Technical (Geological) Report

On The

Zavitz Township Property
NTS 42 A/3, Ontario, Canada

Prepared for

Claim Lake Nickel Inc.
408 Bay Street
Orillia, Ontario L3V 3X4
Tel: (705) 326-2007
Fax: (705) 325-4591
www.claimlakenickel.com

By

Ulrich Kretschmar, B.Sc., M.Sc., Ph.D, P.Geo.(APGO # 1160)

EXPLORATION GEOSCIENCE ASSOCIATES INC
408 Bay St. Orillia, Ontario L3V 3X4
Tel: (705) 326-2007
e-mail: exploration.geoscience@encode.com

Jan 12, 2009
# TABLE OF CONTENTS

2.0 TABLE OF CONTENTS.......................................................................................... ii

3.0 EXECUTIVE SUMMARY. ................................................................................... vi

4.0 INTRODUCTION. ................................................................................................. 1
  4.3 Sources of Information. ..................................................................................... 1

5.0 RELIANCE ON OTHER EXPERTS. ................................................................. 2

6.0 PROPERTY DESCRIPTION AND LOCATION. .................................................. 3
  6.1 Location and Access. ......................................................................................... 3
  6.2 Mineral Policy Ontario. ...................................................................................... 3
  6.3 Property and Ownership Description. .............................................................. 3

7.0 ACCESSIBILITY, CLIMATE, RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY. ............................................................................................ 5
  7.1 Access .............................................................................................................. 5
  7.2 Climate. ............................................................................................................. 5
  7.3 Local Resources and Infrastructure.................................................................... 6
  7.4 Physiography. .................................................................................................. 7
  7.5 Topography, Vegetation and Water Availability .............................................. 7

8.0 EXPLORATION HISTORY.................................................................................. 8
  8.1 General History of the Area. ............................................................................. 8
  8.1.1 History of Nickel Exploration. ................................................................. 9
  8.2 Zavitz Property History. .................................................................................... 10
  8.3 Voyager VMS Showing. ................................................................................... 10
  8.3.1 Mineralization at the Voyager Showing.................................................... 13
  8.4 Fiset (Robinson) Gold Showing....................................................................... 14
  8.5 Area to NW of Core Group (Moss Claims). .................................................. 15
  8.6 Area to SW of Core Group (Moss “Southern Cross” Property). ................. 15
  8.6.1 Moss Resources, “Moray Lake” grid......................................................... 15
  8.6.2 Moss Resources, “Dexter Lake” grid.......................................................... 15
  8.6.3 Moss-Tremblay Nickel and Base Metal Showing. ................................. 16
  8.7 Area to NE of Core Group (Falconbridge, 1974). ........................................ 16
  8.8 Area to SE of Core Group, Zavitz-Hincks Twp boundary, ......................... 17
  8.9 Hincks Twp Gold Showing. .......................................................................... 17
9.0* GEOLOGICAL SETTING .............................................................. 18
  9.1 Regional Geology. ...................................................................... 18
    9.2.1 Supracrustal Package A. .................................................... 20
      9.2.1.1 Mafic metavolcanic rocks ......................................... 21
      9.2.1.2 Intermediate metavolcanic rocks ................................. 21
    9.2.2 Supracrustal Package B. ...................................................... 22
      9.2.2.1 Intermediate to Felsic Metavolcanic Rocks ................. 22
    9.2.3 Supracrustal Package C (underlies Zavitz claims). ............ 23
      9.2.3.1 Ultramafic Metavolcanic Rocks .................................. 23
      9.2.3.2 Mafic Metavolcanic Rocks ........................................ 25
      9.2.3.3 Intermediate to Felsic Metavolcanic Rocks ................. 25
    9.2.4 Archean Mafic to Ultramafic Intrusions ............................. 26
    9.2.5 Archean Felsic to Intermediate Intrusions .......................... 26
    9.2.6 Proterozoic Dikes. ............................................................ 27
    9.2.7 Structural Geology. ......................................................... 28
      9.2.7.1 Folds ......................................................................... 28
      9.2.7.2 Faults ........................................................................ 28

10.0 DEPOSIT TYPES ........................................................................... 30
  10.1 Gold ....................................................................................... 30
  10.2 Komatiitic Nickel and Platinum Group Elements (PGE). ........... 30
  10.3 Volcanogenic Massive Sulfides .............................................. 32

11.0 PROPERTY GEOLOGY .................................................................. 34

12.0 Exploration ............................................................................... 35

13.0 Drilling ..................................................................................... 35

14.0 Sampling Method and Approach. ............................................. 35

15.0 Sample Preparation, Analyses and Security. .............................. 35

16.0 Data Verification ......................................................................... 36

17.0 ADJACENT PROPERTIES. .......................................................... 37
  17.1 Mustang Minerals, Bannockburn Twp. .................................... 37
    17.1a Thalweg Ni-Cu Sulphide Zone(Kambalda Style). .............. 37
    17.1b Rahn Lake Ni-Cu Sulphide Zone(Kambalda Style) .......... 38
    17.1c Bannockburn Ni-Cu Sulphide Zone (Mt. Keith Style) ....... 38
  17.2 Golden Chalice Resources Inc, Langmuir Project. ................. 40
  17.3 Liberty Mines ........................................................................... 41
  17.4 Fletcher Nickel ........................................................................ 42
18.0 Mineral Processing and Metallurgical Testing. ................................. 42
19.0 Mineral Resource and Mineral Reserve Estimate............................ 42
20.0 Other Relevant Data and Information. ............................................... 42
21.1 DISCUSSION AND CONCLUSIONS.............................................. 43
   21.1 Discussion.................................................................................. 43
   21.2 Conclusions. ........................................................................... 47
22.0 RECOMMENDATIONS. ................................................................. 48
   22.1 General Recommendations. ...................................................... 48
   22.2 Exploration Program and Budget. ............................................. 49
23.0 DATE AND SIGNATURE PAGE. ...................................................... 50
24.0 REFERENCES CITED ................................................................... 51
   24.1 Publications.............................................................................. 51
   24.2 Website References. ................................................................. 55
25.0 Additional Requirements for Technical Reports On Development
   Properties and Production Properties. .............................................. 55
LIST OF FIGURES

Typical sulfide textures from Voyager Cu-Au Showing. Massive pyrite and pyrrhotite matrix to basalt fragments. ........................................... 13

Fig. 1: Location of the Zavitz Property. ................................................ 56
Fig. 2 Regional Geology, Mineral Deposits and Location of Zavitz property. .......................................................... 57
Fig. 3 Regional sketch of Abitibi Greenstone Belt................................. 58
Fig. 4: Zavitz Property. Compilation of Geology................................. 59
Fig. 5 Voyager Showing. Detailed geology. ............................................ 60
Fig. 6 Sketch map of 2008 Sample location, Fiset Gold Showing............ 61
Fig. 7 Young- Davidson Gold mine, .................................................... 62
Fig. 8 Location of the Bartlett Dome.. .................................................. 63
Fig. 9 Simplified Geology of English and Zavitz Twp......................... 64

LIST OF TABLES

Table 1 - Claims Comprising the Zavitz Property.. ............................. 4
Table 3 - Timmins Nickel Camp. ....................................................... 9
Table 2: Cross Lake Resources, Representative Assays compared to nearby Kidd Ck ore body ................................................................. 33

LIST OF APPENDIXES

APPENDIX A: 1999 Noranda Memo re IP Survey on Voyager Showing. ..... 66
APPENDIX B: Assessment Files consulted.............................................. 68
APPENDIX C: Diamond Drill Holes Drilled on the Zavitz Property. .......... 70
APPENDIX D: GPS Waypoints on the Zavitz property. .......................... 75
3.0 EXECUTIVE SUMMARY

The Zavitz property of Claim Lake Nickel Inc. is located south of Timmins, Ontario and straddles the common corner of Zavitz, Montrose, Hincks and Hutt Townships. The claims are readily accessible by a series of gravel and logging roads 50 km from Timmins or by gravel road 47 km west from the end of Hwy 566 at Matachewan. The property consists of 6 optioned “core” claims and 187 staked claims (100% owned), totalling some 3,000 Ha in area.

The claims lie within a portion of the Abitibi greenstone belt, a “fertile” segment of Archean crust that is highly mineralized. Within 100 km radius of the property there are numerous producing and past-producing gold, volcanogenic massive sulfide and nickel mines.

The Zavitz claims host significant gold, nickel and copper mineralization, with similar modes of formation, which have been intersected in historical drill holes. There are 7 major showings which include four base metal showings, two gold occurrences and two komatiitic nickel-PGE showings.

In Matachewan, 50 km SE from the Zavitz property, the Young-Davidson gold project has NI43-101 compliant Measured and Indicated Resources of 1.88 million ounces and Inferred Resources of 0.45 million ounces, hosted in altered syenite and volcanic rocks. The 2008 exploration program was extraordinarily successful, expanding the measured and indicated resources underground to 3.0 million ounces of gold consisting of 25.97 million tonnes at an average grade of 3.62 g/t.

There are several nickel deposits and advanced exploration projects in komatiitic rocks which are along strike from the Zavitz claims. In Bartlett Twp, immediately to the west of the Zavitz property, Fletcher Nickel is developing the Texmont Nickel mine, which hosts 3.2 million tonnes, grading 0.92% Ni. Liberty Mines Inc. have brought the Redstone komatiitic massive sulphide deposit into production (~20 km north of Texmont), and plan to mine the McWatters deposit (~20 km NE of Texmont) as an open pit. Three Ni-Cu sulphide zones in komatiitic rocks occur within the Bannockburn Ni property of Mustang Minerals which lies directly to the east of the Zavitz property. There the Thalweg and Rahn Lake showings have similarities to Kambalda Style deposits and consist of massive and net-textured Ni-Cu sulphides associated with the basal contact of a komatiitic peridotite body. The Bannockburn Ni-Cu sulphide zone has similarities to Mt. Keith style where high nickel tenor mineralization is associated with a thick olivine adcumulate to mesocumulate body that extends for greater than 1800
metres along strike. At the **Bannockburn Zone**, nickel mineralization has been detected in widely spaced (> 400 meter centers) stratigraphic drill holes for a minimum distance of 1.1 kms. and a 150 meter vertical depth. Limited drilling (10 holes) yielded values up to 0.50% nickel across 22.2 meters. The Bannockburn Zone is open in all directions. Significant drill results from the **Thalweg Zone** ranged from 0.81% to 4.54% nickel over widths ranging from 0.25 meters to 17.6 meters. The Thalweg Zone is open at depth. Limited drilling (1 hole) south of **Rahn Lake** intersected 0.85% nickel across 4.27 meters. The Rahn Lake Zone is open in all directions.

Recent **regional geological work** by the Ontario Geological Survey has significantly aided in the understanding of the property geology, by showing that based on field observations and stratigraphic relationships Zavitz Township rocks fall into Supracrustal Package C, which has been assigned to the Tisdale assemblage (2710–2704 Ma). The property occurs on the southern flank of the **Bartlett Dome**. In the southern part of Zavitz Township, the package is dominated by intermediate to felsic metavolcanic rocks intercalated with mafic and ultramafic (komatiitic) metavolcanic rocks. Ultramafic metavolcanic and intrusive rocks of komatiite affinity occur at multiple stratigraphic horizons within Supracrustal Package C.

In the southern part of the Bartlett Dome (southern parts of English and Zavitz townships) the stratigraphic trend changes abruptly from north trending to more or less east trending. On the Zavitz property the structure and stratigraphy are understood in broad terms. The Voyager showing appears to occur at the intersection of two anticlines, which intersect at about right angles, bringing stratigraphy to surface and forming a dome.

In the vicinity of the Voyager showing on the Zavitz claims, there are hyaloclastites (derived by subaqueous quench fragmentation of a low viscosity tholeiitic magma), vent proximal units and thin, discontinuous deposits of argillite and chert, which signal breaks in hyaloclastite deposition dominated by fine suspension sedimentation and hydrothermal discharge (chert, sulfides). Rhyolite with spotted and chloritic alteration, similar to Noranda VMS deposit style alteration (Dalmatianite ?, present author’s interpretation) was described from several drill holes.

There are **numerous mineralized showings on the Zavitz property**, which fall into three broad types of mineralization: syenite intrusion associated gold, komatiitic nickel and volcanogenic massive sulfide copper-gold.

The **Fiset (Robinson) Gold Showing**, located at NAD 83 Zone 493385/5319792 consists of up to 1% gold-bearing quartz veinlets 5-50 cm
wide, striking N30W-N60E and stringers in sheared and silicified syenite. Grab samples assayed up to 13.1 g (0.42 oz/ton) Au. Assays of up to 8.4 g (0.27 oz/t) Au across 2.4 m and 37 m long zone of silicified syenite were also reported. Noranda Exploration also reported 23.3 g (0.75 oz/t) Au, 123.3 g (3.9 oz/t) Ag and 0.45 % Pb from a 15 cm wide quartz vein at the western margin of the syenite stock. The showing was drilled by PanOre in 1974. No significant gold but a 1 m section assaying 1.03% Zn was reported near the southern margin of the syenite from a hole drilled to the south (and probably not under the showing). Initial evaluation of the Fiset showing by Claim Lake Nickel in 2008 consisted of recutting a grid of lines, hand stripping, drilling and blasting of a trench and assaying grab samples. The results from 11 grab samples of material blasted from a trench, did not exceed 0.005 oz/t Au, most likely because the gold-bearing veins were not encountered and the samples represent wall-rock. The 1999 Gradient TDIP carried out by Claim Lake, shows that the outcropping syenite stock extends to the west, into an area where no drilling has taken place. There appears to be a close genetic similarity between the Fiset Gold Showing, hosted within a syenite stock, and the Young-Davidson mine, 32 km to SE in Matachewan, where disseminated gold and silver mineralization within and beside a syenite porphyry intrusion, is mined underground and by open pit for disseminated gold and silver.

At the **Hincks Twp Gold Showing**, gold occurs in quartz veins cutting syenite immediately to the east of the Hincks Twp line where Noranda Exploration intersected 3.66 m of 6.17 g Au/T while drilling an E.M. conductor.

The **Moss Tremblay Ni** showing (location NAD 27, Zone 17U, 493550/5318446) was discovered by Moss Resources Inc in 1998. Results reported by Moss Resources are: 2.2 % Ni and 0.13% Cu over 5 ft, 0.67% Ni over 26 ft and 0.31 % Ni over 182 ft. As well, analyses of several grab samples taken from bedrock sulphide occurrences indicate anomalous platinum and palladium values. Geophysical surveys by Moss detected deeper, untested conductive zones extending eastward from this mineralized area, indicating possible massive sulfides. In the same area, Moss Resources also reported historical assays of 0. 58% Zn, 0.36% Pb, with minor copper and silver over 8.5 ft, and 0.2 %Zn over 55 ft.

The main mineralization on the property (**Voyager Showing**) consists of semi-massive to massive sulphides within altered felsic volcanics. Shallow drilling in 1966 intersected encouraging copper and gold values; 1.3 m @ 0.46% Cu, 11.32 g Au/T and 1.46 m @ 0.91% Cu, 1.03 g Au/T. The **Voyager Cu-Au Showing** area of the Zavitz property shows a close similarity in geological environment with the Sheraton-Timmins property of
Cross Lake Minerals on which occur Cu-Au mineralization, subvolcanic quartz feldspar porphyries, crystal tuff, felsic tuffs, chert and rhyolite. Massive sulfide deposits generally occur in clusters along certain favourable, time-stratigraphic horizons. The property exhibits a favourable geological setting to host VMS deposit types with through-going post and synvolcanic structures and multiple cycles of volcanism. At the Voyager Showing, shallow drilling to date has been concentrated on a 150 metre strike length. The gradient TDIP shows the anomaly associated with the Voyager Showing extends over a 700 metre strike length. Zone A (extends approximately 200 metres southeast of the historic drilling on the Voyager Showing and approximately 300 metres northwest. This leaves an extensive strike length and depth below 200 m yet to be drill tested.

In conclusion, there are several attractive high priority drill targets on the Zavitz property and numerous indications of conditions favourable for 1) gold in syenite, 2) komatiitic Ni-PGE deposits and 3) base metal deposition in stacked volcanogenic massive sulfide systems. The Zavitz Property has potential to host syenite associated gold deposits of the Young-Davidson type, Kambalda-Langmuir-Redstone type komatiitic Ni-PGE deposits and VMS style mineralization of the Kidd Creek and Noranda-type.

Foremost among the immediate drill targets are Fiset and Hincks Twp gold showings, high grade nickel intersections from previous drilling by Moss Resources, as well as 5 high priority base metal targets identified by recent IP and EM surveys at the Voyager Showing.

The Fiset Gold Showing, hosted within a syenite stock, similar to Young-Davidson, 32 km to SE in Matachewan, where disseminated gold and silver mineralization within and beside a syenite porphyry intrusion, is mined underground and by open pit mines for disseminated gold and silver. The syenite stock on the Zavitz property extends westward onto the core claims as indicated by a Gradient TDIP survey and the western extension (Anomaly D) has not been drill tested.

Komatiitic nickel showings on the property include the Moss Tremblay Nickel showing.

John Gingrich of Noranda exploration states in 1999 Memo to Claim Lake Resources that: "The anomaly coincident with the Voyager showing strikes discontinuously for approximately 450 m. The stronger portions of this
anomaly have been drill-tested. A parallel anomaly located 50-75 m to the west, strikes northwest for approximately 550 m. This parallel zone does not display a low resistivity signature suggesting a more disseminated target. While this is not at surface a direct ms/Cu-Au target, it may indicate a second horizon that is possibly prospective at depth. My overall assessment is that there are no obvious Noranda (ms-Cu, Au) targets near surface. My recommendation would be to drill well below the present levels of exploration (>300 m) to determine whether mineralization mapped by the two main anomalies improves at depth”.

These are the recommendations for the Zavitz property.

1. The Fiset and Noranda gold showings should be systematically evaluated and drilled.

2. The Moss Tremblay nickel intersections in the “Dexter Lake Grid” area should be duplicated by drilling.

3. On the Voyager Showing and core claims, ground checking of all TDIP anomalies and selection of drill targets should be carried out. Following geological mapping, drill targets should be selected both along strike and at depth below the Voyager Showing (Quantic Zone A) with at least 100 metre step-outs from previous drilling. Prospective targets along Zones B, C and D should also be targeted to greater than 300 m depth. Drill the five highest priority drill targets outlined by 1998 and 1999 geophysical surveys in order to verify the results made by Voyager in their 1964 drilling.

A budget estimate for the initial phase of this work would be $452,000 which would be used for geological mapping, prospecting, lithogeochemistry, and an initial 2,800 m of diamond drilling. A second phase of follow up drilling would total $407,800 which would be contingent on the results from Phase I.
4.0 INTRODUCTION AND TERMS OF REFERENCE

4.1 General

This report is designed to comply with Rules and Policies applying to National Instrument 43-101 ("NI43-101" - standards of Disclosure for Mineral Projects), and was prepared using Form 43-101F1, and guidelines in Companion Policy 43-101CP.

I was retained by Claim Lake Nickel Inc. to assess available technical data as well as review and design work proposals for the Zavitz Property in the light of my geological experience in Archean komatiitic ore types (since 1968), as well as Archean gold and VMS deposits, as it applies to the particular exploration techniques suited to the local mineralized environment.

4.2 The Property

There are 6 claims centered on the Voyager Showing that form the core of the Zavitz Property. The Core Claims are the subject of a report (Christie, D.W. & Montgomery, K., 1999), which summarizes previous work to date and describes work carried out by precursor company Claim Lake Resources in 1999 and 2000. In the period 2000-2008, the size of the property was gradually increased by staking and now totals 193 claims in Zavitz, Hincks, Montrose and Hutt Twps. The current report, prepared by Exploration Geoscience Associates Inc. for Claim Lake Nickel Inc is a compilation of historical exploration and geoscience data on the property and a summary of recent work carried out by the author and other companies on the Zavitz property of Claim Lake Nickel Inc.

4.3 Sources of Information

Information for the creation of this report was derived from a number of sources including Claim Lake Nickel Inc company files, assessment files in the Ministry of Northern Development and Mines, Resident Geologist Library in Timmins, Toronto and Sudbury. A list of references to assessment files consulted is shown in Appendix B. I have personally carried out intermittent field work on the property since 2000. Some of the background information on the Texmont Mine is from an NI43-101 report by Hadyn Butler (2007).
5.0 RELIANCE ON OTHER EXPERTS

Much of the Zavitz Property detailed data being used in this report was created by prospectors, geologists and contract geophysicists and collected and filed in open-file reports at the MNDM (OGS) resident geologist’s office in South Porcupine, City of Timmins and the central repository of data in Sudbury. Other data comes from private-file reports and news releases of various current and former public companies, their representatives and technical (geological and geophysical) contractors (see Item 24.0, “References” herein), including some professional experts known to me.

The geological, geophysical and drilling reports were written by professional scientists, and I have no reason to doubt their veracity. A review of drill logs and assay certificates issued during previous exploration campaign shows internal consistency to the results - there are no compelling reasons to single out any particular exploration campaign as having unusual results outside the range of previous or subsequent surveys. Accordingly, the author believes the data to be reliable within the testable parameters.
6.0 PROPERTY DESCRIPTION AND LOCATION

6.1 Location and Access

The Zavitz Property is located in the southeast corner of the Twp of Zavitz approximately 50 km SSE of the City of Timmins and 47 km west of the Town of Matachewan, NW of Moray Lake and SW of West Nighthawk Lake (Figure 1). The property is centered approximately at coordinates 81° 05' E and 48° 02' N. The property is accessed either from Matachewan heading west along Highway 566, a paved and gravel road maintained year round by the Ontario Government, or from Timmins by a network of gravel roads only navigable in the late spring, summer, and fall.

6.2 Mineral Policy Ontario

Ontario is a pro-mining province with regulations, which reflect this history, and the property is situated in an area with a strong mining history. The recent Lands for Life process in Ontario which has created new parks, conservation areas and other heritage areas (now referred to as the ALiving Legacy@) did not affect the property, nor any of Zavitz or the immediately surrounding Twps.

6.3 Property and Ownership Description

The property consists of 193 contiguous unpatented mining claims in Zavitz, Hutt, Hinks and Montrose Townships, listed in Table 1, of which 6 are optioned (the Core Claims) and 187 claims which are 100% owned which were staked by the company in the period 2000-2008. The claims represent a total of approximately 3,000 hectares of land.

The core claims are subject to an Option to Purchase Agreement, dated December 31, 1998 between Claim Lake Resources Inc and three Prospectors, Damien Bazinet, Thomas Tucker and Timothy Peter Mills whereby an 100% interest can be earned by Claim Lake Resources Inc. in the Zavitz Twp property by payment of cash and shares to the prospectors. $210,000 in expenditures must be incurred. The core claims are also subject to a 2% Net Smelter Return (NSR), and Claim Lake Nickel has the right to repurchase 1 % NSR at any time for $500,000.

In Sept 2005, Claim Lake Resources Inc, which had reporting issuer status, was reorganized by acquiring Medical Miners Flow-Through LP. Assets, including the Zavitz property and underlying agreements were transferred to its subsidiary Claim Lake Nickel Inc, which is a private company.

Table 1 - Claims Comprising the Zavitz Property. Data gathered Dec
2008 from MNDM Claimaps III Website:

<table>
<thead>
<tr>
<th>Township</th>
<th>Claim No.</th>
<th>Units</th>
<th>Recording Date</th>
<th>Due Date</th>
<th>Work Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zavitz</td>
<td>1117915</td>
<td>1</td>
<td>27-Feb-1991</td>
<td>27-Feb-2009</td>
<td>$400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>1117916</td>
<td>1</td>
<td>27-Feb-1991</td>
<td>27-Feb-2010</td>
<td>$400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>1024341</td>
<td>1</td>
<td>27-Feb-1991</td>
<td>27-Feb-2009</td>
<td>$400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>1024342</td>
<td>1</td>
<td>27-Feb-1991</td>
<td>27-Feb-2009</td>
<td>$400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>1024344</td>
<td>1</td>
<td>27-Feb-1991</td>
<td>27-Feb-2009</td>
<td>$400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>1024345</td>
<td>1</td>
<td>27-Feb-1991</td>
<td>27-Feb-2009</td>
<td>$400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>3018387</td>
<td>12</td>
<td>26-Jan-2007</td>
<td>26-Jan-2009</td>
<td>$4,800</td>
</tr>
<tr>
<td>Zavitz</td>
<td>4200190</td>
<td>11</td>
<td>14-Nov-2005</td>
<td>14-Nov-2008</td>
<td>$4,400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>4210495</td>
<td>15</td>
<td>02-Feb-2007</td>
<td>02-Feb-2009</td>
<td>$6,000</td>
</tr>
<tr>
<td>Zavitz</td>
<td>3000801</td>
<td>4</td>
<td>04-Apr-2002</td>
<td>04-Apr-2009</td>
<td>$1,600</td>
</tr>
<tr>
<td>Zavitz</td>
<td>3018309</td>
<td>12</td>
<td>29-Nov-2007</td>
<td>29-Nov-2009</td>
<td>$4,800</td>
</tr>
<tr>
<td>Zavitz</td>
<td>3005554</td>
<td>16</td>
<td>03-Jun-2008</td>
<td>03-Jun-2010</td>
<td>$6,400</td>
</tr>
<tr>
<td>Zavitz</td>
<td>4229064</td>
<td>12</td>
<td>12-Feb-2008</td>
<td>12-Feb-2010</td>
<td>$4,800</td>
</tr>
<tr>
<td>Zavitz</td>
<td>4209060</td>
<td>16</td>
<td>10-Apr-2008</td>
<td>10-Apr-2010</td>
<td>$6,400</td>
</tr>
<tr>
<td>Hutt</td>
<td>3009494</td>
<td>9</td>
<td>02-Feb-2004</td>
<td>02-Feb-2009</td>
<td>$3,600</td>
</tr>
<tr>
<td>Hutt</td>
<td>3000799</td>
<td>16</td>
<td>04-Apr-2002</td>
<td>04-Apr-2009</td>
<td>$6,400</td>
</tr>
<tr>
<td>Hutt</td>
<td>4229065</td>
<td>16</td>
<td>12-Feb-2008</td>
<td>12-Feb-2010</td>
<td>$6,400</td>
</tr>
<tr>
<td>Hutt</td>
<td>3000800</td>
<td>16</td>
<td>04-Apr-2002</td>
<td>04-Apr-2009</td>
<td>$6,400</td>
</tr>
<tr>
<td>Hincks</td>
<td>3000548</td>
<td>16</td>
<td>04-May-2007</td>
<td>04-May-2009</td>
<td>$6,400</td>
</tr>
<tr>
<td>Montrose</td>
<td>3011853</td>
<td>16</td>
<td>29-Oct-2007</td>
<td>29-Oct-2009</td>
<td>$6,400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>193</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.0 ACCESSIBILITY, CLIMATE, RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

7.1 Access

Access to the Zavitz Twp Property is gained by good all-weather gravel logging roads south from Timmins or via Hwy 566 west from the town of Matachewan (Figure 1).

7.2 Climate

The local climate is typical of northeastern Ontario and northwestern Quebec, and consists of a continental climate with cold winters and short hot summers. The temperature peaks in July with an average of 24°C and an extreme value of 38.9°C recorded June 31, 1998, with above 20°C temperatures running June to August. The low of the year is in January with an average of -23.6°C and an extreme low of -47°C achieved on January 17, 1982, with below 0°C weather running from November till April. There are 183 degree days below 0°C in a year and only 97 degree days above 18°C in a year. The area receives 875.7 mm of precipitation in a year, with 587.4 mm arriving as rain and 288.9 mm as snow. September is the wettest month receiving 97.5 mm of rain and 0.4 mm of snow and April being the driest month only receiving 32.2 mm of rain and 16.6 mm of snow. (These statistics are from the Kirkland Lake Airport statistical archives.)

Paraphrased from Butler (2007):

"The property lies within the Subarctic Climate zone, the largest climate zone in Canada, which knows short, cool summers and long, cold winters, with precipitation mostly in the form of snow (~1 m; www.canadiangeographic.ca/atlas/themes.aspx). Snow squalls occur from October to June, and the frost-free period hardly exceeds 90 days. During the warm spells in the summer, the temperatures can reach 30°C and higher, and in the depths of winter the temperatures can drop below -40°C. Occasionally, fieldwork is not permitted due to forest fire danger and the MNR may prevent access during such times. On the Atlas of Canada, the Properties occur in plant-hardiness zone 2a - indicator shrubs for this zone are Siberian pea-tree (Caragana arborescens), Siberian dogwood (Cornus alba 'Sibirica'), European cotoneaster (Cotoneaster integerrima) and silverberry (Elaeagnus commutate); indicator trees are European white birch (Betula pendula), white elm (Ulmus americana) and cranberry viburnum (Viburnum trilobum).
"The property is also part of the Boreal Shield ecozone which has relatively low tree growth rates and timber volumes compared with other forested ecozones in Canada (see data @ http://nlwis-snite1.agr.gc.ca/plant00/index.phtml).

"Tree species in the Boreal Shield ecozone include white and black spruce (Picea glauca and Picea mariana) balsam fir (Abies balsamea), tamarack (Larix laricina), trembling aspen (Populus tremuloides), white pine (Pinus strobes), red pine (Pinus resinosa), jack pine (Pinus banksiana), maple (Acer rubrum), eastern red cedar (Juniperus virginiana), eastern hemlock (Tsuga canadensis), paper birch (Betula papyrifera), speckled alder (Alnus rugosa), pin cherry (Prunus pensylvanica), and mountain ash (Sorbus americana). Other plants include ericaceous shrubs, sphagnum moss, willow, Labrador tea, blueberries, feathermoss, cottongrass, sedges, kalmia heath, shield fern, goldenrod, water lilies, horsetails and cattails. Mammals include moose, black bear, wolf, chipmunk, beaver, muskrat, snowshoe hare, vole, red squirrel, mice, marten, short-tailed weasel, fisher, ermine, mink, river otter, coyote, and red fox. Garter snakes and frogs are also present. Waterfowl are seen on lakes during the ice-free season, and fish can be abundant in some lakes and the larger perennial streams. Unlike regions farther south, there is no obvious physical evidence that industrial-source acid rain has stressed the forest environment to any visible degree”.

7.3 Local Resources and Infrastructure

Supplies, food, fuel, lodgings and the full range of equipment, supplies and services that are required for exploration and mining work are available in Timmins. As well there is a large compliment of highly skilled personnel familiar with the mining industry. Services are also available in Matachewan and Kirkland Lake. The property is approximately 100 kms from railhead and from both highway 144 to the west and highway 11 to the east. During the long winter period, access to the Zavitz property require snow machines, or access roads would have to be cleared by a snowplough so that mobile equipment and supplies could travel to the site. The property has been logged for lumber in the past, so most of the area is covered by secondary growth forest. A major electric trunk line feeding southern Ontario occurs about 5 km to the west of the Zavitz Property.
7.4 Physiography

The Zavitz Twp area lies within the Abitibi upland physiographic region. The property displays a typical “Laurentian Shield” landscape composed of rough forest covered ridges and outcrops filled in between with boulder and gravel glacial tills, as well as swampy tracts, ephemeral Spring-runoff stream beds and swales, beaver ponds and small lakes. It is largely a low relief, bedrock-dominated peneplain with isolated, lithologically controlled topographic highs. Locally, glacial landforms add to relief. Elevations range from 290 to 520 m above sea level. Huronian embayment fringes form north facing cliffs up to 75 metres high to the east of Zavitz Twp. Relief is generally less than 15 m within a portion of Fallon, Fasken, Cleaver and McNeil Twps which are centered on the Nighthawk and Whitefish river drainage basins. Thick fine-grained, glaciolacustrine deposits subdue local landscape and form a terrain characterized by broad, poorly drained, swampy conditions (Bajc, 1996). A N-S trending esker occurs in the eastern part of the Zavitz property.

7.5 Topography, Vegetation and Water Availability

The area is well drained with moderate topographic relief. Large sand and outcrop ridges trend north-south across the property. Outcrop exposure is approximately 5% but is generally restricted to the calc-alkaline volcanic sequences. The komatiitic rocks tend to lie in topographic lows, covered by swamps and lakes, and outcrop only along the edges of large dacite ridges. Several lakes are located on the property and represent approximately 10% of the area. There are only a few minor beaver ponds and swampy areas associated with lakes and small streams. The forests are a combination of jack pine, aspen, birch, and alders with the occasional red pine and cedar trees. Many of the forests in this area have been designated for cutting or have already been cut by forestry companies. Water accessibility is excellent throughout the year.

Previous geological mapping indicates that <5% of the property comprises outcrop. On the Zavitz property, outcrops of komatiitic ultramafics, including nickel sulphide mineralized outcrop, are visible immediately south of Dexter Lake.
8.0 EXPLORATION HISTORY

8.1 General History of the Area (paraphrased from Butler, 2007)

"The Porcupine Mining District of Ontario was created after the discovery of gold in the Abitibi greenstone belt near Timmins in 1908. Gold production has been substantial, for instance, the Hollinger deposit produced ~625 metric tonnes (“mt”) of gold, and the McIntyre mine ~330 mt. Prospectors followed rivers and lakeshores hunting for gold and base metals, but the extensive drift-covered ridges and valleys left by the Pleistocene Laurentide Ice sheet meant that they could not explore the area in detail. Because of immature surficial covers of the glacial landscape, there were no alluvial gold trains in creek bottoms extending from hard-rock mineralization. Without outcropping mineralization, ore deposits of all kinds were very easily missed.

"The advent of airborne geophysics allowed new exploration campaigns in the Abitibi greenstone belt. Starting in the early 1960’s, subsidiaries of INCO Ltd. flew proprietary airborne magnetic and electromagnetic surveys across the Abitibi greenstone belt looking for nickel sulphide deposits using the signature of pyrrhotite-dominated nickel sulphide ores - a signature discovered by geophysical surveys in the Sudbury District. Pyrrhotite is a common magnetic and conductive iron sulphide (Fe\textsubscript{1-x}S). Since many, but not all, komatiitic nickel sulphide ores are dominated by massive pyrrhotite, coincident magnetic-electromagnetic anomalies were thought to provide targets for nickel sulphide exploration campaigns. Such exploration campaigns led to the discovery of the very large Proterozoic “Type IV hydrothermal-metamorphic” nickel sulphide ore body at Thompson in Manitoba. Other companies and the Provincial Government also flew airborne geophysical surveys over the Texmont and Bartlett-English Properties. It is a fact that not all coincident magnetic-electromagnetic anomalies are due to pyrrhotite. The most common magnetic mineral in the Earth’s crust is magnetite (Fe\textsubscript{3}O\textsubscript{4}). Komatiitic ultramafics, the host of nickel sulphide ores in the Timmins nickel camp, are commonly serpentinized by dynamic metamorphism – reactions that commonly produce several percent of magnetite in the rock, and this effect can swamp any pyrrhotite magnetic signature. Moreover, some potentially economic komatiitic ores such as those at the former Texmont Mine do not contain significant pyrrhotite and produce quite weak electromagnetic responses that are overlooked among similar signals. The enormous number of conductors and the swamping of probable geophysical ore signals by both magnetic and electromagnetic effects meant that not all targets were tested or found."
8.1.1 History of Nickel Exploration

In the period 2000 to the present, notable events in the Timmins Nickel Camp include Falconbridge Ltd (now Xstrata plc) bringing the Montcalm Ni-Cu Mine into production west of Timmins. A summary of nickel production and grade and tonnage estimates is presented in Table 3. Fig. 2 shows the location of mineral deposits and the Zavitz property.

Table 3 - Timmins Nickel Camp reported production, and reported estimates of tonnage and grade: Data modified after MNDM (OGS) resident geologist’s office in South Porcupine data and other sources. (Compiled by Butler, 2007)

<table>
<thead>
<tr>
<th>Deposit Name</th>
<th>Township</th>
<th>Tons milled or Cu (%) reported</th>
<th>Co (%)</th>
<th>Ni (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexo</td>
<td>Dundonald</td>
<td>51,529</td>
<td>0.07</td>
<td>3.93</td>
</tr>
<tr>
<td>Dundonald</td>
<td>Dundonald</td>
<td>~1,000,000</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Langmuir #1</td>
<td>Langmuir</td>
<td>220,000</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Langmuir #2</td>
<td>Langmuir</td>
<td>320,000</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>Sothman</td>
<td>Sothman</td>
<td>231,000</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>440,000</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>McWatters</td>
<td>Langmuir</td>
<td>181,500</td>
<td>1.92</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>525,700</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>Redstone</td>
<td>Eldorado</td>
<td>1,220,000</td>
<td>0.09</td>
<td>2.39</td>
</tr>
<tr>
<td>Hart</td>
<td>Eldorado</td>
<td>770,000</td>
<td></td>
<td>0.9</td>
</tr>
<tr>
<td>Montcalm</td>
<td>Montcalm</td>
<td>5,113,000</td>
<td>0.71</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(NI43-101 compliant)</td>
<td></td>
<td>1.46</td>
</tr>
<tr>
<td>Texmont</td>
<td>Bartlett &amp; Geikie</td>
<td>3,190,000</td>
<td></td>
<td>0.92</td>
</tr>
</tbody>
</table>

Other currently active company in nickel exploration in the Timmins camp are: 1. Mustang Minerals, Bannockburn project (Item 17.1), 2. Golden Chalice Resources, Langmuir project (Item 17.2), 3. Liberty Mines Inc (Item 17.3) and 4. Fletcher Nickel Inc, Texmont Mine (Item 17.4). Liberty Mines Inc. have brought the Redstone komatiitic massive sulphide deposit into production (~20 km north of Texmont), and plan to mine the McWatters deposit (~20 km NE of Texmont) as an open pit (Liberty Mines website @ www.libertymines.com) and Item 17.3.
Mustang Minerals Corp. has discovered new “Type I” komatiitic nickel sulphide to the SE in Bannockburn Township, not far from previously drilled mineralization (Mustang Minerals Corp. News Release dated April 11, 2005 @ www.mustangminerals.com) and Item 17.1.

8.2 Zavitz Property History

Since 1952 (earliest citation), substantial work has been carried out by major and junior mining companies. To systematize description, the property is divided into five sections as shown on Fig.4.

A) Voyager Showing, B) NW Area, Moss Zavitz project, C) SW Area, Moss A Southern Cross” property, Inco 1998, includes “Dexter Lake” grid and “Moray Lake” grids , D) E Area, Noranda 1964-5 and E) NE Area, Falconbridge 1974.

Drill hole summaries listed in Appendix C. Best results are summarized under Discussion Sources of information are listed in References Cited and assessment file numbers listed in Appendix B. The Core Claims, centered on the Voyager Showing were the subject of a recent geophysical survey carried out by Claim Lake Nickel Inc. Work on the “Core claims”, summarized below is detailed by Christie & Montgomery (1999). Legault & Kallfa (2000) describe a recent IP survey. For details the reader is referred to these original reports, which are available from the head office of Claim Lake Nickel Inc, upon request.

8.3 Voyager VMS Showing (Area A)

In 1964, Voyager Exploration discovered massive sulfides exposed by a bulldozer making logging roads. They performed line-cutting, magnetometer and E.M. surveys and drilled seven (7) holes totaling 554.6 metres. The first six holes were drilled on the Voyager Showing. Hole V-2 intersected 13.7 m of 1-2% disseminated py and po in felsic breccia with a 1.2 m massive py-po section returning 0.46 % Cu and 11.31 g Au/T. Hole V-4 collared approximately 27 metres southeast of V-2, intersected 1.5 m of massive py and po which returned 0.91% Cu and 1.03 g Au/T. The drilling indicated that the sulfide zone dips to the northeast.

Pan Ore Gold Mines in 1973, 1974 completed geological mapping (scale 1:2,400) and geophysical (I.P., E.M., Magnetometer) surveys. The area surveyed included the Voyager Showing, the north shore of Moray Lake and east to a small lake, east of Gaylord Lake. At the Voyager Showing, the
geological mapping showed a northerly trending sequence of pillow basalt, dacite and fragmental equivalents. Three holes were drilled on geophysical anomalies for a total of 306.10 m.

Rio Tinto Canadian Explorations Ltd. optioned the ground from Pan Ore and drilled three holes in the vicinity of the Voyager Showing in 1975. Holes P-1 and P-2 were drilled towards the NE and returned no significant assay values. Hole P-3 drilled towards the SW, intersected mainly greywacke to 63.7 m. with 0.05 oz/t Au over 1.5 m and 0.34 and 0.69 g Au/T in pyritic quartz-veined andesite (64 to 76.2 m).

Gulf Minerals Canada Ltd. in 1975 drilled nine (9) holes totaling 1,521 m mainly on claims adjoining the Pan Ore group. The first hole of the program, Z-1, was drilled on the present property.

Newmont in 1980 performed I.P., E.M., and magnetic surveys and 1,422 m drilling. Drill holes Z-80-1 to Z-80-4 were drilled in the vicinity of the Noranda gold and silver occurrence, hole Z-80-5 was drilled under the Fiset Gold Showing and holes Z-80-6 and 7 were drilled on anomalies in the Voyager Showing area. Hole (Z-80-6) drilled below the Voyager Showing and intersected mafic volcanics and a 1.2 m semi-massive pyrite zone with 5% pyrrhotite and chalcopyrite followed by 76 m of 15% pyrite-pyrrhotite. No assays for this hole are recorded in the assessment files although the entire hole was reportedly sampled. Hole Z-80-7 targeted an IP anomaly to the southwest of the Voyager Showing. It intersected several graphitic argillite horizons within mafic tuffs and coarse fragmentals. Up to 5% disseminated sulfides were encountered with narrow sections of 20% sulfides. This hole appears to have been sampled but assay results were not filed for assessment credits.

In 1986, MPH wrote a compilation report on the Allerston-Zavitz Property for 635540 Ontario Inc. TBS Resource Developers Inc. from 1987 to 1989 performed line-cutting, geophysics (magnetometer, E.M., Max-min, I.P.), mechanical stripping, channel sampling and geological mapping. TBS mapped and sampled the trenches and returned values of gold (<0.34 grams per tonne Au) and base metals (<0.07 % Cu). TBS suggested that these channel samples were not fresh and reflect deep oxidation of bedrock. The claims were inadvertently allowed to lapse.

In the fall of 1991 geophysical surveys consisting of magnetic and MAX MIN were completed over the Moray Lake Grid (same location as 1998 grid). These surveys outlined coincident magnetic and MAX MIN conductive trends south of the baseline which were attributed in part to the presence of semi-massive to massive sulfides at depth.
During the **1992** field season, a humus sampling and geological mapping/prospecting program was completed over selected areas of the then 39 claim property. Geological mapping and prospecting failed to find new sulfide mineralization.

Humus sampling uncovered one anomalous zone coincident with a weak magnetic high between 4W and 3W and 50 and 75 S and a weak humus gold anomaly was outlined coincident with a VLF-EM anomaly along the south edge of the property.

During the summer of **1993**, the portion of the property north of the Voyager Showing, was explored with line cutting, magnetics, VLF-EM, and prospecting. Prospecting uncovered appreciable sulfides (po, py and rare cp). It was concluded that numerous Magnetic/VLF anomalies could be attributed to the presence of massive sulfides at depth.

In the winter of **1998**, the original 1991-92 grid centered on the Voyager Showing, was re-cut on and a VLF-EM survey was carried out. Three major conductors were located, two with weak corresponding magnetic and max-min responses and therefore probably related to disseminated sulfides in bedrock. The third conductor reflects semi-massive sulfides outcropping as well as sulfides in a cherty tuffaceous horizon along strike.

Work carried out by Claim Lake in **1998** and **1999** consisted of mapping, compilation, line cutting, trenching, blasting, magnetic and gradient TDIP surveying. New blasting better exposed mineralization in trenches (Lashbrook, February 1999). Nine (9) grab samples (snow prevented proper sampling) were taken (eight from the trenches and one from the Quartz eye porphyry at Line 300N/50 E) for multi-element analysis including; fire assay for gold, whole rock by XRF (majors & trace), ICP multi-element analysis and mercury by CV Atomic Absorption. The samples were sent to XRAL Laboratories in Toronto. Multi-element ICP geochemical analyses from the Voyager Showing grab samples indicate geochemically anomalous zinc (88-279 ppm) and copper (103-797 ppm).

An induced polarization/resistivity (Gradient-Realsection survey) was carried out over the property by Quantec Inc of Timmins. Outlined were several zone of high chargeability that are vertically continuous and may strengthen with depth. As summarized on **Figure 10**, the strongest anomalies were grouped into four (4) zones of geophysical interest (A, B, C and D). Zone A is the largest and strongest and has a greater than 700 metre strike length. Zone B is situated to the immediate south west of the Voyager Showing and extends over a 300 m strike length. Zone C in the
far southwest corner of the core claims, is consistent with a pyrite-rich mafic volcanic unit or a syenitic intrusive. Zone D, in the far southeast corner of the core claims consists of moderately strong nil/high resistivity IP anomalies and may represent the southwest extension of the Fiset (Au) Showing.

8.3.1 Mineralization at the Voyager Showing.

This sulfide showing is currently exposed in three trenches and consists massive to semi-massive po, minor cp and massive sulfide stringers and veins within very fine to fine-grained, dark greyish green, silicified, mafic volcanics. (Fig. 5) is a compilation of geology and the location of trenches and historical drill holes.

Typical sulfide textures from Voyager Cu-Au Showing. Massive pyrite and pyrrhotite matrix to basalt fragments.

Pillows are evident within the host volcanics. The sulfide zone is comprised of 25% fine-grained sulfide stringers (1-10 cm wide) and fine-grained disseminated po (60%) and py (40%) with minor chalcopyrite in felsic breccia. The zone is capped near the northeast contact of the sulfides with pillowed mafic volcanics, a 0.3 to 0.5 m thick, grey, very fine-grained, sugary textured sulfidic chert (40% disseminated and lenses of fine-grained po and py). Fine-grained, chalcopyrite disseminations and blebs occur throughout. Diamond drilling in the vicinity of this showing revealed semi-massive to massive sulfides with minor chalcopyrite, sphalerite and
galena and an intersection of **1.22 metres of 11.31 grams per tonne gold and 0.93 % copper.**

**8.4 Fiset (Robinson) Gold Showing, No. 16, (Area B)**

This showing, discovered in 1938 consists of up to 1% gold-bearing quartz veinlets 5-50 cm wide, striking N30W-N60E and stringers in sheared and silicified syenite. Grab samples assayed up to 13.1 g (0.42 oz/ton) Au. Assays of up to 8.4 g (0.27 oz/t) Au across 2.4 m and 37 m long zone of silicified syenite were also reported. In 1965, a second gold occurrence was discovered by Noranda Exploration, who reported 23.3 g (0.75 oz/t) Au, 123.3 g (3.9 oz/t) Ag and 0.45 % Pb from a 15 cm wide quartz vein at the western margin of the syenite stock. The showing was drilled by PanOre in 1974. No significant gold but a 1 m section assaying 1.03% Zn was reported near the southern margin of the syenite from a hole drilled to the south (and probably not under the showing).

Initial evaluation of the Fiset showing by Claim Lake Nickel in 2008 consisted of recutting a grid of lines, hand stripping, drilling and blasting of a trench and assaying grab samples. A sketch is shown below. The results from 11 grab samples of material blasted from a trench, did not exceed 0.005 oz/t Au, most likely because the gold-bearing veins were not encountered and the samples represent wall-rock.
8.5 Area to NW of Core Group (Moss Claims)

Moss Resources performed work during 1998, on claims then numbered 1212998 (12 Units), 1227546 (3 Units) NW of the Zavitz core group. The work is described in reports by Tremblay (1998) and Maass (1998). Work consisted of 31 km of line cutting, with base lines and tie lines at 090° and pickets at 25 m centers. Geophysics consisted of magnetometer and VLF-EM surveys. Results show a circular magnetic high 350 m in diameter and 8 linear VLF-EM conductors of varying field strength, in-phase and quadrature responses. Six holes (Z98-1 to 6) were drilled by Moss Resources to test these geophysical targets. Mafic volcanics, argillaceous and graphitic sediments and sericitic units were intersected (described in Appendix A). 115 samples were analyzed for gold and returned values < 25 ppb. No assays for base metals were reported.

8.6 Area to SW of Core Group (Moss “Southern Cross” Property)

8.6.1 Moss Resources,”Moray Lake” grid.

Moss Resources outlined three conductors by E-M VLF survey, using Geonic EM-16 instrumentation. Conductor A, coincides with a magnetic high, Conductor B coincident with a magnetic low, and Conductor C crosses from a low mag in western part to a mag high in eastern part of grid. Conductors B and C are coincident with MaxMin conductors from 1992 Inco data. Outcrop is sparse and rock geochem on komatiites returned up to 1590 ppm Ni. Conductors parallel stratigraphy and probable lithological contacts.

8.6.2 Moss Resources, “Dexter Lake” grid

Considerable work has been carried out in this area. Location of drill holes is shown on Fig. 4 and results are listed in Appendix B. Geophysical work by Moss Resources in 1998 showed a short Conductor A, Conductor B which is 300 m long, on northern flank of a mag high and Conductor C, which is segmented and probably reflects faulting offset by a LH fault with 90 m offset. Mag highs were interpreted as resulting from komatiites. Rock geochemical results showed anomalous Au up to 34 ppm Au and Zn up to 250 ppm.
8.6.3 Moss-Tremblay Nickel and Base Metal Showing at Dexter Lake

A new nickel showing was discovered by Moss Resources Inc in 1998 (Moss Resources Inc. News Release, Aug. 18, 1998 and Sept. 17, 1998) [see Appendix C for UTM coordinates] on their Southern Cross Property. Previous historical results reported by Moss Resources are:

<table>
<thead>
<tr>
<th>Ni %</th>
<th>Cu %</th>
<th>core length (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td>0.13</td>
<td>5</td>
</tr>
<tr>
<td>0.67</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>0.31</td>
<td></td>
<td>182</td>
</tr>
</tbody>
</table>

As well “Analyses of several grab samples taken from rare bedrock sulphide occurrences indicate anomalous platinum and palladium values” (Moss Resources, News Release: 17 Sept 2008).

Surface sampling of the Rock geochem results ranged from 680 to 1820 ppm (Chartré, 1998). Six grab samples by G. Seim, Timmins District Geologist, showed Ni up to 1450 ppm and no detectable PGE from peridotite and up to 45 ppm Cu and 74 ppm Zn in host felsic volcanics with disseminated pyrite. (Atkinson et. al. 2001, p. 26).

Moss Resources also reported historical assays of 0.58% Zn, 0.36% Pb, with minor copper and silver over 8.5 ft, and 0.2% Zn over 55 ft. Geophysical surveys by Moss detected: “deeper, untested conductive zones extending eastward from this mineralized area, indicating possible massive sulfides.”

8.7 Area to NE of Core Group (Falconbridge, 1974)

The area is mainly underlain by a northerly-trending sequence of pillow basalts and interbedded cherts, dipping steeply to E, with tops to the east, based on pillow facing directions and detailed mapping by Falconbridge in 1974.

The area of Showing 11 is underlain by a possibly discordant, irregular-shaped outlier of rusty-weathering polymictic conglomerate, containing intercalated discontinuous beds of felsic tuff and graphitic tuff. The unit was mapped as 3h (silicic-tuff conglomerate [Temiskaming type] by Bright, 1984).
In 1964 Canadian Nickel Company Ltd, drilled two holes totaling 223 m. Disseminated py was encountered in the matrix of the conglomerate as well as in a graphitic tuff horizon in the conglomerate; locally, disseminated py and po were observed in the underlying mafic to intermediate metavolcanics.

8.8 Area to SE of Core Group, Zavitz-Hincks Twp boundary, (Showing 15, Noranda 1964-5)

Area immediately north of Moray Lake (Between 91M and four Twp corners). This part of the Zavitz Property is underlain by an easterly trending unit of felsic pyroclastics containing subordinate beds of mafic to intermediate flows, sulfide-facies iron formation, py-bearing graphitic tuff and serpentinized komatiite. According to Bright (1984), these rock units are synclinally folded about a west-plunging axis located just south of Moray Lake. The area was held in 1952 by Dominion Gulf Company and in 1964-5 explored by Noranda who carried out ground magnetic and electromagnetic surveys and drilled 7 holes. Hole DN 8, collared on the Zavitz-Hincks boundary, intersected 1.2 m intermediate to felsic tuffs with up to 60% py with minor po and chalcopyrite. Approximately 400 m along strike to the southeast, near the southeast end of Moray Lake in Hincks Twp., Hole DN 1 intersected several zones of massive to disseminate py-po containing minor chalcopyrite, sp and galena, in intercalated intermediate to felsic tuff, tuff-breccia, and graphitic tuff. Hole DN 5, put down on a conductive zone approx 500 m along strike to the SE of DN 1 intersected 11 m massive sulfides consisting of 75% py, 10% po in intermediate to felsic pyroclastics. The bottom 1.8 m contains 10 % py and 70% po, with minor disseminated galena and specularite (sp?). No assay values were reported for any of these sulfide zones. Noranda also drilled several conductive zones which were reported to be py-bearing graphitic tuff horizons in felsic metavolcanics, interbedded with komatiites.

8.9 Hincks Twp Gold Showing

Gold occurs in quartz veins cutting syenite immediately to the east of the Hincks Twp line where Noranda Exploration intersected **3.66 m of 6.17 g/T gold** while drilling an E.M. conductor (see Fig. 4).
9.0* GEOLOGICAL SETTING

9.1 Regional Geology

In 2006, the Precambrian Geoscience Section (PGS) of the Ontario Geological Survey (OGS) started a multi-year geological bedrock mapping project of the Bartlett Dome area as part of an ongoing project to update geological mapping in the southern part of the Timmins mining camp. The Bartlett Dome covers an area of approximately 1625 km² (25 by 65 km) and is located about 50 km south of the city of Timmins (Fig. 8).

During the summer of 2008, the mapping focused mainly on English and Zavitz townships at a scale of 1:20 000. However, some geological verification was also conducted in parts of Bartlett and Geikie townships, and some geological reconnaissance was conducted in the northern parts of Semple and Hutt townships and within the eastern part of Beemer Township. The goals of this multi-year project are to 1) update the geological mapping in the Bartlett Dome, last mapped in the 1970s; 2) clarify and characterize the major lithological units; 3) better understand the stratigraphy; and 4) evaluate the mineral potential of the Bartlett Dome.

The Abitibi greenstone belt consists of a stratigraphically continuous succession of Archean metavolcanic and metasedimentary rocks that developed in an ensimatic basin (Ayer et al. 2002a). At a large scale, the stratigraphy appears to be a laterally continuous package of mafic to intermediate metavolcanic rocks, with lesser ultramafic and felsic metavolcanic rocks, unconformably overlain by successor sedimentary basins. These rocks have been subdivided into 8 temporally constrained lithotectonic assemblages by Ayer et al. (1999a, 1999b, 2002a, 2002b), where 6 are dominantly volcanic (Pacaud, Deloro, Stoughton–Roquemaure, Kidd–Munro, Tisdale and Blake River assemblages) and the youngest 2 are dominantly sedimentary (Porcupine and Timiskaming assemblages). More recently, Thurston et al. (2008) have proposed some revision to the Abitibi-wide stratigraphy and reaffirmed the implied autochthonous development of the volcanic stratigraphy.

*The text of Item 9.0 is quoted in its entirety directly from Houle et. al. 2008
They propose subdividing the Abitibi greenstone belt into 7 discrete volcanic episodes with significant depositional gaps marked by chemical sediments between and within many of the assemblages: 1) pre-2750 Ma, 2) 2750–2736 Ma (Pacaud assemblage), 3) 2734–2724 Ma (Deloro assemblage), 4) 2723–2720 Ma (Stoughton-Roquemaure assemblage), 5) 2719–2711 Ma (Kidd-Munro assemblage), 6) 2710–2704 Ma (Tisdale assemblage), and 7) 2704–2695 Ma (Blake River assemblage); followed by 2 successor basins, referred to as the Porcupine-type (2690–2685 Ma) and Timiskaming-type (2676–2670 Ma) basins.

9.2 Geology of the Bartlett Dome in English and Zavitz Townships.

Fig. 8 (Figure 10.1 of Houle et al 2008) is a general location map of the Bartlett Dome area, south of Timmins. The solid black line indicates approximately the area of the Bartlett Dome and shows the different townships that were partially or fully covered by the recent multi-year bedrock mapping: regional bedrock mapping in McArthur, Bartlett, Geikie, English and Zavitz townships; and reconnaissance mapping in Beemer Township and the northern parts of Semple and Hutt townships. The red outline indicates 2008 bedrock mapping in English and Zavitz townships. The Zavitz property of Claim Lake Nickel is also shown.

The Bartlett Dome is bounded by the Kenogamissi batholith to the west, the Shaw Dome to the north, and the Halliday Dome to the south and is unconformably overlain by Proterozoic Huronian Supergroup metasedimentary rocks to the east (Gowganda Formation).

The Archean supracrustal rocks in the Bartlett Dome are composed of a lower sequence of mafic and ultramafic metavolcanic rocks with rare felsic metavolcanic rocks; a central sequence of intermediate to felsic metavolcanic rocks with regionally extensive metasedimentary units; and an upper sequence of mafic and ultramafic metavolcanic rocks with lesser intermediate to felsic metavolcanic rocks and semi-continuous metasedimentary rocks. The volcano-sedimentary rocks are intruded by large felsic intrusions (e.g., Adams pluton, Geikie pluton and the Kenogamissi batholith) and other smaller intrusions, ranging from ultramafic to felsic in composition. Proterozoic diabase dikes observed in the mapped area are attributed to the Biscotasing, Sudbury and Matachewan swarms. As previously defined by Houlé and Solgadi (2007), the supracrustal rocks have been subdivided based solely on field observations and stratigraphic relationships into 3 packages of metavolcanic and metasedimentary rocks that are referred here as “Supracrustal Package A”, “Supracrustal Package B” and “Supracrustal Package C”. The central part of the Bartlett Dome (Bartlett and Geikie
townships) consists essentially of a north trending homoclinal sequence facing eastward, where the entire stratigraphy is present with all the supracrustal packages (A, B and C). In this area, the contact between Supracrustal Packages A and B is interpreted to be conformable, whereas the contact between Supracrustal Packages B and C is interpreted to be a submarine unconformity constrained by geochronology results (Houlé, Baldwin and Thurston 2008; Thurston et al. 2008).

In the southern part of the Bartlett Dome (southern parts of English and Zavitz townships, and northern parts of Semple and Hutt townships), the stratigraphic trend changes abruptly from north trending to more or less east trending, and only the uppermost, Supracrustal Package C, appears to be present. Thus far, these supracrustal packages have been assigned respectively to the Deloro assemblage (2734–2724 Ma) for Supracrustal Packages A and B and the Tisdale assemblage (2710–2704 Ma) for Supracrustal Package C (Houlé, Baldwin and Thurston 2008). This subdivision might be subject to clarification and modification following new geochronological, lithogeochemical and petrographic results that will be acquired in the next few years with the completion of this project. The metamorphic grade in the Bartlett Dome is relatively low (mainly greenschist facies) with generally good preservation of primary igneous textures and geological relationships; however, locally the rocks are intensely altered and sheared. Higher metamorphic grade (amphibolite facies) is generally concentrated along the margins of large felsic to intermediate batholiths or plutons such as the Kenogamissi batholith.

9.2.1 Supracrustal Package A

Supracrustal Package A is poorly exposed and relatively limited in the map area, occurring in near the western margin of English Township. Most of this package is located to the west in Beemer Township and to the north, within a previously mapped area, in Bartlett Township. This package is bounded to the west by the Kenogamissi batholith and to the east by Supracrustal Package B. However, this contact relationship is obscured by the mafic to ultramafic Muskasenda sill, intruded, near or at the contact between these 2 packages. Supracrustal Package A is dominated by pillowed mafic metavolcanic rocks, with subordinate massive units and rare felsic and intermediate volcaniclastic rocks. These units are cut by gabbroic dikes and intrusions. New geochronology from a felsic tuff unit within the lowermost part of the succession yielded a U/Pb age of 2728.3±1.6 Ma (Houlé, Baldwin and Thurston 2008) (Fig. 9). These new data have resulted in re-interpretation of this part of the sequence as being Deloro assemblage rather than the former interpretation of Pacaud assemblage (Ayer et al. 2005).
9.2.1.1 Mafic metavolcanic rocks

The mafic metavolcanic rocks that occur in the northwest corner of English Township are dominated by pillow facies with lesser massive facies that exhibit a pale to medium green weathered surface and a medium green fresh surface. Pillows are generally spherical in shape with a low aspect ratio (1.5:1 W/T ratio; on average 0.75 by 0.5 m in size) and commonly exhibit vesicles along the pillow margins and well preserved hyaloclastite as interpillow material. Locally, pillowed flows grade into pillow breccia facies with interpillow hyaloclastite. This sequence forms an east-facing, steeply dipping homoclinal sequence of mafic metavolcanic rocks that is consistent with reconnaissance mapping in Beemer Township and previous field observation by Houlé and Solgadi (2007) in Bartlett Township. Close to the contact with the Kenogamissi batholith, the mafic metavolcanic rocks are generally amphibolitized and exhibit a well-developed foliation. They are composed of an intercalation between fine-grained and mylonitized mafic metavolcanic rocks with medium-grained and highly foliated gabbroic rocks, commonly crosscut by numerous felsic dikes that generally vary in composition from granodioritic to tonalitic.

9.2.1.2 Intermediate metavolcanic rocks

The intermediate metavolcanic rocks in package A are located mainly near the southern part of Muskasenda Lake and in the southwest corner of English Township. Near Muskasenda Lake, the metavolcanic sequence is dominated by intermediate to felsic volcaniclastic rocks with minor massive intermediate metavolcanic rocks, where the coherent facies appears to be more abundant on the western shore of the lake and the fragmental facies are located in the middle and on the east shore of the lake. The intermediate volcaniclastic rocks are composed of poorly bedded (centimetre to decimetre) matrix supported tuff to tuff breccia where the matrix consists of intermediate ash tuff to lapilli tuff. Dominantly of intermediate composition, the fragments are subangular to angular, varying in size from a few millimetres to up to 10 cm in length. Rare mafic fragments also occur within the volcaniclastic rocks. Graded beds commonly occur, suggesting a stratigraphic top to the southeast. The felsic metavolcanic rocks range from massive flows to finely laminated tuff and lapilli tuff near Muskasenda Lake. Near the upper part of this package, the felsic metavolcanic rocks consist essentially of felsic lapilli tuff in the southwest corner of English Township. The coherent facies in this area consists of massive intermediate metavolcanic rocks that exhibit chloritic amygdules and rare vesicles. Another unit also occurs at the top of Supracrustal Package A, east of the Muskasenda Lake intrusion, and
consists of bedded, matrix-supported pebble conglomerate or reworked epiclastic metavolcanic rocks. Further investigation should clarify this peculiar unit.

9.2.2 Supracrustal Package B

Within the map area, supracrustal Package B occurs exclusively in English Township and, with the exception of the eastern part of the township, is poorly exposed, reflecting the extensive Quaternary cover in the area. This package is essentially cut by the mafic to ultramafic Muskasenda intrusion to the west, and, for the most part, is overlain by ultramafic metavolcanic rocks of Supracrustal Package C to the east. It is mostly composed of fragmental metavolcanic rocks of intermediate to felsic composition with rare mafic metavolcanic component. Abundant mafic dikes, sills and small plutons have intruded this volcaniclastic sequence. This package is assigned to the younger parts of the Deloro assemblage based on U/Pb ages obtained in McArthur and Bartlett townships (see Houlé, Baldwin and Thurston 2008).

9.2.2.1 Intermediate to Felsic Metavolcanic Rocks

Almost all exposures of these intermediate to felsic metavolcanic rocks occur along the eastern boundary of English Township, except for 2 other small areas in the central and northern parts of the township. They may be subdivided into 2 main groups: intermediate to felsic metavolcanic rocks; and felsic metavolcanic rocks. The intermediate to felsic metavolcanic rocks are the most abundant and widespread lithofacies, whereas the felsic metavolcanic rocks occur sporadically throughout Supracrustal Package B and appear to be intimately associated with the iron formation present in this package. Most of the intermediate to felsic metavolcanic rocks are composed largely of volcaniclastic rocks such as crystal tuff, lapilli tuff and tuff breccia. The rocks are light to medium grey on weathered surfaces and commonly light to medium grey and green on fresh surfaces. In the crystal tuff, equant to tabular shaped plagioclase crystals, up to 0.5 cm in length, may compose up to 60% of the rock. Lapilli tuff consists of a mixture of lapilli tuff and crystal tuff, where most of the fragments consist of an agglomeration of feldspar crystals. Lapilli-size fragments are on average 5 mm in length and commonly consist of an aggregate of plagioclase crystals. Other fragment types that may be present include aphyric felsic metavolcanics rocks, mafic metavolcanic rocks and, rarely, metasedimentary rocks such as sulphur rich argillite or iron formation. Tuff breccias are generally monolithic and matrix-supported volcaniclastic rocks where fragments are subangular to subrounded and may form up to 70% of the rock. Rarely, tuff breccias may consist of monolithic, clast-
supported volcaniclastic rocks, where fragments may form up to 90% of the rock. Fragments are generally 10 to 15 cm in length; however, larger fragments bombs up to 60 cm in length also occur within this fragmental unit ranging in composition from aphyric to plagioclase phryic and vesicular intermediate to felsic metavolcanic rocks. Accidental fragments such as mafic metavolcanic rocks, sulphur-rich argillite, chert and banded iron formation are present locally. The matrix of the breccias varies from fine-grained intermediate to felsic tuff and crystal tuff to being largely composed of chlorite with or without plagioclase crystals. The felsic metavolcanic rocks are composed mainly of fine-grained volcaniclastic rocks that commonly exhibit quartz eyes. These rocks are generally light grey to yellowish green on weathered surfaces and light to medium grey color on fresh surfaces. The hydrothermal alteration affecting Supracrustal Package B is locally extremely intense; hence, little primary textures are preserved within those sectors. The eastern part of English Township, along the contact between Supracrustal Packages B and C, is most affected by this alteration. It occurs as stratabound, patchy, disseminated or selectively pervasive within the matrix and is characterized by intense chlorite, sericite, iron carbonate and hematite replacement. Strong fabrics are almost always intercalated with these metavolcanic rocks. In the southern part of Zavitz Township, the package is dominated by intermediate to felsic metavolcanic rocks intercalated with mafic and ultramafic metavolcanic rocks. Fine- to medium-grained ultramafic and mafic intrusions also cut the supracrustal rocks. No geochronological data have been obtained within this part of the mapped area, but a U/Pb age of 2708±1.2 Ma for a felsic volcaniclastic rock in northwestern Hutt Township (Ayer et al. 2002b, 2005) suggests that most of this package is best assigned to the Tisdale assemblage.

9.2.3 Supracrustal Package C (underlies Zavitz claims)

9.2.3.1 Ultramafic Metavolcanic Rocks

Ultramafic metavolcanic and intrusive rocks of komatiite affinity occur at multiple stratigraphic horizons within Supracrustal Package C. Relative to mafic metavolcanic rocks in the area, the ultramafic rocks are fairly poorly exposed and many of the exposures are the result of trenches and stripped areas in the eastern part of English Township and in Zavitz Township. The first sequences of ultramafic rocks that occur within Supracrustal Package C are spatially associated with the intermediate to felsic metavolcanic rocks of this package in the southern part of Zavitz Township. This ultramafic sequence is dominated by serpentinized olivine meso- to orthocumulate rocks that exhibit typical fracture patterns associated with serpentinization. At least parts of those ultramafic rocks are interpreted as komatiitic
intrusions (ultramafic intrusive rocks of Fig. 9 [Figure 10.2 of Houle et al, 2008]).

The second sequences of ultramafic rocks that occur within Supracrustal Package C are unconformably overlain the intermediate to felsic metavolcanic rocks and metasedimentary rocks of Supracrustal Package B along the eastern part of English Township and along the contact between the intermediate to felsic and mafic metavolcanic rocks in the southern part of Zavitz Township. This komatiitic sequence is dominated by sensu stricto komatiite flows. Ultramafic flows were recognized during the mapping, but the “classical” komatiite flows with all internal subdivisions as defined by Pyke, Naldrett and Eckstrand (1973) are rare in this area. Instead, the komatiite flows are mainly sheet flows that exhibit a lower olivine cumulate or olivine-phryic zones and an upper zone of randomly oriented olivine spinifex texture. Thicker komatiite flows are generally characterized by cumulate texture comprised of olivine pseudomorphs. Polyhedral jointing is common to most of the komatiites mapped as lava flows. Locally, thin spinifex-textured sills (i.e., veins) intrude ultramafic flows. The third sequences of ultramafic rocks that occur within Supracrustal Package C are intercalated within the mafic metavolcanic rocks in the central part of Zavitz Township. This sequence is composed mainly of massive olivine cumulate and olivine spinifex-textured rocks, but also contains ultramafic fragmental rocks and some komatiitic basalt flows. The ultramafic volcaniclastic rocks were observed near the Redstone River in the southern part of Zavitz Township and consist of clast-supported lapilli tuff with fragments up to 5 cm in size, averaging about 5 mm in size. Komatiitic basalt exhibiting pyroxene spinifex texture and varioles also occurs along the Redstone River in the central part of Zavitz Township. The ultramafic metavolcanic rocks of all sequences have locally experienced intense alteration characterized generally by a weathered surface that varies in colour from orange-brown to light grey and by a fresh surface that is usually dark green (serpentine) in colour, locally having light grey with brown (magnesite, ankerite) and apple green (fuchsite) colours. Calcite alteration is also widespread in many of these areas.
9.2.3.2 Mafic Metavolcanic Rocks

The mafic metavolcanic rocks are clearly the dominant lithology within Supracrustal Package C. Preliminary observation within this package has suggested that these mafic metavolcanic rocks could be subdivided into 2 groups based on their magnetic susceptibility, where one group has low magnetic susceptibility (0 to 10 \times 10^{-3} SI) and the other group has high magnetic susceptibility (10 to 100 \times 10^{-3} SI). However, despite this distinction, both groups exhibit the same volcanic facies, making it difficult to distinguish the subdivision in the field. The mafic metavolcanic rocks are either massive or pillowed. The massive flows are generally homogenous and typically fine grained, but are medium grained locally. The pillowed flows have pillows varying in size from a few decimetres to a few metres in diameter. They are usually variolitic, vesiculated or amygdaloidal. The variolitic pillowed flows are quite common in the area and may be suitable for use as a stratigraphic marker as they are commonly intercalated with non-variolitic pillowed flows. Varioles are lighter coloured than the enclosing matrix and range in diameter from 3 to 10 mm in size. They are more or less elongated parallel to the regional strain of the deformed pillows. The varioles are generally most abundant toward the margins of the pillows, but can spread throughout the entire pillow or be concentrated in the central part of the pillow. Non-pillowed flows are rarely variolitic. Remnants of hyaloclastite are visible within the inter-pillow material in the less deformed areas. Both types of flows may be weakly to intensely carbonatized, with disseminated pyrite. Rare intermediate monolithic matrix-supported lapilli tuff occurs intercalated with the pillowed and massive mafic metavolcanic rocks.

9.2.3.3 Intermediate to Felsic Metavolcanic Rocks

The intermediate to felsic metavolcanic rocks within Supracrustal Package C occur essentially in the southern part of Zavitz Township and sporadically throughout the widespread mafic metavolcanic rocks. Most of the intermediate to felsic metavolcanic rocks are composed largely of volcaniclastic rocks such as lapilli tuff and tuff breccia. The lapilli tuff is generally monolithic, massive and well sorted, whereas the tuff breccia is polymictic (mostly intermediate to felsic fragments), matrix supported, massive and moderately sorted. Porphyritic intermediate to felsic pillowed and massive metavolcanic rocks also occur locally in the southern part of Zavitz Township. These rocks can also exhibit vesicles and amygdules.
9.2.4 Archean Mafic to Ultramafic Intrusions

Several mafic to ultramafic intrusions occur within the map area. The main intrusion is the Muskasenda sill, which is emplaced between Supracrustal Packages A and B, but also occur as dikes, sills and small intrusions. The mafic to ultramafic Muskasenda intrusion is a sill-like body that extends north and south of the map area. This intrusion is composed of gabbro with subordinate quartz gabbro, anorthositic gabbro, and pyroxenite. The dominant phase of the intrusion is a massive, medium-grained, equigranular to ophitic melanocratic gabbro and quartz gabbro. The pyroxenite is medium-grained to rarely fine-grained poikilitic pyroxenite to melanocratic gabbro found at the base of the Muskasenda intrusion. Thus far, the amount of mapping was not sufficient to determine any other internal zonation within this intrusion. Coarser grained leucocratic patches or veins of quartz-bearing or quartz gabbros containing disseminated sulphides are also present locally within this intrusion. Numerous mafic dikes, sills and small plutons intrude all the supracrustal rock units in the map area and consist of medium- to fine-grained and equigranular gabbros and quartz gabbros. Furthermore, coarser grained patches or veins of leucocratic quartz gabbros containing disseminated sulphides are also typical in these smaller intrusions. The intrusions are compositionally similar and, thus, are probably co-magmatic with the Muskasenda gabbro.

9.2.5 Archean Felsic to Intermediate Intrusions

Felsic to intermediate intrusions within the map area are restricted to small intrusions or limited parts of larger intrusions, such as the eastern arm of the Kenogamissi batholith and the southern tip of the Geikie pluton. The Kenogamissi batholith is a large composite tonalitic to granitic felsic intrusion. The eastern margin of the Kenogamissi batholith, located in the southwest corner of English Township, is dominated by fine- to medium-grained granodiorite that exhibits a light grey-pink to light red weathered surface, reflecting the level of hematization of the rocks, and a light grey to pinkish color on fresh surfaces. The granodiorite is roughly composed of 30% potassium feldspar, 40% plagioclase, and 30% quartz that generally exhibit an equigranular to locally slightly porphyritic texture. Some rare, light-grey-weathering equigranular tonalitic phases also occur in this area and consist of approximately 65% plagioclase, 25% quartz and 10% biotite-hornblende. The timing relationship between these 2 phases of the Kenogamissi batholith is still unclear. A third phase of medium- to coarse-grained diorite composed of approximately 60% plagioclase and 40% hornblende occurs in the southern part of English Township. The Geikie pluton consists of a large granodioritic intrusion, approximately 10 km in diameter, underlying most of Geikie and parts of Bartlett, Douglas, Cleaver
and Zavitz townships. This intrusion is a relatively homogenous, medium-to-coarse-grained (1 to 7 mm) granodiorite in the core of this pluton and usually finer grained (1 to 4 mm) at the margins. It is composed of quartz (30%), plagioclase (50%), potassium feldspar (15%) and hornblende (5%), and exhibits a light grey-pink colour on weathered and fresh surfaces. The coarser crystals (>5 mm) are usually euhedral plagioclase and subrounded quartz. A weak foliation defined by the alignment of the mafic mineral is developed in the outer margin (~1 km) along the contact with the country rocks. Throughout the map area, several small intrusions and dikes of granodiorite, tonalite, and syenite also intrude all the supracrustal rocks but mainly those of Supracrustal Packages B and C. Fine- to medium-grained and equigranular granodioritic phases occur as small intrusions or dikes sporadically, both more commonly in the eastern part of Zavitz Township. Fine- to medium-grained tonalitic dikes are widespread throughout the map area and generally exhibit quartz and feldspar porphyritic textures. These quartz-feldspar porphyries are commonly affected by hematite alteration that occurs as millimetre-sized veinlets or as pervasive alteration. Reddish-weathering “syenitic” phases are only common along the contact between Supracrustal Packages B and C and along the southern part of Zavitz Township. However, it is suspected that many of these syenitic phases might be highly hematized tonalite, reflecting the intense and pervasive alteration in some of these areas.

9.2.6 Proterozoic Dikes

Proterozoic diabase dikes observed in the mapped area are attributed to the Matachewan, the Biscotasing and the Sudbury swarms. The Matachewan dikes, which trend north-northwest, were observed mainly in the eastern part of Zavitz Township. They were not easily delineated because of their limited thickness, and are characterized by a distinctive orange-brown colour and exhibit positive weathering elongated parallel to the trend of the dike. The abundance of green saussuritized plagioclase phenocrysts, up to 2 to 3 cm across, range from an average of 2 to 3%, but can occur locally up to 40%. The Biscotasing dikes define a northeast trend and are generally observed proximal to the boundary between English and Zavitz townships. They consist of leucocratic fine- to medium-grained ophitic textured quartz gabbro dikes typically 20 to 50 m wide. They are moderately magnetic and, thus, yield a distinctive trend on magnetic surveys. The Sudbury dike swarm crops out mainly defining a west-northwest trend in Zavitz Townships.

These dikes are a fine- to medium-grained orange-brown olivine gabbro that contains disseminated sulphides. The dikes commonly follow pre-existing structures and zones of weakness, but are locally observed to bifurcate.
9.2.7 Structural Geology

9.2.7.1 Folds

Several folds, defined by facing indicators such as pillows (with and without amygdules), flow-top breccias, polyhedral flow-top, and graded beds within felsic to ultramafic metavolcanic rocks, occur within the map area. In the northern part of English Township, the supracrustal rocks define a homoclinal succession facing eastward, indicated by several younging indicators such as pillows and polyhedral flowtop found in the metavolcanic rocks of Supracrustal Packages A and C. This north-trending homoclinal succession occurs on the southern limb of a broad east-trending anticline with a regional east-trending foliation and an axial plane located in the northern part of Bartlett Township.

The main structure in the map area consists of a large synclinal fold with an axial plane trending east to northeast as suggested by Pyke (1978). The main effect of this large synclinal structure is to reorient the north-trending bedding planes in the northern part of English Township into east-trending bedding planes in the southern part of Zavitz Township. The closure of this large synclinal structure occurs in Semple Township and is characterized by tighter and more constrictive folding than the broad anticlinal structure to the north, with a slightly rotated axial plane trending northeast in the southern part of English and Zavitz townships. Facing reversals found in the pillowed mafic metavolcanic rocks of Supracrustal Package C indicate that the axial plane of this syncline was displaced sinistrally by faulting, toward the central part of Zavitz Township. A weak foliation is parallel to this fold axis, but the dominant foliation in this area appears to be related to later faulting events. Buckling and slippage on bedding planes is interpreted to have occurred in the hinge of the fold, as a result of the constrictive nature of this syncline. This is reflected in the field by the presence of local parasitic folds with north- to northwest trending axial planes and reverse symmetry of folds. The mineral lineation associated with this syncline plunge steeply to northeast.

9.2.7.2 Faults

Numerous late faults occur in the map area, defining 3 major trends: north, northwest and east direction. Each of these major trends has affected the Neoarchean rocks to varying extents within English and Zavitz townships. The north-trending faults appear to represent extensive regional structure (i.e., faults), but with only limited dextral displacement of the supracrustal rocks stratigraphy. The Burrows–Benedict fault is the major north-trending structural break in this area, extending southward from the northern part of
the Shaw Dome. Another significant north-trending fault is located along the Redstone River and Muskrat Lake in Bartlett and English townships. The Scott Lakes fault is the most extensive northwest-trending fault. It can be traced at least from Fripp Township in the north, to Hutt Township in the south. It appears to have a strike-slip movement of at least 1.8 km, as shown by the sinistral offsets of Proterozoic dikes in McArthur and Zavitz townships, but is also up to as much as 3.0 km, as shown by sinistral offsets of the iron formation located at the contact between the Deloro and Tisdale assemblages in English Township. Other less extensive northwest-trending faults also have resulted in generally sinistral displacements of the stratigraphy. Foliations and spaced cleavages with similar trends are associated with many of these northwest-trending faults. The east-trending faults have limited extent and are mainly concentrated in the northeast corner of English Township near Muskrat Lake. Only small displacements appear to be associated with these faults, resulting in the isolation of small blocks along the Deloro–Tisdale assemblage unconformity. These faults are interpreted to be early faults, since they appear to be displaced by the north-trending faults (e.g., the north-trending fault of Muskrat Lake).


10.0 DEPOSIT TYPES

Producing and past - producing mines within 100 km include, nickel, gold and VMS deposits. Mineralization in the Halliday Dome, bounded by English and Zavitz Twps on the north consists of komatiitic Ni-Cu and Zn-Cu VMS. There are several mines in the Matachewan gold camp, SE of the project area, including Young-Davidson and Matachewan Consolidated in Matachewan (Powell Twp). During the 1900's these two mines together produced almost 1 million ounces of gold.

10.1 Gold

At Matachewan Consolidated, gold is contained within quartz veins cutting sheared, highly altered, mafic metavolcanic rocks. At the Ashley Gold Mine in northwestern Bannockburn Twp, gold is also contained within quartz veins cutting sheared, highly altered, mafic metavolcanic rocks.

The Young-Davidson project has NI43-101 compliant Measured and Indicated Resources of 1.88 million ounces and Inferred Resources of 0.45 million ounces, hosted in altered syenite and volcanic rocks. (See details at http://www.northgateminerals.com and a cross section as Fig 7 From the website is this quote: "The 2008 exploration program was extraordinarily successful, expanding the measured and indicated resources underground to 3.0 million ounces of gold consisting of 25.97 million tonnes at an average grade of 3.62 g/t. This represents an increase of 1.6 million ounces of gold and compares to the 11.92 million tonnes of measured and indicated resources at a grade of 3.7 g/t that was announced in February 2008".

10.2 Komatiitic Nickel and Platinum Group Elements (PGE)*

Komatiitic ultramafics on the Zavitz property occur in rocks of the Bartlett Assemblage which hosts the Redstone, Langmuir and Liberty Mine. The geological setting of the area is closely similar to the Kambalda Nickel camp in Australia and the Shaw Dome nickel camp in the Timmins area. The Kambalda camp is approximately 10 km long by 4 km wide and hosts at least 25 nickel sulphide deposits. These deposits rim a geological feature called the Kambalda Dome. Much has been written on komatiitic nickel deposit genesis. An instructive video of komatiitic nickel deposit formation is presented in Item 24.2 Web Site References.

The Texmont Ni-PGE mine, which is located along the boundary of Bartlett and Geikie Twps and which occurs in komatiitic rocks of the Bartlett Assemblage. Geological models were first developed in Western Australia
for komatiite hosted Ni-Cu sulphides after the discoveries of the Kambalda and Mt. Keith deposits.

“Two types of models have been applied to most komatiitic Ni-Cu deposits throughout the world. These two models are the Kambalda, channelized flow theory, and the Mt. Keith, sheet flow theory. Komatiitic rocks are derived from high degree partial melts of the earth's mantle. Due to the high degree of partial melting the komatiitic melt is enriched in elements such as nickel and magnesium. When erupted, the melts have a low viscosity and tend to flow turbulently over the substrate eroding the footwall lithologies through a combination of physical and chemical processes.

“Due to the low viscosity of the komatiitic melts the lavas tended to concentrate in topographic lows. Komatiitic eruptions have been envisaged to have a high effusion rate and large volumes of lava and/or magma. The Mt. Keith style of deposits are associated with sheet flows several hundreds of metres thick by several kilometres to tens of kilometres long and are composed primarily of olivine adcumulate to mesocumulate. Further down stream, more distal from the eruptive source the komatiitic flows would become channelized, similar to a river channel today, and begin to erode the substrate forming more defined channel feature. This channelization is the corner stone of the Kambalda model. Denser sulphides would tend to accumulate in the bottom of the channel like features. As the eruption continued the channel would fill with olivine mesocumulate to adcumulate because of the constantly replenished MgO-rich komatiitic melt.

“As the eruption began to wane the channel would be capped by a sequence of regressive komatiitic flows composed of komatiitic pyroxenites and basalts. In order to develop Ni-Cu sulphides the komatiitic melt must become saturated in sulphide. A komatiitic melt will become sulphur saturated when an external source of sulphur is introduced to the melt by assimilation of a sulphide rich lithology or by differentiation or contamination of a komatiitic melt until the sulphur content exceeds the saturation point. A strong relationship exists between the presence of footwall lithologies rich in sulphide and the development of Ni-Cu sulphide deposits in the overlying komatiitic flows. This association is strongest in the Kambalda style Ni-Cu sulphide deposits. Differentiation or the assimilation of rocks rich in certain elements may result in the oversaturation of the komatiitic melt in sulphur. This is the mechanism related to the development of the Mt. Keith Style of deposits.”

* text in italics is paraphrased from Mustang website and refer to their Bannockburn Twp discoveries which lie immediately east of the Zavitz property.
10.3 Volcanogenic Massive Sulfides

**Cross Lake Resources** discovered a potentially economic volcanogenic massive sulfide deposit in Sheraton Twp approximately 50 km to the NE of Zavitz Twp. The history of this discovery is instructive as the geology in Zavitz Twp is similar and the ore is hosted by felsic and crystal tuffs. In 1991 Cross Lake Resources started exploring in Sheraton and eastern Timmins Twp a N-S trending series of volcanic rocks. In 1993 it carried out ground EM and magnetic surveys on a 16 unit block which confirmed two N-S trending conductors. Four drill holes were completed in October 1993 which intersected a 5 m wide massive pyrite zone adjacent to a graphitic argillite and a narrow siliceous breccia. Sphalerite veins in the argillite gave zinc assays exceeding 1%. The graphitic horizon was traced for 1.6 km by EM and was drilled 0.5 km south of Hole 93-1 to confirm the same geological setting. Another 25 metre (65 feet) wide massive pyrite zone was intersected on the western part of the grid with assays of 6,500 ppm zinc. In 1996 further geophysical surveys (I.P. and magnetics) traced the original two conductive horizons northward for an additional 1,600 metres. In early 1997, three holes totaling 746 metres were drilled to test one of the trends. Since 1997, on the Sheraton-Timmins and adjacent Nighthawk Lake joint venture property of Cross Lake Resources Inc, **127 holes, totalling 46,000 m** have been drilled, and numerous other surveys, including geochemical, humus, soil, and MIM (Mobile Metal Ions) have been carried out.

The discovery in Sheraton Twp, comes in part as the result of detailed follow-up of work done in the 1970's by the Tillex Syndicate. At that time, several base metal showings were discovered and geophysical targets were defined, in the area north and east of the Zavitz property. The work did not result in significant discoveries. The discovery hole (16), by Vancouver-based Cross Lake Resources (CRN,V) showed grades typical of Archaean volcanogenic massive base metal sulfides, similar to the Kidd Creek ore body.
### Table 2: Cross Lake Resources, Representative Assays compared to nearby Kidd Ck ore body *

<table>
<thead>
<tr>
<th>Hole No.</th>
<th>Intersection Width</th>
<th>Cu %</th>
<th>Pb %</th>
<th>Zn %</th>
<th>Ag (g/T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 (248-260.5 m)</td>
<td>12.5 m</td>
<td>1.77</td>
<td>--</td>
<td>0.41</td>
<td>18.50</td>
</tr>
<tr>
<td>17 (251-255 m)</td>
<td>4 m</td>
<td>3.24</td>
<td>--</td>
<td>0.05</td>
<td>35.50</td>
</tr>
<tr>
<td></td>
<td>(258-324 m)</td>
<td>66 m</td>
<td>0.19</td>
<td>--</td>
<td>1.12</td>
</tr>
<tr>
<td>16 (278-311 m)</td>
<td>33 m</td>
<td>0.16</td>
<td>1.86</td>
<td>6.71</td>
<td>107.00</td>
</tr>
<tr>
<td>24 (180-192)</td>
<td>12 m</td>
<td>2.80</td>
<td>0.12</td>
<td>51.60</td>
<td>--</td>
</tr>
<tr>
<td>25 (254-257 m)</td>
<td>3 m</td>
<td>--</td>
<td>2.21</td>
<td>8.10</td>
<td>--</td>
</tr>
<tr>
<td><strong>Kidd Creek Deposit</strong></td>
<td><strong>117,000,000 T</strong></td>
<td><strong>2.20</strong></td>
<td><strong>0.28</strong></td>
<td><strong>7.25</strong></td>
<td><strong>147.00</strong></td>
</tr>
</tbody>
</table>

* see Summary on Cross Lake Minerals Ltd web site.

In 2001 Falconbridge optioned the Cross Lake properties. Details may be obtained by following links from their website (www.crosslakeminerals.com) to which the reader is referred for further information, detailed geological cross sections, assays and photos of mineralized core.

In January 1991, **Queenston Mining** and **Strike Minerals** reported significant intersections of Cu-Zn while drilling in Robertson Twp approximately 30 km ENE of the property.
11.0 PROPERTY GEOLOGY

**Fig.4** is a geological compilation of the Zavitz Property, based on Claim Lake Resources and Claim Lake Nickel data. Geological relations based on the recent mapping of Houle et al (2008) is shown as **Fig. 8. Figure 4** shows geology, geophysical conductors and the location of previous work, including drill holes and mineral showings. Sources of information are presented in **Appendix B**. The property is topographically flat with a central southeast trending higher area of a few to 20 m relief. Bedrock exposure is scarce and concentrated in the central higher area in the southeast portion of claim 1117915 and the northwest portion of claim 1024344 (Voyager Showing).

The major lithologies are dark green, dense, basaltic flows and pillow lavas, lighter green intermediate andesites and fragmental equivalents as well as volcanics of dacite to rhyolite composition and their fragmental equivalents. Intercalated into all units are cherts and argillaceous graphitic horizons. Intrusives consists of pink hornblende syenite and a probable subvolcanic quartz feldspar porphyry north of the Voyager Showing. A conglomerate and sandstone unit (Timiskaming-type?) unconformably overlies basalts in the northeast corner of the property.

In the center of the property, the stratigraphy trends N-NW with moderate to steep northeast dips. The Voyager Showing is underlain by pillowed basalts, with the long axis of pillows trending 160° and tops to the southwest. These pillowed flows are interlayered locally with massive mafic flows and chloritic tuffaceous units containing fine-grained pyrrhotite and pyrite patches within the pillow selvages. Alteration consists of chlorite, pervasive to spotty carbonatization, minor epidote-quartz stringers and silica flooding at the main Voyager Showing. Diamond drilling and magnetic surveys indicate bedded fine-grained argillite and rhyolite tuffs with minor pyritic graphitic argillite south of the mafic flows. Northwest of the Voyager Showing outcrop pink to grey, fine to medium-grained porphyritic (quartz eyes and feldspar phenocrysts) or massive felsic volcanics. East-west trending felsic dikes crosscut the northern mafic volcanics in the Voyager showing area. The dikes are medium-grained and appear granodioritic in composition. They are typically 0.3 m wide and locally up to 2 m in width. They parallel the dominant east-west fracture direction within the mafic volcanics.

No faults or major displacement of units was discernible in the geological data. A major topographic lineament transects the map area. From geophysics, a NW striking fault is interpreted just NE of the Voyager Showing. This feature may also represent the contact with syenite. The trace of the Burrows-Benedict Fault - a major regional feature - occurs west of the present property. Small scale (<100 m) offsets are based on offset geophysical
trends on the Moray and Dexter Lake grids. Foliation is strongest north of the Voyager Showing trenches, trending northwest with steep east to vertical dips.

Major folds are those shown on the Zavitz Twp geological map of Bright (1984). As well, pillow lava facing directions, graded sequences in drill core, magnetic surveys and IP trends were used. These delineate a WNW striking anticline across the Voyager Showing and permit the interpretation that the Voyager Showing is exposed at the crest of a dome shaped structure.

The area appears to have been exposed to an episode of uplift or transgression as indicated by the development of horsts and grabens. The grabens are now filled with Huronian sediments and occur as arms of sedimentary rocks that extend from the south and pinch out to the north. Sedimentary rocks also occur as isolated occurrences surrounded by Archean lithologies. The near vertical faults have not been observed on surface or in drill holes and are only interpreted based upon the relationships exhibited by the sedimentary units.

12.0 Exploration

Recent exploration has consisted of an IP survey, a magnetometer survey and trenching and stripping. The exploration programs are described under History, Item 8.0

13.0 Drilling

The most recent drilling on the property was in 1980 at the Voyager Showing and in 1998 at the Dexter Lake and Moray Lake Nickel showings, by Moss Lake Resources, as described in Item 8.0

14.0 Sampling Method and Approach

The only sampling carried out by the company recently has consisted of grab sampling at several showings on the property. All recent sample collection has supervised by a qualified person (Ulrich Kretschmar, P.Geo), and the samples are secured directly from the site to the laboratory, and resultant pulps, rejects and assay certificates are kept in secure locations for essential future reference, security and legal requirements.

15.0 Sample Preparation, Analyses and Security

Sample preparation has been performed by qualified and independent, accredited laboratories: Swastika Assay lab in Kirkland Lake and SGS Laboratories in Don Mills.
16.0 Data Verification

The integrity of all current assay and rock geochemical data was verified by the author of this report. Historical data are assumed to have been verified by the geologist in charge of the program at the time it was carried out.
17.0 ADJACENT PROPERTIES

17.1 Mustang Minerals, Bannockburn Twp

Three Ni-Cu sulphide zones in komatiitic rocks occur within the Bannockburn Ni property of Mustang Minerals which lies directly to the east of the Zavitz property. The Thalweg and Rahn Lake showings have similarities to Kambalda Style deposits and consist of massive and net-textured Ni-Cu sulphides associated with the basal contact of a komatiitic peridotite body. The Bannockburn Ni-Cu sulphide zone has similarities to Mt. Keith style where high nickel tenor mineralization is associated with a thick olivine adcumulate to mesocumulate body that extends for greater than 1800 metres along strike.

At least three main zones of Ni-Cu sulphide mineralization have been identified on the Bannockburn property. Two of the zones, the Thalweg and the Rahn Lake Ni-Cu sulphide zones, are associated with Kambalda style massive and heavily disseminated sulphides that occur in footwall embayments at the base of komatiitic flows.

The Thalweg and the Rahn Lake sulphide zones appear to be composed primarily of pyrrhotite and pentlandite with trace amounts of chalcopyrite and a grey alteration mineral. The nickel tenors of the zones range from between 4% to 43.3% Ni in 100% sulphide. The Rahn Lake sulphide zone displays a gradational nickel tenor that decreases, from >40% Ni to 10% Ni in 100% sulphide, as the basal contact is approached.

The Bannockburn sulphide zone is composed of pyrrhotite, pentlandite and an unidentified grey mineral, with optical properties similar to titanomagnetite, but appears to be a nickel sulphide phase. The nickel tenor of the Bannockburn zone is extremely high at >80% Ni in 100% sulphide.

17.1a Thalweg Ni-Cu Sulphide Zone(Kambalda Style)

The Thalweg Ni-Cu sulphide mineralization is associated with a series of komatiitic flows that subcrop beneath Chartlewood Lake, have a strike length of approximately 600 metres and a thickness of between 50 to 200 metres. Sulphide mineralization appears to be restricted to a footwall embayment into the dacitic volcanics identified by the ground magnetic survey. Reconnaissance drilling in this area has discovered that the footwall embayment structure hosts a mineralized nickel-bearing channel. The Thalweg Ni Zone is at least 200 meters long and locally up to 18 meters wide. Limited drilling (18 holes) encountered disseminated to net texture to massive nickel rich sulphides at the komatiitic/dacite contact. Significant drill results from the Thalweg Zone ranged from 0.81% to 4.54% nickel over widths
ranging from 0.25 meters to 17.6 meters. The Thalweg Zone is open at depth.

The main Thalweg sulphide zone appears to be composed of heavily disseminated to net-textured sulphides that range between 5% and 25% of the rock. The system appears to be a combination of a massive sulphide body surrounded by net-textured and heavily disseminated sulphides that extend laterally from the massive sulphide shoot.

The sulphide mineralization appears to be plunging vertically or steeply to the southeast. The sulphides also appear to snake and weave resulting in the presence of several untested, strong, off-hole conductors identified by down hole pulse EM surveys.

17.1b Rahn Lake Ni-Cu Sulphide Zone (Kambalda Style)

The Rahn Lake Ni-Cu sulphide occurrence is located approximately 2 kilometers north of the Thalweg zone and appears to be hosted in a komatiitic flow higher in the volcanic stratigraphy. The sulphide mineralization is associated with a komatiitic peridotite body that lies mainly beneath Rahn Lake with a strike length of approximately 600 metres and a thickness of between 100 and 300 metres. Pyrrhotite sulphides were identified in a surface exposure of olivine spinifex-textured komatiites associated with this peridotite body. Limited drilling (1 hole) south of Rahn Lake intersected 0.85% nickel across 4.27 meters. The Rahn Lake Zone is open in all directions.

The presence of a surface PEM anomaly under the Rahn Lake and a Maxmin anomaly at both ends of the lake could be associated with the same mineralized horizon intersected in drilling. The potential exists that the nickel-rich sulphide zone would continue north of the drill hole and would therefore be associated with the untested geophysical targets under and at both ends of the lake.

17.1c Bannockburn Ni-Cu Sulphide Zone (Mt. Keith Style)

The Bannockburn Ni-Cu sulphide occurrence is located approximately 2 kilometers north-northwest of the Thalweg zone and approximately 400 metres stratigraphically below the Rahn Lake zone. The sulphide mineralization is associated with a large body of olivine adcumulate to mesocumulate with a strike length of approximately 1.8 kms. and a thickness of greater than 400 metres. Nickel mineralization has been detected in widely spaced (> 400 meter centers) stratigraphic drill holes for a minimum distance of 1.1 kms. and a 150 meter vertical depth. Limited drilling (10 holes) yielded values up to 0.50% nickel across 22.2 meters. The Bannockburn Zone is open in all directions.
The strike extent of this mineralized horizon has yet to be tested in detail. The Bannockburn olivine adcumulate (dunite) is associated with a highly magnetic signature e. Its corresponding geophysical anomalies appear to be partly associated with the same mineralization intersected in the stratigraphic drill holes. The geophysical anomalies clearly extends to the north and south of the nickel mineralization intersected in drilling for several hundreds of metres and represents additional untested nickel targets.
17.2 Golden Chalice Resources Inc, Langmuir Project.

Langmuir Nickel Project located approximately 35 km southeast of Timmins and 30 km south of the Xstrata Metallurgical complex in Ontario. The property encompasses a substantial part of an arcuate belt of highly prospective peridotitic komatiites that rim the Shaw Dome.

Drilling to date on Golden Chalice Langmuir nickel discovery has established 3 parallel nickel bearing zones (A, B, C). The A and B zones appear to merge and separate from one another. They range in true width from 3 to over 20 metres and have been followed along strike for 200 metres and to a vertical depth of 250 metres. The C zone is 3 to 10 metres in true width and is only intersected at depth. Thus far the deepest intersection is at about 375 metres below surface. All 3 zones are open at depth. The zones dip subvertically to the north and may roll and dip toward the south according to geophysics. Drilling is currently underway with the objective of calculating a resource estimate as a first step toward determining the economic viability.

<table>
<thead>
<tr>
<th>DDH</th>
<th>From</th>
<th>To</th>
<th>Est. True</th>
<th>Au</th>
<th>Pt</th>
<th>Pd</th>
<th>Cu</th>
<th>Ni</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCL07-27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone A</td>
<td>203.10</td>
<td>208.00</td>
<td>4.00</td>
<td>0.01</td>
<td>0.13</td>
<td>0.30</td>
<td>0.14</td>
<td>1.62</td>
</tr>
<tr>
<td>incl.</td>
<td>203.10</td>
<td>205.45</td>
<td>1.90</td>
<td>Nil</td>
<td>0.21</td>
<td>0.47</td>
<td>0.21</td>
<td>2.65</td>
</tr>
<tr>
<td>Zone B</td>
<td>263.40</td>
<td>269.00</td>
<td>3.50</td>
<td>Nil</td>
<td>0.14</td>
<td>0.29</td>
<td>0.07</td>
<td>1.02</td>
</tr>
<tr>
<td>incl.</td>
<td>263.40</td>
<td>266.50</td>
<td>1.70</td>
<td>0.01</td>
<td>0.24</td>
<td>0.48</td>
<td>0.07</td>
<td>1.36</td>
</tr>
<tr>
<td>Zone C</td>
<td>326.75</td>
<td>337.00</td>
<td>5.00</td>
<td>0.04</td>
<td>0.11</td>
<td>0.25</td>
<td>0.11</td>
<td>1.19</td>
</tr>
<tr>
<td>GCL07-29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone A</td>
<td>217.80</td>
<td>223.00</td>
<td>3.00</td>
<td>0.02</td>
<td>0.11</td>
<td>0.23</td>
<td>0.16</td>
<td>2</td>
</tr>
<tr>
<td>incl.</td>
<td>221.5</td>
<td>222.35</td>
<td>0.50</td>
<td>0.03</td>
<td>0.26</td>
<td>0.53</td>
<td>0.67</td>
<td>6.73</td>
</tr>
</tbody>
</table>
17.3 Liberty Mines (from company information: www.libertymines.com)

Liberty Mines has targeted small, high grade nickel-copper sulphide orebodies in a belt of altered komatiite on the south side of the Shaw Dome, 24 km southeast of Timmins, Ont. The geology is similar to the Kambalda nickel belt in Australia.

Liberty Mines purchased an option on the Redstone Nickel Mine from Inco Ltd in December 2004 for $250,000 plus 2 million Liberty shares. There was already some ramp-access underground development. The Redstone mine began pre-production in 2006 with ore custom-milled in Cobalt, Ont. and concentrate shipped to Jilin Jaen Nickel Co. of China and commercial production in July 2007, at a rate of 200 Tonnes (T) per day. Underground drilling has extended understanding of the orebody to 1,200 m. An NI43-101 measured and indicated resource of 418,931 T grading 2.32% Ni has been defined to 508-m. Definition drilling is continuing and a shaft is being built to access deeper ore.

Liberty constructed a 1,500 T/day mill with a flotation circuit to separate talc from nickel sulphides. 91.7% nickel recovery has been achieved. It initially operated at 450 T/d and from October to mid-December 2007 the Redstone mill produced 803,525 lb of dry nickel in concentrate. Most of the concentrate is sold to the Xstrata Nickel smelter in Sudbury, Ont. Xstrata Nickel pays for copper, cobalt and platinum group metals. Contracted shipments to Jilin Jaen are about 20 T/d to November 2010.

Liberty is also exploring at the nearby Hart and McWatters projects, and the Groves project further south. At the McWatters mine, 9.5 km west of Redstone production at 1,200-1,300 T/day is scheduled for 2008 with the ore to be concentrated at the Redstone mill. Typical intersections from definition drilling include 1.65% Ni over 39.75 m, including 2.95% Ni over 17.25 m and 7.52% Ni over 4.95 m; and 0.91% Ni over 51.40 m, including 2.05% Ni over 9.40 m. At the Hart nickel project an NI 43-101 compliant resource/reserve technical report for the Hart deposit to 500-m depth should be released in early 2008 and Liberty is expected to declare Hart as its third mine.
17.4 Fletcher Nickel and the Texmont Deposit (from Butler, 2007)

According to the Ontario Geological Survey ("OGS"), the former Texmont Mine is found in the Bowman assemblage, an Archean greenstone package that may correlate stratigraphically with other units containing nickel sulphide mines and deposits to the NE around an anticlinorium called the Shaw Dome in the vicinity of the City of Timmins. The Texmont Property is embedded in the "Timmins nickel camp" with known deposits and mines to the north, NE, south, SE, and NW. Mineralization on the Texmont Property has characteristics similar to "Type II - stratabound internal deposits" (model of Lesher and Keays, 2002). Previous geologists also observed other "Type II" mineralization outside the outlined historic "resources."

18.0 Mineral Processing and Metallurgical Testing

This item does not apply

19.0 Mineral Resource and Mineral Reserve Estimate

This item does not apply

20.0 Other Relevant Data and Information

This item does not apply
21.1 DISCUSSION AND CONCLUSIONS

21.1 Discussion

1) The Zavitz property of Claim Lake Nickel Inc. lies on the northern flank of the Halliday dome (Atkison, 2001) believed by Pyke (1978) to be a volcanic center, south of the Shaw dome. Recent work by Houle et al (2008) also shows that the property lies on the south flank of the Bartlett Dome (Item 9.1). There are numerous showings of Cu, Ni, Zn and Au mineralization—indications of an highly fertile slice of Archean crust. The property is underlain by volcaniclastic breccias, hyaloclastite (derived by subaqueous quench fragmentation of a low viscosity tholeiitic magma), vent proximal units and thin, discontinuous deposits of argillite and chert, which signal breaks in hyaloclastite deposition dominated by fine suspension sedimentation and hydrothermal discharge (chert, sulfides). Rhyolite with spotted and chloritic alteration, similar to Noranda VMS deposit style alteration (Dalmatianite ?, present author’s interpretation) was described from several drill holes.

2) There are 7 major showings on the property: four base metal showings, two gold occurrences including the Fiset gold in syenite showing and two komatiite associated Ni-PGE showings.

3) An Real-Section IP survey was conducted in 1999 in the vicinity of the Voyager Showing and showed several prominent conductivity anomalies. A memo from John Gingrich at Noranda interpreting the IP data and recommending drilling below 300 m, is reproduced in its entirety as Appendix A.

4) Recent work and compilation by Houle et al (2008)[ see their Tables 10.1 and 10.2] show numerous showings on the property, which are listed below as Table 2.
Table 2: Best Results On The Zavitz Property Of Claim Lake Nickel Inc.

<table>
<thead>
<tr>
<th>Showing</th>
<th>Type</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voyager</td>
<td>VMS, Komatiitic Ni-PGE</td>
<td>massive po-chalcopyrite over 200 m, in trenches. PO-2: 13.7 m, 1-2% dissem. py &amp; po in felsic breccia incl. 1.2 m massive py-po 0.46 % Cu, 11.31 g/T Au. PO-4 27 m SE of PO-2: 1.5 m massive py-po 0.91% Cu and 1.03 g/T Au.</td>
<td>Cu-Au, Zn; 74 m, 1-10% disseminated po in peridotite</td>
</tr>
<tr>
<td>11 (Fiset)</td>
<td>Au in syenite</td>
<td>23 g/T and 13.1 g Au/T from grab samples; 8.4 g Au/T, 122 g/T Ag over 2.4X37 m; 1.03% Zn in volcanics</td>
<td>Young-Davidson Mine in Matachewan has dissem. Au, Ag in syenite</td>
</tr>
<tr>
<td>Humpy Lake Area</td>
<td>Komatiite associated Ni-PGE</td>
<td>11 m 15% Ni sulfides 10 m 9% py,po, pentlandite 14 m 15% py</td>
<td>similar environment to Texmont, Hart, Langmuir No.2, Redstone, McWatters</td>
</tr>
<tr>
<td>15 (Noranda) SE corner of property</td>
<td>VMS</td>
<td>Drill Hole N 1: 1.2 m, intermediate to felsic tuffs, 60% py, po, chalcopyrite.</td>
<td>N5 500 m to E of N1:11 m 75% py, 10% po, including 1.8 m 10 % py and 70% po, galena, specularite (= sp?)</td>
</tr>
<tr>
<td>Moray Lake</td>
<td>Ni, VMS</td>
<td>Moss Resources, up to 1820 ppm Ni.</td>
<td>5 cherty tuff w up to 40% po, py, trace chalcopyrite</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>----------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td><strong>Dexter Lake Grid</strong></td>
<td><strong>VMS</strong></td>
<td>100 m thick rhyolite</td>
<td>Rio Tinto DH5 58-92 ft, sp-bearing cherty tuff horizons up to 1 m thick.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 m up to 6% sp, tr chalcopyrite</td>
<td>Moss Resources 1998, rock geochem up to 1320 ppm Zn, Cu 10-50 ppm, low Au</td>
</tr>
</tbody>
</table>

5) The most recent drilling on the Voyager showing was in 1980. Since then there have been major advances in understanding Archean mineralization and geophysical, stratigraphic and geochemical methods of exploring for VMS deposits, komatiitic Ni-PGE and gold deposits. New stratigraphic correlation suggests that komatiites and rhyolites on the property are at the top of Pyke’s lower volcanic cycle (Pyke, 1978, 1982) and in same horizon as Texmont Nickel 18 km NW. Further work by Hrabi, R.B. & Helmstaedt, H.(1990) points to the cyclical nature of volcanism in the area and correlates regional stratigraphy. These advances have not been used in the search for ore bodies on the Zavitz property except for recent stratigraphic work by Houle et. al. (2008).

6) In addition to surface exposures of massive to semi-massive pyrrhotite, anomalous zinc (88-279 ppm) and copper concentrations (103-797 ppm) there are favourable indications for massive sulfide mineralization in the Voyager Showing area. Whole rock analyses [yttrium (Y) values <15 ppm] and [zirconium (Zr)] <112 ppm at the Voyager Showing, indicate tholeiitic affinity. Low zirconium values and moderate (0.3 to 0.8%) TiO₂ of mafic volcanics confirms basaltic to andesitic chemical composition. The zirconium and titanium oxide values of felsic volcanics indicate dacitic composition.

In the SW corner of the property, at the Dexter Lake grid, FIIIb-type high silica rhyolites [Zr/Y 3-7], with up to 2650 ppm Zn, komatiites and graphitic argillites were encountered during drilling by Inco and Pan Ore.

In areas of detailed drilling and geophysics e.g. Dexter Grid, faults with 100 m offset were detected. Faults with similar offset were described at the Texmont mine and for the Langmuir No. 2 deposit (see Naldrett, 1989 p. 50 for cross
sections of Langmuir No. 2 deposit). This is sufficient to offset potential ore horizons and make them difficult to follow on the scale of current surveys.

6) At the Moray Lake grid, RZ-1 had 50-60 ft disseminated sulfides in komatiite, which are not detectable by VLF. The possible presence of massive sulfides in the Moray Lake grid area location is not excluded by work to date.

In a direct quote, Michel Houle (Houlé, M.G., Préfontaine, S. and Brown, G.H. 2008) states:

"The nickel, copper and platinum-group element mineral potential is closely related to the actual distribution of the komatiitic rocks in the map area. The bedrock mapping conducted last summer highlights the fact that a komatiitic package is relatively continuous from the old Texmont Mine to Moray Lake in the southeastern corner of Zavitz Township.

There is particularly good potential for economic concentrations of nickel-copper mineralization within this komatiitic package where there is a close spatial relationship between komatiites (locally with abundant olivine cumulates) and chemical sedimentary rocks (oxide- and sulphide-facies banded iron formation in English Township; and graphitic argillite in Zavitz Township). Almost all the known nickel occurrences within the southeastern corner of Zavitz Township are hosted in ultramafic rocks that are spatially associated with fragmental felsic metavolcanic rocks near the contact between the felsic to intermediate and the mafic metavolcanic rocks of Supracrustal Package C. Even if several of these nickel occurrences have only marginal nickel grades (see Table 10.1), sulphide minerals have been reported in many of the olivine cumulate rocks. For example, Claim Lake Nickel recently reported high-grade nickel diamond-drill intersection of up to 2.2% Ni in komatiite around Dexter Lake (http://www.claimlakenickel.com). No nickel occurrences have been reported to date along the Deloro–Tisdale unconformity in English Township, but here komatiitic rocks occur in contact with the oxide- and sulphide-facies iron formation over several kilometres and should be thoroughly prospected.

“Other base metals MDI sites are also reported in Zavitz Township, associated with the mafic metavolcanic rocks of Supracrustal Package C. These include the Voyager showing which consists of copper and gold associated with massive to semi-massive sulphides replacing the matrix of a felsic to intermediate tuff breccia surrounded by mafic metavolcanic rocks.”
21.2 Conclusions

There are several attractive high priority drill targets on the Zavitz property and numerous indications of conditions favourable for 1) base metal deposition in stacked volcanogenic massive sulfide systems, 2) komatiitic Ni-PGE deposits and 3) gold in syenite. Foremost among the immediate drill targets are 5 high priority areas identified by recent IP and EM surveys at the Voyager Showing, high grade nickel intersections from previous drilling by Moss Resources as well as the Fiset and Hincks Twp gold showings.

Cu-Au. The Voyager Showing area of the Zavitz property shows a close similarity in geological environment with the Sheraton-Timmins property of Cross Lake Minerals on which occur Cu-Au mineralization, subvolcanic quartz feldspar porphyries, crystal tuff, felsic tuffs, chert and rhyolite. Massive sulfide deposits generally occur in clusters along certain favourable, time-stratigraphic horizons.

The Zavitz Property has potential to host VMS style mineralization of the Kidd Creek and Noranda-type as well as Kambalda-Langmuir-Redstone type komatiitic Ni-PGE deposits.

The property exhibits a favourable geological setting to host VMS deposit types with through-going post and synvolcanic structures and multiple cycles of volcanism.

At the Voyager Showing, shallow drilling to date has been concentrated on a 150 metre strike length. The gradient TDIP shows the anomaly associated with the Voyager Showing extends over a 700 metre strike length. Zone A (Legault & Kallfa, 1999) extends approximately 200 metres southeast of the historic drilling on the Voyager Showing and approximately 300 metres northwest. This leaves an extensive strike length yet to be drill tested. Other excellent untested geophysical targets exist on the property.

Au. The Fiset Gold Showing, hosted within a syenite stock, as is Young-Davidson, 32 km to SE in Matachewan, where disseminated gold and silver mineralization within and beside a syenite porphyry intrusion, is mined underground and by open pit mines for disseminated gold and silver. This stock on the Zavitz property extends westward onto the core claims as indicated by Gradient TDIP (Legault & Kallfa, 1999) and the western extension (Anomaly D) has not been drill tested.

The structure and stratigraphy on the property is understood in broad terms, but is more complicated at Voyager showing since the showing appears to occur at intersection of two anticlines intersecting at about right angles, bringing stratigraphy to surface and forming a dome.
22.0 RECOMMENDATIONS

22.1 General Recommendations

1. **Cu-Au.** On the Voyager Showing and core claims, ground checking of all TDIP anomalies and selection of drill targets should be carried out. Following geological mapping, drill targets should be selected both along strike and at depth below the Voyager Showing (Quan tec Zone A) with at least 100 metre step-outs from previous drilling. Prospective targets along Zones B, C and D should also be targeted to greater than 300 m depth. Drill the five highest priority drill targets outlined by 1998 and 1999 geophysical surveys in order to verify the results made by Voyager in their 1964 drilling.

2. **Ni-PGE.** The Moss Lake intersections in the “Dexter Lake Grid” area should be duplicated.

3. **Au.** The Fiset and Noranda gold showings should be systematically evaluated.

4. **Property Work.** On the entire property, use GPS surveying techniques to accurately place landmarks, outcrop areas and drill hole collars on a metric base map. Geologically map the property and continue with a field compilation by one individual and derive a geological legend using current terminology for komatiites, volcanics and their fragmental equivalents. The property should be prospected in detail, using the compilation as a base map. Available core should be located and relogged. The recent work of Houle et. al., (2008) should be incorporated.

5. **Geochemistry:** Use existing lithogeochemical data and a lithogeochemical survey to delineate sodium depletion halos and contour copper, potassium, manganese, magnesium, lead, zinc, silver and sodium values. These analyses should outline alteration signatures peripheral to sulfides at the Voyager Showing and point to additional sulfide bodies. Chemical analyses and trace elements analyses should be plotted on various plots to understand the mineralizing systems. The vent tracing technique developed by Barrie (2005) should be used where graphitic units have been encountered.

6. **Further drilling:** A Phase II drill program should be carried out contingent on the results of Phase I.
22.2 Exploration Program and Budget

Work to date will be complimented by a $452,000 program, to consist of geological mapping, prospecting, lithogeochemistry, and 2,800 m of diamond drilling.

A second phase of follow up drilling would total $407,800 which would be contingent on the results from Phase I.

Table 3: Zavitz Property

<table>
<thead>
<tr>
<th>Phase</th>
<th>Budget</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line re cutting and chaining 10 km @ $650 /km</td>
<td>650</td>
<td>$6,500</td>
</tr>
<tr>
<td>Rock Geochem, mapping and Sampling</td>
<td></td>
<td>$5,000</td>
</tr>
<tr>
<td>Geophysics Mag-VLF 10 km @ $350/km</td>
<td>350</td>
<td>3500</td>
</tr>
<tr>
<td>Outcrop Stripping 30 hrs.</td>
<td>120</td>
<td>$5,000</td>
</tr>
<tr>
<td>Diamond Drilling 2800 m @ $140/m</td>
<td>140</td>
<td>$392,000</td>
</tr>
<tr>
<td>Supervision, core logging, sawing</td>
<td></td>
<td>$12,000</td>
</tr>
<tr>
<td>Food, transportation</td>
<td></td>
<td>$3,000</td>
</tr>
<tr>
<td>Assays</td>
<td>$15,000</td>
<td></td>
</tr>
<tr>
<td>Final Report, drafting, digitizing</td>
<td></td>
<td>$15,000</td>
</tr>
<tr>
<td><strong>Phase I Total</strong></td>
<td></td>
<td><strong>$457,000</strong></td>
</tr>
</tbody>
</table>

| **Phase II** |        |        |
| Diamond Drilling (2700 m @ $140) | 140 | $378,000 |
| Downhole Geophysics | | $10,000 |
| Geologist, assistant | | $19,800 |
| Food, transportation | | $3,850 |
| Assays | | $3,850 |
| Report, drafting | | $5,500 |
| **Phase II Total** | | **$412,800** |

Total Phase I and II: **$864,800**
23.0 DATE AND SIGNATURE PAGE

As the author of the report on the Zavitz Twp property of Claim Lake Nickel Inc, to which this certificate is attached, I, Ulrich Kretschmar of Orillia, in the Province of Ontario, Canada, hereby certify that:

1. I am a consulting mineral exploration geologist, and have been engaged in the geological profession continuously since graduation. I am familiar with the geology and exploration and evaluation techniques used in Ontario and I am very familiar with the Zavitz Township property of Claim Lake Nickel Inc.

2. I am a university graduate with the following geology degrees. McMaster University: B.Sc. (1966) and M.Sc. (1968); McGill University and University of Toronto; Ph.D. (1973).

3. I have been an elected Fellow of the Geological Association of Canada since 1975 (Membership No. 0270) and an elected Fellow of the Society of Economic Geologists since 1984 and a Member of the Canadian Institute of Mining and Metallurgy since 1984 and that the memberships are in good standing.

4. My knowledge of the Zavitz property geology was acquired by 1) carrying out field work intermittently during 1998-2008, 2) from a study of the publications and information sources cited as described in References of the report to which this certificate is attached and 3) information and reports supplied by Claim Lake Nickel Inc.

5. I am an officer and director of Claim Lake Nickel Inc.


7. I hereby consent to the use of this report to satisfy the requirements of any Securities Commission or Stock Exchange anywhere.

Dated at Orillia, Ontario this 12th day of January, 2009.

Ulrich Kretschmar, Ph.D., P.Geo.
24.0 REFERENCES CITED

24.1 Publications


Bajc, A.F. , 1996: Regional Distribution of gold in till in the Peterlong Lake - Raddisson Lake Area, southern Abitibi subProvince; potential exploration targets;


Ontario Department of Mines, 1973: Map 2205 (digital version, which has been updated in the early 1990s), Timmins-Kirkland Lake Geological Compilation Series, Cochrane, Sudbury and Timiskaming Districts.


References from Houle et al


24.2 Website References

1) Claim Lake Nickel Inc.
www.claimlakenickel.com

2) Cross Lake Minerals Ltd, Sheraton-Timmins Base metal property
www.crosslakeminerals.com

3) Mustang Minerals, Bannockburn Nickel project
www.mustangminerals.com

4) Golden Chalice, Langmuir Nickel Project
www.goldenchaliceresources.com

5) Liberty Mines, Redstone, McWatters, Hart projects
www.libertymines.com

6) Fletcher Nickel, Texmont Nickel Mine
www.fletchernickel.com

7) CSIRO, Australia. Komatiite flow formation animation

25.0 Additional Requirements for Technical Reports On Development Properties and Production Properties

This Item does not apply to the Zavitz Property at this time since it is an exploration property with no known mineral resources.
26.0 Illustrations

Fig. 1: Location of the Zavitz Property
Fig. 2  Regional Geology, Mineral Deposits and Location of Zavitz property.
Fig. 3 - Regional sketch of Abitibi Greenstone Belt. The Zavitz property lies in the western Abitibi greenstone belt east of a N-S line of batholiths separating it from the Swayze belt of similar age (diagram from Butler, 2007)
Fig. 4: Zavitz Property. Compilation of Geology.
Fig. 5 Voyager Showing. Detailed geology.
Fig. 6 Sketch map of 2008 Sample location, Fiset Gold Showing
Fig. 7 Young-Davidson Gold mine, longitudinal section (from www.northgateminerals.com)
Fig. 8 Location of the Bartlett Dome. **Fig 10.1** of Houle et al. 2008
Fig. 9 Simplified Geology of English and Zavitz Twp. Fig. 10.2 of Houle et al (2008).
Fig. 10. Summary of geophysics, Voyager Showing Area.
Zavtz Township

This gold-base metal property has been explored by a number of companies since the discovery of the Voyager showing in 1964. A number of geophysical programs have been undertaken (mag, IP, EM) by Pan Ore Gold Mines, Voyager Exploration, Rio Tinto, Gulf Minerals, Newmont and TBS Resource Developers. Each successive exploration company repeated the previous geophysical programs. The volume of work undertaken would suggest that the first 100-150m has been thoroughly mapped with geophysics and no obvious near surface targets remain undetected.

The main mineralization on the property (Voyager Showing) consists of semi-massive to massive sulphides within altered felsic volcanics. Shallow drilling in 1966 intersected encouraging copper and gold values; 1.3m @ 0.46% Cu, 11.32 pgt Au, 1.46m @ 0.91% Cu, 1.03 gpt Au.

The Quantec IP program completed in February of 1999 provides a further evaluation of the property with a comprehensive interpretation of results. The program deployed a reconnaissance gradient array that provides overall mapping and target detection with Realsection detailed follow-up over specific targets. The Realsection array is a modified hybrid of schlumberger-gradient array soundings that is used to provide a vertical perspective of the target. The survey identified two IP/Resistivity trends associated with and local to the Voyager Showing. Other targets are also indicated but these are of lower priority.
“Quantec estimated that the zones are vertically continuous and may strengthen with depth, although this may be due to their subcropping nature and static-like chargeability response in cross section indicating the Realsection may be exaggerating the vertical extent of mineralization”. I would concur with this observation. The anomaly coincident with the Voyager showing strikes discontinuously for approximately 450m. The stronger portions of this anomaly have been drill-tested. A parallel anomaly located 50-75m to the west, strikes northwest for approximately 550m. This parallel zone does not display a low resistivity signature suggesting a more disseminated target. While this is not at surface a direct ms/Cu-Au target, it may indicate a second horizon that is possibly prospective at depth.

My overall assessment is that there are no obvious Noranda (ms-Cu, Au) targets near surface. My recommendation would be to drill well below the present levels of exploration (>300m) to determine whether mineralization mapped by the two main anomalies improves at depth.
APPENDIX B: Assessment Files consulted

Assessment Files pertaining to work carried out on the current Zavitz property.

<table>
<thead>
<tr>
<th>AFRI File No. Index</th>
<th>TWP, AREA</th>
<th>TYPE OF WORK</th>
<th>DONE BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>42A03SE0027</td>
<td>Hutt, Zavitz, English</td>
<td>Ground Geophysics Physical Work</td>
<td></td>
</tr>
<tr>
<td>42A03SE8442</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42A03SE0187</td>
<td>Zavitz, Voyager Showing</td>
<td>Diamond Drilling Holes 64-1 to 64-7 75 m, 1-10% po in 64-1</td>
<td>Silvermaque, 1964 AA core</td>
</tr>
<tr>
<td>42A03SE0113</td>
<td></td>
<td>IP, mag, VLF-EM</td>
<td>Caven, Barringer Research Ltd. fragment of rept</td>
</tr>
<tr>
<td>42A03SE0165</td>
<td>Zavitz, Allerston Zavitz Property Fiset Showing and Moray Lake anomalies</td>
<td>Drilling AZ 85-1 AZ-85-2</td>
<td>Petromet/Allerston</td>
</tr>
<tr>
<td></td>
<td>T-4335</td>
<td>lithogeochem survey</td>
<td>Moss Resources 1998</td>
</tr>
<tr>
<td>42A03SE0114</td>
<td>Voyager Showing and east to east of Gaylord Lake</td>
<td>Drilling PO-1 to PO-5, geological map 1&quot;=200 ft.</td>
<td>Pan Ore 1973, 1974</td>
</tr>
<tr>
<td>42A03SE0112</td>
<td>Allerston-McIntosh Option</td>
<td>geological map 1&quot;=200' by G.K. Polk</td>
<td>Falconbridge, 1974 G.K. Polk</td>
</tr>
<tr>
<td>42A03SE0174</td>
<td>R&amp; R Option and Dexter Lake, Zavitz Twp</td>
<td>Drilling 9 holes</td>
<td>Rio Tinto Canadian Exploration Ltd. 1976</td>
</tr>
<tr>
<td>42A03SE0176, same #T-170</td>
<td>Allerston Option-Zavitz Twp</td>
<td>Diamond Drilling R-10,11,12; RZ-1, RZ-2.</td>
<td>Rio Tinto Canadian Exploration Ltd. 1977</td>
</tr>
<tr>
<td>Survey Number</td>
<td>Property</td>
<td>Method</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>----------</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>42A03SE0176</td>
<td>Allerton-Zavitz</td>
<td>Diamond Drilling</td>
<td>Z-80-5,6,7</td>
</tr>
<tr>
<td>42A03SE0154</td>
<td>TBS Resource Developers, Zavitz Property</td>
<td>trenching, trench mapping, geology, geophysics</td>
<td>Scale 1:2,500</td>
</tr>
<tr>
<td>63.554 OMIP 89-32 0</td>
<td>Zavitz Property N.T.S. 42a/3</td>
<td>compilation of main Moray lake grid</td>
<td>1:2,500</td>
</tr>
<tr>
<td>42A03SE0020</td>
<td>Hutt, Montrose, Zavitz</td>
<td>Diamond Drilling</td>
<td></td>
</tr>
<tr>
<td>2.19832</td>
<td>Hutt 35, 54 Property Hutt Twp, Redwing L area, 41-P/14</td>
<td>HLEM and mag Surveys Project #8282</td>
<td></td>
</tr>
</tbody>
</table>
**APPENDIX C: Diamond Drill Holes Drilled on the Zavitz Property**

<table>
<thead>
<tr>
<th>Hole No.</th>
<th>Length (m)</th>
<th>Dip</th>
<th>Azimuth</th>
<th>Lithology and Mineralization Encountered</th>
<th>Company, Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P-1</strong></td>
<td>151</td>
<td>-45°</td>
<td>050°</td>
<td>dacite, rhyolite tuff and breccia, diorite, trace sp</td>
<td>Rio Tinto, PanOre, 1975 AQ core</td>
</tr>
<tr>
<td><strong>P-2</strong></td>
<td>191</td>
<td>-50</td>
<td>050°</td>
<td>lapilli tuff, rhyolite tuff, cherty banded tuff, spotted rhyolite,</td>
<td>Rio Tinto, PanOre, 1975 AQ core</td>
</tr>
<tr>
<td><strong>P-3</strong></td>
<td>147</td>
<td>-50°</td>
<td>230°</td>
<td>greywacke, andesite, cherty rhyolite tuff, rhyolite lapilli tuff, trace sp, chalcopyrite</td>
<td>Rio Tinto, PanOre, 1975 AQ core</td>
</tr>
<tr>
<td><strong>P-4</strong></td>
<td>195</td>
<td>-45°</td>
<td>322°</td>
<td>rhyolite breccia and agglomerate contact with andesite, 10 m semi-massive po, py, trace sp, chalcopyrite at contact.</td>
<td>Rio Tinto, PanOre, 1975 AQ core</td>
</tr>
<tr>
<td><strong>P-5</strong></td>
<td>331</td>
<td>-60°</td>
<td>322°</td>
<td>78 m rhyolite breccia, rhyolite tuff, argillite, andesite, ends in syenite Zn up to 0.14% over 1.5 m in argillite</td>
<td>Rio Tinto, PanOre, 1975 AQ core, tops down hole? to test down-dip extension of P-4</td>
</tr>
<tr>
<td><strong>P-6</strong></td>
<td>152</td>
<td>-50°</td>
<td>070°</td>
<td>andesite, rhyolite breccia, rhyolite, andesite</td>
<td>Rio Tinto, PanOre, 1975 AQ core</td>
</tr>
<tr>
<td><strong>Z-80-6</strong></td>
<td>200</td>
<td>-46°</td>
<td></td>
<td>mafic (40.5 m), intermediate (19 m) volcanics, tuff (59 m), lapilli tuff (1.3 m), komatiite (11.3 m), felsic tuff (9.4 m) bedded sericitic sediments (&gt;52 m)</td>
<td>1980 Newmont, Allerston-Zavitz option, NQ re</td>
</tr>
<tr>
<td><strong>Z-80-7</strong></td>
<td></td>
<td></td>
<td></td>
<td>mafic tuff (21 m), graphitic argillite (5.6 m), mafic tuff (25 m) with 3-5% po, py,</td>
<td>1980 Newmont, Allerston-Zavitz, NQ core</td>
</tr>
</tbody>
</table>

**Location: Fiset Gold Showing**
<table>
<thead>
<tr>
<th>Location: Moss “Dexter Lake” Grid</th>
</tr>
</thead>
</table>

**1**
- **Z-80-5**
  - 304
  - -49° 020°
  - 1980 Newmont Allerston-Zavitz, NQ core
- **AZ-85-1**
  - 307
  - -45° 180°
  - PetroMet Allerston Option 1985, NQ core
- **AZ-85-2**
  - 122
  - -45° 000°
  - PetroMet Allerston Option 1985, NQ core

**2**
- **100 m thick rhyolite-dacite and fragmentals with two thin interbedded. komatiitic peridotite flows.**
- **225°**
  - Dacite has disseminated po,bx with 10% py and up to 6% sp from 125-131 m.

**3**
- **mainly peridotitic komatiite, 2.6 m thick banded, massive py, po, sp, galena at 84 m. in “mottled serpentine talc”**
- **253**
  - -50° 225°
  - no rhyolite, dacite or andesite described in hole

**4**
- **dacite, dacite tuff, lapilli tuff, andesite, trace po, sp, chalcopyrite, 8 m rhyolite and rhyolite breccia with trace po, sp, chalcopyrite., 26 m rhyolite and rhyolite bx with sp, po, chalcopyrite; komatiite with 25% po, pn, pyrite.**
- **195**
  - -50° 225°
  - komatiite sequence separates dacite-andesite from rhyolite and rhyolite breccia.

**5**
- **peridotitic komatiites with up to 10% po, pyrite, 14 m rhyolite and chlorite altered rhyolite, 78 m thick komatiite sequence, dacite agglomerate**
- **152**
  - -50° 045°
<table>
<thead>
<tr>
<th>No.</th>
<th>Depth (m)</th>
<th>Azimuth (°)</th>
<th>Dip (°)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>91</td>
<td>-45°</td>
<td>045°</td>
<td>peridotitic komatiites, 2-4% nickeliferous po, po, pyrite,</td>
</tr>
<tr>
<td>7</td>
<td>143</td>
<td>-70°</td>
<td>045°</td>
<td>komatiitic flow sequence &gt; 140 m thick. 1.8 m thick altered tuff. Up to 10% nickeliferous po, pn, pyrite,</td>
</tr>
<tr>
<td>8</td>
<td>106</td>
<td>-50°</td>
<td>225°</td>
<td>to test EM-17 anomaly komatiite sequence, intersected contact with dacite at 86.6 m</td>
</tr>
<tr>
<td>9</td>
<td>377</td>
<td>-45°</td>
<td>045°</td>
<td>12 m chlorite altered rhyolite and rhyolite breccia, trace sp; thick komatiitic dunite and peridotite sequence with disseminated and interstitial po, chalcopyrite up to 15% over several meters.</td>
</tr>
<tr>
<td>10</td>
<td>432</td>
<td>-60°</td>
<td>045°</td>
<td>432 m of rhyolite, dacite, and fragmental equivalents, with two komatiitic peridotite sequences (23 and 50 m thick) interbedded. Rhyolite fragments in chloritic matrix. Dissem. sp. Peridotite with 5-10% dissem. po, pyrite.</td>
</tr>
<tr>
<td>R-11</td>
<td>319</td>
<td>-45°</td>
<td>050°</td>
<td>93 m komatiite incl. 50 cm 20% pentlandite blebs, 125 m rhyolite, fragmental and altered equivalents including two beds of 10% disseminated sp, pyrite.</td>
</tr>
<tr>
<td>R-12</td>
<td>121</td>
<td>-45°</td>
<td>180°</td>
<td>71 m komatiite, 50 m dacite and rhyolite and fragmental equivalents, cherty and graphitic tuff with trace sp, up to 3 m thick.</td>
</tr>
<tr>
<td>72589-0</td>
<td>200</td>
<td>-45°</td>
<td>196°</td>
<td>28 m dacite, 46 m komatiite, 8 m rhyolite lapilli tuff, 74 m komatiite</td>
</tr>
<tr>
<td>RZ-1</td>
<td>152</td>
<td>-45°</td>
<td>205°</td>
<td>14 m komatiite, 134 m rhyolite, dacite and fragmental equivalents, cherty tuff with po, 5 beds of up to 40% po, pyrite, tr chalcopyrite; two (1 m and 3 m) komatiites interbedded. Ends in altered dacite agglomerate.</td>
</tr>
</tbody>
</table>

**Location: South of Moray Lake**
<table>
<thead>
<tr>
<th>Location: NW of Core Group, Moss Zavitz Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Z98-1</strong></td>
</tr>
<tr>
<td><strong>Z98-2</strong></td>
</tr>
<tr>
<td><strong>Z98-3</strong></td>
</tr>
<tr>
<td><strong>Z98-4</strong></td>
</tr>
<tr>
<td>Core</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Z98-5</td>
</tr>
<tr>
<td>Z98-6</td>
</tr>
</tbody>
</table>
APPENDIX D: GPS Waypoints on the Zavitz property.


<table>
<thead>
<tr>
<th>Waypoint</th>
<th>Easting</th>
<th>Northing</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>493550</td>
<td>5318446</td>
<td>Moss-Tremblay Ni showing</td>
</tr>
</tbody>
</table>

Zavitz and Hincks Township, Fiset Gold Showing

NAD 83, UTM Zone 17 U

<table>
<thead>
<tr>
<th>WayPoint</th>
<th>Easting</th>
<th>Northing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiset Gold</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>587</td>
<td>493385</td>
<td>5319792</td>
<td>Fiset Gold</td>
</tr>
<tr>
<td>586</td>
<td>493390</td>
<td>5319823</td>
<td>L125E/22+25N</td>
</tr>
<tr>
<td>585</td>
<td>493492</td>
<td>5319893</td>
<td>S edge of S hole</td>
</tr>
<tr>
<td>584</td>
<td>493490</td>
<td>5319912</td>
<td>west edge of trench</td>
</tr>
<tr>
<td>583</td>
<td>493555</td>
<td>5320019</td>
<td>edge of swamp</td>
</tr>
<tr>
<td>582</td>
<td>493542</td>
<td>5319991</td>
<td>next picket to N, edge of swamp</td>
</tr>
<tr>
<td>581</td>
<td>493535</td>
<td>5319970</td>
<td>next picket to N</td>
</tr>
<tr>
<td>580</td>
<td>493528</td>
<td>5319944</td>
<td>23N top of esker</td>
</tr>
<tr>
<td>579</td>
<td>493524</td>
<td>5319932</td>
<td>L26E/23+75 N</td>
</tr>
<tr>
<td>578</td>
<td>493504</td>
<td>5319876</td>
<td>picket close to DH</td>
</tr>
<tr>
<td>577</td>
<td>493479</td>
<td>5319832</td>
<td>DH making water, az 025/-45</td>
</tr>
<tr>
<td>615</td>
<td>495543</td>
<td>5319554</td>
<td>top of hill, Hincks Twp</td>
</tr>
<tr>
<td>614</td>
<td>495543</td>
<td>5319554</td>
<td>base of hill at road, massive basalt, whole rock sample</td>
</tr>
<tr>
<td>613</td>
<td>493476</td>
<td>5319804</td>
<td>middle of new trench, Fsy Whole Rock sample</td>
</tr>
<tr>
<td>612</td>
<td>493487</td>
<td>5139843</td>
<td>Houle location 08-MGH-003</td>
</tr>
<tr>
<td>611</td>
<td>493890</td>
<td>5318813</td>
<td>new outcrop, komatiite</td>
</tr>
<tr>
<td>610</td>
<td>493061</td>
<td>5317891</td>
<td></td>
</tr>
</tbody>
</table>