**GOVERNMENT OF NEWFOUNDLAND AND LABRADOR**

**Department of Natural Resources**

**Mineral Lands Division**

- **Registry File Nos:** 775:0990
- **Geological Survey No:** 013L/13/0138
- **Confidential Until:** 2014-06-03

**Mineral Rights:**
- Licence ☑
- Extended Licence □
- Impost □
- Mining Lease □
- Regional □
- Other □

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**Number of Volumes:** 1

**Enclosures:**
- CD-Roms: 
- Diskettes: 
- DVD's: 1
- Tapes: 
- Transparencies: 
- Paper Maps: 
- Microfiche: 
- Other: 

**Received:** 2011-06-03

**Comments:**

**Signed:**

**Date:** 2011-08-08
First Year Assessment Report on the Geology of the

Ramusio Property

License 017486M

NTS 13L/13, NAD 83, Zone 20N

Newfoundland and Labrador

Submitted by

Jeanette Walsh, B.Sc

for

Quest Rare Minerals Ltd.

June 6, 2011

Work Conducted: May 2011

Total Claims: 17

Total Expenditures: $4,285.00
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1.0 Introduction

The following is a summary of the work compiled by Quest Rare Minerals Limited (Quest) on mineral exploration licence 017486M, located within the NTS map sheet 13L13.

First year work consisted of a helicopter supported reconnaissance site visit and compilation of historic work.

1.1 Location and Access

The Ramusio project area is located in proximity to the Quebec–Labrador border. The entirety of the project area lies within the NTS map sheet 13L13 (Figure 1). Access to the project area is limited to helicopter. During Quest’s exploration work in this area it was accessed by contracted helicopter based at Quest’s Lac Brisson exploration camp located at the Strange Lake Property, Quebec (Figure 1). This established exploration camp is located approximately 160 km to the north of the project area. The exploration camp is accessible by both fixed wing aircraft and helicopter from the communities of Happy Valley–Goose Bay, Labrador and Schefferville, Quebec. Access is possible year around with float and wheeled aircraft in the summer and wheeled or skied aircraft in the winter.
Figure 1 Location Map
1.2 Quest Claims Disposition

The exploration license on which work was completed consists of 17 claims (Table 1) extending east from the Quebec–Labrador border (Figure 1).

<table>
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<tr>
<th>License Number</th>
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Table 1 Licence for which first year assessment is required.

2.0 Historic Work Completed in the Ramusio Area

The following is a summary of historical work completed in the Ramusio area. The majority of the work comprises regional mapping, geophysics and geochemistry surveys completed by the Geological Survey of Canada and the Newfoundland Geological Survey. The work is presented by government agency and chronologically.

2.1 Geological Survey of Canada

2.1.1 1964: 1:250,000 Bedrock Mapping

Regional mapping completed by Emslie in 1964 covered a portion of NTS sheet 13L/13. The following lithologic descriptions are based on Emslie’s work with later interpretation by Green in 1970. Three map units were identified in the area:

- Granitic and/or syenitic gneiss metamorphosed to granulite facies. This unit is Aphebian in age.
- Porphyritic granitic gneiss. This unit may actually be a phase of the above. Granitic/syenitic gneiss. The unit is Paleohelikian in age.

- Massive to medium-grained granitic rocks.

Emslie describes abundant glacial striae throughout the map area which indicate an easterly ice flow direction.

2.1.2 1975: Geophysical Series Map 6187G

Map 6187G was produced as part of the Geological Survey of Canada’s airborne magnetic survey competed in September and October of 1975. The survey produced 1:63,360 imperial scale maps for the majority of the southern portion of Labrador.

The survey was flown at a flight altitude of 1,000 feet above sea level. No correction was made for regional variation. The topography for the map was reproduced from 1:50,000 topographical map sheets published by the Department of Energy, Mines and Resources, Ottawa.

The map is based on in-flight analogue recorded aeromagnetic data obtained with a nuclear precession magnetometer measuring the magnetic total field with a resolution of 1 gamma.

The area covered by the Ramusio property (Figure 2) exhibits tightly spaced magnetic contours that irregularly bound the southern limits of a magnetic low near the centre of the property.
In 2010 the GSC conducted a series of geophysical surveys under the Geomapping for Energy and Minerals (GEM) program of the Earth Sciences Sector, Natural Resources Canada. The high-resolution survey fulfills part of a joint geoscience program with the Geological Survey of Quebec and the Department of Natural Resources and Wildlife and the Geological Survey Division, Newfoundland and Labrador Department of Natural Resources.
The results from each 1:50,000 scale NTS map area covered by this survey were released as a map series, with 10 maps in each series. The Lake Ramusio survey comprises a 10 map series and the companion Lake Attikamagen survey (Schefferville West) consists of 15 map series, for a total of 250 maps.

The 10 maps in each series are:

1. Natural Air Absorbed Dose Rate
2. Potassium
3. Uranium
4. Thorium
5. Uranium/Thorium Ratio
6. Uranium/Potassium Ratio
7. Thorium/Potassium Ratio
8. Ternary Radioelement Map
9. Residual Magnetic Field
10. First Vertical Derivative of the Magnetic Field
2.2 Government of Newfoundland and Labrador: Mineral Development Division

2.2.1 1988- Lake Sediment and Water Geochemical Survey for Rare-Metal Mineralisation in Granitoid Terranes, Labrador

In 1988 McConnell published work based on 1985 field work where rock, lake sediment, lake water, stream sediment, stream water and soil were collected in Letitia Lake, Flowers River, Michikamats Lake, Ramusio Lake and Anaktalik Brook areas.

The Ramusio Lake area was identified by McConnell by the presence of elevated fluorine and uranium concentrations in both water and sediments evident in reconnaissance lake data collected by the Geological Survey of Canada in 1983. The survey highlighted a small area no larger than 65 km².

McConnell collected 7 rock samples, 23 lake sediment and water, and 14 stream sediments and water. Radioactivity over the granitoid rocks (measured using a scintillometer) in the area average 1.5 to 3 times greater than those found in other granitoid terranes.

Results from lake sediments samples collected in the area indicate enrichment in yttrium and fluorine. Beryllium and cerium concentrations are elevated but zirconium and neodymium are low relative to the known mineralization of the Strange Lake REE deposit. McConnell suggests a bimodal distribution of yttrium based on the evaluation of lake sediments. McConnell suggests a distinct multi-sample anomaly in the area.

2.2.2 1995: Reconnaissance Geology of the Kanairiktok River Headwaters, NTS area 13L/NW, Labrador

In 1993 Nunn began bedrock mapping of the 13LNW (13L/11, 12, 13 and 14) area. The aim of the project was to map the corridor between the Michikamau Intrusion mapped by Emslie in
1970’s and the Harp Lake Intrusion mapped by Emslie in the 1980’s. The results of Nunn’s mapping are detailed below in section 4.

### 3.0 Regional Geology

The Ramusio area lies within the Central Gneiss Zone (Wardle et al., 1990) of the Rae Province, which is part of the Eastern Churchill Province (Figure 3). The Rae Province (Hoffman, 1988, 1989) forms the central portion to two flanking orogens, in the west the New Quebec Orogen and in the east the Torngat Orogen (Nunn, 1995). Together, these three components form the Eastern Churchill Province. The Rae Province is dominated by Hudsonian-reworked Archean gneisses but also contains infolded layers of Lower Proterozoic supracrustal rocks, syn- to late plutonic, granitoid plutonic rocks and rare pre-Hudsonian plutonic and volcanic rocks.

The southern portion of the Rae Province has been intruded by Middle Proterozoic plutonic rocks, mainly granitoid and leucotroctolitic rocks. These and earlier rocks are unconformably overlain by Middle Proterozoic continental clastic and volcanic rocks.
Figure 3 Regional structural context of the Ungava Peninsula
4.0 General Geology 13L/NW

Nunn’s mapping area is underlain by various gneissic rocks, foliated plutonic rocks and largely undeformed syenite. The remainder of the units in the area consisted of anorthosite and volcanic and sedimentary rocks of the Seal Lake Group.

The Ramusio Property is underlain by three mapping units according to Nunn’s definitions: tonalitic to granodioritic orthogneiss, potassium feldspar-megacrystic granite, and the Lake Ramusio pluton: porphyritic granite.

The tonalitic to granodioritic orthogneiss is a gray weathering fine to medium grained, gray, with biotite-bearing melanosomes, which is commonly plagioclase porphyroclastic or relict plagioclase porphyritic. The rocks contain subordinate amounts of discordant, fine to coarse-grained, centimetre-scale biotite tonalite to biotite alkali-feldspar granite leucosomes (Nunn, 1995). Locally, the gneiss is more strongly differentiated. Weakly to moderately foliated, medium to coarse-grained quartzofeldspathic patches have been recrystallized to fine-grained granoblastic aggregates. A biotite mineral fabric and biotite-rich schlerin are generally parallel to the gneissic banding (Nunn, 1995).

The potassium feldspar-megacrystic granite is fine to medium-grained, gray to dark brown weathering and pyroxene bearing and generally contains garnet and hornblende (Nunn, 1995). Minor compositional variants include quartz monzonite, quartz syenite and syenogranite. Dark purple to gray potassium feldspar megacrysts, locally having thin albite rims, range from 1 to 5 cm (Nunn, 1995). The groundmass consists of aggregates of fine-grained quartz, plagioclase and clinopyroxene. The pyroxene is rimmed by hornblende or garnet with local discrete grains of red garnet (Nunn, 1995).

Nunn describes the Lac Ramouso Pluton as a medium to very coarse-grained, red to orange to pink weathering, potassium feldspar with plagioclase porphyritic biotite syenogranite. Porphyritic potassium feldspar ranges from 1 to 2 cm across and is euhedral to subhedral. These grains are commonly zoned containing quartz and sodium feldspar inclusions. The unit is
isotropic to weakly foliated. The foliation is defined by a biotite mineral fabric, elongate feldspar phenocrysts and by a quartz aggregate fabric. Dikes of this unit intrude the country rock for several kilometres from the main body on its southern margin.

5.0 2010 Quest Rare Mineral Limited Reconnaissance Site Visit

On September 29, 2010 a helicopter reconnaissance site visit was completed on Quest’s Quebec portion of the Ramusio property. The property was accessed with the use of a contracted Canadian Helicopters A-Star helicopter based at the Strange Lake Exploration camp, Quebec. During this site visit, the Labrador portion was flown over.

The purpose of this visit was to evaluate the area with regards to bedrock exposure, topography, glacial features and evidence of historic work in anticipation of ground work to follow in the summer of 2011.

6.0 Expenditures

A total of $3,400.00 is required for the first year expenditures on mineral licence 018904M. Quest is filing a total of $4,285.00 which includes the airborne site reconnaissance in 2010 and compilation work. Details regarding expenditures are provided in Appendix II.
7.0 References


Appendix I – Digital Submission
Appendix II – Expenditures
### Helicopter

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Total $4,285.00

### List of Contractors

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450-452-3000

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