#### **PROSPECTING REPORT**

on

#### **GEOLOGICAL MAPPING AND LITHOGEOCHEMICAL SAMPLING**

#### **PRAIRIE LAKE PROPERTY**

#### THUNDER BAY MINING DIVISION

#### **DISTRICT OF THUNDER BAY, ONTARIO**

NTS 42D 15 NE

# 2.56230



Marathon, Ontario August 2015 Rudolf Wahl, Prospector Marathon, Ontario

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#### 1.0 Introduction

Between September 25, 2014 and December 07, 2014 general prospecting, hand stripping, geological mapping and rock sampling was conducted on the Prairie Lake property claim 4256251. In 2010 we discovered up to 1.63% Niobium in a small outcrop on site # 28 on claim 4256251, at that time we didn't had the time to follow up on the occurrence. In September 2014 we started following up on the occurrence and hand stripped the overburden over 5 sections within the area of the occurrence. We geologically mapped and prospected the sections and we dug 5 pits within area site # 28.

#### 2.0 LOCATION AND ACCESS

The Prairie Lake property is situated in an area of rolling hills of relatively low relief. The maximum topographic relief is 120 meters. The properties are forested with spruce and cedar. Parts of the claims have been logged. Access is by truck from the town of Marathon. The property is centered approximately 60 to 65 kilometers from the town of Marathon. A network of logging roads provides access to most of the claims.

#### 2.1 **PROPERTY DESCRIPTION**

The Prairie Lake Property consists of contiguous mining claim (360 claim units, 5,760 hectare) recorded in good standing in Thunder Bay Mining Division within Killala Lake Twp. (G- 0596)

#### **Claims/units**

4263472, 4256252, 4256253, 4258074, 4258073, 4256256, 4256257, 4256258, 4246259, 4246260, 4256259, 4256251, 4261104, 4246264, 4246261, 4246255, 4246269, 4246270, 4256260, 4256261, 4256254, 4263540, 4263473, 4258074, 4256255, 4246262

Type of Work	<u>Name &amp;</u> Address	Dates Worked	Days = 8 to 10 hours	<u>Signature</u>
Prospecting, Geological mapping, Hand Stripping overburden Pit # 1,2,3,4,5 and Pit 2-1 # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 <u>CLN # 206079</u>	Sept 25, 2014 To Sept 30, 2014	6	RW
Prospecting, Geological mapping, Hand Stripping overburden Pit # 1,2,3,4,5 and Pit 2-1 # 4256251	Frederick Lowndes 28 Steedman Drive Marathon, Ontario POT 2E0 <u>CLN #410033</u>	Sept 25, 2014 To Sept 30, 2014	6	F.L.
Prospecting, Geological mapping, start digging Pit # 1,2,3 and Pit 2-1 area on claim # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 <u>CLN # 206079</u>	October 01, 2014 To October 03, 2014	3	R.W
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Property visit with MNDM Thunder Bay, Dorothy Campbell & Mark Puumala. Visiting Pit 1,2,3 on claim # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 CLN # 206079	October 08, 2014	1	R.W
Property visit with MNDM Thunder Bay, Dorothy Campbell & Mark Puumala. Visiting Pit 1,2,3 on claim # 4256251	Frederick Lowndes 28 Steedman Drive Marathon, Ontario P0T 2E0 <u>CLN #410033</u>	October 08, 2014	1	F.L.
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Prospecting, Geological mapping, continuing and finish digging Pit #2 - 3 # 4256251	Frederick Lowndes 28 Steedman Drive Marathon, Ontario POT 2E0 <u>CLN #410033</u>	October 27, 2014 To October 30, 2014	4	F.L.
Prospecting, Geological mapping, start digging on Pit #4 – 5 on claim # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 <u>CLN # 206079</u>	November 10, 2014 To November 14, 2014	5	R.W
Prospecting, Geological mapping, start digging on Pit #4 – 5 on claim # 4256251	Frederick Lowndes 28 Steedman Drive Marathon, Ontario P0T 2E0 CLN #410033	November 10, 2014 To November 14, 2014	5	F.L.

### **Assessment Work Breakdown**

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Type of Work	Name & Address	Dates Worked	$\frac{\text{Days} = 8 \text{ to } 10}{\text{hours}}$	Signature
Prospecting, Geological mapping, continuing on digging Pit #4 – 5 on claim # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 <u>CLN # 206079</u>	November 17, 2014 To November 21, 2014	5	hu
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Prospecting, Geological mapping, continuing and finishing digging Pit #4 - 5 on claim # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 <u>CLN # 206079</u>	November 26, 2014 To November 28, 2014	3	R.W
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Property visit with Mario Joly consultant from MDN Inc. Visiting Pit 1,2,3,4,5 on claim # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 <u>CLN # 206079</u>	December 02, 2014	1	R.W
Property visit with Mario Joly consultant from MDN Inc. Visiting Pit 1,2,3,4,5 on claim # 4256251	Frederick Lowndes 28 Steedman Drive Marathon, Ontario POT 2E0 <u>CLN #410033</u>	December 02, 2014	1	F.L.
Prospecting, cleaning up pit area 1 to pit area 5 and covered all pits with a green tarp on claim # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario P0T 2E0 <u>CLN # 206079</u>	December 03, 2014 To December 07, 2014	5	R.W
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Total

A total of 78 days in between September 25, 2014 and December 07, 2014 where used for prospecting, hand stripping overburden and digging 5 pits, geological mapping and rock sampling on claim 4256251 within the Prairie Lake Property.

Dated December 20, 2014 Marathon, Ont.

Dated December 20, 2014 Marathon, Ont.

Signed.....Ö

(Frederick Lowndes)

#### **Assessment Work Breakdown days:**

#### September 25, 2014 to September 30, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We prospected and hand stripped the overburden on site # 1,2,3,4, 2-1 and site 5. The sites are covered with about 2 to 3 feed of overburden.

#### October 01, 2014 to October 01, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We started digging Pit 1, 2, 3 and Pit 2-1 by hand stripping.

October 08, 2014 Property visit with Dorothy Campbell & Mark Puumala from the MNDM Thunder Bay. We used our 4wheelers into the property and used the old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Dorothy Campbell and Mark Pummala spent most of the day investigating the Niobium discovery within the area site # 28 and took rock sample from the carbonatite section (Pits) 1 to 3 and Pit 2-1.

#### October 20, 2014 to October 23, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We continued digging Pit 1, 2, 3 by hand stripping.

#### October 27, 2014 to October 30, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We finished digging Pit 1, 2, 3 and Pit 2-1 by hand stripping.

#### November 10, 2014 to November 14, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Started digging on Pit #4 – 5 by hand stripping.

#### November 17, 2014 to November 21, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Continued on digging Pit #4 - 5 by hand stripping.

**November 25, 2014 Property visit on claim 4256251** with Don Hoy & Ian Downie from Wolfden Resources Claim #4256251. We used our 4wheelers into the property and used the old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Don Hoy and Ian Downie spent most of the day investigating the Niobium discovery within the area site # 28 and took rock sample from the carbonatite section (Pits) 1 to 3.

#### November 26, 2014 to November 28, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Finished digging Pit #4 - 5 by hand stripping.

**December 02, 2014 Property visit on claim 4256251** with Mario Joly consultant Geologist from NDM Inc. We used our 4wheelers into the property and used the old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Mario Joly spent most of the day investigating the Niobium discovery within the area site # 28 and took rock sample from the carbonatite section (Pits) 1 to 5.

#### December 03, 2014 to December 07, 2014

We used our 4wheelers into the property and used the old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We cleaned up pit area 1 to pit area 5 and 2-1. We covered all pits with green tarps to keep the snow out over the winter, just in case the we would have another property visit over the winter month.



## Prairie Lake Property Key Location Map



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The Prairie Lake claim blocks are at the junction of the Wawa and Quetico subprovinces of the Superior Structural Province of the Canadian Shield. The rocks comprise east-west trending interbedded Archean meta-sedimentary and meta-volcanic rocks intruded by granitic and mafic intrusive rocks. Younger Proterozoic intrusions include the Marathon diabase dyke swarm and alkalic intrusions, of the Coldwell and Prairie Lake alkalic-carbonatite complexes and lamprophyre dykes. The large number of dykes mapped in the area is clearly evident in the airborne magnetic survey as long linear anomalies with a variety of strikes. Including are some distinct magnetic lows that appear to reflect a north-northeast set of lamprophyre dykes.

The Trans-Superior Tectonic Zone (TSTZ) extends north-northeast through the area and appears to be the locus of the considerable intrusive activity present. The TSTZ is similar to other tectonic features in the Canadian Shield, such as the Kapuskasing Structural Zone and the Lake Timiskaming Structural, along which diamond deposits have been found. Indeed, diamondiferous kimberlites have been found in Michigan on the southern extension of the TSTZ. These major structures provide deep-seated zones of weakness that tap into the mantle and provide conduits along which kimberlites ascend.

The bedrock is all of Precambrian age, but thick unconsolidated varved clays and silty sands of Pleistoncene and Recent age are found along the major drainage valleys. The Precambrian rock consist of acid and basic metavolcanics and minor metasedimentary units, intruded by serpentinite, granite, diabase, gabbro and alkalic gabbro, and syenite. The age sequence of the intrusive rocks has not been absolutely established. There is some doubt as to whether the diabase is older of younger than the alkalic intrusions and also doubt as to the position of the serpentinite in the sequence.

Rubidium-stronium age determinations on granite in the general area and on the alkalic syenite gave ages of 2,300 million years and 1,255 million years respectively. Copper-nickel and asbestos mineralization are associated with the serpentinite and copper and iron mineralization with the alkalic gabbro.

Nepheline natrolite syenites of the Coldwell, Prairie Lake and Killala Lake a alkaline complex exhibit rare wispy mafic-rich modal layering, extensive xenolith-rich zones and a wide variety of textural types, the latter resulting from the imposition of high temperature shearing and recrystallization on consolidated syenite. The textures developed range from allotriomorphic granular to porphyroclastic to mosaic granulob-lastic. The nepheline syenites are pyroxene-poor. Pyroxenes occur most commonly as corroded diopside to diopsidic hedenbergite cores surrounded by amphibole and less commonly as acmitic hedenbergite overgrowths upon cores of iron-rich amphiboles. Amphiboles are the dominant mafic phase and range from magnesian hastingsitic hornblende to hastingsite to hastingsitic hornblende to ferroedentic hornblende. Nephelines contain excess silica and have not equilibrated to compositions characteristic of low temperatures. Feldspars lack microcline twinning and perthites and have undergone extensive ion exchange at high sub-solidus temperatutes with sodium-rich fluids. Formation of late stage primary and replacement natrolite, muscovite and thomsonite is characteristic. The nepheline syenites are considered to be a part of a cycle of continental rift magmatism and to have been emplaced by cauldron subsidence as a hot hydrous magma. The rocks did not undergo long term subsolidus re-equilibration as the high temperature mineral assemblage has been preserved by uplift during post-intrusive regional block faulting. The nepheline syenites were probably dervied by extensive fractional crystallization of alkali basaltic magmas.

#### 3.1 Glacial Geology

In glaciated terrain where much of the overburden is exotic it is important to understand the glacial history to establish the provenance of kimberlite indicator mineral anomalies. From glacial striae there are 2 ice flow directions at  $220^{\circ}$  and  $170^{\circ} - 190^{\circ}$  with the  $220^{\circ}$  direction being the oldest (OGS, 2000a). The  $220^{\circ}$  direction is present throughout the area while the  $170^{\circ} - 190^{\circ}$  direction is only present in the south. A sub-glacial 'lodgement' till with material derived from local bedrock is present almost everywhere, affords the best sample medium. Many of the glacial deposits related to glacial retreat contain carbonate in the matrix derived from the closest Palaeozoic rocks a long way away in the James Bay Lowlands. Both glaciofluvial and glaciolacustrene deposits are present that can re-arrange and mask indicator mineral trains. Post glacial landforms such as sand dunes and shoreline features, which can also affect the disposition of the till, are also present. In OGS (2000a), no glacial transport distance is offered for the area, so an estimate of the proximity of the kimberlite source rocks cannot be made.

#### 3.2 Economic Minerals and Potential:

Prairie Lake area properties surrounding the Prairie Lake carbonatite complex.

The Prairie Lake carbonatite complex shows excellent economic potential for several elements, most important of which are niobium - uranium and rare earth oxide. These elements both occur in minerals of the pyrochlore group which are found in the carbon-aptites, silicocarbonatites and ijolites. The composition of the pyrochlores show local variations from uranium-rich uranium- pyrochlore and betafite to the uranium impoverished species, pyrochlore. For a classification of the pyrochlore system nomenclature the reader is referred to Hogarth (1977). The uranium content of the pyrochlores does not appear to be depend ant on the rock type. Of the pyrochlore group minerals (including the species pyrochlore, uranpyrochlore and betafite), betafite is most frequently encountered in the Prairie Lake rocks.

#### 4.0 Prospecting / Geological Mapping

In 2010 we discovered up to 1.63% Niobium in a small outcrop on site # 28 on claim 4256251, at that time we didn't had the time to follow up on the occurrence. In September 2014 we started following up on the occurrence and hand stripped the overburden over 5 sections within the area of the occurrence. We geologically mapped and prospected the sections and we dug 5 pits within area site # 28.

#### 5.0 Work conducted on the Prairie Lake area property

The Prairie Lake Property consists of 26 contiguous mining claim blocks (360 units, 5,760 hectare) recorded in good standing in Thunder Bay Mining Division within Killala Lake Twp. (G- 0596)

#### **Claims/units**

4263472, 4256252, 4256253, 4258074, 4258073, 4256256, 4256257, 4256258, 4246259, 4246260, 4256259, 4256251, 4261104, 4246264, 4246261, 4246255, 4246269, 4246270, 4256260, 4256261, 4256254, 4263540, 4263473, 4258074, 4256255, 4246262

#### Work conducted on claims:

**Claim/units** 4256251 (2)

#### Total 2 units

#### 5.1 Work completed

- Geological mapping was conducted within the area site # 28
- 5 pits where open up by hand digging and hand stripping
- Rock sample where collected by UTM NAD 83
- All sample where taking with a Geo tool.
- A total of 17 sample where obtained and assayed for rare earth oxide.
- Topographic features (trail, lakes, creeks) were also used to control mapping and prospecting.

#### 5.2 Property Visits (Niobium discovery site on claim 4256251)

- 08<sup>th</sup> October 2015, property visit from Geologist Dorothy Campbell and Mark Puumalar -MNDM Thunder Bay.
- 25<sup>th</sup> November 2015 Don Hoy, Wolfden Resources Thunder Bay
- 02th December 2015, Mario Joly consultant for MDN Inc. from Montreal

#### 6.0 **Results and Conclusion**

17 Rock samples were collected from the hand dug pit 1 to pit 5 on claim 4256251. We encountered radiometric levels up to 2000 cps on the hand stripped sections on claim 4256251. We

hand - dug 5 pits within our Niobium (Nb205) discovery site # 28, where we discovered high grade Niobium occurrences with over 1.4% Nb205 and over 10% P205.

We option 247 claim units in February 2015 to MDN Inc. from Montreal.

On April 14, 2015 I Rudolf Wahl received the "Bernie Schnieders" Discovery of the Year Award from the NWOPA at the Awards Dinner in Thunder Bay for the Niobium discovery for the year 2014.

#### 6.1 RECOMMENDATIONS

The property was option to MDN Inc. in February 13, 2015 and the MDN Inc. Two Geologists have been working on the Niobium discovery site and surrounding area since the beginning of June 2015. Results to be expected in the month of September 2015. It is recommended to do the Radiometric survey over the entire properties and drill test the Niobium discovery site# 28.

Marathon, Ontario August 25<sup>th</sup>, 2015

**Respectfully submitted** 

Minday Wahl Rudolf Wahl

Prospector

Assessment Work Breakdown 2.5623					
Type of Work	Name & Address	Dates Worked	$\frac{\text{Days} = 8 \text{ to } 10}{\text{hours}}$	Signature	
Prospecting, Geological mapping, Hand Stripping overburden Pit # 1,2,3,4,5 and Pit 2-1 # 4256251	Rudolf Wahl Box 1022 Marathon, Ontario POT 2E0 CLN # 206079	Sept 25, 2014 To Sept 30, 2014	6	M.W	
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Total

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SEP 1 0 2015

P.M.

A.M.

<u>Type of Work</u>	<u>Name &amp;</u> Address	Dates Worked	$\frac{\text{Days} = 8 \text{ to } 10}{\text{hours}}$	Signature
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Total

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2

30

#### **Assessment Work Breakdown**

A total of 78 days in between September 25, 2014 and December 07, 2014 where used for prospecting, hand stripping overburden and digging 5 pits, geological mapping and rock sampling on claim 4256251 within the Prairie Lake Property.

Dated December 20, 2014 Marathon, Ont.

Dated December 20, 2014 Marathon, Ont.

Signed Juch Sen

(Frederick Lowndes)

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We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We continued digging Pit 1, 2, 3 by hand stripping.

#### October 27, 2014 to October 30, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We finished digging Pit 1, 2, 3 and Pit 2-1 by hand stripping.

#### November 10, 2014 to November 14, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Started digging on Pit #4 - 5 by hand stripping.

#### November 17, 2014 to November 21, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Continued on digging Pit #4 - 5 by hand stripping.

**November 25, 2014 Property visit on claim 4256251** with Don Hoy & Ian Downie from Wolfden Resources Claim #4256251. We used our 4wheelers into the property and used the old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Don Hoy and Ian Downie spent most of the day investigating the Niobium discovery within the area site # 28 and took rock sample from the carbonatite section (Pits) 1 to 3.

#### November 26, 2014 to November 28, 2014 prospecting on claim #4256251

We used our 4wheelers into the property and used an old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Finished digging Pit #4 - 5 by hand stripping.

**December 02, 2014 Property visit on claim 4256251** with Mario Joly consultant Geologist from NDM Inc. We used our 4wheelers into the property and used the old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. Mario Joly spent most of the day investigating the Niobium discovery within the area site # 28 and took rock sample from the carbonatite section (Pits) 1 to 5.

#### December 03, 2014 to December 07, 2014

We used our 4wheelers into the property and used the old logging road from the Deadhorse road to our Niobium site # 28 what is about 2 km northeast of the Deadhorse road to get access to the claim 4256251. We cleaned up pit area 1 to pit area 5 and 2-1. We covered all pits with green tarps to keep the snow out over the winter, just in case the we would have another property visit over the winter month.



# **Appendix I**

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Pictures of Hand Stripped Pits 1, 2, 3, 4, 5, 2-1 Niobium (Nb205 – P205) Claim 4256251

Sample Location	Sample ID #	Nb205 %	P205 %
Pit 1	107790001	0.894	7.30
Pit 1	MP-RWN-14-2	1.432	7.54
Pit 1	14DCRW006	0.146	0.15
Pit 1	RW-1	1.466	0.092
Pit 1	RW-2	1.347	0.158
Pit 2	107790002	0.381	11.52
Pit 2	107790007	0.660	7.14
Pit 2	MP-RWN-14-5	0.544	10.49
Pit 2	RW-3	0.583	0.357
Pit 2	RW-4	0.600	0.093
Pit 3	107790003	0.450	3.38
Pit 3	14DCRW007	0.398	7.74
Pit 3	RW-5	0.578	0.231
Pit 4	107790004	0.035	1.19
Pit 5	107790005	0.126	4.83
Pit 2-1	14DCRW008	0.047	1.02
Pit 2-1	14DCRW009	0.073	2.14







Niobium Discovery site 28 Pit # 2 Carbonatite - Pyrochlore & phosphate

## Niobium Discovery site 28 Pit # 3 Carbonatite - Pyrochlore & Phosphate











# 2.56230

# **Appendix II**

**Professor Roger Mitchell Pyrochlore Report** 

#### October 2014

#### Professor Roger H. Mitchell Niobium site 28 Pyrochlore data for pit 1 - major points:

1 There are 2 main types of pyrochlore (see attached Excel file)

- pcl-1 - a F-free, Sr-poor type with relatively high Fe and Nb

pcl-2 a F-Na-Sr bearing type with relatively low Fe and Nb

The PDF file shows textural relations between these main types - typically pcl-1 is earlier than pcl-2 but pcl-1 can replace pcl-2 in some grains. These are mainly false colour back scattered electron images

2 There is also a Nb-rich pyrochlore with about 80 wt.% Nb2O5

3 All pyrochlores are ThO2 free (not detected) with very low UO3 - this is unlike many of the pyrochlores in Prairie Lake - many of these contain up to 20 wt,% UO3 . THE LOW Th AND U CONTENTS ARE IMPORTANT AS THESE GO INTO THE SLAG - HENCE RADIONUCLIDE PROBLEMS ARE LOW FOR THESE PYROCHLORES

4 Many pyrochlores occur as aggregates in clast-like masses of prismatic apatite

5 Pyrochlores are large - up to 1mm - separation from apatite and carbonates should be easy

The carbonatite contains pyrochlores, calcite, ferroan dolomite, calico-siderite, barite, ancylite,, synchysite-(Ce), iron oxides/hydroxides, quartz, potassium feldspar, pyrite, fluorite

Not present - monazite, xenotime, magnetite, ilmenite, fersmite, ferrocolumbite

Important that there is only 1 niobium bearing phase (although this is an intergrowth of two distinct pyrochlores) Assemblage is unlike NIobec and Fir where pyrochlores are replaced by ferrocolumbite

All these data point to a good Nb deposit better than the Prairie Lake occurrence where pcl are much smaller and far less abundant

December 04, 2014 Professor Roger H. Mitchell Niobium site 28 Pyrochlore information for pit # 3

The pyrochlores in Pit 3 are exactly like those in Pit 1 – low Th and low U, high Nb type – good news for this deposit.

# Pyrochlore compositions (Compatibility Mode)

wt.%	PCL-2	PCL-2	PCL-1	PCL-1	HIGH Nb pcl
F	3.57	2.45			
Na2O	3.59	1.36			
SiO2	1.05	2.03	0.67	0.65	0.39
CaO	12.44	10.06	8.74	9.8	15.8
TiO2	2.65	2.56	3.17	2.59	2.35
MnO			1.15	1.18	0.23
FeO	1.04	1.63	7.57	6.18	0.52
SrO	4.98	6.88	0.63	0.62	
Nb2O5	68.6	65.04	70.82	72.86	80.81
BaO	1.26	3.23	2.78	2.21	0.94
La2O3					
Ce2O3					
Nd2O3					
PbO	0.44	0.58			
ThO2					
UO3	0.65	1.04	0.65		
total	96.75	94.64	96.39	96.6	
with F	100.33	97.09	96.39	96.6	101.67

blank line are not detected









# **Appendix III**

# 2.56230



Sample Location	Sample ID #	Easting	Northing
Pit 1	107790001	519639	5432636
Pit 1	MP-RWN-14-2	519639	5432636
Pit 1	14DCRW006	519639	5432636
Pit 1	RW-1	519639	5432636
Pit 1	RW-2	519639	5432636
Pit 2	107790002	519632	5432635
Pit 2	107790007	519632	5432635
Pit 2	MP-RWN-14-5	519632	5432635
Pit 2	RW-3	519632	5432635
Pit 2	RW-4	519632	5432635
Pit 3	107790003	519602	5432656
Pit 3	14DCRW007	519602	5432656
Pit 3	RW-5	519602	5432656
Pit 4	107790004	519625	5432634
Pit 5	107790005	519621	5432636
<b>Pit 2-1</b>	14DCRW008	519608	5432418
Pit 2-1	14DCRW009	519608	5432418

## Prairie Lake Property Sample Location pit 1 to pit 5, UTM 16 NAD 83

# Appendix IV

#### **DESCRIPTION OF ROCK SAMPLES** (See Geological map for sample location)

Sample	Sample #	Rock Sample Description		
Location #				
Pit 1	107790001	Carbonatite microbrecciated, medium to coarse		
		grained, calcite, siderite?, ankerite		
Pit 1	MP-RWN-14-2	Carbonatite, calcite, iron carbonate, apatite		
Pit 1	14DCRW006	Carbonatite, calcite, iron carbonate, apatite		
Pit 1	RW-1	Carbonatite, calcite/dolomite, iron carbonate		
Pit 1	RW-2	Carbonatite, calcite, iron carbonate, apatite		
Pit 2	107790002	Carbonatite, calcite/dolomite, iron carbonate		
Pit 2	107790007	Carbonatite, calcite, ankerite, iron carbonate		
Pit 2	MP-RWN-14-5	Carbonatite, calcite, iron carbonate, apatite		
Pit 2	RW-3	Carbonatite, calcite, iron carbonate, apatite		
Pit 2	RW-4	Carbonatite, calcite, iron carbonate, apatite		
Pit 3	107790003	Carbonatitie, iron carbonate, calcite		
Pit 3	14DCRW007	Carbonatite, calcite, iron carbonate, apatite		
Pit 3	RW-5	Carbonatite, calcite, iron carbonate, apatite		
Pit 4	107790004	Carbonatite, calcite, iron carbonate, apatite		
Pit 5	107790005	Carbonatite, calcite, ankerite, iron carbonate		
Pit 2-1	14DCRW008	Carbonatite, calcite, iron carbonate, apatite		
Pit 2-1	14DCRW009	Carbonatitie, iron carbonate, calcite		



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# PROVINCIAL RECORDING OFFICE - SUDBURY RECEIVED SEP 1 0 2015

Northing

P.M.

		III al dans	Deter	1			SEP 1 (
	WORK Location Claim	Work aone	Dates	Sample	Cample ID #	Fasting	North
		Pernoved Overburden	Sept 25, 2014	Location	Sumple ID T	Lusing	AM
	Pit 2	Removed Overburden	Sept 25, 2014	Did 1	107700001	510(20	5422
	Pit 3	Removed Overburden	Sept 27, 2014		10//90001	519039	54320
	Pit A	Removed Overburden	Sept 28, 2014		MP-KWN-14-2	519639	54320
	Dit 5	Removed Overburden	Sept 20, 2014	Pit I	14DCRW006	519639	54320
	<b>Pit 2_1</b>	Removed Overburden	Sept 29, 2014	Pit 1	RW-1	519639	54320
**	Pit 1	Start hand digging Pit	October 01 2014	Pit 1	RW-2	519639	54320
	Pit 2	Start hand digging Pit	October 02 2014	Pit 2	107790002	519632	54320
/محديد	Pit 3	Start hand digging Pit	October 03, 2014	Pit 2	107790007	519632	54320
4256251	Pit 2-1	Start hand digging Pit	October 03, 2014	Pit 2	MP-RWN-14-5	519632	54320
4250251	Pit 1, 2, 3, 2-1	Property Visit with	October 08, 2014	Pit 2	RW-3	519632	54320
	/	MNDM		Pit 2	RW-4	519632	54320
** **	Pit 2	Cont, hand digging Pit	October 20, 2014 to	Pit 3	107790003	519602	54320
**			October 21, 2014	Pit 3	14DCRW007	519602	54320
** ** **	Pit 3	Cont. hand digging Pit	October 22, 2014 to	Pit 3	RW-5	519602	54320
			October 24, 2014	Dit A	107700004	510625	5/320
A A A A A A A A A A A A A A A A A A A	Pit 2	Finishing digging Pit	October 27, 2014 to	D:4 5	107700004	510623	54320
X7a Carb Carb	Fig. Pit 3	Finishing digging Pit	October 28, 2014 to	Pu	10//90003	519021	54320
Carb Vila () x vila			October 29, 2014	Pu 2-1	14DCRW008	519008	54324
$x^{11a} + x^{11a} + x^{12} + x^{11} + x^{11a} + x^{11a$	Pit 2-1	Finishing digging Pit	October 30, 2014	Pit 2-1	14DCKW009	519008	54324
Carb II					non val e service de presentant de seconda de la compañía		
Carb	Pit 4	Start hand digging Pit	November 10, 2014 to		Wahl Pro	specting	
xil xila	t [] [		November 12, 2014		Wallin	speering	
arb x 11a	Pit 5	Start hand digging Pit	November 13, 2014 to	Prairie L	ake Property G	ology and R	lock Samul
Carb Carb	×		November 14, 2014		I continue Ch		lock Sample
x 11a Carb	Pit 4	Cont. hand digging Pit	November 17, 2014 to		Locations Cla	alm 4250251	
E A Carb	×		November 19, 2014	K	<b>Cillala Lake Area</b>	a Twp. (G-05	596)
x Ila Caroc	Pit 5	Cont. hand digging Pit	November 20, 2014 to	Pren by Rudolf Wal	August	2015	Dwg #
xilla F	~		November 21, 2014	Frep. by Rouon war	n August	2015	
	All Pits	Property Visit with	November 25, 2014	Drawn by Rudolf Wa	ahl Scale 1	: 5000	1
Carb C		Wolfden Resources					
	Pit 4	Finishing hand digging	November 26, 2014 to		Meters		
		Pit	November 27, 2014	0	THE COID		_
** 14 x7# . ** Cree	k Pit 5	Finishing hand digging	November 28, 2014	<sup>0</sup> 50 100	150 200 250	$300_{350}$ 4	00 7
** (] 'x 6a }		PIL Deserverty Visit with	December 02 2014		PR STA		
** 13 / (	All Pits	MDN Inc	December 02, 2014				-
		Clean un Dite Areas	December 02 2014 to	Sc	ale $1 \text{ cm} = 50 \text{ m}$	eters	
	All Pits	Clean up Pits Areas	December 03, 2014 to		are rem 50 m		

December 07, 2014

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# 2Eb 1 0 3012

-W.



## LEGEND

PRECAMBRIAN LATE PRCAMBRIAN KEWEENAWAN CARBONATITE - ALKALIC 11 Carbonatite 11a syenite Breccia with carbonatite veining - dykes

#### LATE SILICIC PLUTONIC ROCKS 7a Mascovite granite

#### EARLY SILICIC PLUTONIC

ROCKS

6a hornblende - biotite granodiorite gneiss

#### SYMBOLS

- Down slope
- X Bedrock
- Muskeg or swamp
- Claim Post

----- Traverse Line

Wheeler Trail
Pit sample location and Assay

ABBREVIATIONS Carb - Carbonate

number location

Sample Location	Sample ID #	Easting	Northing	D	KECEINE
Pit 1	107790001	519639	5432636	DING	OFFICE - SUDBU
Pit 1	MP-RWN-14-2	519639	5432636		
Pit 1	14DCRW006	519639	5432636		
Pit 1	RW-1	519639	5432636		
Pit 1	RW-2	519639	5432636		
Pit 2	107790002	519632	5432635		
Pit 2	107790007	519632	5432635		
Pit 2	MP-RWN-14-5	519632	5432635		
Pit 2	RW-3	519632	5432635		
Pit 2	RW-4	519632	5432635		
Pit 3	107790003	519602	5432656		
Pit 3	14DCRW007	519602	5432656		
Pit 3	RW-5	519602	5432656		
Pit 4	107790004	519625	5432634		
Pit 5	107790005	519621	5432636		
Pit 2-1	14DCRW008	519608	5432418		
Pit 2-1	14DCRW009	519608	5432418		

#### Wahl Prospecting

Prairie Lake Property Geology and Rock Sample Locations Claim 4256251

#### Killala Lake Area Twp. (G-0596)

Prep. by Rudolf Wahl	August 2015	Dwg.#
Drawn by Rudolf Wahl	Scale 1 : 5000	1



Scale 1cm = 50 meters

.W.A