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# Grass Roots Prospecting Report

## Makada Lake Project

### Waters Township

Sudbury Mining Division

Northeastern Ontario

UTM Zone 17T- NAD 83

Frank C. Racicot P. Geo

Sudbury, Ontario

(705) 691-5920

Aug 11, 2019

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## **1.0 INTRODUCTION**

Frank Racicot, P. Geo was employed to do some field work on claims in Waters Township held by Marietta Kosvosky. Based on Racicot's previous experience with the area several years ago, Racicot had seen what appeared to be inclusions on the north shore of Makada Lake. Inclusions are an important and uniquely diagnostic feature of QD dikes. And QD dikes are often host to rich nickel deposits in the Sudbury Basin.

While it was still early spring, weather conditions were such that the specific area where Racicot had previously seen these potential inclusions, the sun had melted much of the exposed outcrop. It was also fortunate that the ice was still thick and it was safe to walk up to the outcrop.

The purpose of this geological investigation was to confirm if this outcrop was a QD dike.

## **2) LOCATION**

The claims and traverse area are located in Waters Township in the Sudbury Mining Division, west of Sudbury Ontario. The claims can be reached by travelling about 5-10 minutes west from Sudbury on old Highway 17 (now Regional road 55) to the town of Lively. One then turns left on Black Lake Road, proceeding south for about 3.8 km and then turning west onto the North Shore Black Lake Road. The main traverse initiated from the intersection of North Shore Black Lake Road and Clark Road.

Figure 1 shows the location of the property in Ontario. Figure 2 shows the location of Waters Township in relation to other townships, main highways and railways and Sudbury. Figure 3 shows the location of Makada Lake, relative to Lively.

## **3) CLAIM OWNERSHIP**

The claims are currently held by Marietta Kosovsky:

510 Gay St, Apt 200  
Nashville, Tennessee, USA  
372219

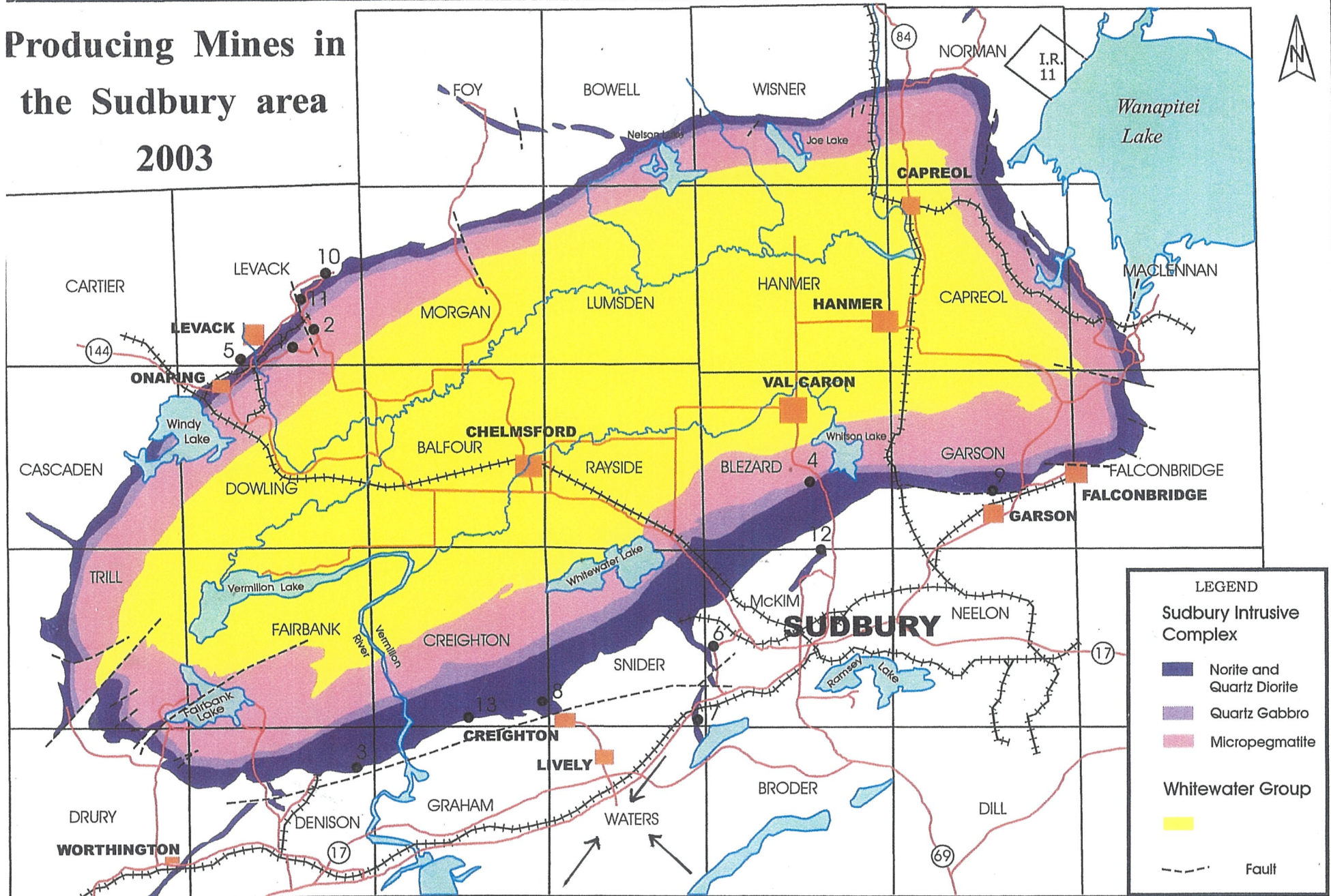
Client No. 392366

Since 2018, the claim units and numbering system has changed because map staking is now in effect in Ontario. Currently 13 claims cover the property, four of which are boundary claims.

The following table printed from the MNDM's MLAS site lists and summarizes the old legacy claim numbers, the new numbering system and all relevant data. There are multiple listing of the same claim number due to the fact that the original legacy claims were bigger and/or did not exactly overlap the new claim numbers.



# Producing Mines in the Sudbury area 2003



## Falconbridge Ltd.

(Ni, Cu, Co, Au, Ag, PGE, H<sub>2</sub>SO<sub>4</sub>)

1. Craig - Onaping
2. Fraser - Strathcona
3. Lockerby
4. Thayer Lindsey

## FNX Mining Company Inc. /

### Dynatec Corp.

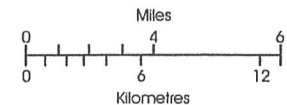
(Ni, Cu, PGE)

5. McCreedy West

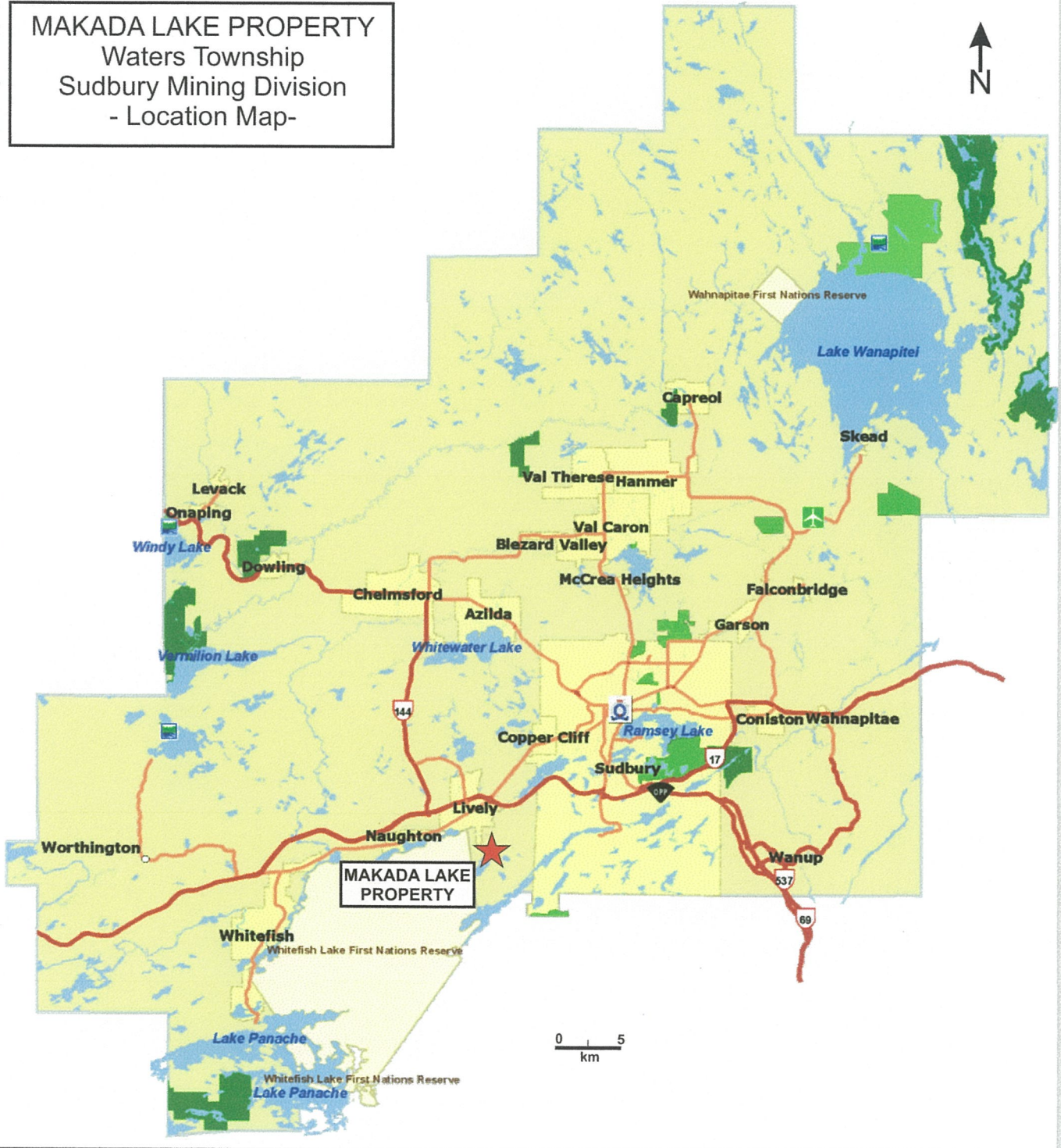
## Inco Ltd.

(Ni, Cu, Co, Au, Ag, PGE, Se, Te, SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>)

- |                       |                    |
|-----------------------|--------------------|
| 6. Copper Cliff North | 10. Lower Coleman  |
| 7. Copper Cliff South | 11. McCreedy East  |
| 8. Creighton          | 12. Frood - Stobie |
| 9. Garson             | 13. Gertrude       |



**MAKADA LAKE PROPERTY**  
Waters Township  
Sudbury Mining Division  
- Location Map-





### Mining Lands Administration System

FRANK RACICOT ▾ ()

English ▾



Client Report Details

Click here for Reference Documents (<https://www.mndm.gov.on.ca/en/mines-and-minerals/mining-act-policies-and-standards>)

## Client Report

Client: MARIETTA KOSOVS...

Export to Excel

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Tenure Percentage	Work Required	Work Applied	Available Consultation Reserve	Available Exploration Reserve	Total Reserve	Conversion Bank Credit
1223188	WATERS	124082	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1223188	WATERS	320795	Single Cell Mining Claim	2019-04-15	Hold Pending extension of time	100	200	0	0	0	0	0
1223188	WATERS	241790	Boundary Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1223188	WATERS	236209	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1223188	WATERS	218180	Boundary Cell Mining Claim	2019-04-15	Hold Pending extension of time	100	200	0	0	0	0	0
1223188	WATERS	198065	Single Cell Mining Claim	2019-04-15	Hold Pending extension of time	100	200	0	0	0	0	0
1223188	WATERS	198064	Single Cell Mining Claim	2019-04-15	Hold Pending extension of time	100	200	0	0	0	0	0
1223074	WATERS	181451	Single Cell Mining Claim	2020-04-28	Active	100	200	200	0	88	88	0
1223074	WATERS	235354	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1223074	WATERS	217443	Single Cell Mining Claim	2019-04-15	Hold Pending extension of time	100	200	0	0	0	0	0

Showing 1 to 10 of 23 entries

First () Previous () 1 () 2 () 3 () Next () Last ()





Mining Lands Administration System

FRANK RACICOT

English



Client Report Details

Click here for Reference Documents (https://www.mndm.gov.on.ca/en/mines-and-minerals/mining-act-policies-and-standards)

Client Report

Client: MARIETTA KOSOVS...

Export to Excel

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Tenure Percentage	Work Required	Work Applied	Available Consultation Reserve	Available Exploration Reserve	Total Reserve	Conversion Bank Credit
1223074	WATERS	200266	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043226	WATERS	124082	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043226	WATERS	236209	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043226	WATERS	235354	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043226	WATERS	200266	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043225	WATERS	200266	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043225	WATERS	241790	Boundary Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043225	WATERS	236209	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043225	WATERS	218011	Boundary Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043223	WATERS	181451	Single Cell Mining Claim	2020-04-28	Active	100	200	200	0	88	88	0

Showing 11 to 20 of 23 entries



### Mining Lands Administration System

FRANK RACICOT ▾ ()

English ▾



Client Report Details

Click here for Reference Documents (<https://www.mndm.gov.on.ca/en/mines-and-minerals/mining-act-policies-and-standards>)

## Client Report

Client: MARIETTA KOSOVS...

Export to Excel

Legacy Claim Id	Township / Area	Tenure ID	Tenure Type	Anniversary Date	Tenure Status	Tenure Percentage	Work Required	Work Applied	Available Consultation Reserve	Available Exploration Reserve	Total Reserve	Conversion Bank Credit
1043223	WATERS	200266	Single Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043223	WATERS	218011	Boundary Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0
1043223	WATERS	285421	Boundary Cell Mining Claim	2019-04-28	Hold Pending extension of time	100	200	0	0	0	0	0

Showing 21 to 23 of 23 entries

First () Previous () 1 () 2 () 3 () Next () Last ()

[← Back](#)

#### 4) TOPOGRAPHY AND VEGETATION

The topography on the east side of the northern Makada claims that were investigated consists mainly of northeast trending ridges of gabbroic rocks. Exposure is generally very good with at least 30-40% exposed rock, or obvious outcrop on the gabbro ridges with very little overburden cover that consists of humus, poorly developed soils and sandy clay. The overburden cover on claim 181451 and 217443 over the quartzite area was a 'relatively 'dry' cedar swamp.

There are several northeast trending lineaments within the gabbro as seen on Google Earth, as well as some smaller lineaments. The vegetation on the gabbro is mainly red pine, birch, maple, some oak and some white pine with a few spruce trees.

The topography and vegetation on the west side of the northern claims that were visited is substantially different from that to the east. According to Ken Cards geology map 2119, the west side is mainly quartzite. There were a few quartzite outcrops close to the west edge of the gabbro, but most of the area to the west is flat and void of outcrops. The vegetation on the west side consists mainly of cedar, black spruce, balsam, poplar and a few rare birch trees.

The contact between the flat quartzite to the west and the gabbro ridges to the east was indicated by a small depression (gut) that had an azimuth of 025 degrees.

#### 5) PREVIOUS WORK

The area was staked in 1988 and the following is a chronological list of work done since then.

**1988** BP resources Canada Ltd., Kirkland Lake: Airborne EM-VLF-MAG survey- part of Waters Twp.

**1989** Rauhala, Lively: assays and geochemical analysis: overburden stripping.

**1990** Rauhala, Lively: mechanical overburden stripping, sampling and power washing.

BP Resources Canada Ltd., Kirkland Lake: grab samples and assays; best results 1.27% Ni, 0.89% Cu, 216 ppb Au, 31 ppb Pd and 15 ppb Pt (Dave Gamble)

INCO, Copper Cliff: grab samples and assays; best results 0.62% Ni, 0.29% Cu, 309 ppb Au and 103 ppb Pt (Andy Bite).

Falconbridge, Sudbury: grab samples and assays; best results 0.45% Ni, 0.14% Cu, 10 ppb Au, 10 ppb Pd, 30 ppb Pt, 200 ppm Ag and 400 ppm Co (Ted Barnett).

Giroux, Mackenzie, Cronkwright, Sudbury: geophysical survey on claim S-1043223 using Mag-VLF and Crone CEM system; several anomalies were outlined.

**1991** Trivett and Rauhala, Sudbury: trenching (S-1043223) to determine source of geophysical anomalies; revealed thick gossan and bedrock mineralization.

Rauhala, Lively: prospecting, sampling and blasting; best assays 1.59% Cu, 3738 ppb Au and 35 ppb Pd (claims S-1043223 and S-1043225).

- MNDM, Sudbury: grab samples and assays; best results 1.43% Ni, 0.40% Cu, 686 ppb Au and 1308 ppb Pd (Mike Cosec).
- Trivett and Junnila, Sudbury: geological mapping and report.
- Niemi and Trivett, Sudbury: geophysical survey (mag-VLF) on claims S-1043223, 1043225, &1043226 using EDA Omni Plus system; several anomalies were outlined.
- Niemi and Trivett, Sudbury: geophysical survey (Mag-VLF) on claims S-1043223 and 1043225 Using EDA Omni Plus system; several anomalies were outlined.
- 1993** Trivett, Sudbury: completed geophysical survey (Mag-VLF) on part of claim S-1223074; several anomalies were outlined.
- 1996** Rauhala, Lively: manual bedrock trenching and assays.
- 1997** Hopcroft and Berry, Oakville: Mechanical overburden stripping; no assays. Berry, Oakville: diamond drill hole (A1-97; 56.4 m length) completed in area south of and under Pit #2; no assays and only rudimentary logging completed.
- Jobin-Bevans, London: sampling, thin sections, assays and litho geochemistry as part of Ph. D. thesis work.
- 1998** Jobin-Bevans, Sudbury: sampling, thin sections, assays, litho geochemistry and detailed geological mapping as part of Ph. D. thesis work.
- 1999** Jobin-Bevans, Sudbury: re-logging of selected parts of drill hole A1-97; drill core sampling (23 core assays, sulphur and selenium); best results 0.11% Ni, 0.11 % Cu and 1.4 g/t Pt+Pd+Au (1033 ppb Pd, 217 ppb Pt).
- 2002** Jobin-Bevans, Sudbury: Investigated the geochemistry of the gabbroic rocks on the west side of the property and various dykes. Best PGE assay was 31 ppb (Pt, Pd, Au). Compared chondrite normalized PGE-Au-Cu-Ni-Co plots with rocks from property and various other areas.
- 2003** Jobin-Bevans and Cecil Johnson, Sudbury: Prospecting program, including a "Beep Mat" survey that identifies 11 new areas with sulphide mineralization with a northeast trending, dyke, including the "CJ Showing".
- 2004** Jobin-Bevans and Cecil Johnson, Sudbury: Follow up of the "CJ Showing" - that included mechanical stripping and mapping.
- 2005** JvX completes 3.2 km of ground mag and VLF surveys on N-S lines west of road.
- 2007** Johnson Cecil, Sudbury: Channel Sampling Report. Best results 59 ppb Pt, 131 ppb Pd, 32 ppb Au, 1146 ppm Ni, 302 ppm Cu. Walter Peredery Ph.D. identifies the nearby dyke as a possible Quartz Diorite dyke incorporation field observations and thin section analysis.
- 2008** Racicot Frank, Sudbury: 19 samples from a soil sampling line in a selected area and sent in two rock samples for whole rock analyses. High Zn and Mo anomaly Sudbury. Pegasus Metals collected 15 samples- 2 samples from the JR showing assay 0.42 g/t Au, 0.53% Ni, 0.12% Cu.
- 2011** Foy Robert and Johnson Cecil: Surface sampling and Beep Mat survey.

- 2013** Racicot Frank, Sudbury: ICP analysis on four samples and whole rock analysis on 7 samples, one of which is sent in for gold assay. Low results; some thin section work.
- 2017** Johnson Cecil, Sudbury: Prospecting and sampling of xenolith bearing dyke
- 2019** Racicot, Frank, Sudbury: Prospecting north of Makada Lake (Report Pending).

**6) GENERALIZED REGIONAL GEOLOGY**

The region around the Makada Lake property in Waters Township consists of Early Proterzoic sedimentary rocks such as Mississagi Quartzites, Nipissing Gabbro intrusions, Middle Proterzoic Sudbury Dykes, the Creighton Pluton and several Grenville age related plutons. The property is about 10 km southwest of the southern edge of the Sudbury Igneous Complex (see Figure 2). An Offset (QD) dyke has been located and explored near Page Lake, about 2.5 km to the southeast.

**7) GENERALIZED PROPERTY GEOLOGY**

The Makada Lake property is mainly underlain by a Nipissing Gabbro intrusion and Huronian Supergroup sedimentary rocks that include Mississagi Formation feldspathic quartzites, arenite and arkose. There is a magnetic Olivine Diabase dyke on the property. A QD dyke and/or a 'xenolith bearing dyke' has been located on the property, south of the main northern traverse outlined in this report as well as a mafic trap rock dyke.

**8) DAILY LOG AND FIELD RESULTS**

Several trips were done to check out the potential QD inclusions on the Makeda Lake claim. On April 8, 2019 a trip was done to check out the area where potential QD inclusion and QD dike had been seen on claim 241790. Close up photos were taken of the inclusions and the outcrop hosting the inclusion was mapped. As well, a thin section was made from close to where the xenoliths or fragments were located and submitted to Shirley Peloquin, the Sudbury District Resident Geologist for her to examine. (see Figure 4 and 3 photos below).

A second trip was made to the sight several days later after a light rain to examine the south shore outcrop once again in order to confirm Racicot's initial field observations as the outcrop can look distinctly different when it is wet.

Photo 1 0489916E/ 5136627N



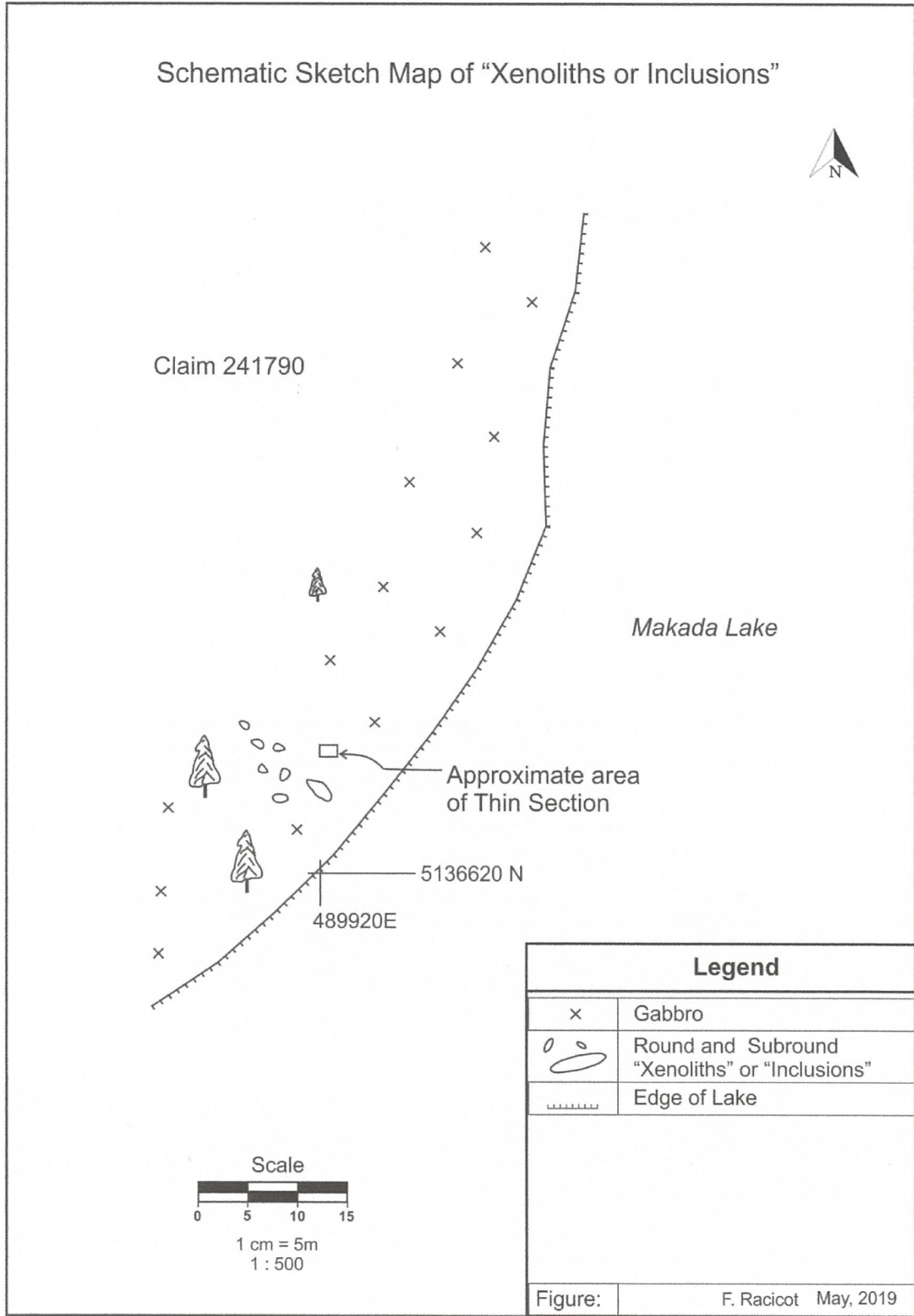


Figure 4 Showing Xenoliths and Thin Section Location in Gabbro on North Shore of Makada Lake

## **9) SUMMARY AND RECOMMENDATIONS**

After examining and mapping the outcrop with the potential QD (Quartz Diorite) inclusions, it was determined that the outcrop was some sort of gabbro sill and that the inclusions were probably fragments of the nearby quartzite. A thin section of the rock that contained the fragments was also confirmed by the Sudbury District Resident Geologist, Shirley Peloquin, as being a gabbro.

But because of the potential significance of the rock possibly being a QD dike, this detailed examination was warranted.

No Further work is recommended examining the area where these inclusions or fragments were located- specifically on the south shore of Makada Lake. There are other additional areas on the claim group that could be investigated.

## **10.0 REFERENCES**

Card, K. D. Geology of the Denison-Waters Area, GR 60, 1968. Ontario Department of Mines.

## STATEMENT OF QUALIFICATIONS for: FRANK RACICOT

This is to certify that I, Frank Racicot:

- I reside in 734 Whittaker St., Sudbury, Ontario, P3E 4B2
- I am an independent geological consultant with over 35 years varied experience in mineral exploration in Canada.
- I graduated in 1974 from Laurentian University, in Sudbury Ontario with a BSc in geology.
- I am a member in good standing of the Association of Professional Geologists of Ontario (APGO)

Dated this 12th day of August, 2019 at Sudbury, Ontario

A handwritten signature in black ink that reads "Frank Racicot". The signature is written in a cursive style and is positioned above a horizontal line.

Frank Racicot P. Geo (#0958)



Waters Township Thin Section and SEM Report by Frank Racicot Oct. 9, 2019

In April, 2019 various field visits were made to claims in Waters Township held by Marietta Kosovosky and in August a short report was written. The main purpose of the report was to submit a map showing xenoliths (rock fragments) in a possible QD (Quartz Diorite) dyke. Later in April, Racicot had a thin section made from a grab sample from Waters Township.

The thin section was dropped off on April 17, 2019 to the Sudbury resident geologist, Shirley Peloquin to obtain her comments, assistance and opinion regarding the nature of the rock.

A short time later Racicot revisited the resident geologist office and viewed the thin section with Ms Peloquin. Based on the amount of quartz, plagioclase feldspar and mafic minerals- it was determined and concluded that the rock was a gabbro and not a Quartz Diorite.

The following report, thin section photographs and SEM (Scanning Electron Microscope) image is submitted at the request of the MNDM assessment office. Racicot hired and paid for use of the 'thin section camera' as well as a quick SEM analysis (and photo) at the OGS (Ontario Geological Survey).

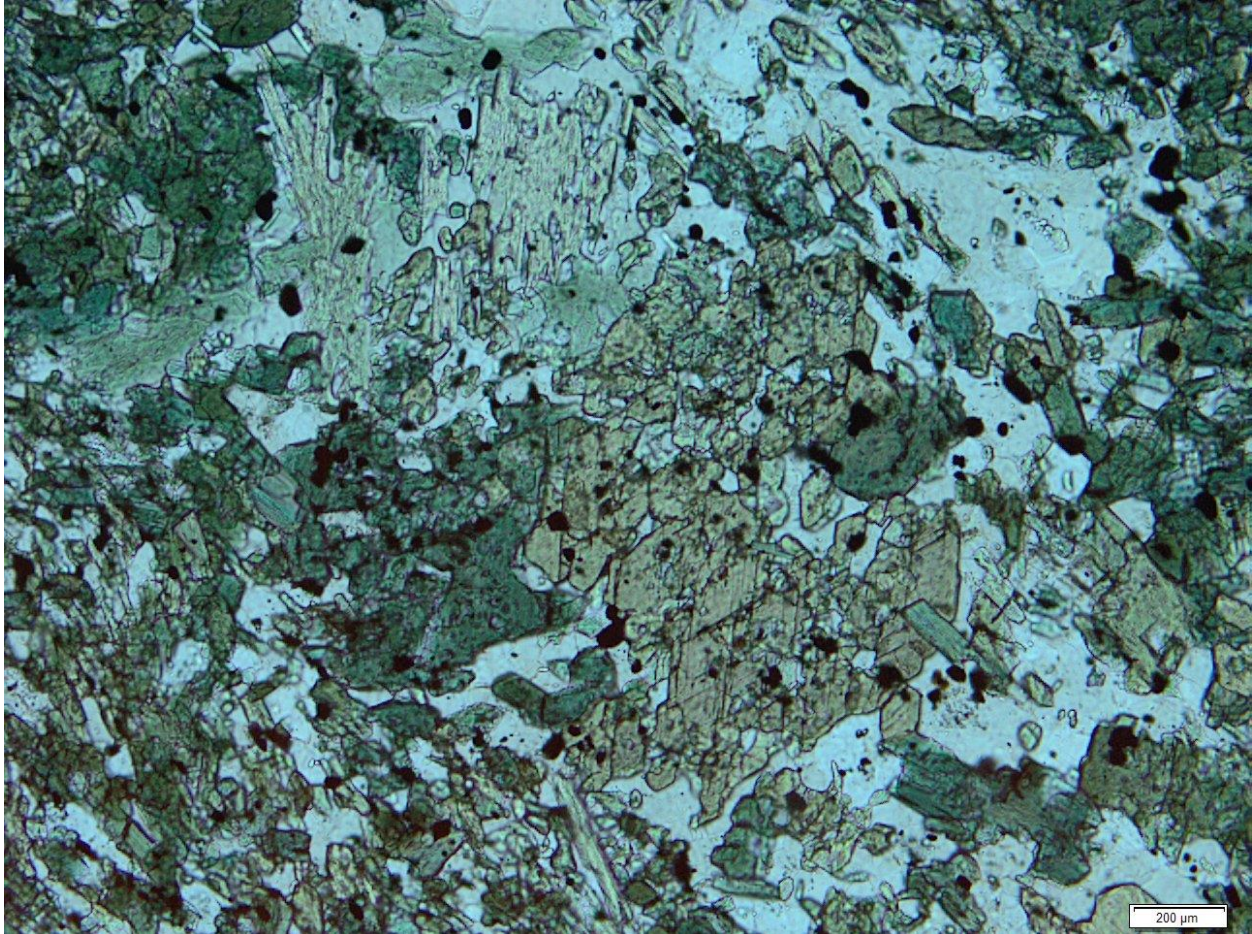
The first image is a photograph of the entire thin section and shows the nature and distribution of the darker mineral (mainly amphibole), feldspar and quartz and opaque minerals.

IMAGE 1



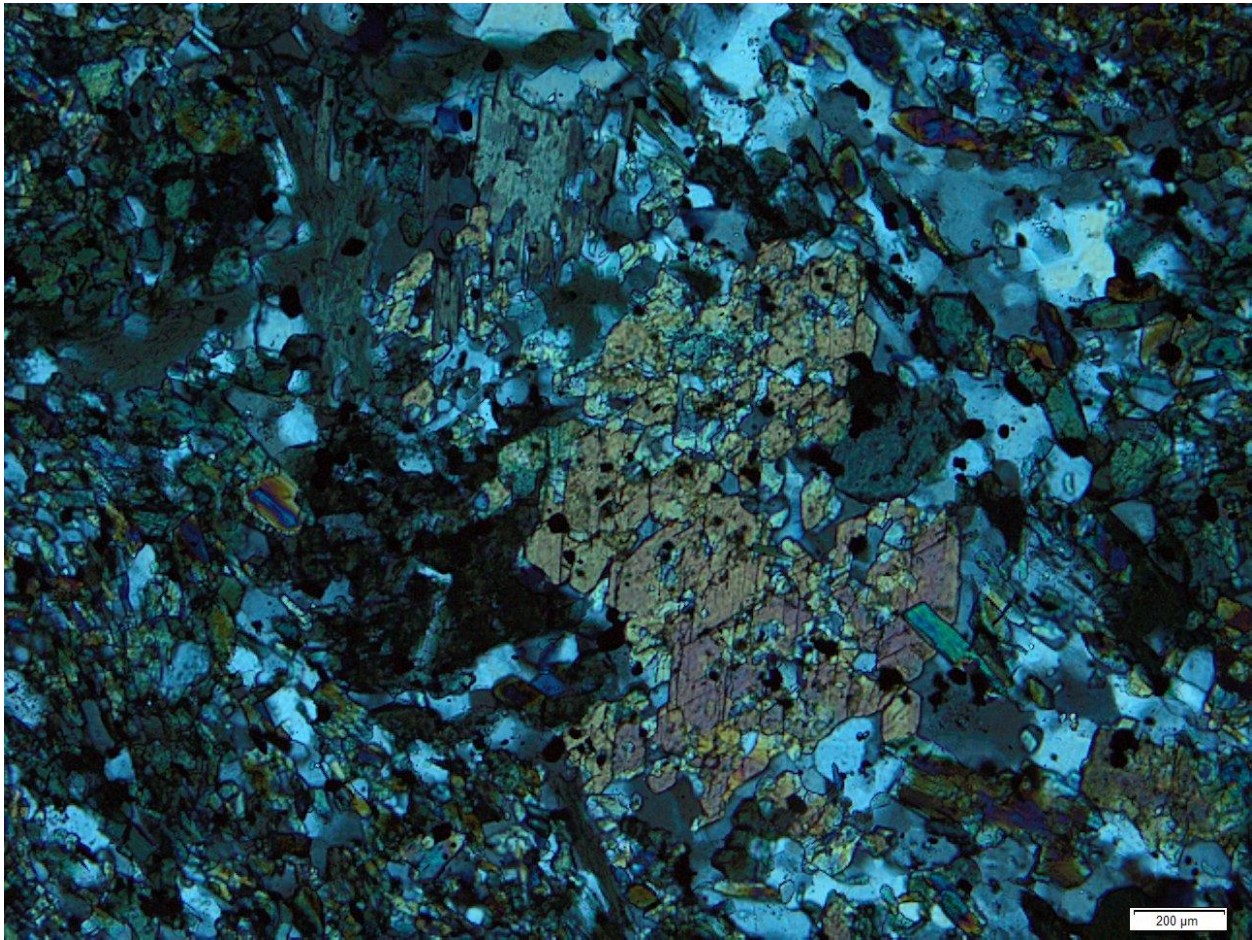
The second image is a portion of the thin section in plain polarized light and shows what appears to be mainly some sort of fibrous amphibole crystal in the center of the image- with some amphibole mixed in. There is also a large amount of plagioclase feldspar and quartz, although in this particular thin section, it is a bit difficult to estimate the percentage of each mineral. In this slide, there appears to be 5-7% opaque (dark) minerals- which are often some sort of magnetite.

IMAGE 2



The third image below is the same image in Cross Nicols light. The fibrous mineral in the center is most likely a larger crystal of amphibole- with some minor smaller amphibole mixed within.

IMAGE 3



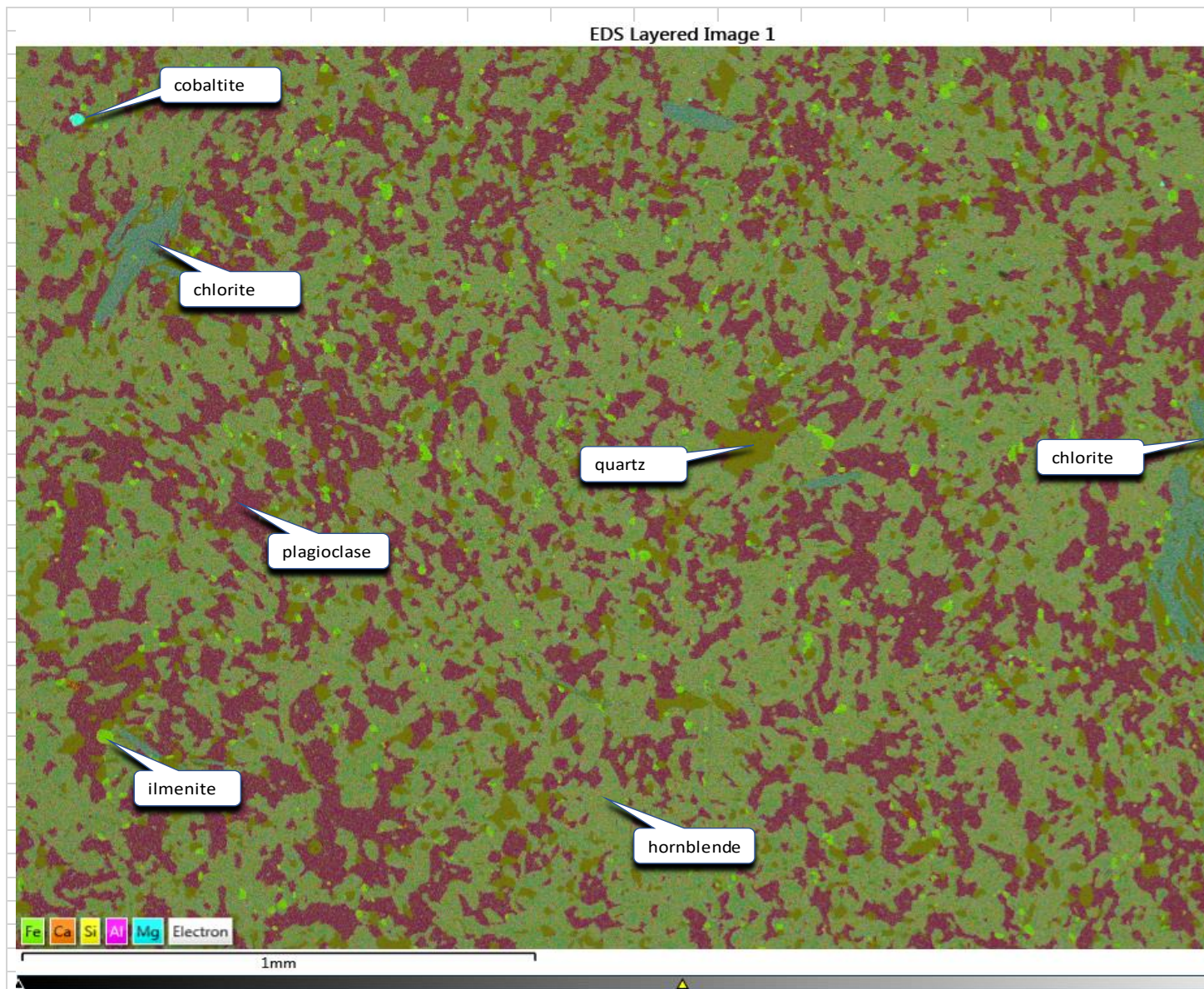
The SEM image produced much more accurate results, to a degree. The image and results are based only on a small, 2 x 2 mm area and while they do not adequately represent the entire sample, it probably semi-quantitatively tells a story with the following results:

- 51% Amphibole (hornblende)
- 36% Plagioclase Feldspar (~An 20-40)
- 8% Quartz
- 2% Chlorite (clinochlore)
- 1% Illmenite
- 1% Titanite
- <1% Apatite

Interestingly, there is much less opaque (dark) mineral than originally thought, only about 2%.

The fourth image below shows the small 2 x 2 mm image referred to above. It is interesting to note that while a small grain of cobaltite was noted- this is not indicative of the sample. But the fact that this was a random sample chosen for a thin section, makes this somewhat intriguing.

IMAGE 4



There was also some chlorite, minor hornblende, rare apatite, rare epidote and a few specs of mica according to the SEM.