIM/Hollinge ishart TRX

Figure 14-1 Location Map of LIM's Nearby Gagnon Taconite

15 Interpretation and Conclusions

The Elizabeth Taconite is made up of magnetite and hematite dominant zones within the Elizabeth No 1 inferred mineral resource and the exploration potential within Elizabeth No 2.

The Elizabeth No 1 is attractive in that the deposit attains > 100m widths at the north end which will allow for low strip ratios.

Encouraging Fe weight recoveries and Fe concentrate grades were achieved in the Davis Tube testwork completed on the magnetite taconite zones. Davis Tube testwork also indicated a decrease in Mn grades to acceptable levels as a result of magnetic concentration.

Additional metallurgical testwork will be required to determine whether a saleable product grade can be achieved for the hematite taconite.

The Elizabeth Taconite is attractive in terms of its proximity to existing road, and power, as well as rail access to port and pellet plant facilities in Sept-Îles. A rail bed from a previous IOCC spur line crosses within 1 km of the Elizabeth Taconite. As well, the property is well accessed via previous haul roads to former direct shipping ore mines in the area. Former IOCC mined out pits surrounding the Elizabeth Taconite such as the existing Ruth Lake and Wishart pits may also serve as easily accessible sites for waste rock and tailings.

The project warrants further evaluation which includes preliminary mineralogical testwork on the hematite and magnetite taconite, further Davis Tube testwork, stepout drilling with the aim to initially expand the inferred mineral resources. If results continue to be positive, this work should be followed by a preliminary economic assessment.

15.1 Mineral Resource Estimate

The database was reviewed by G H Wahl and found to be appropriate for resource estimation.

Drill density was sufficient to estimate inferred mineral resources for the mineralization contained within Elizabeth No 1 deposit.

A total of 620 million tonnes at 31.8% Fe of inferred mineral resources were estimated in Elizabeth No 1, while an exploration potential of 350 to 600 million tonnes at 32% Fe were estimate for the Elizabeth No 2.

There is an opportunity to expand the estimated taconite mineral resources along strike through field mapping and additional widely 300-600-m spaced drilling in both Elizabeth No 1 and 2.

Risk areas are as follows:

- Mineralogical or metallurgical results should be obtained to demonstrate whether the hematite dominant oretype can be upgraded to a saleable product grade and if upgradeable, at what cut-off this potential oretype will be viable.
- Widely spaced drill holes may result in variances of estimated inferred tonnages. Future infill drill programs may encounter variability in the true thickness of the iron formation.
- Because iron ore mining is largely a bulk material handling exercise, all iron resources are sensitive to material handling costs and iron ore prices.

16 Recommendations

16.1 Exploration

The following recommendations are based on the evaluation of the available drill hole database and resource estimate.

Mapping is recommended on at least 200-m cross lines. Mapped lithologies should reflect the subunits of the Sokoman Iron Formation. As well, thrust fault dips and azimuths as well as stratigraphic dips and strikes should be captured as well as location of outcrops. This will form a sound basis for the planning of infill and step out drilling.

Davis Tube samples should be collected from all intervals that reflect >14% Satmagan as 4-6-m composite lengths.

Prior to the collection of deposit wide Davis Tube samples, a smaller suite of Davis Tube samples should be run to assess whether a coarser 140 mesh (105 micron) grind size or more can be achieved without significantly affecting the weight recoveries or concentrate grades.

Preliminary mineralogical work which includes Scanning Electron Microscope work to characterize the hematite rich taconites is recommended. If the hematite iron oxides are of sufficient size and quantity to liberate easily, further bench scale metallurgical testwork should be considered.

Building of Taconite based QAQC standards, one magnetite rich at a target grade of ~30%Fe and one a hematite rich sample at a target grade of ~30%Fe is recommended.

Duplicate pulps should be sent to a second independent referee laboratory.

Density data collection should be amended so that a relationship between density and Fe grades can be established. It is recommended that the same assay length samples used for water immersion methods representing a variety of magnetite and hematite rich and variable grade samples should also be retested via pycnometer. If a reasonable correlation can be established future taconite density sample can be based on the pycnometer so that regressions can be derived from the corresponding Fe assays.

Downhole surveys should be completed using a non-magnetic based instrument such as the Reflex Maxibor II.

As the taconite deposit will eventually require geotechnical evaluation of pit walls, it is recommended that LIM Geologists also log RQD, fracture zones, and faults in any future drill campaigns.

It is recommended that higher resolution wet and dry core photos should be collected. As much of the potential of taconite deposit is dependent on grain size liberation characteristics it is worthwhile increasing the resolution as the photos can be useful in the selection of metallurgical variability samples.

A drill program is proposed which is comprised of 6 holes 350-m in length and also spaced roughly 600-m apart stepped back from the existing fence of holes targeted at the depth portion of Elizabeth No 1. An additional 3 holes 250-m in length, are targeted on the existing fence of holes with one step
out hole to the southeast and two holes towards the northwest extent. A further 5 drill holes 250-m in length are targeted on the upper portion of Elizabeth No 2 as 600-m steps outs to the existing two drill holes. Another 4 holes 350-m in length are recommended as testing the deeper portion of the Elizabeth No 2 also on ~600-m step outs. The planned meterage is 5,500-m. Another 500-m has been added as contingency for a total of 6,000-m.

16.2 Elizabeth Taconite Project Budget

The next stage of work should include a geological mapping program, mineralogical work and if the positive, the exploration database recommendations should be implemented.

Description	Unit Costs (C\$)	Cost (C\$)
Detailed Mapping of Elizabeth area (3 weeks)	\$30k/week	90,000
Davis Tube (200 samples)	\$100/sample	20,000
Mineralogy		20,000
Exploration Drilling with Logging/Assaying (6,000m)	\$333/m	2,000,000
Resource Modeling		100,000
	Subtotal	2,230,000
Metallurgical Testing		100,000
Scoping Study		120,000
Total	Subtotal	320,000
		2,550,000
Contingency (10%)		250,000
Total		2,800,000

Table 16-1 Estimated Cost for the Elizabeth Taconite Project Exploration Program

17 References

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- Williams, G.E. and P.W. Schmidt, 2004. Paleomagnetism of the 1.88-GA Sokoman Formation in the Schefferville-Knob Lake area, Quebec, Canada, and implications for the genesis of iron oxide deposits in the central New Quebec Orogen; Precambrian Research v. 128, pp.167-188.

18 Certificate

Certificate and Consent of Qualified Person

To accompany the report entitled: Mineral Resource Technical Report Elizabeth Taconite Project, Labrador for Labrador Iron Mines Ltd dated June 15th, 2013.

I, George H Wahl, P. Geo, residing at 67 Menno Street, Waterloo, Ontario do hereby certify that:

1. I am Principal Geologist of G H Wahl & Associates Consulting with an office at 67 Menno Street, Waterloo, Ontario, Canada;

2. I am a graduate of the University of Western Ontario with a BSc in Geology in 1985 and a MA in Resource Management at the University of Waterloo. I have practiced as a geoscientist in both exploration and resource estimation for the past 25 years. I have worked with many junior, intermediate and senior mining companies and engineering firms on a variety of preliminary economic assessments, pre-feasibility and feasibility studies. I have operated a consulting business for the past 14 years and have completed studies or consulted on iron projects in Peru, Brazil, Sweden, Finland and in Canada, in the Labrador Trough, Baffin Island, Ontario and the Radisson region of northern Quebec;

3. I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the Province of Ontario (APGO#0448), the Northwest Territories and Nunavut Association of Professional Engineers, Geoscientists and Geophysicists (NAPEG#L1513) and Professional Engineers and Geoscientists of Newfoundland & Labrador (PEGNL#07062).

4. I completed a site visit from June 18th to the 21st, 2013. The site visit included a traverse over the surface mineralization and a review of drill core to be used for resource estimation;

5. I am responsible for all items within this report unless noted otherwise in the text;

6. I am independent of the issuer as defined by Section 1.4 of National Instrument 43-101;

7. I have had no prior involvement with the Elizabeth Taconite property;

8. I have read National Instrument 43-101 and confirm that the Technical Report complies with its disclosure requirements; and

9. As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Waterloo, Ontario, Canada

June 15th, 2013



George H Wahl, P.Geo

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19 Glossary

19.1 Mineral Resources

The mineral resources and mineral reserves have been classified according to the "CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines" (November 27, 2010). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

A Mineral Resource is a concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.

19.2 Definition of Terms

The following general mining terms may be used in this report.

Table 19-1 Definition of Terms

Term	Definition
Assay	The chemical analysis of mineral samples to determine the metal content.
Capital Expenditure	All other expenditures not classified as operating costs.
Composite	Combining more than one sample result to give an average result over a larger
•	distance.
Concentrate	A metal-rich product resulting from a mineral enrichment process such as gravity
	concentration or flotation, in which most of the desired mineral has been separated
	from the waste material in the ore.
Crushing	Initial process of reducing ore particle size to render it more amenable for further
C C	processing.
Cut-off Grade (CoG)	The grade of mineralized rock, which determines as to whether or not it is economic
	to recover its gold content by further concentration.
Dilution	Waste, which is unavoidably mined with ore.
Dip	Angle of inclination of a geological feature/rock from the horizontal.
Fault	The surface of a fracture along which movement has occurred.
Footwall	The underlying side of an orebody or stope.
Ganque	Non-valuable components of the ore
Grade	The measure of concentration of gold within mineralized rock
Hangingwall	The overlying side of an orebody or slope
Haulane	A horizontal underground excavation which is used to transport mined ore
Hydrocyclone	A process whereby material is graded according to size by evploiting centrifugal
Trydrocyclone	foreas of particulate materials
Ignoous	Drimary crystalling rock formed by the solidification of magma
Kriging	An interpolation method of accigning values from complex to block that minimizes
Kiigilig	An interpolation method of assigning values from samples to blocks that minimizes
	life estimation end.
Lever	monzonial tunnel the primary purpose is the transportation of personnel and
Lithelesiael	Coolegiant description parteining to different reals types
Lithological	Geological description pertaining to different rock types.
LOW Plans	Lite-of-Mine plans.
LRP Material Dressertian	Long Range Plan.
Material Properties	Mine properties.
Milling	A general term used to describe the process in which the ore is crushed and ground
	and subjected to physical or chemical treatment to extract the valuable metals to a
NA ¹ 1/ N A ¹ 1	concentrate or finished product.
Mineral/Mining Lease	A lease area for which mineral rights are held.
Mining Assets	The Material Properties and Significant Exploration Properties.
Ongoing Capital	Capital estimates of a routine nature, which is necessary for sustaining operations.
Ore Reserve	See Mineral Reserve.
Pillar	Rock left behind to help support the excavations in an underground mine.
RoM	Run-of-Mine.
Sedimentary	Pertaining to rocks formed by the accumulation of sediments, formed by the erosion
	of other rocks.
Shaft	An opening cut downwards from the surface for transporting personnel, equipment,
	supplies, ore and waste.
Sill	A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the
	injection of magma into planar zones of weakness.
Smelting	A high temperature pyrometallurgical operation conducted in a furnace, in which the
	valuable metal is collected to a molten matte or doré phase and separated from the
	gangue components that accumulate in a less dense molten slag phase.
Stope	Underground void created by mining.
Stratigraphy	The study of stratified rocks in terms of time and space.
Strike	Direction of line formed by the intersection of strata surfaces with the horizontal
	plane, always perpendicular to the dip direction.
Sulfide	A sulfur bearing mineral.
Tailings	Finely ground waste rock from which valuable minerals or metals have been

Term	Definition
	extracted.
Thickening	The process of concentrating solid particles in suspension.
Total Expenditure	All expenditures including those of an operating and capital nature.
Variogram	A statistical representation of the characteristics (usually grade).

19.3 Abbreviations

The following abbreviations may be used in this report.

Table 19-2 Abbreviations

Abbreviation	Unit or Term
Actlabs	Activation Laboratories Ltd
AGG	Airborne Gravity Gradiometer
Av_dist	Average distance
Az	Azimuth
CIM	Canadian Institute of Mining and Metallurgy
٥C	degrees Centigrade
CoG	cut-off grade
cm	centimeter
cm ²	square centimeter
cm ³	cubic centimeter
o	degree (degrees)
DD	Denault Dolomite
DDH	Diamond Drill Hole
dist	Distance
DSO	Direction Shipping Ore
Elev	Elevation
FBLK	Field Blank
FW	Footwall
g/cc	Grams per cubic centimetre
GDD	Vertical Gravity Gradient
ha	hectares
HARD	Half Relative Distance
HQ	Core Diamter Description
HW	Hanging Wall
ID2	inverse-distance squared
ID1	inverse-distance power of 1
IEC	International Electrotechnical Commission
IOCC	Iron Ore Company of Canada
ISO	International Standards Organization
JUIF	Jasper Upper Iron Formation
kg	kilograms
km	kilometer
km/h	Kilometer per hour
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
LC	Lean Chert
LOI	Loss On Ignition
LIM	Labrador Iron Mines Ltd
LIF	Lower Iron Formation
LRC	Lower Red Chert
LRGC	Lower Red Grey Chert
m	Metre
m ²	square meter

Abbreviation	Unit or Term
m ³	cubic meter
masl	meters above sea level
MA	Million years
Mn	Manganese
mm	millimeter
Mt	million tonnes
MS	Microsoft
No samples	Number of samples
NI 43-101	Canadian National Instrument 43-101
NL	Newfoundland & Labrador
PGC	Pink Grey Chert
P Geo	Professional Geoscientist
OSC	Ontario Securities Commission
%	percent
QA/QC	Quality Assurance/Quality Control
Res_cat	Resource Category
RQD	Rock Quality Description
SCC	Standards Council of Canada
SG	specific gravity
SGS	SGS Laboratories/Geostat
UTM	Universal Transverse Mercator
TF	Total Field Magnetics
URC	Upper Red Chert
VD	Vertical derivative
WQ	Wishart Quartzite
XRF	x-ray fusion