

NTS 31 M/4

**GROUND GEOPHYSICAL SURVEYS  
Magnetometer and Horizontal Loop EM**

**KoKoKo Project  
Ferrim Lake and Tasse Lake Grids**

**PANTHEON VENTURES LTD.  
September 2007**

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**TABLE OF CONTENTS**

1.0 Summary  
2.0 Property Description  
3.0 Location and Access  
4.0 Magnetometer Survey  
    4.1 Instrumentation  
    4.2 Survey Results and Interpretation  
5.0 Horizontal Loop EM Survey  
    5.1 Instrumentation  
    5.2 Survey Results and Interpretation  
6.0 Conclusions and Recommendations

**LIST OF FIGURES**

Figure 1 Claim and Grid Map 1:20,000

**LIST OF MAPS**

Map No.1	Magnetometer total field contour map	1:5000
Map No. 2	HLEM - Profiles 444 Hz. 150 m. Coil sep.	1:5000
Map No.3	HLEM - Profiles 1777 Hz. 150 m. Coil sep.	1:5000
Map No.4	HLEM - Profiles 3555 Hz. 150 m. Coil Sep.	1:5000

**1.0 SUMMARY:**

From April 11 to September 15, 2007, an extensive program of linecutting and geophysical surveying was carried out on the KoKoKo Project on behalf of Pantheon Ventures Corp., 314-837 West Hastings Street, Vancouver, B.C. The objective of the work was to map and test areas of interest using magnetic and electromagnetic methods with the goal of identifying high potential exploration targets. The final results met expectations and several anomalies are proposed for follow-up work.

The geophysical surveying was done by David Laronde, Kevin Picard, Curtis Charlton and Jacques Poirier all of Meegwich Consultants Inc. P.O. Box 482, Temagami, Ontario POH 2H0. David Laronde was the field supervisor and reported on the work. A total of 58 km of line was cut and surveyed. Theberge Linecutting was the linecutting contractor providing chainsaw cut survey lines.

**2.0 PROPERTY:**

The 106-unit claim group (1696 hectares) is contiguous and composed of 14 Chambers Tp. mining claims numbered as follows:

<b>Claim No.</b>	<b>Units</b>	<b>Due Date</b>
30022589	8	March 2, 2008
4201101	15	Jan. 20, 2008
4201102	14	Jan.27, 2008
4201103	13	March 30, 2008
4209807	5	June 15, 2008
4209808	1	June 15, 2008

4209809	12	June 15, 2008
4209810	4	March 30, 2008
4210496	4	Feb. 23, 2009
4210497	2	Feb. 23, 2009
4210511	4	Feb. 23, 2009
4210512	6	Feb. 7, 2009
4210513	2	Feb. 7, 2009
4210520	16	March 16, 2009

Topography on the claim group is rugged in places giving way to low lying cedar swamps and bogs. The area had been logged in the past and regeneration is primarily birch and poplar.

### **3.0 LOCATION AND ACCESS:**

As the crow flies the property is located from 10 km west northwest of the town of Temagami some 100 km north of North Bay. Access to the grid is first by vehicle to the Kanichee Mine 7 km west from Hwy 11. From here an ATV is recommended even though a small 4-wheel drive truck could make the trip on a rough road where frost has pushed up numerous boulders in the low lying areas. Old logging roads wind west from the mine for 13 km to the east shore of Tasse Lake. Alternate access to the west side of the property is by boat from Lake Temagami and portaging into KoKoKo Lake and then crossing Ferrim Lake.

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Chambers Tp.

#### **4.0 MAGNETOMETER SURVEY:**

**4.1 Instrumentation:** A Gem Systems GSM-19 overhauser magnetometer serial no. 58479 was used for the survey. These units have an accuracy of +/- 1/100th of a gamma. 58 km was surveyed taking 11,600 readings at 5 meter intervals. An EDA Omni IV base station was used to monitor and correct for the diurnal variation during the course of the survey. This instrument reads to 1/10<sup>th</sup> of a gamma resolution. The base station cycled at 20 second intervals.

**4.1 Survey Results and Interpretation:** The results are presented in contour format on plans at 1:5000 scale. Quality control was monitored by surveying the baseline and then comparing the readings at the same station when the cross lines were surveyed. This cross-referencing technique confirms good data and checked out well on these surveys.

#### **Ferrim Lake Grid**

The most obvious feature is an extremely intense, linear magnetic high trending southeast across the southern portion of the grid. The width of this iron formation (KoKoKo Range) peters in and out from 100-300 meters while the length spans the grid for at least 2.4 km and continuing west. Magnetic readings over 100,000 nT are not uncommon. The intensity of the formation varies along the length and is particularly intense on L 200 and 400 E. There is good outcrop exposure since the formation is erosion resistant and forms a prominent ridge trending southeast. In particular L 1000 and 1200 E have the best exposure for viewing between 1500 and 2000 N.

The magnetic background range is fairly broad at 200-700 nT (add 55,000 nT) and this level of intensity covers more than 50% of the grid. Contrasting

against background are two series of magnetic highs that more or less trend parallel with stratigraphy. The first consists of a relatively narrow band of a moderately intense linear feature spanning 1.2 km from TL 3000 N at 800 E to 1900 E at 350 N. Readings range up to 7500 nT at the east end. The second series of magnetic highs is found on a linear trend from 800 E at 3600 N to TL 4000 N at 1800 E and is very similar in size and intensity to its cousin to the south. The magnetic mineral contained in these features could be associated with an ultramafic intrusive from a magma source since they conform to local stratigraphy rather than the northeast trending diabase dike swarm.

### **Tasse Lake Grid**

The background range on this grid is 850-1000 nT and covers 75% of the surveyed area.

There is an intense, semi-massive high found in the southeast corner of the grid. Values range up to 17,000 nT however most readings fall in the 1000-2000 nT range. The intensity found is suggestive of pyrrhotite or other highly magnetic mineralogy within an ultramafic intrusive body.

A series of narrow highs occur in the northwestern corner of the grid.

Intensity ranges up to 2000-3000 nT on a spotty basis. This group of highs could be interpreted as a southwest trending dike although somewhat irregular.

A few isolated highs to the east of this are noted and suggest an abundance of magnetic mineral though the volcanic suite of rocks.

### **5.0 HLEM Survey:**

The coil spacing was 150 meters throughout the survey and stations were read at 25 meters intervals. The optimum coil spacing and attitude or tilt was

achieved using a maxmin computer that calculates these parameters. A total of 43 km was surveyed making a total of 1720 readings for each of the three frequencies read.

**5.1 Instrumentation:** An Apex Maxmin II unit (ser. no. 1174) was used for the horizontal loop EM survey. Three frequencies were read, 444, 1777, and 3555 Hz, measuring the in-phase and quadrature components of the secondary field.

**5.2 Survey Results and Interpretation:** The results of the survey are presented in profile format on plans at 1:5000 scale. There is a total of three maps, one for each frequency. The survey was greatly hampered by lakes and watercourses resulting in many segments not surveyed. The coverage should be expanded when the lakes and creeks are frozen over.

Eight southeast trending conductors were picked up by the survey and are discussed as follows:

#### **Ferrim Lake Grid**

**Conductor A:** This anomaly runs for one kilometre at the southern limits of the grid and is partially covered. The conductivity is strong and considered to be from a bedrock source flanking the iron formation on the south side. The coverage should be completed before drilling.

**Conductor B:** Conductor B is similar to A only the strong conductivity is confined to a strike length of 600 meters across lines 1000, 1200, 1400, 1600 E near TL 2000 N. Another difference is a weak extension to the northwest. This conductor is right on the iron formation that is the probable source however it could still be considered a drill target for sulphides associated with gold.

**Conductor C:** The conductor is relatively strong running for 600 meters of strike length before being truncated or faulted. A possible faulted extension of B that is a drill target also. The anomaly attains a width of forty meters on L 1800 E at 1800 N and tapers to <10 meters at the east end.

**Conductor D:** A multiple anomaly is close proximity to B. It is a moderately conductive response directly in the iron formation. The conductor could be drilled along with B.

**Conductor E:** Conductor E is a short, weak response occurring on an interpreted fault. It should be considered a priority two target.

**Conductor F:** This anomaly is well removed from the cluster of previous responses and is located in the older volcanic sequence close to a quartz porphyry contact. It is an interesting conductor that is narrow, short in strike length, moderately weak and dipping to the north. Possible source may be sulphides and should be drilled.

**Conductor G:** Similar to F, only found in a quartz porphyry rock unit. The conductor has a strong response on L 2400 E at 2700 N and extends northwest from here getting weaker.

**Conductor H:** This anomaly is a weak to very weak response that has magnetic association that is interpreted to be associated with a mafic or ultramafic intrusive. This is an interesting drill target because the weak conductivity may be related to poorly connected metallic grains similar to disseminated sulphides. The best response is on L 800 E at 3450 N.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS:**

The iron formation of the KoKoKo Range was outlined for a distance of 2.4 km with an average width of 200 meters. The formation was found to be



more intense in certain areas meaning the iron is not evenly distributed along length but occurring as differentiated grades. Magnetic readings suggest areas of high grade iron in magnetite.

The presence of ultramafic intrusives are confirmed by semi-massive and adjoining linear pods in series trending with the stratigraphy. The most interesting and most intense feature is found on the Tasse Lake Grid in the southeast corner. This rock unit is analogous with the ultramafic rock unit found at the Temagami Mine where Cu-Ni and PGE mineralization is found to occur along the base of the ultramafic sill.

Several HLEM conductors are situated on and flanking the iron formation. The conductivity is strong in some cases indicating sulphides and/or magnetite. Sulphides associated with gold are known to occur in iron formations and warrant drilling. The other conductors warrant drill testing for base metal and PGE mineralization.

**Further work:**

Further work should be looked at in three ways. Firstly, the iron formation deposit is substantial and follow-up work should focus on an economic evaluation of the iron content on a stand-alone basis. More definition can be achieved by reducing the line spacing and data collection to 100 meters. Secondly, all of the ultramafic bodies encountered should be surveyed with induced polarization since the HLEM survey has ruled out conductivity caused by massive sulphides. It is suspected that any mineralization could be disseminated by nature. Thirdly, the conductors outlined may be drilled for different reasons. Conductors A,B,C,D,E can be drilled to determine grade of iron while tesing

for sulphides associated with gold. Conductors F, G should be drill tested for VMS style mineralization while conductor H needs drilling to test for sulphides associated with Cu-Ni and PGE mineralization.

**References**

Bennett, G. 1978; Geology of the Northeast Temagami Area - District of Nipissing - Ontario Geologic Survey Report No. 163

**CERTIFICATE OF AUTHOR**

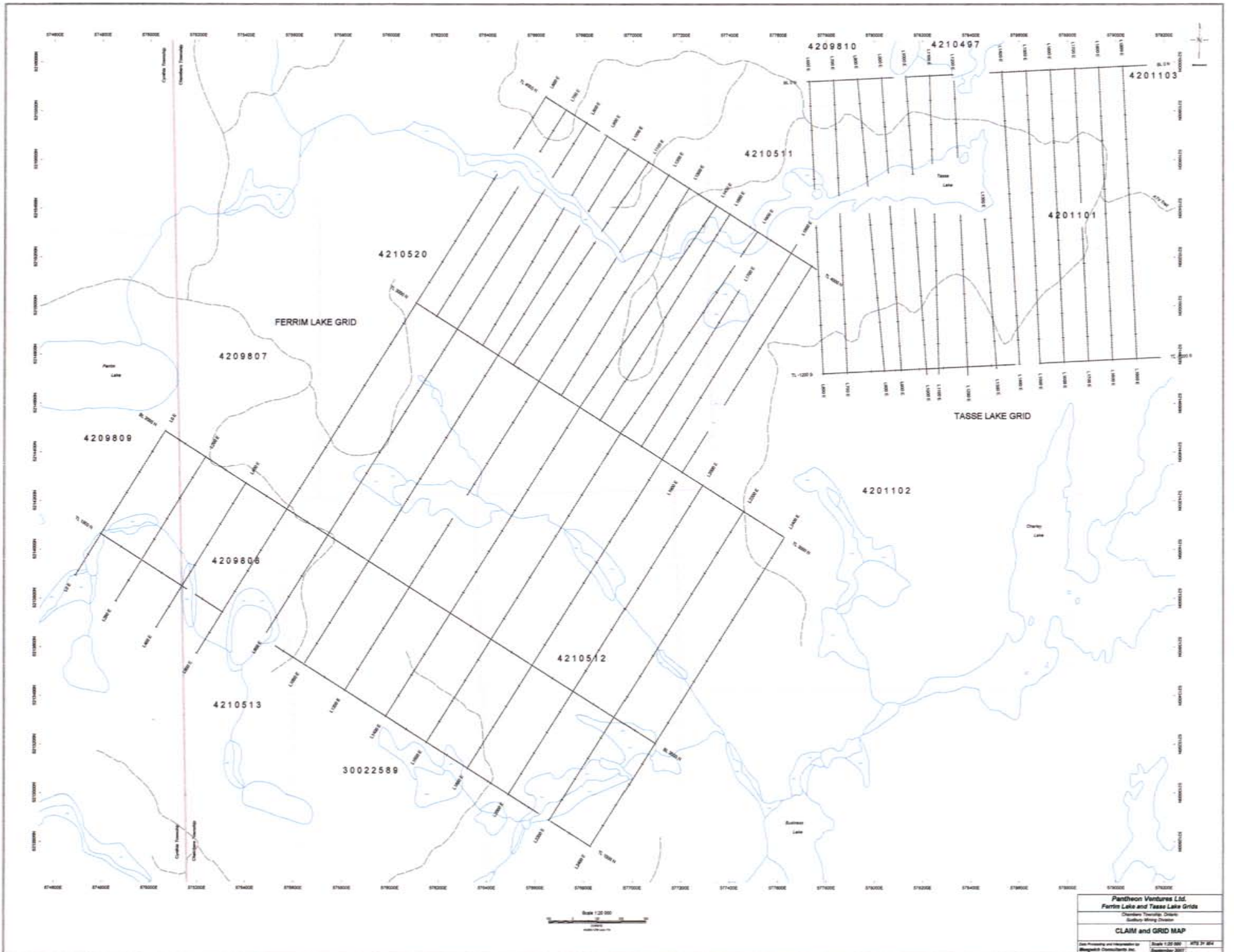
I, David Laronde of the town of Temagami, Ontario hereby certify:

1. That I am a geology technologist and have been engaged in mineral exploration for the past 27 years.
2. That I am a graduate of Cambrian College in Sudbury with a diploma in Geology Engineering Technology 1979.
3. That my knowledge of the property described herein was acquired by field work and documentation.

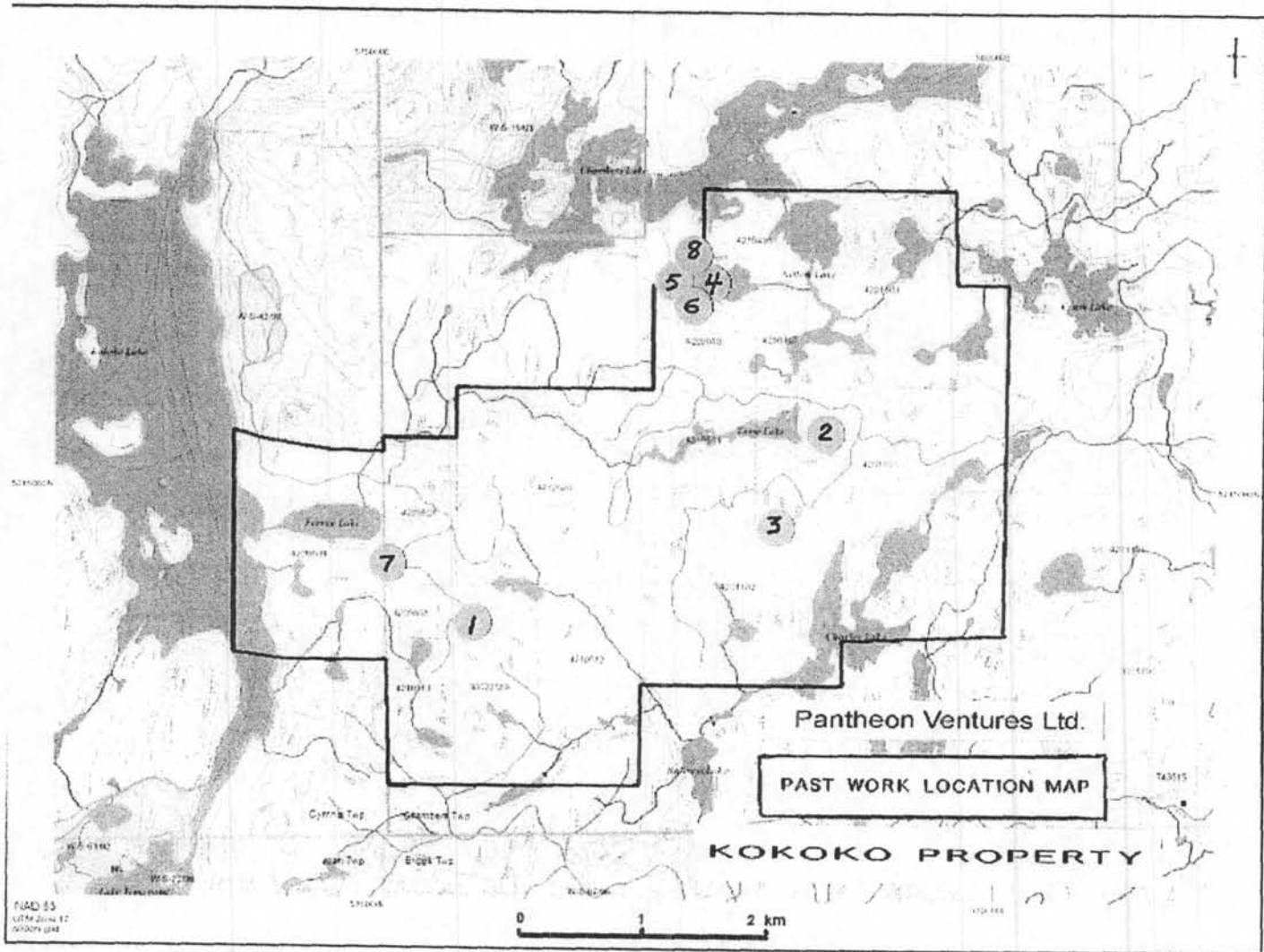
Dated at Temagami this 22nd day of September 2007.



David Laronde



**Pantheon Ventures Ltd.**  
 Ferrim Lake and Tasse Lake Grids  
 "Claim and Grid Map"  
 Sudbury Mining Division  
**CLAIM and GRID MAP**  
 Scale 1:20,000  
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