

GM 67603

ASSESSMENT REPORT OF LAC RITCHIE AND LAC LITTLE RITCHIE CLAIM BLOCKS

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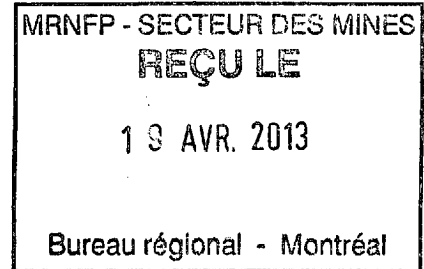
Québec 



**NEW
MILLENNIUM
IRON**

**Assessment Report of Lac Ritchie &
Lac Little Ritchie
Claim Blocks**

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(76 Claims)**



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**NTS 23O/12 & 23N/16
Northwest of Schefferville, Québec
Prepared By
Henry Simpson, Geologist & Alex Howe, Junior Geologist
For
New Millennium Iron Corporation**

GM 6 7 6 0 3

**Work conducted: July 10th - July 28th, 2012
& August 13th - October 09th, 2012**

Total Expenditures: \$52,953.55

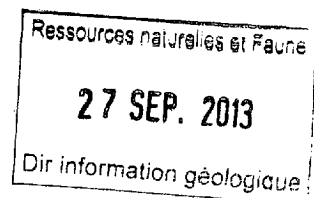


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Executive Summary

These claims have been staked over the years by New Millennium Iron Corp. (NML). In 2010, NML conducted high intensity Airborne Magnetometer Survey over the linear belt of taconite occurring along the basement Archean rocks, both in Newfoundland and Labrador and Quebec Provinces. The follow up field mapping and drilling work helped in outlining the Lac Ritchie taconite deposit at the north end of the surveyed area. The 2012 field mapping and sampling work cover the claims occurring to the north and south of the Lac Ritchie taconite deposit.

Field mapping started at Lac Ritchie. The work was over seen by Senior Geologist, Henry Simpson with field mapping by Junior Geologist, Alexander Howe and Student Geologists William (Billy) Clarke, Julia Andrews, Chris Baker and Patrice Mathieu of Memorial University in St. John's, local field Assistants, Richard Sandy, James Uniam and Kabimbetas Mokoush and Field Project Manager Donna O'Quinn.

During the exploration period a total of four (4) samples were collected from the magnetic taconite belt and sent to Midland Research Center (MRC), Nashwauk, Minnesota, USA for chemical and physical testing. The physical testing of magnetic taconite is to obtain magnetite concentrate using Davis Tube method (DTWR %).

1.0 Introduction

During 2012, NML personnel carried out geological field mapping over the claims as a follow-up to the 2010 airborne geophysical surveys and the 2011 Lac Ritchie drill program. A total of 10 days was spent in the area, 5 at Lac Ritchie and 5 at a previously unnamed lake referred to here as Lac Little Ritchie.

In the summer of 2011 New Millennium Iron carried out a drilling program in the Lac Ritchie anomaly which is 11km long b 2.3km wide. 40 holes were drilled across the area for a total of 3,810m. Based on the drilling results a NI 43-101 compliant resource estimate was made by SGS Geostat giving results of indicated 3.33 Bt at 30.3% Fe, and inferred 1.44 Bt 30.9% Fe. The claim areas investigated during the 2012 field season represent the northern and southern edges of this Lac Ritchie claim area. The goal of the exploration was to identify possible continuity of the Lac Ritchie deposit to the north and to the south.

The exploration and field mapping were carried out in July of 2012. NML personnel who worked in this project were; Senior Geologist, Henry Simpson with field mapping by Junior Geologist, Alexander Howe and Student Geologists William (Billy) Clarke, Julia Andrews, Chris Baker and Patrice Mathieu of Memorial University in St. John's, local field Assistants, Richard Sandy, James Uniam and Kabimbetas Mokoush and Field Project Manager Donna O'Quinn.

2.0 Topography and Access

The field area is located between the Swamp Bay River and the Kaniapiskau River. The dominant ground cover is caribou moss with blueberries and shrubs. There are many lakes and streams across the area with lower ground often swampy. The ground is heavily timbered with black spruce common in the lower terrain and valleys.

Access to the area is by float plane from the town of Schefferville, QC. landing on two of the major lakes that are located in the claim area. Lac Ritchie towards the southern end of the claim area and an un-named lake referred to as Lac Little Ritchie hence fourth. An abandoned hunt camp was used as the base camp for the time spent at Lac Ritchie. A small boat left at the site, and a motor flown in were utilized to gain greater access to the field area surrounding the lake. The second camp was located on Lac Little Ritchie and traverses were done on foot from the base camp.

3.0 Geology

The Property is situated in the Churchill Province, of the Labrador Trough ("Trough") adjacent to 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 Trough comprises a sequence of Proterozoic sedimentary rocks, including iron formation, volcanic rocks and mafic intrusions. The southern part of the Trough is crossed by the Grenville Front representing a metamorphic fold-thrust belt formed during the 1,000 Ma Grenvillian Orogeny (Brown, Rivers, and Callon, 1992).

NML's Lac Ritchie Property is located north of the Grenville Front in the Churchill Province where the Trough rocks have been only subject to greenschist or sub-greenschist grade metamorphism. The principal iron formation unit is known as the Sokoman Formation. The Sokoman Formation, member of the Ferriman Sub-Group, is overlain by the Menihék Sub-Group (mudstone and shales) and underlain by the Wishart Formation (quartzite), the Denault Formation (dolomite) and the Attikamagen Formation (shale). The regional stratigraphic column is shown in Table 1.

Table 1: Regional Stratigraphic Column (after Dimroth, 1978)

Eon	Age	Super Group	Group	Sub-Group	Formation	Unit
Proterozoic	Aphebian	Kaniapiskau	Knob Lake	Menihék	Sokoman	Shale
				Ferriman		LC
						GC
						URC
						LRGC
					Ruth	JSP
				Wishart	RS	
					BC	
					Quartzite	
				Swampy Bay		
				Pistolet	Alder, Uve	
				Seward		
Archean		Churchill Province				

Iron formations in this part of the Trough are taconites, which are weakly metamorphosed. Magnetic taconite iron deposits in the Trough include NML's KéMag and LabMag deposits (Howells River Deposit) and the December Lake deposit.

4.0 Property Geology

The Property is situated on the western edge of the Trough. Archean gneisses form the basement and dip gently east. The basement gneisses are unconformably overlain by the gently northeast dipping sedimentary rocks defined as the Kaniapiskau Supergroup, which includes the Ferriman Sub-Group and iron-bearing formations belonging to the Sokoman Formation. Towards the western edge of the Trough, the older, lower units of the sequence are successively exposed as the upper younger units have been removed by erosion. To the northeast, the Ferriman rocks are overlain by the Menihek shales. Within the Lac Ritchie Property the structure is very simple, the iron formation is generally northwest-southeast striking and dipping 5° to 10° to northeast. Folds where present are monoclinic to gently inclined and rolling. The individual members of the sedimentary sequence are not exposed in the Property.

Metamorphism within the Property appears to be of low to moderate grade. Changes in grain size mineralogy and rock texture related to metamorphism are not visually identifiable. Within oxide iron formation units, the most notable feature in mineral composition is the rather abrupt changes from dominantly magnetite (LC) to dominantly hematite (URC, JSP), and corresponding change of the silica from chert over to jasper. These oxidation potential variations and changes in iron grade define the member lithology units. The occurrence of iron carbonate minerals, principally siderite, ferro-dolomite and ankerite are widespread but are more abundant in the upper (LC) and lower (LRGC) units. Iron silicates minnesotaite and stilpnomelane occur in LC, GC and LRGC units. These features all appear to be related to primary deposition.

4.1 Menihek Sub-Group

The Menihek Sub-group is represented on the Property by grey and black shales. This unit was mapped at a single location at the northeastern corner of the Property.

4.2 Ferriman: Sokoman Formation

4.2.1 - Lean Chert (LC) (30-80m, Avg. 60m) Chert-Magnetite-Carbonate-Silicate

This unit consists of alternating bands or fragments of grey-green and white chert with sections of cherty carbonate. Magnetite occurs as distinct bands parallel and sub-parallel to the bedding and also in the form of disseminated grains concentrated in a matrix of green-white chert. The

LC shows bands of dislodged angular chert blocks in a matrix of massive magnetite in the middle and lower sections. This gives a brecciated appearance to the unit. However, this zone is not continuous laterally. LC shows the highest concentrations of magnetite and is the principal economic unit.

4.2.2 - Green Chert (GC) (0-5m, Avg. 2.0m) Chert-Silicate-Carbonate-Magnetite

This unit is similar to the GC observed in KéMag, LabMag deposit areas and beyond. It is a marker horizon.

4.2.3 - Upper Red Chert (URC) (4.0m-7.0m, Avg. 6.0m) Jasper-Hematite-Magnetite-Carbonate

This unit is very similar to the URC encountered in the KéMag deposit. However, the magnetite content is considerably less. The jasper and hematite bands occur parallel to the bedding. Carbonates mostly siderite occurs as small rounded blebs.

4.2.4 - Lower Red Green Chert (LRGC) (28.0m-33.0m, Avg. 30.0m) Carbonate-Silicate-Magnetite-Hematite

This unit is distinguished by its grey-green colored chert and zones with red chert. This unit is rich in silicates and carbonates with minor magnetite and hematite. Magnetite occurs as thin bands and as disseminations at the lower part of the formation.

4.3 Ruth Formation (RF)

4.3.1 - Jaspilite (JSP) (18.0m-20.0m, Avg. 18.0m) Jasper-Hematite-Chert

This unit is characterized by alternating layers of red jasper, layers of concentrated fine-grained hematite, and layers of white chert. These characteristics make it a very recognizable horizon. All these layers are parallel and sub-parallel to bedding (5° to 10°). Magnetite is present in very low amounts in the form of disseminated grains in jasper. Oolites with jasper core and hematite shells are widely present in this unit.

4.3.2 - Ruth Slate (RS) (Avg. 10.0m) Silty Mudstone, Ruth Formation

This grey-green, black slate is very homogenous with few fractures and no iron mineralization. Sulfides in the form of pyrite are present as disseminated crystals.

4.3.3 - Black Chert (BC) (Avg. 20.0m)

This unit occurs on top of the Wishart Quartzite and is considered as part of the Ruth Formation. This unit is homogenous and comprise of carbonaceous chert.

4.3.4 - Wishart Formation (Qte) (Avg. 23.0m)

This unit is essentially a sand stone comprising rounded to sub angular glassy quartz grains with minor altered feldspars. The color is greyish white. The property geology map is shown in Figure 2.

5.0 Mineralization

Mineralization in the Lac Ritchie taconite formation consists mainly of magnetite (Fe_3O_4) and hematite (Fe_2O_3). In addition, iron also occurs in carbonates, siderite, ankerite and ferro-dolomite and iron silicates minnesotaite and stilpnomelane. Secondary iron oxides, limonite and goethite are restricted to joint and fracture planes where percolating waters caused alteration of carbonates and silicates to secondary iron oxides.

The Table 2 (below) shows the comparison of assay and test results of the 8 duplicate samples sent to MRC as a check. The duplicate samples collected for the QA/QC program were not sufficient (<2.5%) to make a true assessment on the repeatability of the analysis by the MRC laboratory. More duplicate samples need to be collected for a meaningful evaluation during the second phase of drilling.

6.0 Structure

The taconite formation at Lac Ritchie is gently dipping at 5° to 10° to northeast. Folds in the form of monoclonal structures are evident from drill core structural information. At the northeast end, the iron formation along with the Menihek slates are in a thrust faulted contact with the older cherty dolomite. The Iron formation which extends approximately for 12 km along a NW-SE direction is bound by prominent cross faults trending NE-SW direction at the north and the south ends. These cross faults start in the basement gneisses and extend well into the trough sediments. The Lac Ritchie block appears to be a graben. The iron formation along strike at both ends had been eroded out.

7.0 Method of Work

Exploration work at Lac Ritchie and Little Lac Ritchie were done from fly-in camp. A Beaver float plane was chartered from Air Tunilic of Schefferville, QC for transportation of personnel and equipment. The camp used at Lac Ritchie is a hunt and fish camp with cabins, and a boat. NML Personnel used hand held Garmin GPS to navigate and mark the locations of outcrops and sampling locations.

7.1 Lac Ritchie

Five days were spent in the Lac Ritchie area investigating the geology around the shores and in the vicinity of the lake. The area south of Lac Ritchie is dominated by rocks of the Pistolet Subgroup, which was thrust from the west, above the Sokoman Formation of the Knob Lake group. The thrust is in contact with the Ashuanipi complex un-conformably. Along the shores of Lac Ritchie, numerous outcrops of two main formations belonging to the Pistolet Subgroup are found. They are represented by the dolomites of the Alder formation and the Uvé formation. The dolomites show numerous stromatolite structures. The dolomite weathers to a light grey to dark grey and light cream color, and the quartz veins weather black. The quartz veins have a higher relief than the dolomite in outcrop, caused by the preferential weather of the dolomite over the quartz (Figure 1).

Two traverses were made on the northwest end of the lake to locate and sample possible Iron formation outcrops that are shown on E. Dimroth map sheet 1895. The traverses confirmed the contacts found on the map and two (2) samples were collected for analysis (Table 2). The samples were identified as the Upper Iron formation (UIF) member of the Sokoman formation. The certificate of analysis (MRC) is appended to the report.

7.2 Lac Little Ritchie

Five days were spent in the Lac Little Ritchie area to explore and sample the iron formation. At least two different distinct geologic units occur in this area. On the southern shore, outcrops of Uvé formation, a massive brown weathering dolomite are found. A second traverse made on the northern shore of the lake revealed a few outcrops of Sokoman Iron Formation which were sampled and sent for Davis Tube analysis at MRC.

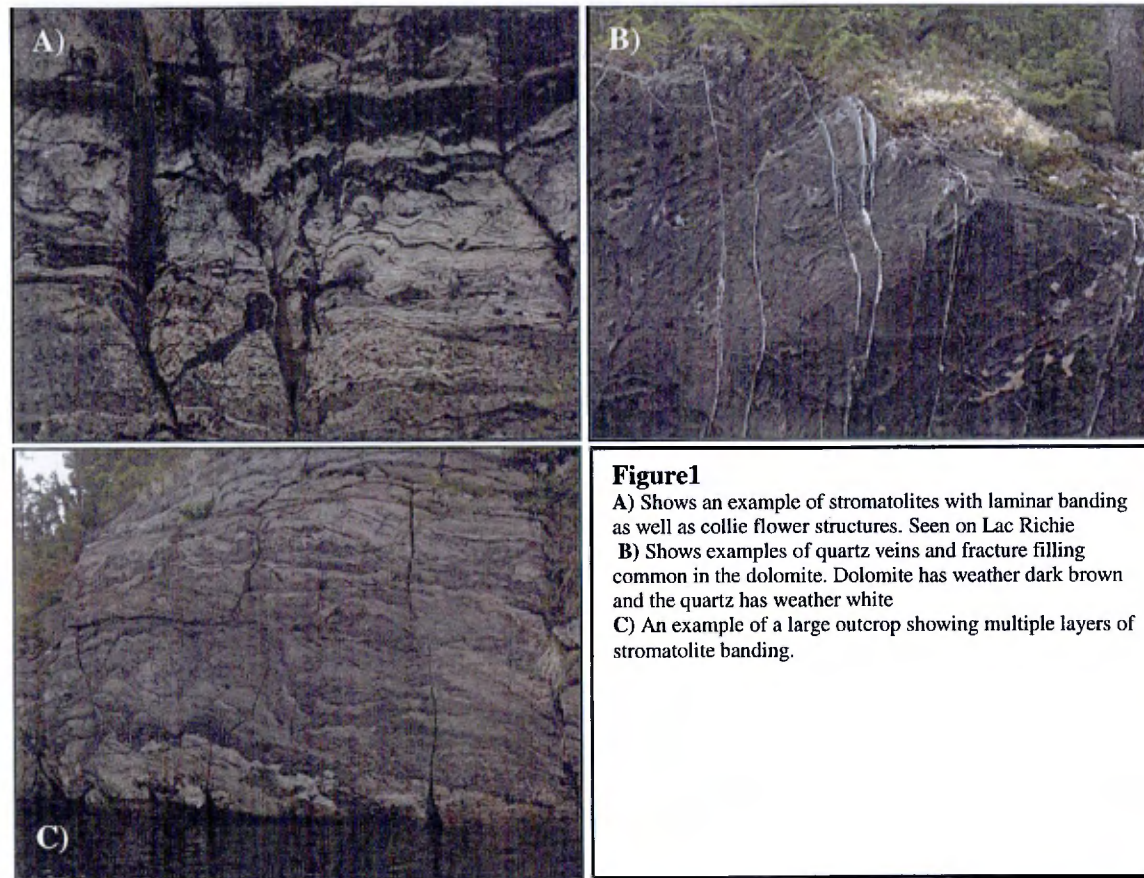


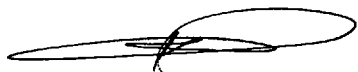
Table 2: Sample Results from Lac Richie and Lac Little Richie								
Sample #	Location	Easting	Northing	Unit	Head Fe	DTWR%	Conc. Fe%	Conc SiO2%
8861	Lac Richie	6174074	564846	BIF	36.74%	43.0%	60.93%	15.26%
8862	Lac Richie	6174076	564426	BIF	23.89%	4.0%	61.08%	12.00%
8863	Little Lac Richie	6188911	554875	BIF	30.09%	0.0%	short	short
8864	Little Lac Richie	6188911	554875	BIF	32.21%	36.0%	53.83%	17.88%

8.0 Conclusions and Recommendations

Based on results from the sampling of the iron formation in the area it is recommended that more detailed mapping/ sampling and test drilling be performed to identify possible additional taconite iron ore in this area. The dolomite occurring in this appears to be highly siliceous and may not be suitable as a flux additive for making fluxed pellets.

9.0 Summary of Expenditures

Type of Expenditure	Amount
Study Work & Report	\$ 22,640.00
Transportation	\$ 17,494.18
Sample Assay	\$ 1,101.24
Other Costs	\$ 11,718.13
Total	\$ 52,953.55



Bocar Diagana: Senior geologist
New Millennium Iron Corporation
Authorization # 830
Ordre des géologues du Québec

10.0 Appendix A – Figures

Figure 1:

Lac Ritchie Claims, Location Overview (UTM 19N, NAD 83 – 1:425,000)

Figure 2:

Lac Ritchie Area Samples 2012, Northern Section (UTM 19N, NAD 83 – 1:30,000)

Figure 3:

Lac Ritchie Area Samples 2012, Southern Section (UTM 19N, NAD 83 – 1:30,000)

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11.0 Appendix B – Tables and Certificates

11.1 – MRC Laboratories, Certified Analysis

11.1 – MRC Laboratories, Certified Analysis

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