

# NI 43-101 INDEPENDENT TECHNICAL REPORT

## NORTH LIMB PROPERTY

Marathon, Ontario

NTS Map Sheets 42/C12, 42/C13, 42/D09, 42/D16
Property centered on UTM Zone 16 (NAD83) 585,000mE, 5,407,000mN

Prepared For:

#### Canadian Orebodies Inc.

141 Adelaide St. W. Suite 301 Toronto, ON M5H 3L5

Tel: 416 644-1747

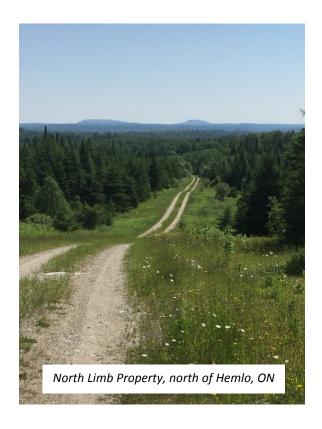
Effective Date: December 21, 2016

Prepared by:

Neil T. Pettigrew, M.Sc., P.Geo. Lesley A. Weston, M.Sc., Ph.D., P.Geo.

#### **Fladgate Exploration Consulting Corporation**

1158 Russell Street, Suite D Thunder Bay, Ontario, Canada P7B 5N2





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#### 1 Summary

#### **Property Description and Ownership**

Fladgate Exploration Consulting Corporation ("Fladgate") has been retained to produce a 43-101 compliant technical report on the North Limb Property, which is wholly-owned by Canadian Orebodies Inc. ("Canadian Orebodies"). The North Limb Property is located 45 km northeast of the town of Marathon, Ontario, and only 17 km northeast of Barrick's gold-producing mine at Hemlo, Ontario. The property covers the northern extension of the Heron Bay-Hemlo greenstone belt, and as such it has attracted almost 60 years of exploration, including geophysical and geochemistry surveys, geological mapping, diamond drilling, and many small prospecting programs. With the newly-formed North Limb Property, Canadian Orebodies has consolidated this historically fragmented ground into a larger land package, covering over 6300 hectares.

The purpose of the present 43-101 Technical Report is to compile the historical information across all 37 claims, highlighting significant showings reported in the literature, and report on the current exploration activities undertaken by Canadian Orebodies, namely a prospecting program including grab and soil samples, as well as a helicopter-borne versatile time domain electromagnetic (VTEM<sup>TM</sup>max) and aeromagnetic geophysical survey performed by Geotech Ltd.

#### **Geology and Mineralization**

The North Limb claims cover the northern extent of the Heron Bay-Hemlo greenstone belt in the Wawa Subprovince of the Archean-aged Canadian Shield. Mafic and intermediate metavolcanics and associated metasediments form an arcuate-shaped antiform, having been squeezed together and folded by successive felsic intrusions to the northwest and southeast. The Heron Bay-Hemlo greenstone belt is host to the Hemlo gold deposit to the southwest, and there are indications that the North Limb Property contains similar porphyritic host rocks and exotic mineralization, similar to the unique Hemlo assemblage. The dominant exploration target for North Limb is similar Hemlo-type gold mineralization, within 'greenstone' mafic volcanics and metasediments. Previous exploration has encountered extensive alteration conducive to gold and VMS-style mineralization, as well as local indications of potential copper-nickel-PGE mineralization.

#### Status of Exploration, Development and Operations, Mineral Resource and Reserve Estimates

There has been no mineral resource or reserve estimate for any portion of the consolidated 37 claims making up the North Limb Property, both currently and historically, to the knowledge of the Authors. There has also been no mine development or operations on any portion of the property. Both current and historic exploration activities across the property have been early-stage. The present Technical Report covers prospecting activities from June 22 until July 3, 2016, a site visit by the first Author between August 15<sup>th</sup> and 16<sup>th</sup>, 2016, and a helicopter-borne geophysical survey flown across most of the property between October 19<sup>th</sup> and November 9<sup>th</sup>, 2016.

#### **Qualified Person's Conclusions and Recommendations**

Neil Pettigrew, M.Sc. P.Geo. of Fladgate is the qualified person "QP" for this report. While the property has seen a great deal of historic exploration, the vast majority has been small-scale 'grassroots' style programs and minor drill programs with very few anomalous occurrences of Au, VMS, and Ni-PGE mineralization, either in grab samples or



drill intercepts. The property has been highly fragmented until a recent consolidation by Canadian Orebodies in May 2016. This has allowed a more systematic regional approach for future exploration programs, and greater potential to correlate information across the entire greenstone belt.

Previous exploration has encountered extensive alteration conducive to gold and VMS-style mineralization, as well as local indications of potential copper-nickel-PGE mineralization. Thus far, with the exception of the 'Valley Boulder' erratic, most historic gold showings and drill intercepts have not produced anything significant (see Section 7.2 for a review of significant showings/mineralization). VMS-style mineralization has also been scattered and anomalous, with local moderate copper and zinc grades. However, the degree and extent of favorable alteration and the proximity to both the Hemlo gold and Manitouwadge VMS camps, leaves open the possibility that ore grade mineralization is yet to be found in this newly consolidated land package.

The QP recommends a two-phase program. Phase 1 would consist of a) comprehensive compilation of historical data, b) structural re-interpretation of the northern Heron Bay-Hemlo greenstone belt using the recently flown helicopter-borne survey, c) generating new target areas from the re-interpreted geophysical data, and d) ground-truthing the new targets to prioritize prospective zones. Assuming that ground-truthing of the new structural interpretation validates the target areas, Phase 2 should consist of a drill program testing the new target areas.

#### 2 Introduction

#### 2.1 Issuer for Whom the Technical Report is Written

Fladgate Exploration Consulting Corporation ("Fladgate") was engaged by Canadian Orebodies Inc. ("Canadian Orebodies") to review the North Limb Property near Marathon, ON, and prepare an independent Technical Report compliant with National Instrument 43-101, companion policy NI 43-101CP and Form 43-101F. Fladgate is independent from Canadian Orebodies in accordance to Section 1.5 of NI 43-101 Companion Policy.

Canadian Orebodies Inc. is a Canadian-based junior natural resource exploration and development company with a number of mineral properties located in Ontario and Nunavut. More on the portfolio of this company can be found on their website: <a href="https://www.canadianorebodies.com">www.canadianorebodies.com</a>.

Fladgate Exploration Consulting Corporation ("Fladgate") is an international consulting company based in Thunder Bay, Ontario, Canada. Fladgate provides a wide range of geological and exploration services to the mineral and energy industries. With offices in Thunder Bay, Ontario, Vancouver, British Columbia, and Vallenar, Chile, Fladgate is well-positioned to service its client base. Fladgate's mandate is to provide professional, geological, and exploration services to the mineral and energy industries at competitive rates and without compromise. Fladgate's professionals have international experience in a variety of disciplines with services that include:

- Exploration Project Generation, Design, Implementation and Management
- Data Compilation and Exploration Target Generation
- Property Evaluation and Due Diligence Studies
- Independent, NI 43-101 Compliant, Technical Report Writing



- Mineral Resource Modeling and Estimation
- 3D Geological Modeling and Database Management
- Polished Thin Section Analysis by petrographic microscope and Scanning Electron Microscope

The Qualified Person and Author for this report is Neil Pettigrew, M.Sc., P.Geo. A second Author for this report is Lesley Weston, M.Sc., Ph.D., P.Geo. The Authors' Statements of Qualification can be found in Appendix 1.

#### 2.2 Terms of Reference and Units and Purpose of the Technical Report

The purpose of this Technical Report is to describe the property, compile existing and current exploration data on the North Limb Property, highlight any significant historic showings and workings, verify the extent and results of current work, and to recommend work for the future.

This report is intended for use by Canadian Orebodies to file as a NI 43-101 Technical Report with the Canadian Securities Regulatory Authorities, pursuant to provincial securities legislation. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at the party's sole risk.

The Metric System or SI System is the primary system of measure and length used in this report and is generally expressed in kilometers, meters and centimeters; volume is expressed as cubic meters, mass expressed as metric tonnes, area as hectares, and zinc, copper and lead grades as percent (%) or parts per million (ppm). The precious metal grades (such as gold) are generally expressed as grams/tonne (g/t) but may also be in parts per billion (ppb) or parts per million (ppm).

Conversions from the SI or Metric System to the Imperial System are provided below and quoted where practical. Many of the geologic publications and more recent work assessment files now use the SI system but older work assessment files almost exclusively refer to the Imperial System. Metals and minerals acronyms in this report conform to mineral industry accepted usage and the reader is directed to an online source at <a href="https://www.bgs.ac.uk/scmr/docs/papers/paper 12.pdf">https://www.bgs.ac.uk/scmr/docs/papers/paper 12.pdf</a>.

Table 1 – Glossary of Terms

Term	Meaning	Term	Meaning
AEM	Airborne Electromagnetic	Na	sodium
Ag	Silver	Na₂O	sodium oxide
Al	Aluminum	NAD 83	North American Datum of 1983
Al <sub>2</sub> O <sub>3</sub>	aluminum oxide	NE	northeast
AW	apparent width	NI	National Instrument
As	Arsenic	Ni	nickel
Au	Gold	NSR	net smelter return
Ва	Barium	NTS	National Topographic System
Ве	Beryllium	OGS	Ontario Geological Survey
Bi	Bismuth	Р	phosphorous
С	carbon dioxide	P <sub>2</sub> O <sub>5</sub>	phosphorous oxide
Ca	Calcium	Pb	lead
CaO	calcium oxide	Pd	palladium
Cd	Cadmium	pH	acidity
Со	Cobalt	Pt	platinum
CO <sub>2</sub>	carbon dioxide	QA/QC	Quality Assurance/Quality Control



Cr	Chromium	S	south
Cr <sub>2</sub> O <sub>3</sub>	chromium oxide	S	sulfur
Cu	Copper	Sb	antimony
DDH	diamond drill hole	SE	southeast
DW	drilled width	Se	selenium
E	East	SiO <sub>2</sub>	silicon oxide
EM	electromagnetic	Sn	tin
Fe	Iron	SO <sub>2</sub>	sulfur dioxide
Fe <sub>2</sub> O <sub>3</sub>	iron oxide (ferric oxide-hematite)	Sr	strontium
Fe <sub>3</sub> O <sub>4</sub>	iron oxide (ferrous oxide-magnetite)	Sum	summation
HLEM	horizontal loop electromagnetic	SW	southwest
H <sub>2</sub> O	hydrogen oxide (water)	Ti	titanium
IP	induced polarization	TiO <sub>2</sub>	titanium oxide
K	Potassium	TI	thallium
K <sub>2</sub> O	potassium oxide	TW	true width
Li	Lithium	U	uranium
LOI	loss on ignition (total H <sub>2</sub> O, CO <sub>2</sub> and SO <sub>2</sub> content)	U <sub>3</sub> O <sub>8</sub>	uranium oxide (yellowcake)
Mg	Magnesium	UTM	Universal Transverse Mercator
MgO	magnesium oxide	V	vanadium
Mn	Manganese	V <sub>2</sub> O <sub>5</sub>	vanadium oxide
MNDMF	Ministry of Northern Development, Mines and Forestry	VLF	very low frequency
MnO	manganese oxide	VLF-EM	very low frequency-electromagnetic
Мо	Molybdenum	W	west
Mt	millions of tonnes	Υ	yttrium
N	North	Zn	zinc
NW	northwest		

Table 2 – Units of Measure

Units of Measure	Abbreviation	Units of Measure	Abbreviation
Above mean sea level	amsl	Litre	L
Ampere	Α	Litres per minute	L/m
Annum (year)	а	Megabytes per second	Mb/s
Billion years ago	Ga	Megapascal	MPa
British thermal unit	Btu	Megavolt-ampere	MVA
Candela	cd	Megawatt	MW
Carat	ct	Metre	m
Carats per hundred tonnes	cpht	Metres above sea level	masl
Carats per tonne	cpt	Metres per minute	m/min
Centimetre	cm	Metres per second	m/s
Cubic centimetre	cm <sup>3</sup>	Metric ton (tonne)	t
Cubic feet per second	ft <sup>3</sup> /s or cfs	Micrometre (micron)	μm
Cubic foot	ft <sup>3</sup>	Microsiemens (electrical)	μς
Cubic inch	in <sup>3</sup>	Miles per hour	mph
Cubic metre	m <sup>3</sup>	Milliamperes	mA
Cubic yard	yd <sup>3</sup>	Milligram	mg
Day	d	Milligrams per litre	mg/L
Days per week	d/wk	Millilitre	mL
Days per year (annum)	d/a	Millimetre	mm
Dead weight tonnes	DWT	Million	M
Decibel adjusted	dBa	Million tonnes	Mt
Decibel	dB	Minute (plane angle)	1
Degree	۰	Minute (time)	min



Units of Measure	Abbreviation	Units of Measure	Abbreviation
Degrees Celcius	°C	Month	mo
Degrees Fahrenheit	°F	Newton	N
Diameter	ø	Newtons per metre	N/m
Dry metric ton	dmt	Ohm (electrical)	Ω
Foot	ft	Ounce	OZ
Gallon	gal	Parts per billion	ppb
Gallons per minute (US)	gpm	Parts per million	ppm
Gigajoule	GJ	Pascal	Pa
Gram	g	Pascals per second	Pa/s
Grams per litre	g/L	Percent	%
Grams per tonne	g/t	Percent moisture (relative humidity)	% RH
Greater than	>	Phase (electrical)	Ph
Hectare (10,000 m2)	ha	Pound(s)	lb
Hertz	Hz	Pounds per square inch	psi
Horsepower	hp	Power factor	pF
Hour	h (not hr)	Quart	qt
Hours per day	h/d	Revolutions per minute	rpm
Hours per week	h/wk	Second (plane angle)	"
Hours per year	h/a	Second (time)	S
Inch	"(symbol, not ")	Short ton (2,000 lb)	st
Joule	J	Short ton (US)	t
Joules per kilowatt-hour	J/kWh	Short tons per day (US)	tpd
Kelvin	K	Short tons per hour (US)	tph
Kilo (thousand)	k	Short tons per year (US)	tpy
Kilocalorie	kcal	Specific gravity	SG
Kilogram	kg	Square centimetre	cm <sup>2</sup>
Kilograms per cubic metre	kg/m <sup>3</sup>	Square foot	ft <sup>2</sup>
Kilograms per hour	kg/h	Square inch	in <sup>2</sup>
Kilograms per square metre	kg/m <sup>2</sup>	Square kilometre	km²
Kilojoule	kJ	Square metre	m <sup>2</sup>
Kilometre	km	Thousand tonnes	kt
Kilometres per hour	km/h	Tonne (1,000kg)	t
Kilonewton	kN	Tonnes per day	t/d
Kilopascal	kPa	Tonnes per hour	t/h
Kilovolt	kV	Tonnes per year	t/a
Kilovolt-ampere	kVA	Total dissolved solids	TDS
Kilovolts	kV	Total suspended solids	TSS
Kilowatt	kW	Volt	V
Kilowatt hour	kWh	Week	wk
Kilowatt hours per short ton (US)	kWh/st	Weight/weight	w/w
Kilowatt hours per tonne (metric ton)	kWh/t	Wet metric ton	wmt
Kilowatt hours per year	kWh/a	Yard	yd
Kilowatts adjusted for motor efficiency	kWe	Year (annum)	a
Less than	<	Year	yr

The term gram/tonne (g/t) is expressed as "gram per tonne" where 1 gram/tonne = 1 ppm (part per million) = 1000 ppb (part per billion). Other abbreviations include ppb = parts per billion; ppm = parts per million; oz/t = ounce per short ton; Moz = million ounces; Mt = million tonnes; t = tonne (1000 kilograms); SG = specific gravity; lb/t = pound/ton; and st = short ton (2000 pounds).



Dollars are expressed in Canadian currency (CAD\$) unless otherwise noted. Base and certain industrial metal and mineral prices are stated as US\$ per tonne (US\$/t), precious metal prices are stated in US\$ per troy ounce (US\$/oz) and Uranium and certain industrial metal and mineral prices are stated in US\$ per pound (US\$/lb).

Unless otherwise noted, Universal Transverse Mercator ("UTM") coordinates are provided in the datum of NAD83 Zone 16 North.

#### 2.3 Sources of Information and Data

In this report, the Authors have relied in part upon descriptive material from government and academic sources that are relevant to the North Limb Property. This report and recommendations are based on the following data:

- Geological information and historical exploration data from the Open File Assessment Reports filed with the Ontario Ministry of Northern Development and Mines (MNDM),
- Site visit by the Qualified Person on August 15<sup>th</sup> and 16<sup>th</sup>, 2016,
- Prospecting activities carried out by Fladgate personnel from June 22 until July 3, 2016,
- Geotech Ltd. helicopter-borne VTEM<sup>TM</sup>max electromagnetic and aeromagnetic geophysical survey flown October 19<sup>th</sup> to November 9<sup>th</sup>, 2016, and
- Academic literature listed in the References section of this report.

#### 2.4 Details of the Personal Inspection on the Property by the Qualified Person

The Qualified Person ("QP") for this report (Neil Pettigrew) visited the North Limb Property on August 15<sup>th</sup> and 16<sup>th</sup>, 2016. The QP located the No. 4 and No. 2 corner posts of claims 4283458 and 4279975 and found them to be in good order. They were located within reason of where they were recorded, according to the Ontario Ministry of Northern Development and Mines. The QP attempted to locate drill hole collars from holes Q97-3, Q97-4, and Q97-5 from the 1997 Battle Mountain drill program on the Lunny Lake Property, however no drill collars were found. The QP located one possible drill pad from that time period.

The QP also visited and sampled the "Valley Boulder" in the far southwest corner of the Black River-Valley portion of the North Limb Property. A 1 kg sample of this boulder was analysed by ALS Chemex (in Thunder Bay, ON and Vancouver, BC) for gold and >40 trace elements. The gold analysis was done by Fire Assay and Atomic Absorption Spectroscopy (AAS), while the trace elements were analysed by digesting the prepared pulp in a 4-acid solution and analysing by ICP-MS. Historically, this boulder returned up to 11 g/t Au, and was reported to contain abundant arsenopyrite mineralization (personal communication G. McKinnon – Canadian Orebodies). The 1 kg sample assayed from the QP visit in August 2016 returned 6.54 g/t Au and >1% arsenic, consistent with historical assays and also samples taken by Fladgate prospectors as part of the June-July 2016 prospecting program, which returned up to 3.17 g/t Au, and 0.53% arsenic. The assay certificate for the QP sample of the "Valley Boulder" can be found in Appendix 2. The grade of this 'erratic' boulder has decreased over time, due to the finite amount of material remaining at site, and a consequence of sampling the highest grade material first, based on visual inspection and mineralization. Historic re-sampling of this relatively high-grade boulder has reduced it to a pile of rubble (Figure 1). During the QP visit, it was observed that the boulder was lying in fine-grained silty sand along with other exotic



boulders, which is consistent with the observations by Fladgate's prospectors in June-July 2016. The boulder is interpreted to have been deposited as a 'dropstone' in a glacial lake, which makes determining its source difficult. One could trace the general direction of glacial movement at the time of the last major glaciation in the area and prospect to the north, presumably where it originated. How far north is not known, as it could be up to 100's of km. One could also look for occurrences of arsenopyrite from gold-bearing systems to the north of the property, as this element is associated with the mineralization of the "Valley Boulder" and could be used as a "fingerprint" element.



Figure 1 – Remnants of the "Valley Boulder", which has been reduced to a pile of rubble with successive sampling.

## 3 Reliance on Other Experts

Some relevant information on the property presented in this report is based on data derived from reports written by geologists and/or engineers, whose professional status may or may not be known in relation to the NI 43-101 definition of a Qualified Person. Fladgate has made every attempt to accurately convey the content of those files, but cannot guarantee either the accuracy or validity of the work. However, Fladgate believes that these reports were written with the objective of presenting the results of the work performed without any promotional or misleading intent. In this sense, the information presented should be considered reliable, unless otherwise stated, and may be used without any prejudice by Canadian Orebodies Inc.

A very comprehensive Technical Report was written on a portion of the North Limb Property, in the Lunny Lake Area by B. J. Price (P.Geo. BC) in 2008 for Silk Road Resources (see References for complete citation). Due to the overlap in regional geology and descriptions for the Hemlo deposit located to the southwest, we have relied upon



this report for those sections, which are also well-documented in the academic literature, by Shoula Lin (Economic Geology, vol. 94, 2001).

The helicopter-borne VTEM<sup>TM</sup>max geophysical survey was flown between October 19<sup>th</sup> and November 9<sup>th</sup>, 2016, and the ensuing report prepared by Geotech Ltd. contains geophysical data and results. The Qualified Person for the current Technical Report has relied on the technical knowledge of Geotech for their expert interpretation of this geophysical data, and the QP has not performed an independent analysis of the raw data. The QP has performed a review of their methods and has studied the report for any questionable results.

#### 4 Property Description and Location

#### 4.1 Location and Area of the Property

The North Limb Property is located northeast of Lake Superior, within the Wawa Subprovince in Ontario, Canada (Figure 2). The property has also the past been referred to as the Wabikoba Property. The property is situated roughly 45 km northeast of the town of Marathon, Ontario, and only 17 km northeast of the producing gold mine at Hemlo (Figure 3). The town of Manitouwadge (population 2100) is 35 km north of the property along a well-maintained rural highway (Hwy 614). The center of the property lies at UTM (NAD83 Zone 16) 585,000 mE and 5,407,000 mN. The North Limb Property covers an area of ~6300 hectares.

The town of Marathon (population ~3300) is approximately 350 km east of Thunder Bay, Ontario (population ~110,000) along Trans-Canada Hwy 17. Thunder Bay is serviced by many airlines, with daily flights to major cities in Canada such as Toronto and Winnipeg, allowing easy connections to other Canadian cities and international destinations.



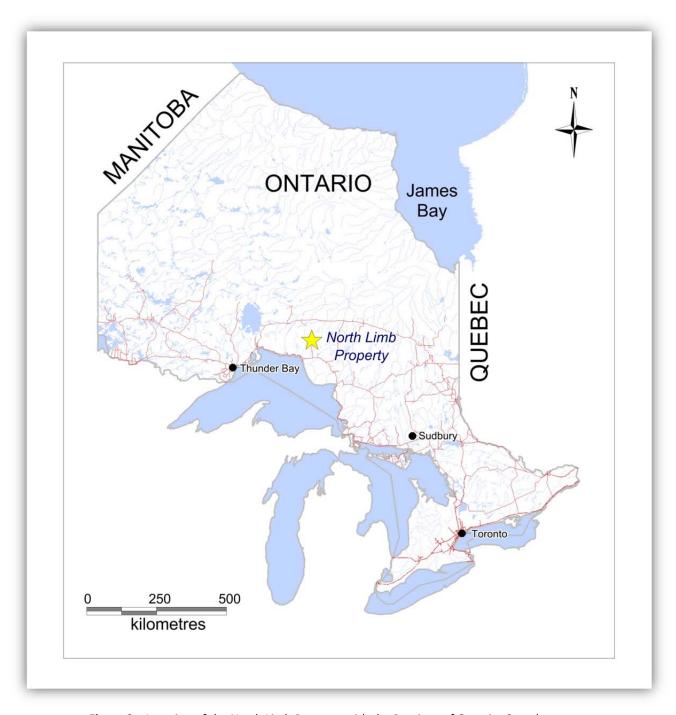


Figure 2 – Location of the North Limb Property with the Province of Ontario, Canada.



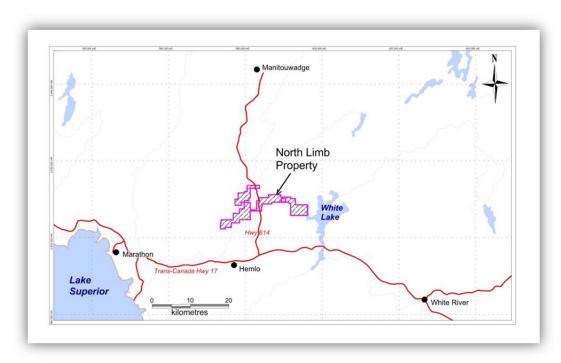


Figure 3 - Location Map of the North Limb Property, Ontario, Canada

#### 4.2 Mineral Tenure

The North Limb Property is comprised of 37 unpatented claims totaling 398 units (Figure 4). The claims in the Thunder Bay Mining Division are 100% owned by Canadian Orebodies Inc. For ease of description in the current study, the property has been subdivided into 4 regions, based on geographical location: 'Northwest', 'Black River-Valley', 'Lunny Lake', and 'Theresa Lake' Areas (see purple, green, yellow, and red sections in Figure 4). The property boundaries were located by GPS using the corners of each of the outermost claims.

There are no leases or patents within the property, however there are three discrete alienations, to which surface and mining rights apply (shown as orange areas in Figure 4). As such, these areas are removed from the overall mineral rights of the property. A major rectangular-shaped alienation set aside for aggregate operations is found within the "Northwest" area, within claims 4279978 and 4279979. There are also 2 small alienations within the "Theresa Lake" area, on the eastern side of the North Limb Property, within claim 4279962. The alienation areas have not been subtracted from the overall area of the North Limb Property. A full list of claims is found in Table 3.



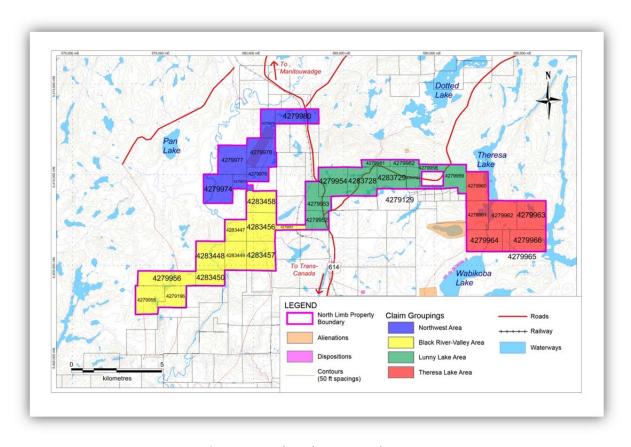


Figure 4 - North Limb Property Claim Map

Table 3 - North Limb Property List of Claims

Claim Number	Township / Area	Units	Date Recorded	Date Due	Work Required	Ownership
4257361 <sup>‡</sup>	WABIKOBA LAKE AREA	1	2016-Aug-25	2018-Aug-25	\$400	Canadian Orebodies Inc. (100%)
4279129*	WABIKOBA LAKE AREA	2	2015-May-05	2017-May-05	\$800	Canadian Orebodies Inc. (100%)
4279196*	WABIKOBA LAKE AREA	10	2015-Mar-24	2017-Mar-24	\$4,000	Canadian Orebodies Inc. (100%)
4279951 <sup>‡</sup>	WABIKOBA LAKE AREA	3	2016-Jun-13	2018-Jun-13	\$1,200	Canadian Orebodies Inc. (100%)
4279952 <sup>‡</sup>	WABIKOBA LAKE AREA	10	2016-Jun-13	2018-Jun-13	\$4,000	Canadian Orebodies Inc. (100%)
4279953 <sup>‡</sup>	WABIKOBA LAKE AREA	12	2016-Jun-13	2018-Jun-13	\$4,800	Canadian Orebodies Inc. (100%)
4279954 <sup>‡</sup>	WABIKOBA LAKE AREA	16	2016-Jun-13	2018-Jun-13	\$6,400	Canadian Orebodies Inc. (100%)
4279955 <sup>‡</sup>	WABIKOBA LAKE AREA	16	2016-Jun-13	2018-Jun-13	\$6,400	Canadian Orebodies Inc. (100%)
4279956 <sup>‡</sup>	WABIKOBA LAKE AREA	14	2016-Jun-13	2018-Jun-13	\$5,600	Canadian Orebodies Inc. (100%)
4279958 <sup>‡</sup>	WABIKOBA LAKE AREA	4	2016-Jun-13	2018-Jun-13	\$1,600	Canadian Orebodies Inc. (100%)
4279959 <sup>‡</sup>	WHITE LAKE AREA	12	2016-Jun-13	2018-Jun-13	\$4,800	Canadian Orebodies Inc. (100%)
4279960 <sup>‡</sup>	WHITE LAKE AREA	12	2016-Jun-13	2018-Jun-13	\$4,800	Canadian Orebodies Inc. (100%)
4279961 <sup>‡</sup>	WHITE LAKE AREA	12	2016-Jun-13	2018-Jun-13	\$4,800	Canadian Orebodies Inc. (100%)



Claim Number	Township / Area	Units	Date Recorded	Date Due	Work Required	Ownership
4279962 <sup>‡</sup>	WHITE LAKE AREA	16	2016-Jun-13	2018-Jun-13	\$6,400	Canadian Orebodies Inc. (100%)
4279963 <sup>‡</sup>	WHITE LAKE AREA	16	2016-Jun-13	2018-Jun-13	\$6,400	Canadian Orebodies Inc. (100%)
4279964 <sup>‡</sup>	WHITE LAKE AREA	15	2016-Jun-13	2018-Jun-13	\$6,000	Canadian Orebodies Inc. (100%)
4279965 <sup>‡</sup>	WHITE LAKE AREA	3	2016-Jun-13	2018-Jun-13	\$1,200	Canadian Orebodies Inc. (100%)
4279966 <sup>‡</sup>	WHITE LAKE AREA	15	2016-Jun-13	2018-Jun-13	\$6,000	Canadian Orebodies Inc. (100%)
4279974 <sup>‡</sup>	WABIKOBA LAKE AREA	16	2016-Jul-20	2018-Jul-20	\$6,400	Canadian Orebodies Inc. (100%)
4279975 <sup>‡</sup>	WABIKOBA LAKE AREA	4	2016-Jul-20	2018-Jul-20	\$1,600	Canadian Orebodies Inc. (100%)
4279976 <sup>‡</sup>	WABIKOBA LAKE AREA	6	2016-Jul-20	2018-Jul-20	\$2,400	Canadian Orebodies Inc. (100%)
4279977 <sup>‡</sup>	WABIKOBA LAKE AREA	16	2016-Jul-20	2018-Jul-20	\$6,400	Canadian Orebodies Inc. (100%)
4279978 <sup>‡</sup>	WABIKOBA LAKE AREA	16	2016-Jul-20	2018-Jul-20	\$6,400	Canadian Orebodies Inc. (100%)
4279979 <sup>‡</sup>	WABIKOBA LAKE AREA	8	2016-Jul-20	2018-Jul-20	\$3,200	Canadian Orebodies Inc. (100%)
4279980 <sup>‡</sup>	WABIKOBA LAKE AREA	12	2016-Jul-20	2018-Jul-20	\$4,800	Canadian Orebodies Inc. (100%)
4279981 <sup>‡</sup>	WABIKOBA LAKE AREA	4	2016-Jul-20	2018-Jul-20	\$1,600	Canadian Orebodies Inc. (100%)
4279982 <sup>‡</sup>	WABIKOBA LAKE AREA	4	2016-Jul-20	2018-Jul-20	\$1,600	Canadian Orebodies Inc. (100%)
4283447*	WABIKOBA LAKE AREA	9	2015-Jan-15	2017-Jan-15	\$3,600	Canadian Orebodies Inc. (100%)
4283448*	WABIKOBA LAKE AREA	16	2015-Jan-15	2017-Jan-15	\$6,400	Canadian Orebodies Inc. (100%)
4283449*	WABIKOBA LAKE AREA	12	2015-Jan-15	2017-Jan-15	\$4,800	Canadian Orebodies Inc. (100%)
4283450*	WABIKOBA LAKE AREA	8	2015-Jan-15	2017-Jan-15	\$3,200	Canadian Orebodies Inc. (100%)
4283456*	WABIKOBA LAKE AREA	16	2015-Jun-19	2017-Jun-19	\$6,400	Canadian Orebodies Inc. (100%)
4283457*	WABIKOBA LAKE AREA	16	2015-Jun-19	2017-Jun-19	\$6,400	Canadian Orebodies Inc. (100%)
4283458*	WABIKOBA LAKE AREA	12	2015-Jun-19	2017-Jun-19	\$4,800	Canadian Orebodies Inc. (100%)
4283728*	WABIKOBA LAKE AREA	16	2014-Dec-15	2016-Dec-15	\$6,400	Canadian Orebodies Inc. (100%)
4283729*	WABIKOBA LAKE AREA	12	2014-Dec-15	2016-Dec-15	\$4,800	Canadian Orebodies Inc. (100%)
4283730*	WABIKOBA LAKE AREA	6	2014-Dec-15	2016-Dec-15	\$2,400	Canadian Orebodies Inc. (100%)

<sup>\*</sup> Permit PR-16-10931 valid from Sept 9, 2016 to Sept 8, 2019.

#### 4.3 Issuer's Title or Interest in the Property

As of May 24, 2016, Canadian Orebodies purchased the Lunny Lake Property from Brian Fowler for \$10,000 CDN and 200,000 common shares in Canadian Orebodies Inc., along with a net smelter return (NSR) of 1%. The claims included in this deal are 4279129, 4283728, 4283729, and 4283730.

As of May 24, 2016, Canadian Orebodies purchased the Black River and Valley Properties from Brian Fowler and Christian Carl, both of whom owned 50%. The claims included in the Black River Property are 4283447, 4283448, 4283449, 4283450, 4283456, 4283457, and 4283458. The Valley Property involved a single claim, namely 4279196. The purchase agreement was for \$15,000 and 300,000 common shares in Canadian Orebodies Inc., along with a 1% NSR, divided equally between the two sellers.

<sup>‡</sup> Permit PR-16-10963 valid from Oct 21, 2016 to Oct 20, 2019.



All other claims that comprise the North Limb property were acquired by Canadian Orebodies by staking.

#### 4.4 Any other Land Tenure Agreements

There are no other land tenure agreements known to the Authors, in relation to the North Limb Property, as defined by Table 3 and Figure 4.

#### 4.5 Environmental Liabilities

There are no environmental liabilities known to the Authors, in relation to the North Limb Property, as defined by Table 3 and Figure 4.

#### 4.6 Exploration Plans and Permits

On behalf of Canadian Orebodies, Fladgate applied for two Exploration Permits for the North Limb Property. The first permit was issued September 9, 2016 and is valid until September 8, 2019. This permit (PR-16-10931) covers mechanized drilling, mechanized stripping, and line-cutting activities on 12 claims (see footnote to Table 3). The second permit (PR-16-10963) was issued for the 25 remaining claims of the North Limb Property (see footnote to Table 3) on October 21, 2016. This second permit covers the same exploration activities as the first permit, and is valid from October 21, 2016 until October 20, 2019. There are no Exploration Plans for the North Limb Property.

#### 4.7 Any Other Significant Risks Affecting Ability to Perform Work

As of the report date, there have been no other significant risks affecting the ability to work on the North Limb Property. At the time that this report was written, there were no known objections to exploration work by any of the First Nation communities with traditional territory covering the area, and there are no patent/lease holders or surface rights owners on the property. As such, to date, there have been no issues raised that would impede allowable exploration activities as per the permits discussed above.

## 5 Accessibility, Climate, Local Resources, Infrastructure, Physiography

#### 5.1 Topography, Elevation, Vegetation

The North Limb Property is located within the Canadian Shield, which is a major physiographic division of Canada. The property is situated in an area of swamps, small lakes, and low rolling hills, with scattered outcrop. Elevation across the North Limb Property ranges from ~900 ft (275 m) to ~1150 ft (350 m).

The Theresa Lake Area is dominated by a large hill, sloping south at a fairly steep angle. Beaver ponds and cedar swamps border its base and cover much of the balance of the property. The Black River-Valley Area in the southwestern portion of the North Limb Property is typically flat, with scattered bogs, kettle lakes and intermittent creeks with the exception of the west-central portion of the property where steep hills approaching 40 degrees slope down toward Valley Lake and Valley Creek. The Property is covered with a thick secondary growth of birch, balsam fir, black spruce, red cedar and some jack pine and poplar. The underbrush can be very dense with intergrowths of maple, alder, and hazel.



Water for drilling is readily available from small lakes located within the claim block and from two major creeks that transverse the central portion of the Lunny Lake Area. Water is also available on the southwestern portion of the property from Valley Lake and Bucket Lake year round, and also from the small intermittent creeks during high run-off periods.

The abundance of rock exposures vary across the North Limb Property. Some areas outcropping rock is abundant, such as in the northern section of the Theresa Lake Area, while exposure becomes rarer towards the southwest of the Property, near the Black River-Valley Area. Outcrops in this area are found as moss-covered knolls or occasional cliffs. In the southwestern portion of the property, bedrock exposure is confined to two large outcrop areas, one in the west portion and the other in the northeastern portion of the property. Total rock exposure and areas with thin overburden cover comprise only ~10% of the property.

#### 5.2 Means of Access to the Property

The North Limb Property is easily accessed by driving east along Trans-Canada Hwy 17 from Marathon, and driving north along Hwy 614 just beyond Hemlo, traveling towards Manitouwadge. The property is bisected by Hwy 614 after ~13 km. For discussion purposes, the Authors of the current report have subdivided the North Limb Property into four geographical regions, as the property spans ~20 km in width and has an irregular shape (see Figure 4).

The center of the North Limb Property is encountered after driving ~11 km north on Hwy 614 from the Trans-Canada Highway. This point corresponds to the western edge of the "Lunny Lake" Area. The rest of "Lunny Lake" is accessed by driving northeast along a minor gravel logging road, bisecting the group of claims from west to east. The northwestern tip of the "Theresa Lake" Area is encountered after another 5 km. This minor gravel logging road is rough but passable, and a truck with 4-wheel drive is advised. Better access to the southern section of the "Theresa Lake" Area is gained by turning off Hwy 614 a bit earlier, ~5 km north of the Trans-Canada Highway, and driving east along the Wabikoba Lake Road for ~14 km.

The "Black River-Valley" Area is the most difficult to access. The eastern portion is located very close to a network of minor roads, and is encountered by turning southwest from Hwy 614 at the Pinegrove Road and driving towards the small hamlet of Amwri. The western portion can also be accessed via the Pinegrove Road. The "Northwest" Area is accessed by driving north along Hwy 614, ~10 km further north from "Lunny Lake", and turning south-southwest along a minor road. Off-road access to any area within the North Limb Property requires an ATV (summer) or snow machine (winter).

#### 5.3 Proximity to Public Centre, Nature of Transport

The North Limb Property is situated ~45 km northeast of the town of Marathon, Ontario (population ~3300), and only 17 km northeast of the producing gold mine at Hemlo (Figure 3). The town of Manitouwadge (population ~2100) is 35 km north of the Property along a well-maintained rural highway (Hwy 614).

Marathon is approximately 350 km east of Thunder Bay, Ontario (population ~110,000) along Trans-Canada Hwy 17. Thunder Bay is serviced by many airlines, with daily flights to major cities in Canada such as Toronto and Winnipeg, allowing easy connections to other Canadian cities and international destinations.



Field crews can access most of the North Limb Property by half-ton truck. Some of the property located in the westernmost area in the "Black River-Valley" Area also requires an ATV (summer) or a snow machine (winter) to access, as there are no roads.

#### 5.4 Climate and Operating Season

Climate in the area is typical of Northern Ontario, with cold winters and warm summers. Average January minimum temperatures range from -18°C to -32°C, and average July temperatures are between 24°C and 32°C (<u>www.meteoblue.com</u>). Work can be done (subject to snow and freezing) for most of the year. Certain mapping, mechanized stripping, and soil sampling activities are best performed in snow-free conditions, whereas drilling can occur any time of the year.

#### 5.5 Sufficiency of Surface Rights, Local Infrastructure and Natural Resources

Power is available along Hwy 614, but not on the North Limb Property. Adequate water for drilling is available at several locations throughout the Property. The North Limb Property lies ~16 km north of the main transcontinental Canadian Pacific Rail Line. A major east-west trending Hydro Transmission line also passes ~12 km south of the claim block.

Most supplies and services such as groceries, hardware, and accommodation are available in Marathon, which is only ~30 minutes drive from the central point of the North Limb Property. Marathon has been a mining center serving exploration and mining activities at the Hemlo Mine for more than 25 years. Major supplies and services are available in Thunder Bay. Local experienced labour is readily available. Thunder Bay is the main Mineral Titles center and has topographic and geological maps through both the Ministry of Northern Development and Mines (MNDM) and the Ministry of Natural Resources (MNR), both with regional offices located in Thunder Bay. ALS Chemex, Accurassay, and Activation Laboratories are full-service analytical companies with preparation facilities +/- analytical facilities also in Thunder Bay.

As this is an early exploration program, there has not been attention given to the area needed for a potential tailings pond, waste disposal, heap leach pad, or other processing plant sites. However, if an economic deposit was discovered, the property is of sufficient size to accommodate such a mining operation.

#### 6 History

#### 6.1 Prior Ownership, Type, Amount, Quantity and General Results of Exploration

Exploration work covering some portion of the current amalgamated North Limb Property has been ongoing in one form or another since the late 1950s. In order to include all available information for such a well-explored area, the Authors chose to present a comprehensive list of historical work on all claims within the current boundary in Table format (see Table 4). This list has been compiled from Assessment Reports (AFRIs) made available through the Ontario Ministry of Northern Development and Mines (MNDM). The summary table includes the type, quantity, and general results of the past work undertaken by previous owners or operators on portions of the North Limb Property, as denoted by the claim numbers in the right-hand column. The corresponding geographical area (e.g.



"Lunny Lake", "Black River-Valley", "Theresa Lake", or "Northwest") is also listed. The total meters of drilling is listed where applicable (and where such information was available), along with any anomalous intercepts and showings in terms of mineralization and assay values for Au as well as other select elements.

We have made every effort to elucidate all existing historic work that covers the consolidated North Limb land package, and have relied upon the MNDM and OGS Earth databases as guides. Any errors or omissions from this dataset were not intentional, and we have completed this table to the best of our knowledge and abilities.

Table 4 - Past Exploration on the North Limb Property

Year	Operator	Work	Principal Reference	Claims	Present Area
1957	Canadian Pacific Railway	Geological report on the Hemlo area	Geological report by Bartley & Page (1957)	4279960, 4279961, 4279962, 4279963, 4279964, 4279965, 4279966	Theresa Lake
1962	Macintyre Porcupine Mines Ltd.	Claims optioned from Cecil von Klein, diamond drilling (26 DDH, 1262 m)	Diamond Drilling report No 10 (1962)	4283729	Lunny Lake
1962	Macintyre Porcupine Mines Ltd.	Geological mapping conducted to determine mineral potential on von Klein option	Report on the Geological mapping, von Klein Option, A. Skrecky (Dec 20, 1962)	4283728, 4283729, 4283730, 4279958, 4279129	Lunny Lake
1962- 1964	Macintyre Porcupine Mines Ltd.	Line-cutting, geological mapping, geophysical surveys and diamond drilling	Technical Report by B.J. Price (2008)	4279954, 4283728, 4283729, 4283730, 4279958, 4279129, 4279959	Lunny Lake
1964	Caravelle Mines Ltd.	Geochemical soil surveys, ground electromagnetic, magnetic and IP surveys, airborne magnetic survey, geological mapping and diamond drilling	Technical Report by B.J. Price (2008)	4279954, 4283728, 4283729, 4283730, 4279958, 4279129, 4279959	Lunny Lake
1965	Consolidated Mining and Smelting Co.	Diamond drilling (4 DDH, 222 m)	Drilling report No. 11	4283450	Black River-Valley
1965	Caravelle Mines Ltd.	Combined Airborne geophysical surveys over 83 square miles	Combined Airborne geophysical surveys by Dr. W. Domsalski (July 30, 1965)	4279959, 4279958, 4283730, 4279129, 4283728, 4279954, 4279953, 4279952, 4279951, 4283458, 4283456	Lunny Lake, Black River-Valley
1967	Falconbridge Nickel Mines Ltd.	Ground geophysical survey (one strong anomaly detected SW of Phil Lake correlated with mapped magnetic iron formation)	Report of geophysical assessment work, Phil lake, by L. C. Kilburn (Feb 13, 1967)	4283458, 4283456, 4283457, 4279951, 4279953, 4279954, 4283728, 4279129	Black River-Valley, Lunny Lake
1967	Falconbridge Nickel Mines Ltd.	Ground magnetometer and AFMAG- Longwire survey (no strong conductivity found)	Report of geophysical assessment work, Dead Otter Lake claims, by L. C. Kilburn (1967)	4279953, 4279954, 4283729, 4283730, 4279958, 4279129	Lunny Lake
1967- 1969	Caravelle Mines Ltd.	Completed diamond drilling program (30 DDH, 4290 m)	Drilling report No 12, 13	4279129, 4283730, 4283729, 4283728, 4279954, 4279951, 4283456, 4283457	Lunny Lake, Black River-Valley
1976	Noranda Exploration Ltd.	Conducted magnetic and EM surveys (property showed weak response to CEM but had high magnetic background, no further work carried out)	Report on magnetic and EM survey on Dotted Lake-Dead Otter Lake property by S. D. Langstone (1976)	4283729, 4283730, 4279958, 4279129, 4279959	Lunny Lake
1977	Noranda Exploration Ltd.	Line-cutting, magnetic survey, vertical loop survey (concluded that anomalies were of poor quality and strength)	Geophysical report on Dotted Lake area, by S. D. Langstone (1977)	4279961, 4279962, 4279964, 4279965, 4279966	Theresa Lake
1982- 1985	Qued Resources Corp.	Line-cutting, geological mapping, sampling, IP surveys, trenching, prospecting, diamond drilling	Technical Report by B.J. Price (2008)	4283728, 4283729, 4283730, 4279129, 4279958, 4279959, 4279960	Lunny Lake, Theresa Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1983	Midnapore Resources Inc.	Geological mapping, soil sampling, trenching, IP and VLF geophysical survey and diamond drilling (7 DDH, 776m)	Drilling report by Richard Grant (1998)	4279966, 4279964, 4279662	Theresa Lake
1983	Midnapore Resources Inc.	Conducted VLF-EM and magnetometer surveys (3 magnetic terrains recognized on the property)	Report of geophysical surveys on Theresa Lake property by Seymour M. Sears (Nov 21, 1983)	4279966	Theresa Lake
1983	Eden Roc Mineral Corp.	Magnetic and EM surveys (delineated 8 anomalous areas, unknown origin)	Report on Magnetics and Electromagnetics over the Firetower property by D. J. Gillis (July 18, 1983)	4283730, 4279958, 4279959	Lunny Lake
1983	Midnapore Resources Inc.	Carried out geological mapping (property underlain by series of metavolcanic and sedimentary rocks intruded by granite, amphibolite, feldspar porphyry and diabase dykes, possibility of base and precious metals)	Report on Geological Mapping in the Theresa Lake area, by Joan Marie Barry (Sep 30, 1983)	4279961, 4279962, 4279964, 4279965, 4279966	Theresa Lake
1983	R. J. McGowan & Trident Resources	Line-cutting, airborne geophysical survey, geochemical survey, ground VLF survey (located numerous geochemical anomalies along intrusions, 20 ppb Au described as 'anomalous' from sediments in the south)	Geotechnical assessment report on the Wabikoba Lake claims, by G. Lohman (1983)	4279964, 4279965, 4279966	Theresa Lake
1983	Levelland Energy & Resources Ltd.	Airborne geophysical surveys by Aerodat 1570 km²	Report on magnetic and EM survey by Aerodat Ltd. (1983)	4279962, 4279963	Theresa Lake
1983	Qued Resources Corp.	Geological mapping, soil sampling, prospecting (mapping suggested that property underlain by thinly interbedded sequence of mafic-felsic volcanic tuffs and flows)	Report on the Geological mapping and Prospecting at the Musher Lake property, by T. R. Foster (Oct 7, 1983)	4283730, 4279958, 4279959	Lunny Lake
1983	Flyer Resources Ltd.	Combined helicopter-borne magnetic and EM surveys	Report on Helicopter-borne magnetic and electromagnetic surveys by Aerodat (Oct 31, 1983)	4279961, 4279964	Theresa Lake
1983	Impala Resources Ltd.	Combined helicopter-borne magnetic and electromagnetic survey	Report on combined helicopter-borne magnetic and electromagnetic survey by Aerodat, Nov 1983	4279955, 4279956	Black River-Valley
1983	Noranda Exploration Co. Ltd.	IP and magnetometer survey (located 12 magnetic features delineating southern edge of mafic volcanics and in places the southern edge of felsic- intermediate volcanics)	Report on the magnetometer survey by Don B. Sutherland (Oct 18, 1983)	4279956, 4283450, 4283448, 4283449, 4283457, 4283447, 4283456, 4279951, 4279952, 4279953, 4279954, 4283728, 4283729, 4283730, 4283457	Black River-Valley, Lunny Lake
1983	Midnapore Resources Inc.	Geological mapping (results indicated that property underlain by Precambrian metavolcanics and sedimentary rocks intruded by amphibolite, feldspar porphyry dykes)	Report on the Geological Mapping in the Theresa Lake Area (Sep 30, 1983)	4279961, 4279962	Theresa Lake
1983	Norman Resources Ltd.	Geological mapping, soil sampling, airborne magnetic-VLF-EM survey, diamond drilling	Drilling report by Richard Grant (1998)	various	
1983	Sunexco Energy Corp.	Combined helicopter-borne magnetic and EM surveys (conductors interpreted as thin and steeply-dipping structures)	Report on combined helicopter-borne magnetic and electromagnetic surveys by Aerodat (Sep 1983)	4279965, 4279966	Theresa Lake
1983	Tundra Gold Mines Ltd.	Combined helicopter-borne magnetic, electromagnetic and VLF-EM (1570 km²)	Report on combined helicopter-borne magnetic, electromagnetic and VLF-EM by Aerodat (Oct 1983)	4283448, 4283450, 4279956	Black River-Valley



Year	Operator	Work	Principal Reference	Claims	Present Area
1983	Captain Consolidated Resources	Combined helicopter-borne magnetic and EM survey	Report on airborne magnetic and electromagnetic survey by Aerodat (Aug 1983)	4283447, 4283448, 4283449	Black River-Valley
1983	Thunderwood Exploration Ltd.	Combined helicopter-borne magnetic and EM survey (1570 km², indicated thin, steeply-dipping conductor, possible bedrock conductor)	Report on airborne magnetic and electromagnetic survey by Aerodat (Aug 1983)	4279955	Black River-Valley
1983	Synergy International	Combined helicopter-borne magnetic and EM survey (bedrock conductor indicated favourable Au mineralization zone)	Report on Combined helicopter-borne magnetic and electromagnetic survey by Aerodat (Oct 1983)	4279955	Black River-Valley
1983	Noranda Exploration Ltd.	Diamond drilling (8 DDH, 1463m)	Drilling report No 14	4283728, 4279954, 4283449, 4283457	Black River-Valley, Lunny
1983	Norman Mines Ltd.	Airborne magnetic and EM survey (1570 km²)	Combined helicopter-borne magnetic and electromagnetic survey by Aerodat (Oct 31, 1983)	4279955	Black River-Valley
1983	Noranda Exploration Co. Ltd.	Conducted IP survey over Pryme Energy Option (located 14 IP zones, all within few 100m of mapped volcanic-sediment contact)	Report on the IP and resistivity survey, Pryme Energy Option, by Don B Sutherland (Oct 18, 1983)	4279952, 4279954	Lunny Lake
1983	Eden Roc Mineral Corp.	Geological mapping and geochemical soil sampling (no results reported)	Report on the Geological and geochemical soil survey of the Firetower gold property, by Barry D. Allan	4279982, 4283730, 4279958	Lunny Lake
1983	Seemar Mines Ltd.	Geological and geochemical surveys (mapping indicated property underlain by foliated hornblende-biotite granodiorite gneiss, no further work recommended)	Report on the geological and geochemical surveys of the Black River property by R J Dutka (Sep 20, 1983)	4283447, 4283456, 4283458	Black River-Valley
1983	Harlain Resources Ltd.	EM and magnetometric surveys, geological mapping, geochemical soil survey (identified 10 EM conductors)	Report on Magnetometer and Electromagnetic (VLF) surveys, Wabikoba Area, by Maurice Giroux (April 1983)	4279954, 4283728, 4283729, 4279981, 4279982	Lunny Lake
1983	Noranda Exploration Co. Ltd.	Line-cutting, soil sampling (Au only at ppb levels, background over property < 5ppb)	Line-cutting/Geochemical Report, Pryme Energy Option, Wabikoba Lake, by Peter Cooper (Oct 20, 1983)	4283450, 4283448, 4283449, 4283457, 4283447, 4283456, 4279951, 4279952, 4279953, 4279954, 4283728, 4283729, 4283730	Lunny Lake, Black River-Valley
1983	Seemar Mines Ltd.	Combined magnetometer-EM survey (identified weak conductive zones striking SW-NE)	Report on the geophysical survey by H Ferderber Geophysics Ltd (June 22, 1983)	4283447, 4283456, 4283458	Black River-Valley
1983	Neptune Resources Corp.	Geological and soil geochemical survey (results indicate S portion of property underlain by metavolcanics, excepting thin felsic-intermediate unit, located NW-trending zone of shearing and alteration)	Report on the Geological mapping in the Theresa Lake area, by Joan Marie Barry (Aug 31, 1983)	4279962, 4279963	Theresa Lake
1983	Tundra Gold Mines Ltd.	Magnetometer and VLF-EM (located NW-striking mag low across Valley Lake coincident with Bullring Lake fault)	Report on magnetometer and VLF-EM survey (Black River), by H. Ferderber (Oct 4 1983)	4279956	Black River-Valley
1983	Tylox Resources Corp.	Combined magnetometer-EM survey (outlined 4 main conductive zones reflecting favourable structures)	Report on the Geophysical surveys by D. M. Ross (May 27, 1983)	4279960, 4279961	Theresa Lake
1983	Tylox Resources Corp.	Geological mapping, geochemical soil survey (located felsic volcanic outcrop perhaps part of mineralized horizon on western portion of property)	Report on the Geological Mapping in the Theresa Lake area, by Joan Marie Barry (Sep 13, 1983)	4279960, 4279961, 4279964	Theresa Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1983	Rodeo Resources Ltd.	Geochemical surveys (results suggest that property blanketed by thick glaciofluvial/glaciolacustrine sand, silt and clay, no anomalous base or precious metals detected)	Report on the Geochemical survey of the Black River property, by R J Dutka (Sep 30, 1983)	4279974, 4279975, 4279976, 4279977, 4279978, 4279979, 4279980	Northwest
1983	Eden Roc Minerals Corp. (optioned from Shiningtree Gold Resources Inc.)	Property evaluation and data compiling report	Report on the Firetower Gold property, Allan J. Willy, (March 1983)	4279982, 4283730, 4279958, 4279959	Lunny Lake
1983	Tylox Resources Corp.	IP and resistivity surveys (outlined 3 anomalous zones with shallow, narrow source)	Report on IP and resistivity survey, Theresa Lake, by Philip G. Hallof (Dec 30, 1983)	4279960, 4279961	Theresa Lake
1983	Key Lake Exploration Ltd.	Line-cutting, soil geochemical survey, geological mapping	Geology of the Dillman Claim group, by C. Richardson (Nov 13, 1983)	4279953, 4279954	Lunny Lake
1983	Carrera Resources Ltd.	VLF-EM surveys (outlined several conductive zones with favourable structures for hosting base metals/gold mineralization)	Report on the geophysical surveys by D. M. Ross (May 30, 1983)	4279960, 4279961, 4279962	Theresa Lake
1983	Carrera Resources Ltd.	Geological survey follow-up to above VLF-EM surveys showing numerous short conductors probably associated with small falls and shear zones)	Report on the Geological mapping in the Theresa Lake area, by Joan Marie Barry, (Sep 10, 1983)	4279960, 4279961, 4279962	Theresa Lake
1983	Midnapore Resources Inc.	Soil geochemical survey (delineated 5 zones of weakly anomalous Au, suggested lithological similarities to Hemlo-style geology)	Report on a Soil Geochemical survey in the Theresa Lake area, by Seymour M. Sears (Dec 1, 1983)	4279961, 4279962, 4279964, 4279965	Theresa Lake
1984	Qued Resources	Diamond drilling (14 DDH, 2019m)	Drilling report No. 18	4279958, 4279959, 4279129	Lunny Lake
1984	Midnapore Resources Inc.	Reconnaissance IP and resistivity survey (identified 2 IP anomalies correlated to distinct resistivity low)	Report of work on reconnaissance IP and Resistivity survey on Theresa Lake by Philip G. Hallof (March 14, 1984)	4279960, 4279961, 4279962	Theresa Lake
1984	Noranda Exploration Co. Ltd.	Airborne EM survey (2 zones with 'reasonable' conductance identified, possibly related to fault/shear zone)	Report on airborne electromagnetic survey by D Carrriere (Aug 13, 1984)	4283730, 4279129, 4283729, 4283728, 4279954, 4279953, 4279952, 4279951, 4283456, 4283449, 4283457, 4283450	Lunny Lake, Black River-Valley
1984	Qued Resources Corp.	IP and resistivity survey (located 4 anomalous zones extending across Musher Lake project, consistent values along strike)	Report on the detailed IP survey on the Qued property by Philip G. Hallof (1984)	4279959	Lunny Lake
1984	Homestake Canada Inc. (acquired property through JV with Lenora Exploration Ltd. and Argentex Resource Exploration Corp.)	Soil sampling, geological mapping, and IP surveys	Assessment report, Brinklow property, by C F Staargaard (June 13, 1984)	4283456, 4279951	Black River-Valley
1984	Midnapore Resources Inc.	Reconnaissance IP survey (confirmed previous anomalies and position of potential targets)	Progress report and recommended drill hole locations on the Theresa lake property, by S. M. Sears (Feb 11, 1984)	4279961, 4279962, 4279964, 4279965, 4279966	Theresa Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1984	Key Lake Exploration Ltd. & Brandy Brook Mines Ltd.	VLF, magnetometer surveys (magnetic data consistent with mapped geology, located 6 significant VLF conductors consistent with prior AEM surveys)	Report on VLF and magnetometer surveys by J. Roth (June 1984)	4279954, 4279953	Lunny Lake
1984	Qued Resources	IP survey (mineralized zones suggested to be 3-40m thick, pyrite content not sufficient to significantly change resistivity values)	Report on Geophysical survey by Philip G. Hallof (May 28, 1984)	4283730, 4279129, 4279958	Lunny Lake
1984	R. J. McGowan	Geological and geophysical surveys (no economic mineralization located, no major magnetic 'relief' on property )	Geological and Geophysical report on the Theresa Lake property, by J. T. Neelands, (Nov 15, 1984)	4279959, 4279960	Lunny Lake, Theresa Lake
1984	Eden Roc Mineral Corp.	Trenching (3 trenches on anomalous geological and geophysical targets determined by previous programs)	Report on trenching, Firetower property, by G. L. Smith (July, 1984)	4279981, 4279982, 4283728,4283729, 4283730, 4279958, 4279959, 4279129	Lunny Lake
1984	Cassex Resources Ltd. (optioned from Costy Bumbu & Peter Moses)	EM survey (5 strong conductors within granodiorite in NE section)	Report on VLF electromagnetic surveys of Theresa Lake claims, by Scott McKee (Dec 20, 1984)	4279959	Lunny Lake
1984	Noranda Exploration Co. Ltd. (JV with Pryme North)	Geological survey (delineated continuous units of mafic volcanic, intermediate-felsic volcanics and clastic sediments)	Geological report (Joint venture) by Richard Kemp (Aug 23, 1984)	4279196, 4279956, 4283450, 4283449, 4283448, 4283457, 4283456, 4279951	Black River-Valley
1984	Cassex Resources Ltd.	Magnetic survey (confirmed magnetic highs previously recorded, strongest magnetic zone from peridotite unit, identified many linear mag lows possibly caused by shear zones)	Report on the geophysical work on the Theresa Lake property by Paul Phillips (Apr 25, 1984)	4279960	Theresa Lake
1984	Midnapore Resources Inc.	Diamond drilling (7 DDH, 776m)	Diamond drilling report No 12, by R. J. McGowan (1984)	4279965, 4279966	Theresa Lake
1985	Noranda Exploration Ltd. (optioned from Tylox Resources)	Diamond drilling (2 DDH, 1031m)	Drilling report No. 23	4279961	Theresa Lake
1985	Harlin Resources Ltd.	Diamond drilling (5 DDH, 518m)	Diamond drilling report by J.H Montgomery (Jan 15 1985)	4279981, 4279982, 4279954, 4283728, 4283729	Lunny Lake
1985	Qued Resources Corp.	IP survey, airborne EM and magnetic survey, diamond drilling (highest Au value at surface and drill intersection over strike length of 200m in 'Zone C' averages 0.025 oz/t (0.78 g/t) Au hosted by sedimentary rocks, cherty bands contain 0.152 oz/t = 4.75 g/t)	Report on the property of Qued Resources, Wabikoba Lake area, by George Cavey (Jan 3, 1985)	4283730, 4279958, 4279129, 4279959	Lunny Lake
1985	Noranda Exploration Ltd.	Geochemical soil sampling, trenching (no significant results)	Chemical sampling report, Pryme North joint venture, by John Gagnon (Oct 18, 1985)	4283447, 4283449, 4283457, 4283456, 4279951, 4279952, 4279953, 4279954, 4283728, 4283729	Black River-Valley, Lunny Lake
1985	Granges Exploration Ltd.	Diamond drilling (3 DDH, 300m)	Diamond drilling Report No. 13	4279960	Theresa Lake
1986	Noranda Exploration Ltd.	Diamond drilling (3 DDH, 528m)	Diamond drilling report by John Gagnon (Mar 28, 1986)	4279960, 4279961	Theresa Lake
1986	Noranda Exploration Ltd.	VLF-EM survey on Kelly-Kerr property (located possible contact between felsic rocks and granodiorite)	Report of work VLF-EM survey by D R Carriere (May 2, 1986)	4283729, 4283730	Lunny Lake
1986	Noranda Exploration Co Ltd.	Magnetic survey to locate and define anomalous mag responses (located possible contact between felsic rocks and granodiorite, found NS-trending diabase dyke)	Report on geophysical survey, Kelly Kerr claim group, by D. R. Carriere (Feb 7, 1986)	4283729, 4283730	Lunny Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1986	Tylox Resources Corp.	Diamond drilling (2 DDH, 311m)	Diamond Drilling Report No. 23	4279960, 4279961	Theresa Lake
1986	Key Lake Exploration Ltd. & Brandy Brook Mines Ltd.	VLF and magnetometer surveys (detected 3 parallel anomalies, recommended follow-up work)	Report on VLF and Magnetometer surveys, by Nelson W. Baker (June 22, 1986)	4279953, 4279954	Lunny Lake
1986	Noranda Exploration Co Ltd. (optioned 15 claims from Kelly-Kerr Energy Corp.)	Geological survey (property mostly underlain by granodiorite, only northern area has outcrops and is underlain by sediments, granodiorite, mafic volcanics and porphyry)	Geological assessment report, Kelly-Kerr Option, by Mike Gurney (July 31, 1986)	4283729, 4283730, 4279982	Lunny Lake
1987	Noranda Exploration Co. Ltd.	Geological mapping, humus sampling, magnetometer survey (no further work recommended)	Report of work on Shiningtree project by Kate Hearn (Aug 7, 1987)	4283730, 4279958, 4279959	Lunny Lake
1987	Noranda Exploration Co. Ltd.	Soil geochemical survey (humus sampling to test a sequence of intercalated sediments, felsic and mafic volcanics, only 1 sample returned Au anomaly)	Report on Soil Geochemical survey, Wabikoba Lake property, by James McDonald (Sep 21, 1987)	4279954, 4283728, 4283729	Lunny Lake
1987	Noranda Exploration Co. Ltd.	Humus, geological, magnetometer, VLF and prospecting surveys ('A' horizon soil sampling returned background of Au 3 ppb, 2 areas on property have Au potential; 1) felsic sedimentary horizon and 2) iron interflow sediments within mafic volcanic horizon)	Assessment report for Geological, Geochemical and Geophysical Surveys, part of Newjay property, by Kate Hearn (Oct 16, 1987)	4279954, 4279981, 4279982, 4283728, 4283729, 4283730	Lunny Lake
1987	Noranda Exploration Co. Ltd.	Rock sampling program (49 core samples resampled, 21 grab samples taken for Au/Ag/Mo)	Assessment report for beneficiation, rock sampling, Wabikoba Lake area, by James McDonald (Nov 3, 1987)	4279962, 4279964, 4279965	Theresa Lake
1988	Noranda Exploration Co. Ltd.	Geological, magnetometer, VLF and prospecting surveys (tested anomalous Au horizons within felsic volcanic and interflow sediments, VLF outlined weak conductive zone within possible felsic sedimentary horizon)	Assessment report for geophysical survey (Newjay property), by Kate Hearn (Jan 27, 1988)	4283729, 4283730	Lunny Lake
1988	Noranda Exploration Co. Ltd. (optioned 15 claims from Kelley-Kerr Energy Corp.)	Trenching (identified feldspar porphyry as early intrusion of dyke swarm, only 1 trench sample returned a low Au value)	Report on trenching on Kelly- Kerr property, by Mike Gurney (June 3, 1987)	4283729, 4283730	Lunny Lake
1988	Dolphin Exploration Ltd.	Line-cutting, soil sampling targeting overburden that contains eroded bedrock	Report on a Geochemical survey on the Black River property, by Seymour M Sears (March, 1988)	4283456, 4283457, 4279951, 4279953, 4279954	Black River-Valley, Lunny Lake
1988	Noranda Exploration Co. Ltd.	Trenching (2 trenches across mapped and drilled sericitic units similar to Hemlo, no significant Au assays returned)	Report on Trenching for assessment by Daphne Petersen (Sep 27, 1988)	4283728, 4283729	Lunny Lake
1988	Noranda Exploration Co. Ltd.	Trenching (2 trenches on Tylox/McGowan uncovered previously unknown stratigraphy)	Report on Trenching, Tylox and McGowan, by Daphne Peterson (Sep 13, 1988)	4283729, 4283730, 4279961, 4279962, 4279964	Lunny Lake, Theresa Lake
1988	Noranda Exploration Co. Ltd.	Line-cutting, mapping, soil/rock sampling (rocks folded, faulted, metamorphosed to amphibolite facies, whole-rock analyses show that mafic volcanic rocks were rich in CaO and depleted in K <sub>2</sub> O, rock samples returned values up to 10 ppb Au)	Geological and geochemical report for Norman Property, by Daphne Petersen (Dec, 1988)	4283730, 4279129, 4279958, 4279960	Lunny Lake, Theresa Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1989	Aylmer Mines Ltd.	VLF-EM survey, magnetic survey to locate favourable structures (mag. patterns characterized by sequence of isolated high-mag zones, delineated wide NW-SE-trending zone of low resistivity)	Report on Geophysical survey, Wabikoba project, by P Boileau & R Turcotte (March, 1989)	4279954, 4279953	Lunny Lake
1991	Dave Saunders	Line-cutting and prospecting near 'Ihnatko-Kusins' zone	Report on the work program of the Ihnatko Property, by Dave Saunders (Jan 1991)	4279956, 4279196, 4283450, 4283448	Black River-Valley
1991	Brian Fowler	Prospecting program	Prospecting report, Armand Lake property, by Brian Fowler (Dec 1991)	4283730, 4279129, 4279959	Lunny Lake
1992	M. Dave Saunders	Combined VLF and magnetometer survey (located 3 anomalies coinciding with weak input and mag anomalies)	Results of 1992 exploration work, electromagnetic (VLF- EM16) and magnetic survey, Summers Lake property by Pierre Simoneau (June 1992)	4279953, 4279954	Lunny Lake
1992	Placer Dome Inc.	Magnetic and EM surveys on Theresa Lake property (magnetic sources shallow <10-15m, most VLF conductors continuous along strike and associated with magnetic units, successfully mapped mafic volcanics striking WNW- ESE)	Geophysical surveys on Placer Dome, Theresa Lake property by Gerard lambert, (July 16, 1992)	4283730, 4279958, 4279959, 4279129	Lunny Lake
1992	Brian Fowler	OPAP-assisted trenching/prospecting (focused on contact between mafic volcanic and metasedimentary units, identified geological depositional environment for base and precious metals)	Report on the prospecting program for the claim block in the Theresa Lake area, by Brian Fowler (Aug 10, 1992)	4279962, 4279963, 4279964, 4279965, 4279966	Theresa Lake
1992	Brian Fowler	Prospecting, trenching, geochemical sampling (no significant Au values returned)	Final submission, Summary Technical Report, by Brian Fowler (Aug 14, 1992)	4279962, 4279963, 4279964, 4279965, 4279966	Theresa Lake
1992	M. Dave Saunders	Prospecting on old trenches, line- cutting, resampled Ihnatko-Kusins showing, grab sample contained 10.7% Zn, 8.9% Pb, 2.5 oz/t Ag, 0.34 g/t Au	Report on Geophysical survey and prospecting by Pierre Simoneau (April 16, 1992)	4283450, 4279958	Black River-Valley, Lunny Lake
1992	Newmont Exploration Ltd.	(61 samples taken, only 2 samples returned significant values of 140 and 325 ppb Au within 1 m wide shear zone in felsic volcanic)	Lithogeochemical Report on the Summers Lake E, Central claim block, by Harvey M Klatt (June 25, 1992)	4279960, 4279961	Theresa Lake
1992	Costy Bumbu	Trenching and prospecting on Theresa Lake property	Report on Trenching and prospecting, Theresa Lake property, by Costy Bumbu (Aug 7, 1992)	4279960, 4279961, 4279962, 4279964, 4279965	Theresa Lake
1992	Newmont Exploration Ltd.	Diamond drilling (unsure of how many holes, totaling 2826 ft, testing alteration zones)	Diamond drilling report on the Summers Lake property, by Dean M Peterson (Nov 1992)	4283449, 4279954	Black River-Valley, Lunny Lake
1992	Noranda Minerals Inc. (GECO Division) (JV between Noranda Exploration and Noranda Minerals)	Mapping, whole-rock geochemical sampling, HLEM survey (samples failed to locate any alteration trends or metal- bearing horizons)	Report of work, Lampson Lake-Pinegrove Lake property, by Greg Charlton, (Nov 30, 1992)	4279953	Lunny Lake
1993	Hemlo Gold Mines Inc.	Geochemical survey (no significant Au values returned)	Report of work, North Limb property, by Michael Macissac (Nov 1993)	4283729, 4283730, 4279129	Lunny Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1993	Pierre Simoneau	Prospecting, Mhometer survey (located base metal mineralization, grab sample returned 10.7% Zn, 8.9% Pb, 2.5 oz/t Ag = 78.13 g/t Ag)	Results of 1992 Exploration work by Pierre Simoneau (March, 1993)	4279956, 4283450	Black River-Valley
1993	Pierre Simoneau	Prospecting with Beep Mat, stripping, sampling, geophysical and geological surveys	Results of 1993 Exploration work, Summers Lake property, Wabikoba Area by Pierre Simoneau (March 1993)	4279954	Lunny Lake
1993	Brian Fowler/Mike Shuman	Mapping (11 samples assayed for Cu- Zn-Au returning no significant values, North Limb has similar geology to Hemlo)	Geology report, Armand Lake Property, by Aubrey J. Eveleigh (Sep 1993)	4283730, 4279129	Lunny Lake
1994	Mike Shuman & Associates	Line-cutting, magnetometer survey, VLF-EM, horizontal loop and IP survey (located several EW-trending conductive zones, some correlating to Zn, Mo showings)	Geophysical report (1994)	4279966	Theresa Lake
1994	Hemlo Gold Mines Inc.	Trenching (6 trenches on contiguous Hemlo N Limb and Fowler #1 properties, ACQFP similar to Moose Lake porphyry at Hemlo in terms of alteration and rock type association)	Trench report, Wabikoba Lake area, by Paul Johnston (Oct 10, 1994)	4283729, 4283730	Lunny Lake
1994	Brian Fowler	Ground magnetic survey using magnetometer (granite had relatively high mag signature)	Report on work, Phil Lake property, By lain F. Downie, (Dec 20, 1994)	4283447, 4283449, 4283457, 4283456, 4283458	Black River-Valley
1995	Homestake Canada Inc.	Rayan Exploration: 61km of line-cutting, 54km of magnetometer and VLF-EM survey (2 mag highs identified, possibly dykes)	Geophysical report on the Wabikoba Lake property by S.D. Anderson (Jun 1995)	4279961, 4279962, 4279964, 4279965, 4279966	Theresa Lake
1995	Hemlo Gold Exploration	IP survey (located a few strongly polarizable units with low resistivity)	Report on ground geophysical investigation (IP survey) by Gerard Lambert (July 7, 1995)	4283458, 4283447, 4283456, 4283448, 4283449, 4283457, 4279953	Black River-Valley, Lunny Lake
1994	Hemlo Gold Mines Inc.	Mapping, sampling, magnetometer survey, IP/Resistivity survey, overburden trenching (strong alteration system centered on small QFP stock referred to as "Armand Creek Quartz Feldspar Porphyry" (ACQFP), property has geological similarities to Hemlo, however disappointing sample results)	Report of work on North Limb property, by Paul Johnston (March 9, 1995)	4283728, 4283729, 4283730, 4279981, 4279982	Lunny Lake
1995	Hemlo Gold Mines Inc.	Line-cutting, prospecting, soil geochemical survey, magnetometer and IP surveys (located 2 zones of interest with low resistivity)	Report of work, Valley Property, by Thomson and Sharpe (Nov 24, 1995)	4279955, 4279956	Black River-Valley
1995	Hemlo Gold Mines Inc.	Diamond drilling (3 DDH, 1052m)	Report on Diamond drilling, North Limb property, by Dale Schultz (Oct 1995)	4279982, 4283729	Lunny Lake
1995	Hemlo Gold Mines Inc.	Mapping, sampling, magnetometer survey, IP and trenching (conclusion: hydrothermal alteration related to ACQFP intrusion positively influenced potential for mineralization in the area)	Report of work on Fowler property, by Paul Johnston (March 9, 1995)	4283729, 4283730, 4279129, 4279959	Lunny Lake
1995	Hemlo Gold Mines Inc.	Overburden trenching and stripping (samples taken returned no significant values)	Report on Trenching, Petrant Lake option, by John Londry (March 30, 1995)	4283447, 4283456, 4283458, 4283450, 4283448, 4283449, 4283457	Black River-Valley
1995	Hemlo Gold Mines Inc.	Mapping, magnetometer and IP survey (strong alteration system centered on small QFP stock known as ACQFP)	Report of work on Fowler #2 property, by Paul Johnston (March 8, 1995)	4279961	Theresa Lake
1995	Hemlo Gold Mines Inc.	Overburden trenching, stripping (highest value returned contained 18 ppb Au)	Report on Trenching, Pertant Lake option, by John Londry (March 30, 1995)	4279953, 4279951, 4279952	Black River-Valley, Lunny Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1995	Hemlo Gold Mines Inc.	Diamond drilling (3 DDH, 729m), tested IP chargeability anomalies along strike to the W of pyritized felsic horizon	Report on Diamond Drilling, Valley property, by Kevin Thomson (May 30, 1995)	4279955	Black River-Valley
1996	Hemlo Gold Mines Inc.	Diamond drilling (6 DDH), found 37351 ppb over 1m, 3944 ppb Au over 3m, and 2490 ppb over 0.4m)	Diamond drill report by Dale Schultz (Feb 25, 1996)	Just south of 4279959, 4279129, off property but at depth and drill holes dipped north, may have pierced North Limb Property at depth	Lunny Lake
1996	Homestake Canada Inc.	Reconnaissance IP-Resistivity surveys (chargeability and resistivity highly variable)	Reading the Gradient- Realsection TDIP IP survey at the Wabikoba Lake property (May 1997)	4279961, 4279962, 4279964, 4279965, 4279966	Theresa Lake
1996	Hemlo Gold Mines Inc.	Diamond drilling (657m) testing reported S-rich felsic volcaniclastic horizon trending NE, 1-3% disseminated pyrite)	Report on 1996 Diamond drilling, Petrant Lake option, by Andrew Tims (July 5, 1996)	4283447	Black River-Valley
1996	Fowler and Schuman	11.4 km VLF-EM survey by Clark- Eveleigh Consulting (conclusion: disseminated sulfide-type Au model may be present near the felsic intrusive- metavolcanic contact)	Report of the VLF-EM survey on the Phil Lake property by J. G. Clark (Jan 1996)	4283458	Black River-Valley
1996	Hemlo Gold Mines Inc.	Diamond drilling (2 DDH, 660m) testing stratigraphy and 2 IP anomalies, highest grade returned was 21 ppb Au)	Report on Diamond Drilling, Oracle property, by Paul Degagne (March 25, 1996)	4279956, 4283448	Black River-Valley
1996	Hemlo Gold Mines Inc.	Line-cutting and magnetometer survey (responses indicate that sources are near-surface 2-15m, IP anomalies may reflect graphite horizons or possibly disseminated sulfides)	Report on Geophysics, Oracle Property, by Matthew Johnston (April 26, 1996)	4279956, 4283448, 4283450	Black River-Valley
1996	Greater Lenora Resources	Mapping, prospecting (identified 'obvious' trend of NE-SW mineralization on the property)	Report Prospecting survey, Brinklow Property, by D. Maclean (June 1996)	4283458	Black River-Valley
1996	Battle Mountain Gold Corp.	Soil sampling, prospecting (recorded the 'C' horizon, no gold values obtained)	WORK REPORT, Valley Property, by Andrew Tims, (Oct 21, 1996)	4283456, 4283457, 4283449	Black River-Valley
1996	Homestake Canada Inc.	Re-interpreted Airborne magnetic data, geological and structural data	Amended report on the interpretation of reproduced airborne magnetic data and compilation of assessment data, by Alan MacTavish (Aug 16, 1996)	4279966	Theresa Lake
1997	Battle Mountain Gold Corp.	Diamond Drilling (5 DDH, 1604m), highest value: 0.629 g/t Au over 1m)	Report on diamond drilling by Jim Edwards (July 27, 1997)	4279959, 4279958, 4283730	Lunny Lake
1997	Battle Mountain Gold Corp. (Fowler Option)	Magnetic and IP surveys (mag patterns suggested presence of magnetite associated with pyrite in iron formations, or with mafic volcanic and felsic flows, sills or dykes in intermediate volcanic, IP surveys defined 6 linear NW-SE zones attributed to presence of metallic minerals)	Report on Ground Magnetic and IP surveys by Gerard Lambert (June 6, 1997)	4283729, 4283730, 4279958, 4279959, 4279129	Lunny Lake
1996	Homestake Canada Inc. (optioned Spruce Bay property from Winslow Gold Corp.)	Line-cutting and ground magnetic surveys (flat magnetic signature with few exceptions)	Ground Magnetic survey report, Spruce Bay property, White Lake Area, by Ikram Osmani, MacTavish and Jacques Samson (March 25, 1997)	4279966	Theresa Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
1997	Battle Mountain Gold Corp.	Magnetic and IP surveys (magnetic patterns suggested presence of magnetite associated either with pyrite in iron formations or with mafic volcanic and also felsic flows, sills or dykes in intermediate volcanic)	Report on Ground magnetic and IP surveys, Theresa Lake by Gerard Lambter (March 18, 1997)	4279960, 4279961, 4279962	Theresa Lake
1997	Battle Mountain Gold Corp.	Diamond drilling (2 DDH, 613m)	Report on Diamond drilling, North Limb Property, by Dale Schultz (Apr 30, 1997)	4283729	Lunny Lake
1997	Homestake Canada Inc.	Mapping, lithogeochemical and channel sampling (3 generations of tectonic foliation observed, no significant Au mineralization or hydrothermal alteration encountered)	Geological report on the White Lake Property, White Lake area, by Ikram A Osmani (Sep 1997)	4279962, 4279963, 4279966	Theresa Lake
1997	Homestake Canada Inc.	Rayan Exploration Ltd. conducted 18.5 km of IP survey on White Lake property (located anomalies related to iron formation and graphite horizons)	IP survey report by R. J. Meikle (Oct 1997)	4279962, 4279963, 4279965, 4279966	Theresa Lake
1997	Battle Mountain Gold (Placer Option)	Diamond drilling (600m) of 2 'anomalous' horizons: Armand Lake porphyry and Lunny Lake porphyry	Report on diamond drilling, Placer Option (Qued) property, by Dale Schultz (Jan 23, 1997)	4279959, 4279982, 4279129, 4279958	Lunny Lake
1997	Homestake Canada Inc. (optioned the Spruce Bay property from Winslow Gold Corp.)	Mapping, lithogeochemical and channel sampling (no significant gold mineralization encountered)	Geological report on the Spruce Bay property, by Osmani, Durdevic and MacTavish (Oct 20, 1997)	4279965	Theresa Lake
1997	Battle Mountain Gold	Studied mineral assemblages of 21 core samples (no Au grains observed, potential protoliths identified)	Report on petrographic study conducted on selected core samples from Fowler and Placer (Qued) properties, by Dale Schultz (Mar 31, 1997)	4279959, 4279129	Lunny Lake
1997	Battle Mountain Gold	Diamond drilling (11 DDH, Highest grade: 76 ppb Au)	Diamond drill report by Dale Schultz (Mar 31, 1997)	4279959, 4279958, 4283730, 4279982	Lunny Lake
1998	Battle Mountain Gold	Diamond Drilling (1 DDH, 311m, iron formation intersected with 10-15% pyrite, 5% magnetite)	Report of Diamond drilling, by Richard Grant (May 22, 1998)	4279960, 4279961	Theresa Lake
1998	Battle Mountain Gold (optioned claims from Costy Bumbu and James Martin)	Diamond drilling (1 DDH, 311m) testing IP anomaly, trenching	Report of trenching, Theresa Lake property, by Richard Grant (Sep 1, 1998)	4279961, 4279962	Theresa Lake
1998	Battle Mountain Gold (optioned from Costy Bumbu & James Martin)	Line-cutting extending Fowler grid to the E, magnetic and IP-resistivity surveys, range of Au values of 5-242 ppb	Geological Survey report, Theresa Lake and Fowler options, by Richard Grant (Jan 14, 1998)	4279960, 4279961, 4279962	Theresa Lake
2003	Brian Fowler	EM-VLF surveys (delineated 3 major EM VLF anomalies coinciding with ground magnetics results)	Report on the EM-VLF and magnetic surveys of Valley Lake property by Raymond A Bernatchez (Nov 27, 2003)	4283447, 4283448, 4283449, 4283457, 4283456	Black River-Valley
2008	Brian Fowler	Prospecting, sampling (OGS sampled near 'Zone B' returning assays of 8.9 g/t Au; Hole A2 contained 2.5m of 8.2 g/t Au, 1.1% Cu, 0.8% Zn, 13.7 g/t Ag; Hole WI contained 2. 1m of 3.2 g/t Au, 2.9% Cu, 2.1 % Zn and 52.8 g/t Ag	Theresa Lake prospecting report, 2006-2007 field season, by Brian Fowler (Jan 2008)	4283729, 4279981, 4279982, 4283730, 4279958, 4279959, 4279129, 4283728	Lunny Lake



Year	Operator	Work	Principal Reference	Claims	Present Area
2009	Silk Road Resources Ltd.	Larder Geophysics Ltd. contracted for VLF-EM survey on Lunny property (indicated 3 different magnetic units)	Report on the VLF-EM survey on Lunny property by C. Jason Ploeger (Apr 2009)	4283728	Lunny Lake
2009	Brian Fowler	Conducted VLF EM and magnetic surveys (indicated presence of numerous 'strong' E-W striking magnetic trends)	Report on Magnetometer and VLF EM surveys, Spruce Bay Grid, White Lake area, by C. Jason Ploeger (April 2009)	4279964, 4279965	Theresa Lake
2009	Brian Fowler	Prospecting, geochemical sampling, resampling of old trenches	Spruce Bay final report, by Brian Fowler (May 19, 2009)	4279964, 4279965, 4279966	Theresa Lake
2009	Brian Fowler	Prospecting, sampling (new Zn showing: Sample 14 returned 2.19% zinc, 4.6 g/t Ag, 0.19 g/t Au, 1590ppm Ni)	Prospecting report, Lunny Lake, prospecting and sampling program 2009 field season, by Brian Fowler, (August 2009)	4283730, 4283728, 4283729	Lunny Lake
2009	Brian Fowler	Compilation of past data and renewed prospecting	Prospecting report, Lunny Lake property, prospecting and sampling program, fall/winter 2009, by Brian Fowler (Dec 2009)	4283728, 4283729, 4283730, 4279129	Lunny Lake
2010	Big Bar Gold Corp	Magnetometer survey over Hemlo north property (identified general trend of 105°, several strong magnetic bands associated with iron formation)	Magnetometer survey over the Hemlo North Property, Wabikoba Lake, by C. Jason Ploeger (Dec 2010)	4283730, 4279958, 4279959	Lunny Lake
2011	Entourage Metals Ltd.	Prospecting, soil sampling, and line- cutting	Work assessment report, Hemlo North Property, Wabikoba Area, by Aimee Marsh (April 12, 2011)	4279953, 4279954, 4283729, 4283730, 4279958, 4279129, 4279959	Lunny Lake

#### 6.2 Historic Mineral Resource or Reserve Estimates

To the best of the Authors' ability to ascertain, there have been no historic mineral resource or reserve estimates on any portion of the North Limb Property.

#### 6.3 Production from the Property

There has been no production from this property, either by the current owners or by any historic owners on any portion of the North Limb Property.

## 7 Geological Setting and Mineralization

#### 7.1 Regional, Local, and Property Geology

The following description of regional geology is adapted from an Economic Geology paper by Lin (2001), which was utilized in the Technical Report on the Lunny Lake Area by B.J. Price Geological Consultants Inc. in 2008.

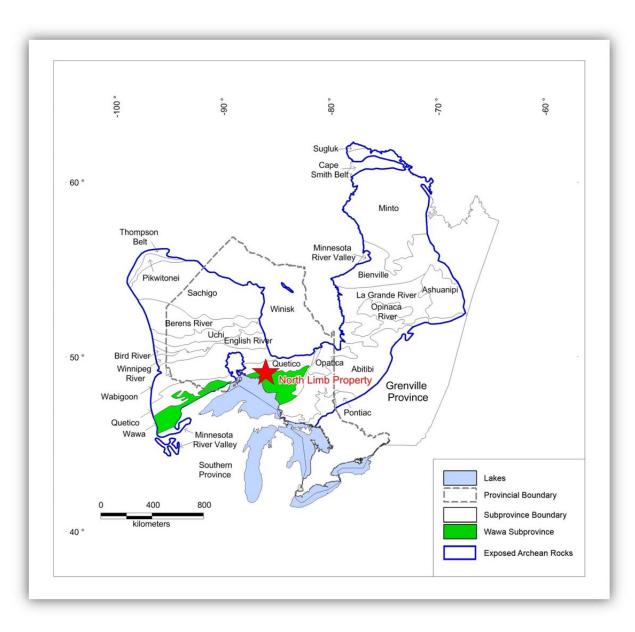
The North Limb Property is situated within the eastern portion of the Wawa Subprovince, a division of the Superior Structural Province and Precambrian Canadian Shield (Figure 5). The Wawa Subprovince consists of a sequence of Archean sedimentary and felsic, intermediate and mafic volcanic rocks ranging in age from ~2720 million years



(Ma) to ~2688 Ma. The supracrustal rocks of the Wawa Subprovince have been metamorphosed, with metamorphic grade increasing from upper greenschist facies west of Lake Superior, to middle amphibolite facies east of Lake Superior, the latter portion of the Subprovince that includes the Hemlo deposit area. On the basis of titanite ages, it has been concluded that regional amphibolite-facies metamorphism occurred between 2678 and 2676 Ma (see Lin, 2001 for references). The North Limb Property straddles the northernmost extent of the Heron Bay-Hemlo greenstone belt (Figure 6, Figure 7, and Figure 8), which also contains the gold-producing mines of Hemlo, Ontario.

The greenstone belt is intruded by granodioritic to tonalitic plutons and dikes. Major plutons include the Pukaskwa Intrusive Complex, the Heron Bay pluton, the Cedar Lake pluton, and the Gowan Lake pluton (see Figure 7; from Lin, 2001). A marginal gneissic phase of the Pukaskwa complex yielded a U-Pb zircon age of ~2719 Ma, whereas an internal phase of the complex, the Heron Bay pluton and the Cedar Lake pluton, yielded U-Pb zircon ages of ~2688 Ma. The Cedar Creek stock has been dated at ~2684 Ma, and the Gowan Lake pluton and two other plutons at ~2679 to 2677 Ma (see Lin, 2001 for references).





**Figure 5** - Superior Geological Province of Ontario and Quebec, Canada.



The Heron Bay-Hemlo greenstone belt is composed of two volcano-sedimentary trends, the northern part extends from Marathon and Heron Bay and arcs around north of the Heron Bay and Cedar Lake plutons, and the Bullring and Musher Lake plutons to White Bay. The Hemlo deposits are in a southern volcanic trend from Lake Superior, wrapped around the Pukaskwa Intrusive complex and the south side of the Cedar Lake Intrusion, and terminating south of Mobert, Ontario (Price, 2008).

The following is adapted from the Technical Report on the Lunny Lake Property, prepared by Price (2008), as the local geology from that report still applies to the current North Limb Property.

The volcanic rocks of the North Limb Property occur in an antiformal pattern, with the Lunny Lake Area located at the apex of the fold structure. The eastern limb of the fold is covered by the Theresa Lake Area, and the western limb of the fold is covered by the Black River-Valley Area. The Northwest Area covers an off-shoot metavolcanic unit that connects to the western limb of the antiform. The rocks to the east strike at an azimuth of ~110° and the rock units to the west of the property trend to the southwest with an azimuth of ~230°. The area is underlain by metamorphosed mafic, intermediate and felsic volcanic and sedimentary rocks. The mafic volcanic rocks consist of massive plagioclase phyric, amygdaloidal and pillowed flows with minor interbedded tuff and tuff breccia, and amphibolite. The intermediate to felsic volcanic rocks consist of massive rhyodacite, rhyolite, and quartz/feldspar porphyry flows with interbedded crystal tuff. The sedimentary units consist of conglomerate, interspersed with lithic wacke, lithic arenites, shale, and graphitic shale. All the volcanic and sedimentary rocks have been intruded by the Musher Lake Pluton located to the south and the Dotted Lake pluton to the north. Within the volcanics, a number of sericitic porphyritic units with quartz eyes may represent altered rhyolitic tuffs or intrusive sills similar to the Moose Lake porphyry adjacent to the Hemlo deposits. Later diabasic dykes crosscut the apparent stratigraphy.

The western portion of the North Limb Property (**Black River-Valley Area**) is similar to the central Lunny Lake Area with regard to the underlying geology, with perhaps more shearing present due to its position on the fold limb as opposed to the fold nose, and also the fact that it lies 'sandwiched' between two prominent felsic intrusions in the north (Black Pic Batholith and younger Gowan Lake Pluton), and another felsic intrusion in the southeast (Cedar Lake Pluton). Metasedimentary rocks are also preserved south of the antiformal greenstone belt on the North Limb Property as part of the 'sandwiched' rock package, exposed in the southwestern portion of the property. The contact between the greenstone belt and the metasedimentary units represents an ancient volcanic flank where VMS-style mineralization would be expected. The southwest portion of the North Limb Property also extends over a significant contact zone between the sheared greenstone belt and the Gowan Lake Pluton.

The eastern portion of the North Limb Property is called the **Theresa Lake Area**. It contains a small amount of mafic intrusive rocks following the strike direction of the folded antiformal structure from the southeast corner of the Lunny Lake Area all the way over to White Lake. This area is more complicated geologically, as there are interfingering felsic intrusions and metasedimentary rocks along the southern contact with the ultramafic volcanics, along with a greenstone belt containing mafic and intermediate to felsic metavolcanics. The addition of the younger mafic intrusions could have remobilized metal-rich fluids, if present initially within the volcanic rocks of the greenstone belt. In the 2008 Technical Report, Price describes the Theresa Lake Area as being underlain by mafic metavolcanic rocks consisting of pillowed basaltic flows, which grade into fine-, medium-, and then coarsegrained amphibolites. Pillow shapes and orientations indicate a south younging direction overall. Interflow



sediments, tuff, and "iron formation" are found intermixed within the mafic flow. A calc-silicate unit intermixed with felsic to intermediate flows and pyroclastic rocks overlies the mafic volcanics. This sequence grades into a thick succession of metasediments, consisting of conglomerates and greywacke.

The metasediments on the North Limb Property have also been detailed by B. J. Price in 2008. They are important as they represent the flanks of the Archean submarine volcanics, and may contain "anomalous amounts of gold mineralization" (Price, 2008). The detailed excerpt on metasedimentary geology in the Theresa Lake area follows:

"Three parallel interflow sedimentary units have been traced in a fairly continuous fashion across the entire property. These units consist of laminated greywacke, arkose, argillite, calcareous mafic to felsic volcanogenic sediments and tuffs and fine-grained amphibolite interbedded with chert, banded sulphide and banded magnetite-amphibole. Though these units could be labeled as "iron formations", but banded magnetite probably accounts for less than 5% of the sequence in each unit. Each of these sedimentary units contains highly anomalous amounts of gold mineralization, as well as minor chalcopyrite, sphalerite and molybdenite. The lowermost unit is in contact with the Armand Lake Porphyry. They vary in thickness from 15 meters to less than 1 meter. Compositionally, they are quartz-feldspathic, probably derived from exhalative chert, siltstones, or clay beds."

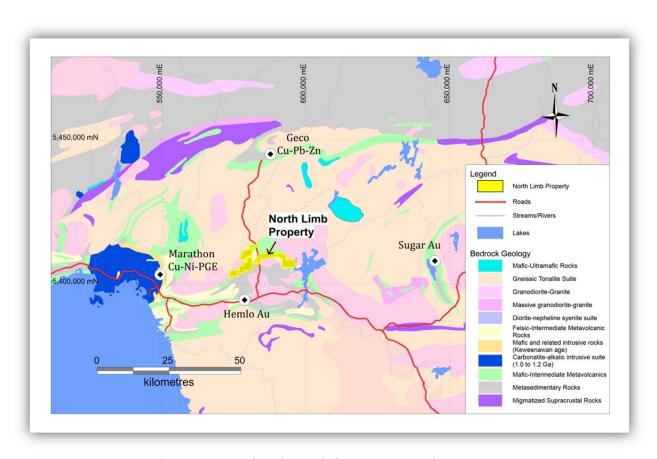


Figure 6 - Regional Geology including Major Mineral Deposits.



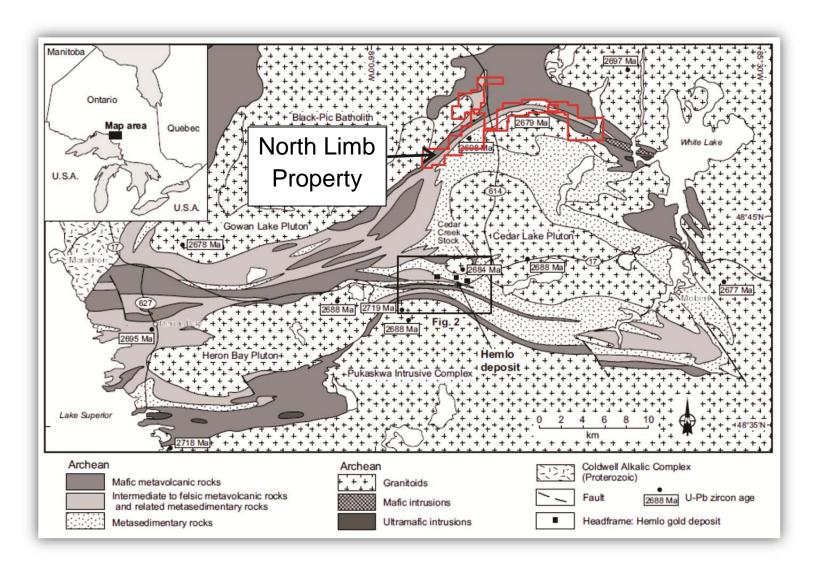


Figure 7 - Simplified Geologic Map of the Heron Bay-Hemlo greenstone belt (from Lin, 2001).



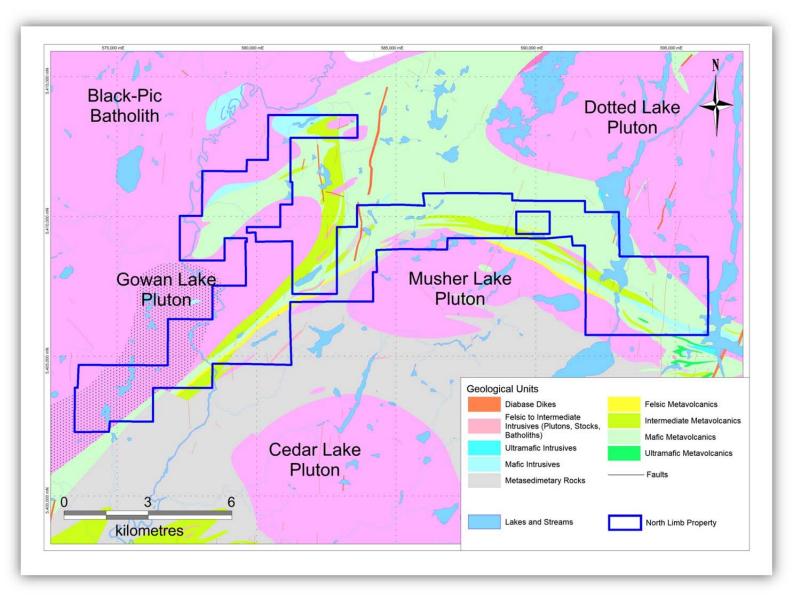


Figure 8 – North Limb Property Geology.



#### 7.2 Significant Showings and Mineralization

The authors have compiled a list of showings on the North Limb property from the MNDM's Mineral Deposit Inventory "MDI" and various historic assessment file reports (Figure 9).

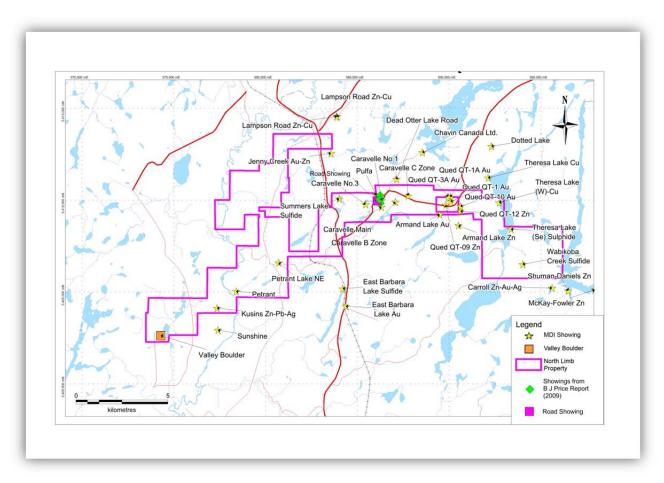


Figure 9 - Historic Showings on the North Limb Property.

Price (2008) described two mineralized areas within what was then called the 'Lunny Lake' and 'Theresa Lake' areas. In the current report, these two areas fall within the newly delimited 'Lunny Lake' Area (see Figure 4). Mineralized showings on the historic "Lunny Lake Area" were initially discovered by von Klein in 1962. They include:

- VMS-style mineralization associated with mafic pillowed metavolcanic rocks and iron formation, some containing garnet. Mineralized zones consist of pyrite stringers with traces of chalcopyrite, magnetite-sulfide zones in chemically deposited "exhalite" zones, accompanied by silica and carbonate.
- Rusty oxidized sulfide boulders with unknown origin
- Gold mineralization associated with quartz-feldspar porphyries and sericite schist, containing disseminated pyrite, and minor molybdenite.



- Copper-nickel mineralization associated with an altered mafic intrusive rock (amphibolite-chlorite-schist) containing trace chalcopyrite, pyrrhotite, and stringer to massive pyrite zones.
- Silver mineralization, as noted below in different showings, accompanied by minor Pt and Pd.

Significant results from 2006 and 2007 sampling around **Showing #2** on the "Lunny Lake Area" (pg. 45 of Price, 2008) include anomalously high Ag values up to 179 g/t (sample 2007-6), (Figure 10 and Figure 11). Another sample contains anomalous Ag (66 g/t) with accompanying elevated Pt and Pd values (0.11 g/t and 0.13 g/t, respectively). **Showing #4** outlined in Price's report (2008) highlights drilling results by the Falconbridge/Caravelle Mines joint venture in 1967, which returned the following intercepts:

- Hole A2 2.5 m of 8.2 g/t Au, 1.1% Cu, 0.8% Zn, and 13.7 g/t Ag
- Hole W1 2.1 m of 3.2 g/t Au, 2.9% Cu, 2.1% Zn, and 52.8 g/t Ag

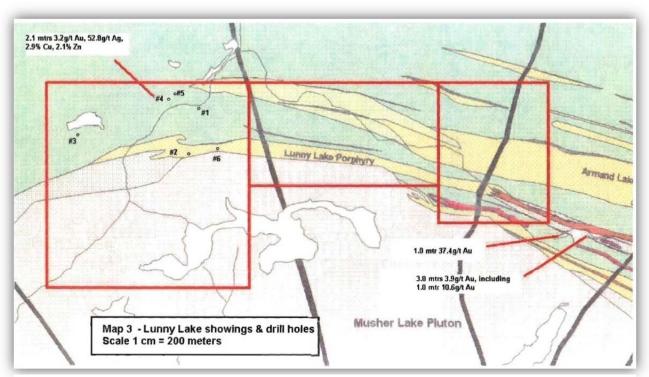


Figure 10 - Location of Showings from 2008 B. Fowler Report.

The host rock for these intercepts as described by Fowler (2008) is an intermediate to felsic volcanic. The mineralized sections contain appreciable amounts of garnet, minor chlorite alteration and 10-15% sulfides. Minor malachite staining and chalcopyrite is present. Intercepts are likely exaggerated, as drilling was from north to south and the rocks had been incorrectly mapped as northerly dipping. With a southern dipping unit, drilling therefore paralleled the dip direction.



**Showing #5** from prospecting efforts by von Klein in 1963 returned values up to 5.4% Cu. It was taken from a zone of mineralization stratigraphically above and parallel to the mineralized horizon at the #4 showing (Figure 10).

One of the more significant showings in the Lunny lake area was found in the road bed of the access road into the area, called the 'Road Zone' (or 'Road Showing') (Price, 2008; Figure 11). Several rusty, localized pieces of float made up that section of the road bed. A large boulder immediately west of the road was similar in composition upon inspection. While the bedrock source was not found, it was apparent that the float was moved from an area close by. An EM anomaly from past work appeared to correlate with the mineralization. Overburden in the area did not allow for good outcrop exposure. Trenching was highly recommended at this locale by Price (2008) in order to locate the promising rock unit from which the boulder originated. Sample 2007-2 from this program in the Road Zone returned 2.40 g/t Au and 5.4 g/t Ag.

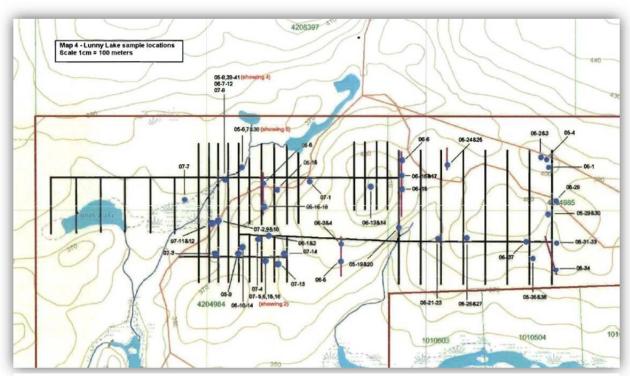


Figure 11 - Sample Locations from the 2006-2007 Field Season of B. Fowler (Fowler, 2008).

Other interesting showings on the historic "Lunny Lake" Area depicted in Figure 10 include an old Noranda Trench which contained fuchsite (another variety of V-bearing mica), and occasional veinlets of molybdenite. This mineralization is very similar to the exotic suite of minerals found in the nearby Hemlo deposit.

In 1996, Hemlo Gold encountered 1 m of 37.35 g/t Au approximately 200 m southeast of the historically-named "Lunny Lake" property, which is just south of the current "Lunny Lake" Area (south of Canadian Orebodies' claims 4279129 and 4279959). A second drill hole 200 m further east, encountered 3 m of 3.9 g/t Au, including 1 m of 10.6 g/t Au. These holes were drilled into a 'feldspathic unit' that is closely associated with the Lunny Lake Porphyry. The porphyry is 100-150 m wide and strikes across the full length of the historically-named "Lunny Lake"



property, a distance of 4 km (see Figure 10). It is thought to have a similar appearance and origin to the Moose Lake porphyry at Hemlo, and for this reason is worthy of additional exploration, according to the Price (2008) report. These showings and drill holes were collared on claims held by Beaufield Resources Inc.

Other significant showings and/or drill intercepts found within the literature and listed in Table 4 include:

- OGS sample near `Zone B` returned 8.9 g/t Au (B. Fowler prospecting report, 2008) (Lunny Lake)
- Prospecting sample returned 2.19% Zn, 0.19 g/t Au, 4.6 g/t Ag, 1590 ppm Ni (B. Fowler prospecting report, 2009) (Lunny Lake)
- Iron formation intersected 10-15% pyrite, 5% magnetite (Battle Mountain Gold Corp., 1998) (Lunny Lake)
- 0.629 g/t Au over 1 m (Battle Mountain Drill Program, 1997) (Lunny Lake)
- Grab sample by P. Simoneau in 1993 returned 10.7% Zn, 8.9% Pb, 78.13 g/t Ag (Black River-Valley)
- Qued Resources in 1985 drill intercept from Zone 'C' contains Au hosted by sedimentary rocks and cherty bands, over 200 m averages 0.78 g/t Au hosted by sedimentary rocks, cherty bands contain 4.75 g/t Au (Lunny Lake).

Historic drill hole locations are compiled and illustrated in Figure 12, showing a concentration of past work performed in the Lunny Lake Area, and to a lesser extent the Theresa Lake and Black River-Valley Areas. Almost no drilling has yet been done on the Northwest portion of the North Limb Property.



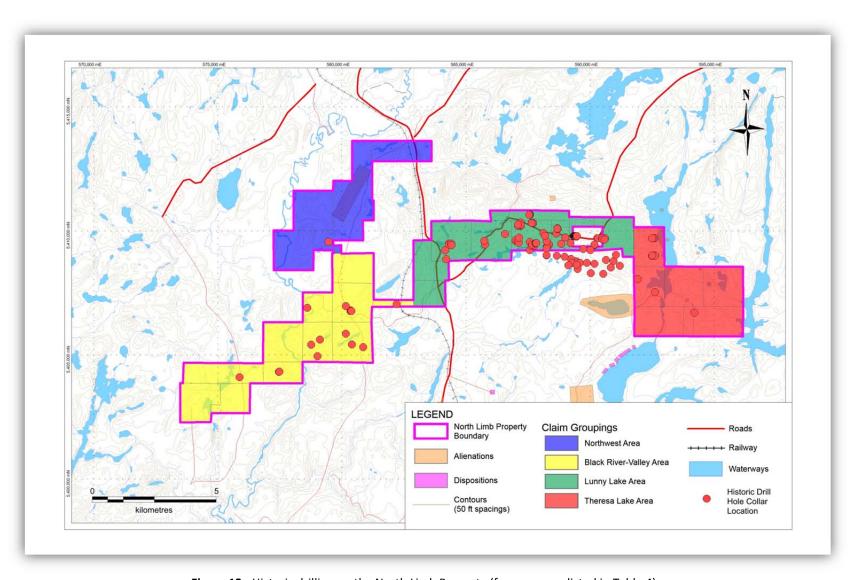


Figure 12 - Historic drilling on the North Limb Property (from sources listed in Table 4).



## 8 Deposit Types

#### 8.1 Surrounding Deposit Types

There are a number of deposit types in the area, including "Hemlo-Type" gold deposits at the Hemlo Mining Camp, polymetallic (Cu-Zn) mineralization in shear zones, gold-bearing shear zones (Big Duck Lake area), Cu-Ni showings in gabbroic or ultramafic rocks (Geordie Lake, Marathon PGM project, Coldwell Complex), VMS deposits (Manitouwadge, Big Lake, Steel River), Cu in red beds, diamonds in spessartite dykes (Kilala Lake), molydenite mineralization in quartz veins (Big Lake), are U and rare earth elements (REE) in carbonatites (Prairie Lake Complex).

Because the targets on the North Limb Property are similar to those at Hemlo, and the Hemlo-type gold deposits are the most economically interesting, an understanding of the Hemlo deposit in terms of its geology, origin, and mineralization is essential.

#### 8.2 Hemlo Gold Deposit

The Hemlo gold deposit is operated by Barrick Gold Corporation. From their website (<u>www.barrick.com</u>), production of gold from Hemlo was 219,000 ounces in 2015, and proven plus probable mineral reserves for the deposit are 917,000 ounces of gold as of December 31, 2015. Hemlo is the site of three of the largest producing gold mines in Canadian history: the Williams Mine, the Golden Giant mine, and the David Bell mine. Only the Williams mine is still operational, with both underground and open pit production.

Similar to the North Limb Property, the Hemlo deposit is located within the Heron Bay-Hemlo greenstone belt, which falls within the Wawa Subprovince of the Superior Structural Province. It lies within a domain of tightly folded clastic sediments at the regional transition between clastic sediments and a suite of intermediate to felsic volcanics called the Moose Lake Porphyry, a few hundred meters north of the regional Hemlo reverse shear zone. The shear separates the volcanics and the sediments from a southern domain of mafic volcanics and clastic sediments.

Mineralization at Hemlo is enigmatic compared to other Archean lode gold deposits due to the fact that it is characterized by an exotic mineralogy containing elements such as As, Hg, Sb, Ba, V, and Mo. The genetic concepts range from syngenetic to epigenetic types of mineralization. The immediate hosts to the ore at Hemlo are metamorphosed greywacke, mudstone, conglomerate, and a 2772±2 Ma quartz-eye-bearing porphyry unit called the Moose Lake Porphyry. Post-ore dykes of 2680 to 2690 Ma cut the sequence. All of the rock units strike subparallel to a strong south-southeast trending and north dipping S2 penetrative foliation which increases in intensity towards the Hemlo Shear.

The Main ore zone at Hemlo is a 2.9 km long tabular body, concentrated on the northern margin of the porphyry, hosted by both the sheared porphyry and adjacent fragmented rocks, extending to a depth of at least 1.35 km (2.5 km down plunge). The thickness of the ore zone ranges from 2 m in the David Bell mine to 50 m in the Williams mine. A Lower ore zone occurs at depth on the southern contact of the porphyry, possibly representing a folded repetition of the Main ore zone. Other (less important) mineralized zones lie either totally within the porphyry or within adjacent sediments. Mineralization comprises both fracture controlled and disseminated pyrite and



molybdenite, commonly with associated barite, roscoelite (green vanadium-bearing mica), tellurides, and quartz-stibnite-cinnabar-realgar-bearing veinlets. The ore zone has undergone intense K-feldspar alteration, grading outwards into muscovite within the porphyry and grading further to aluminosilicates within the surrounding sediments. Temporal relationships suggest that the ore pre-dates the penetrative S2 foliation and may have been emplaced early in the geological history of the district.

As noted by Lin (2001), both the Main and Lower ore zones at Hemlo consist of feldspathic ore, sericitic ore, and several minor types of ore. The ore is variably enriched in Mo (molybdenite), Au (native gold), As (realgar), Hg (cinnabar), Sb (stibnite and native antimony), Ba (barite and barium-rich microcline), V (roscoelite), Tl (thallium), Zn (zinc), and W (tungsten). Gold is disseminated throughout the ore.

As described in more detail by Lin (2001), the feldspathic ore is a massive to banded to fragmental rock consisting of microcline (40-55%, locally up to 90%), quartz (10-40%), muscovite, green (V-rich) mica, and minor biotite. It normally contains 3-35% pyrite and molybdenite. The latter gives the rock a bluish colour and is a good indicator of gold. The feldspathic ore is typically high grade. The sericitic ore is strongly foliated. It is composed of quartz (40-60%), muscovite (15-30%, locally up to 60%), feldspar, biotite, and green mica (Kuhns, 1986). It contains up to 15% pyrite and contains traces of molybdenite. Typically, the sericitic ore is not as high grade as the feldspathic ore, which it tends to envelope.

There is apparently no single depositional model that fits the observational data for the Hemlo deposit, as it is not a typical Archean shear-hosted gold deposit, and its genesis is still not fully understood. Lin (2001) made several observations regarding the origins of the Hemlo deposit, and they are included here for background information, pertinent to the exploration of similar mineralization on the North Limb Property.

- Gold-bearing quartz veins at Hemlo formed during an Au-Sb-Si remobilization event. They have a widespread distribution but are volumetrically minor.
- Elements Sb, As, Hg, Te, Tl, and Ba are often characteristic of shallow epithermal gold deposits.
- Carbonate veins (typical of most Archean gold deposits) are absent.
- Barite is spatially associated with both the main and lower ore zones and forms part of the baritic ore, which is banded and has isotopic signatures similar to sedimentary barite exposed west of Hemlo and is thus interpreted to be sedimentary in origin. The sedimentary barite is closely associated with the ore zones and is clearly the protolith of the baritic ore.
- The contact between the ore and the sericitized massive Moose Lake porphyry is extremely sharp.
- The ore rarely contains quartz phenocrysts, which seems to indicate that the protolith of the majority of the ore is not the quartz porphyry, a conclusion supported by the geochemical data.
- The mafic fragmental unit is spatially closely associated with the ore, and is generally mineralized and has a gradational contact with the ore. Relict fragmental features are common in the ore. It is therefore likely that the mafic fragmental unit (or more precisely its protolith) is the main protolith of the ore.
- Contacts between the ore and the hanging-wall and footwall sediments are generally gradational. It is likely that part of the ore is mineralized hanging wall and footwall sediments.
- On the basis of overprinting relationships and fold styles, four generations of ductile shearing and folding as well as brittle faulting are recognized in the Hemlo area. Deformation is most intense in the Hemlo shear zone, where mylonites are widespread. The shear zone is ~700 to 1000m wide.



- The ore is in general strongly deformed, especially in the main and lower zones. It is folded by F2 folds (at outcrop, orebody, and camp scales), and exhibits a generally strong S2 foliation.
- The ore and altered rocks are cut by feldspar porphyry dikes that were intruded late during G2 deformation.
- Feldspathic ore is in general less deformed than the sericitic ore, indicating that alteration mineral
  assemblages controlled the strain distribution. Sericite and green mica occur parallel to S2 foliation,
  indicating that the minerals' growth was controlled by G2 structures, either the alteration took place
  during G2 deformation, or it took place before G2 and the minerals recrystallized during G2. These
  observations indicate that the alteration and mineralization occurred before G2 and/or early during G2
  deformation.
- At the outcrop scale, zones of potassic alteration and mineralization occur parallel to the axial plane in the hinge area of F2 folds. Such a spatial association indicates that this alteration and mineralization could not have occurred before F2 folding.
- The Hemlo gold deposit is spatially closely associated with the Hemlo shear zone, a G2 shear zone, and especially the E-SE-trending segment of the shear zone. Such a spatial association, in not a coincidence, indicates that the location of mineralization was controlled by the geometry of the Hemlo shear zone.

Genetic models proposed to explain the Hemlo gold deposit include a) epithermal and syngenetic models, b) shear zone models, c) porphyry models, and d) a late replacement skarn model. The study by Lin (2001) as well as most previous work indicates that the porphyry is volcanic in origin, with no evidence supporting an intrusive origin containing multiple intrusive phases. A syngenetic origin is also unlikely according to Lin (2001), as there is evidence that alteration and mineralization took place significantly after the deposition of the host Moose Lake porphyritic rocks.

A fragmental and barite-bearing horizon, occurring at the stratigraphic lower contact of the Moose Lake Porphyry, is spatially closely associated with the ore zones, and the mafic fragmental unit is most likely an altered felsic fragmental rock. The protolith of the ore is mainly the fragmental unit and the barite, but also includes the calc-silicate-rich wacke within the hanging wall and footwall sediments, and locally the fragmental portion of the Moose Lake porphyry. This indicates that the location of alteration and mineralization was probably controlled by the stratigraphically lower contact of the Moose Lake porphyry, and by the fragmental rock and barite at the contact. In addition, the deposit is spatially associated with the Hemlo shear zone and occurs dominantly in the E-SE-trending segment of the shear zone. Lin (2001) proposed that the E-SE-trending segment of the shear zone may have served as the conduit for Au-Mo-bearing fluids.



## 9 Exploration

Canadian Orebodies has conducted a limited exploration program thus far on the North Limb Property, consisting of a prospecting program from June 22 until July 3, 2016, and a helicopter-borne VTEM<sup>TM</sup>max electromagnetic and aeromagnetic geophysical survey flown October 19<sup>th</sup> – Nov 9<sup>th</sup>, 2016. Total amounts of expenditures by Canadian Orebodies on the North Limb property to date are \$183,079.35. Results of these programs are discussed below.

#### 9.1 Prospecting (June – July 2016)

A prospecting program was conducted by Fladgate on behalf of Canadian Orebodies from June 22 until July 3, 2016. The goal of this program was to check access, re-locate historic showings, and also prospect new potential areas of mineralization. A total of 48 grab samples and 14 soil samples were collected across the property (**Figure 13** and Figure 14). Total cost of the prospecting program was \$25,605.85. Samples were taken across the property, with a location bias closer to easily-accessed areas. The entire North Limb Property was therefore not sampled systematically in this limited prospecting program, and as such, the sampled material does not accurately represent or delimit the identity and amount of mineralization.

Encouraging gold and VMS-style mineralization was found in only a few samples, as most returned very low gold grades (only up to 0.06 g/t Au). Base metal values were also low, except for a few anomalous copper values, up to 0.28%. Significant assays returned from the 48 grab samples are presented in Table 5. There were no significant soil samples returned.

The most significant results came from the historic "Valley Boulder", which is a high grade float sample located in the southwestern tip of the property (Figure 9 and **Figure 13**), in the Black River-Valley area. Samples taken from this boulder during the prospecting program returned up to 3.17 g/t Au. It was also found to be anomalously high in arsenic content. Subsequent to this prospecting program, N. Pettigrew visited the property and also sampled the "Valley Boulder". Results from a 1 kg grab sample returned 6.15 g/t Au and >1% As (Section 2.4). This occurrence has historically returned consistent Au grades (between 3 and 11 g/t; personal communication G. McKinnon – Canadian Orebodies).

**Table 5** - Significant Assay Results from 48 Grab Samples Collected During the Summer Prospecting Program.

Sample Type	Sample ID	Easting NAD83Z16	Northing NAD83Z16	Year	Au ppm	As ppm	Cu ppm	Pb ppm	Zn ppm
Valley Boulder	1384417	574187	5402622	2016	0.903	2920	82.8	3	95.5
Valley Boulder	1384418	574187	5402622	2016	3.17	5340	128.5	4.29	85.4
Bedrock	1384438	586160	5410191	2016	0.01	0.3	2780	8.09	206
Bedrock	1384439	586160	5410195	2016	0.011	0.24	2120	7.59	236
Bedrock	1384442	586346	5410015	2016	0.049	3.96	58.6	7.41	134
Bedrock	1384443	586352	5410002	2016	0.064	6.73	37.2	9.16	88.7
Bedrock	1384445	586439	5410229	2016	0.059	42.6	145.5	58.5	638



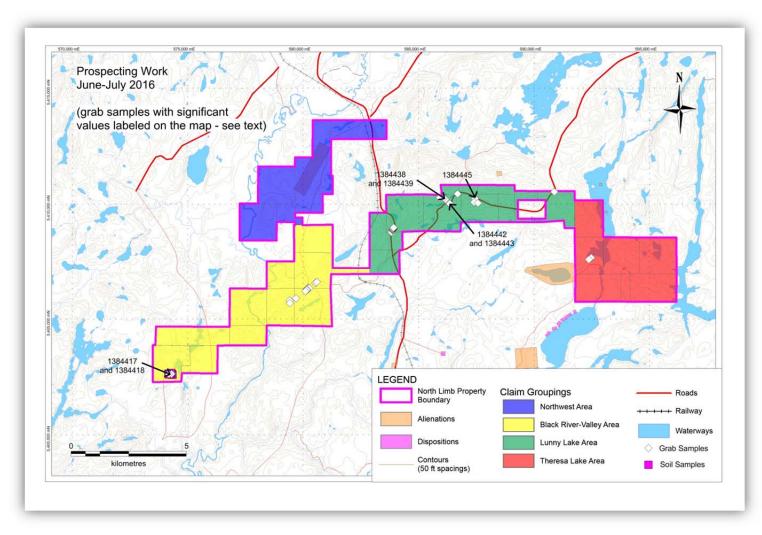


Figure 13 - Prospecting Sample Locations (June-July 2016).











Figure 14 – Photographs of Prospecting samples collected June-July 2016.



# 9.2 Helicopter-Borne VTEM™max Electromagnetic and Aeromagnetic Geophysical Survey (October 19 - November 9, 2016)

Canadian Orebodies commissioned Geotech Ltd. based out of Aurora, Ontario, Canada, to fly a helicopter-borne VTEM<sup>TM</sup>max electromagnetic and aeromagnetic geophysical survey over the North Limb Property<sup>1</sup>. The survey was flown between October 19<sup>th</sup> and November 9<sup>th</sup>, 2016. The purpose of this geophysical survey was to unveil any possible conductive and/or magnetic bodies within the North Limb Property, and improve knowledge on regional geological structure. The survey covered 108 km² (roughly 90% of the North Limb claims) with 823 line kilometers being flown at 150 m spacings. Total cost of the survey was \$157,473.50. The location of the survey flight path is shown in **Error! Reference source not found.**, and the coverage of the survey in relation to the North Limb Property boundary is shown in Figure 16. Larger, full resolution images can be found within Geotech's report (Appendix 3).



Figure 15 – Geotech Airborne Survey Area Location on Google Earth (taken from Geotech report, 2016).

<sup>&</sup>lt;sup>1</sup> The North Limb Property was previously named the 'Wabikoba' Property, and as such, the Geotech geophysical report refers to the Property using this name.



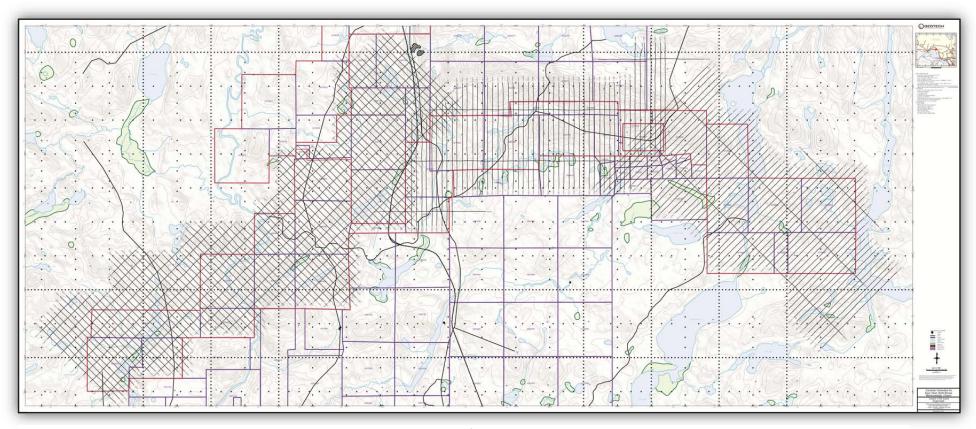


Figure 16 - Detailed Flight Path of the Geotech Airborne Survey.



#### 9.2.1 Procedures and Parameters

The geophysical survey was carried out using a versatile time domain electromagnetic (VTEM<sup>TM</sup>max) system with Full-Waveform processing. Measurements consisted of Vertical (Z) and In-line Horizontal (X) components of the EM fields using an induction coil and the aeromagnetic total field using a caesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 823 line-kilometers of geophysical data were acquired during the survey, covering an area of 108 km<sup>2</sup>.

During the survey, the helicopter was maintained at a mean altitude of 117 m above ground with an average survey speed of 80 km/hr. Data was uploaded daily, for quality assurance and quality control purposes.

During the survey, the VTEM<sup>TM</sup> Receiver and transmitter coils were in concentric-coplanar and Z-direction oriented configuration. The receiver system for the project also included a coincident-coaxial X-direction coil to measure the in-line dB/dt and calculate B-Field responses. The Transmitter-receiver loop was towed at a mean distance of 48 m below the aircraft. A comprehensive account of the Transmitter-Receiver parameters can be found in Geotech's report (Appendix 3).

## 9.2.2 Significant Results and Interpretation

The Geotech VTEM<sup>™</sup>max survey results are presented in Figure 17, Figure 18, and Figure 19, modified from Geotech's survey report (Appendix 3). The entire North Limb Property is displayed for each figure, along with a preliminary geological interpretation completed by the Authors. This interpretation overlies a) the calculated first derivative of the total magnetic field intensity (Figure 17), b) B Field Z component overlain on the total magnetic field intensity (Figure 18), and c) the electromagnetic stacked profiles of dB/dt Z components (Figure 19).

The Geotech magnetic survey highlights the flattened arcuate shape of the greenstone belt (Figure 17 and Figure 18). The 1<sup>st</sup> vertical magnetic map shows a tight regional fold, as well as a strong N-S trending fault in the center of the property. The magnetic data also highlights the numerous Proterozoic diabase dykes which cross cut the area. North-south trending (most likely Marathon swarm) dykes appear to be the most common, with more minor northwest trending (most likely Matachewan swarm) dykes.

The Geotech electromagnetic survey has retuned several conductors (Figure 18 and Figure 19). Many of these conductors, for instance the large continuous conductor located in the southwest of the property, likely represent a lithological unit such as sulfide facies BIF or argillite, given their coincident magnetic highs and lithological parallel trends. However, other conductors such as that located in the south east-central part of the property are much more discrete and do not have coincident mag highs and represent potential VMS targets.



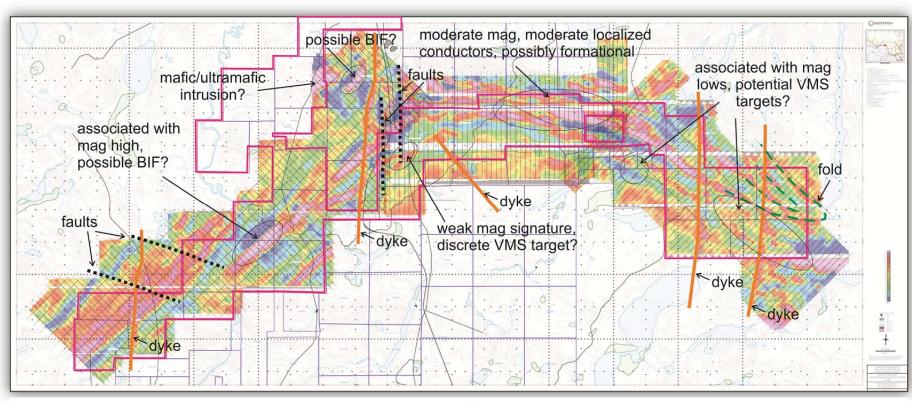


Figure 17 - Calculated First Derivative of the Total Magnetic Field Intensity.



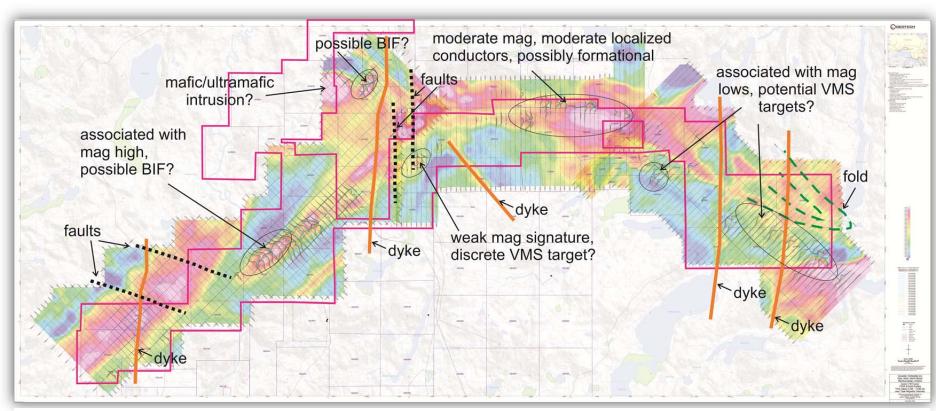


Figure 18 - Total Magnetic Field Intensity overlain B Field Electromagnetic data.



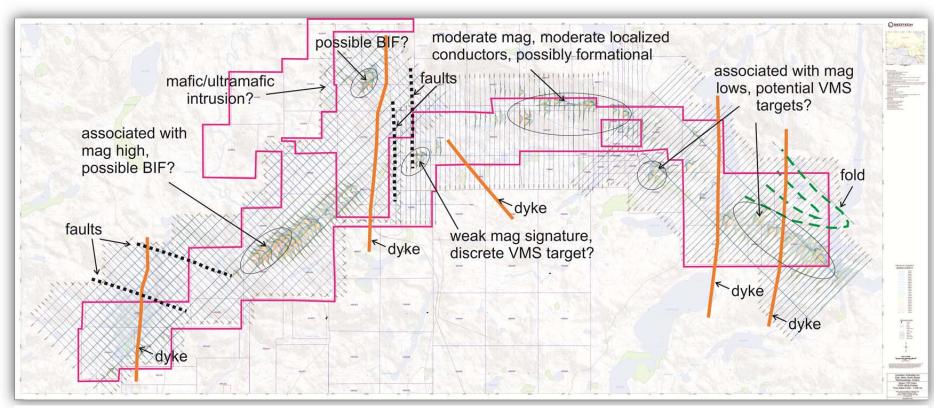


Figure 19 - Electromagnetic stacked profiles of dB/dt Z Components.



# 10 Drilling

No drilling has been completed on the property by Canadian Orebodies. Historical drilling was completed in at least 17 different drill campaigns, by 11 companies between 1962 and 1998. They include MacIntyre Porcupine Mines Ltd. (1962-1964), Caravelle Mines Ltd. (1964, 1967-1969), Consolidated Mining and Smelting Co. (1965), Qued Resources Corp. (1982-1985), Midnapore Resources Inc. (1983), Norman Resources Ltd. (1983), Noranda Resources Ltd. (1983, 1985, 1986), Harlin Resources Ltd. (1985), Granges Exploration Ltd. (1985), Hemlo Gold Mines Inc. (1996), and Battle Mountain Gold Corp. (1997-1998). A detailed accounting of all drilling activities is listed in Table 4 and locations are illustrated in Figure 12.

# 11 Sample Preparation, Analyses, and Security

### 11.1 Confirmatory and Grab Samples

The QP visited the property on August 15<sup>th</sup> and 16<sup>th</sup>, 2016 and sampled the "Valley Boulder" in the far southwest corner of the property, within the Black River-Valley group of claims. A 1 kg sample (NP-16-WAB-001) was taken for analysis by **ALS Minerals** (a division of ALS Canada Ltd.) for gold and 48 trace elements. The sample was submitted to ALS Minerals to their laboratory facility in Thunder Bay, Ontario, on September 16, 2016. The sample was in the possession of the QP between collection and submission dates. The 1 kg sample was weighed, pulverized, crushed down to <2mm mesh size, and split using a riffle splitter. The split was then pulverized to <75 µm mesh size. The sample was then sent to the ALS Vancouver laboratory located in North Vancouver, BC, for analysis. The Au content was determined by fire assay and atomic absorption spectroscopy (AAS) on a 50 g sample, while the abundance of >40 trace elements was determined by first digesting a small amount of the prepared pulp in a 4-acid mixture (hydrochloric acid HCl, nitric acid HNO<sub>3</sub>, hydrofluoric acid HF, and perchloric acid HClO<sub>4</sub>), diluting the resulting digestion, and analysing an aliquot by "Super Trace Lowest Detection Limit" ICP-MS (inductively-coupled mass spectrometry). Detection limits reported by ALS and the certificate of analysis for the "Valley Boulder" sample taken by N. Pettigrew can be found in Appendix 2.

Prospecting samples underwent the same analytical protocol as described above, except that the 14 soil samples were screened to only -180  $\mu$ m mesh before analysis by both AAS and ICP-MS. These samples were also digested in aqua regia (only HCl and HNO<sub>3</sub>), instead of a 4-acid digest. The 48 rock samples were treated to the same procedure exactly as the confirmatory sample described above. The certificates for analysis of the soil and grab samples from the prospecting program are also included in Appendix 2.

No portion or aspect of the sample preparation or analysis of either the confirmatory sample or prospecting grab samples or soil samples was conducted by an employee, officer, director, or associate of the issuer, Canadian Orebodies Inc. ALS Canada Ltd. is independent from both Canadian Orebodies and Fladgate Exploration.

ALS Canada Ltd. operates both ALS Minerals Division located in Thunder Bay, Ontario, and the ALS Minerals Division located in North Vancouver, BC. All ALS laboratories are ISO 17025:2005 accredited.



#### 11.2 Results

The confirmatory sample NP-16-WAB-001 taken by N. Pettigrew was analyzed by the same laboratory employing the same technique compared to the prospecting grab samples taken during the June-July program. The analysis of this confirmatory sample is found below in Table 6. The analysis shows a similarity to the 2 reported Au-bearing "Valley Boulder" samples taken by Fladgate prospectors in the June-July 2016 prospecting program, as reported in Table 5. A complete record and certificate of analysis for all prospecting and confirmatory samples taken can be found in Appendix 2.

Table 6 - Trace Element Geochemistry of NP-16-WAB-001 ("Valley Boulder")

Analyte	ppm	%	Analyte	ppm	%
Au	6.54		Na		0.802
Ag	0.607		Nb	2.43	
Al		7.08	Ni	149.5	
As	>10000		Р		0.026
Ва	143		Pb	3.54	
Ве	0.84		Rb	59.8	
Bi	1.055		Re	(<0.002)	
Ca		9.05	S		1.27
Cd	0.200		Sb	15.65	
Ce	8.26		Sc	34.0	
Со	43.8		Se	1.0	
Cr	205		Sn	1.06	
Cs	32.6		Sr	165.5	
Cu	140.5		Та	0.16	
Fe		8.09	Te	0.32	
Ga	17.10		Th	0.328	
Ge	0.16		Ti		0.556
Hf	0.574		TI	0.358	
In	0.069		U	0.10	
К		1.69	V	251	
La	3.29		W	12.90	
Li	89.7		Υ	19.20	
Mg		4.34	Zn	127.5	
Mn	1625		Zr	18.6	
Мо	0.29				



#### 11.3 Sample Preparation Adequacy

The QP believes the sampling, preparation, transport, and final analysis of both the soil and grab samples from the 2016 prospecting program and his own confirmatory sample by ALS Minerals (a division of ALS Canada Ltd.) to be satisfactory and adequate. The methods employed are industry standard, and the analytical technique used produces the lowest detection limit available for commercial facilities.

There is no reason to doubt the validity of these results, in the express opinion of the QP for this Technical Report.

## 12 Data Verification

The grade of the confirmatory sample collected by the QP was very similar to the analyses returned on different grab samples taken from the "Valley Boulder", collected by Fladgate prospectors in June-July 2016 (see Appendix 2). In the opinion of the Authors and verified by the QP, all data presented in this Technical Report on the North Limb Property is adequate for the purposes intended by this report.

# 13 Mineral Processing and Metallurgical Testing

There has been no Mineral Processing or Metallurgical Testing on any samples taken from the North Limb Property by the current owners.

## 14 Mineral Resource Estimates

There have been no Mineral Resource Estimates for any part of the North Limb Property by the current owners, and nor any historic estimates, to the knowledge of the Authors.

## 15 Mineral Reserve Estimates

There have been no Mineral Reserve Estimates for any part of the North Limb Property by the current owners, and nor any historic estimates, to the knowledge of the Authors.

# 16 Mining Methods

The North Limb Property is still an early-stage exploration project, with no historic or contemporary mineral resource or mineral reserve estimates. Therefore mining methods are not currently relevant.



## 17 Recovery Methods

The North Limb Property is still an early-stage exploration project, with no historic or contemporary mineral resource or mineral reserve estimates. Therefore, recovery methods are not currently relevant.

# 18 Project Infrastructure

There are no plans for infrastructure placement at this time on the North Limb Property.

## 19 Market Studies and Contracts

As this is an early stage exploration project, there have been no markets identified for the resulting product on this property. There have been no studies or analyses undertaken by the issuer, including market studies, commodity price projections, product valuations, market entry strategies, or product specification requirements.

# 20 Environmental Studies, Permitting, and Social or Community Impact

On behalf of Canadian Orebodies, Fladgate applied for two Exploration Permits for the North Limb Property. The first permit was issued September 9, 2016 and is valid until September 8, 2019. This permit (PR-16-10931) covers mechanized drilling, mechanized stripping, and line-cutting activities on 12 claims (see footnote to Table 3). The second permit (PR-16-10963) was issued for the 25 remaining claims of the North Limb Property (see footnote to Table 3) on October 21, 2016. This second permit covers the same exploration activities as the first permit, and is valid from October 21, 2016 until October 20, 2019. There are no Exploration Plans for the North Limb Property.

At this time, there are no known environmental issues related to the North Limb Property. There are no known social or community related requirements for the project, and there are no ongoing negotiations or agreements with First Nations communities or surface rights owners.

As this project is still in the early stages of exploration, and no development has taken place, it follows that there is no mine closure plan, no remediation/reclamation plan at this time, and also no costs to report relating to mine closure.

# 21 Capital and Operating Costs

There are no capital and/or operating costs, other than the normal year assessment work due on the unpatented mining claims, as this project is at the early stages of exploration.



# 22 Economic Analysis

An economic analysis of this project has not been conducted for this Technical Report, as the North Limb Property is in the very early stages of exploration.

# 23 Adjacent Properties

Any historical estimates of mineral resources or mineral reserves from adjacent properties are disclosed in accordance with paragraph 2.4(a) of the Instrument. The QP did not verify the following information, and despite the proximity of the adjacent properties, the information presented in Section 23 is not necessarily indicative of the mineralization on the North Limb Property.

There are many properties directly adjacent to the North Limb Property, held by individual prospectors, groups of prospectors, or companies operating in Ontario. A map to illustrate the land packages is presented in Figure 20. The property directly south of the 'Lunny Lake' area of the North Limb Property is held by Beaufield Resources Inc., and has been actively explored in the recent past (e.g. Fowler, 2008). There are at least four significant drill intercepts on this property, as outlined in B. Fowler's 2008 report. Comments regarding these intercepts have

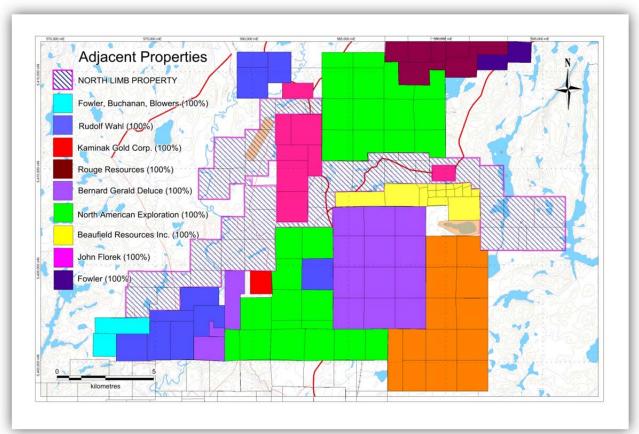


Figure 20 - Adjacent Properties as of December 7, 2016 (Claimaps, MNDM).



been included in the "Significant Showings" section, and for completeness, are also repeated here. Portions of this property were historically held by Hemlo Gold.

In 1996, Hemlo Gold encountered 1 m of 37.35 g/t Au approximately 200 m southeast of the historically-named "Lunny Lake" property (now part of Beaufield Resources' property), which is just south of the current "Lunny Lake" Area (south of Canadian Orebodies' claims 4279129 and 4279959). A second drill hole 200 m further east, encountered 3 m of 3.9 g/t Au, including 1 m of 10.6 g/t Au. These holes were drilled into a 'feldspathic unit' that is closely associated with the Lunny Lake Porphyry. The porphyry is 100-150 m wide and strikes across the full length of the historically-named "Lunny Lake" property, a distance of 4 km (see Figure 10). It is thought to have a similar appearance and origin to the Moose Lake porphyry at Hemlo, and for this reason is worthy of additional exploration, according to the Price (2008) report. These showings and drill holes were collared on claims now held by Beaufield Resources Inc.

There are at least 8 other claim-holders with properties adjacent to the North Limb Property as of December 7, 2016. All are either individual claim stakers or junior exploration companies, carrying out exploration activities over a wide range of scale. These include John Florek (central doughnut claim within the Lunny Lake area and claims joining the current Northwest, Lunny Lake, and Black River-Valley areas), Rouge Resources (Dotted Lake area), David Clement (southeast of Theresa Lake area), Bernard Deluce (block of claims south of Beaufield's property), North American Exploration Ltd. (block of claims just west of Hwy 614, Rudolf Wahl (scattered multiclaim blocks in the northern and western portions adjacent to the North Limb Property), Brian Fowler as an individual prospector (two claims near Dotted Lake), and in a grouping with Buchanan and Blowers (two claims at the extreme west of the property).

While there are no proximal mineral deposits of note, regionally there are several large deposits, which host current or historic mines, (see Figure 6), including Geco's VMS deposit near Manitouwadge, Marathon Cu-Ni-PGM, the Sugar Au deposit, and also the Hemlo Au mine.

## 24 Other Relevant Data and Information

There is no other relevant data or information needing to be disclosed, that is not already part of this 43-101 Technical Report.

# 25 Interpretation and Conclusions

While the property has seen a great deal of historic exploration, the vast majority has been small-scale 'grassroots' style programs. The property has been highly fragmented until a recent consolidation by Canadian Orebodies, and as such it has not experienced a more regional systematic approach to exploration.

The "Valley Boulder" is most likely a dropstone from an ancient glacial lake, as it is quite distinctive geochemically from the surrounding bedrock, and contains anomalously high As values. While lower grade (2.4 g/t Au), the "Road



Zone" boulder (Price, 2008) is intriguing. Overburden in this area is not as thick as around the "Valley Boulder", opening up the possibility of a mechanized stripping program to try and trace its source.

The Geotech VTEM survey retuned numerous conductors. Several of these likely represent a lithological units such as sulfide facies BIF or argillite, given their coincident magnetic highs and lithological parallel trends. However, other conductors such as those located in the south east-central part of the property are much more discrete and do not have coincident mag highs and represent potential VMS targets.

Previous exploration has encountered extensive alteration conducive to both gold- and VMS-style mineralization, as well as local indications of potential copper-nickel-PGE mineralization. Thus far, most historic gold showings and drill intercepts have produced only moderately significant results (see Section 7.2 for a review of highlighted showings), with the exception of an OGS sample from the Lunny Lake area, which returned 8.9 g/t Au. Historic drilling on claim 4283728 located just south of the Lunny Lake area on Beaufield Resources' property produced 2.1 m of 3.2 g/t Au, 2.9% Cu, 2.1% Zn, and 53 g/t Ag. These results suggest that the Lunny Lake Area is still prospective for additional discoveries. The degree and extent of favourable alteration and mineralization, and the proximity to both the Hemlo gold and Manitouwadge VMS camps, leaves open the possibility that ore grade mineralization is yet to be found.

# 26 Recommendations

#### 26.1 North Limb Property Exploration Targets

A two-phase program is recommended for the North Limb Property. This consists of a Phase 1 compilation of historical data and structural re-interpretation of the northern Hemlo greenstone belt using the recently flown helicopter-borne VTEM<sup>TM</sup>max geophysical survey to generate target areas. These targets areas would then be followed up by ground trothing and finally line cutting and Induced Polarization (IP) Geophysics on the highest priority areas. Assuming the ground truthing of these new structures is favourable, Phase 2 would then consist of drill testing the new target areas. All prospecting and drill samples should be analyzed for pathfinder elements such as Ba, Mo, Hg, V, Sb, As, Tl (Gold) and Sb, Bi, Cd, In, Sb, Se, Sn, Tl (VMS) in order to target both Hemlo-style gold and Geco-style VMS mineralization.

The budget for the phases of exploration is summarized in Table 7 below.



**Table 7** - Budget for Proposed Exploration on the North Limb Property.

Phase 1 - Compilation and Structural Interpretation/Targeting and Ground Truthing Program (~5 months)							
			Number	Rate	Days	Amount	
Senior Geologists			1	\$800	40	\$32,000	
Project Geologists			2	\$500	40	\$40,000	
Geotechnician			1	\$400	40	\$16,000	
Line Cutting			15km	\$1400		\$21,000	
IP Geophysics			15km	\$2500		\$37,500	
Accommodations,	Rentals and Supplies					\$60,000	
		Subtotal				\$206,500	
Phase 2 – Drill Pro	ogram (~1 month)						
Meters Drilled	All-in Cost / Meter						
1000 m	\$220					\$220,000	
Assessment Repo	rt					\$20,000	
15% Contingency						\$66,975	
		<b>Grand Total</b>				\$513,475	



## 27 References

Α

- Aerodat Ltd. (1983) Report on Combined Helicopter-Borne magnetic, electromagnetic and VLF-EM survey on Black River Claims (Aug 1983) (AFRI 42C13SW0035).
- Aerodat Ltd. (1983) Report on Combined Helicopter-Borne Magnetic and Electromagnetic Survey Hemlo, Ontario (Nov 4, 1983) (AFRI 42C13SW0044).
- Aerodat Ltd. (1983) Report on Combined helicopter-borne magnetic and electromagnetic survey Hemlo, Ontario (Oct 31, 1983) (AFRI 42C13SW0045).
- Aerodat Ltd. (1983) Report on combined helicopter-borne magnetic, electromagnetic and VLF-EM Survey Black River Claims Ontario (Oct 1983) (AFRI 42C13SW0046).
- Aerodat Ltd. (1983) Report on combined Helicopter-borne magnetic and electromagnetic survey Hemlo, Ontario (Oct 31, 1983) (AFRI 42C13SW0047).
- Aerodat Ltd. (1983) Report on Combined Helicopter-Borne Magnetic and Electromagnetic Survey, Hemlo, Ontario (Sept, 1983) (AFRI 42C13SW0053).
- Aerodat Ltd. (1983) Report on combined helicopter-borne magnetic and electromagnetic survey Hemlo, Ontario (Nov, 1983) (AFRI 42C13SW0055).
- Aerodat (1983) Report on Combined Helicopter-borne magnetic and electromagnetic surveys Hemlo, Ontario (October, 1983) (AFRI 42C13SE0048).
- Aerodat Ltd. (1983) Report on Combined Helicopter-Borne Magnetic and Electromagnetic Survey Hemlo Ontario (Sept 1983) for Sunexco Energy Corp. (AFRI 42C13SE0055).
- Aerodat Ltd. (1983) Report on magnetic and EM survey for Levelland Energy and Resources Ltd.
- Allan, B. D. (1983) Report on the Geological and geochemical soil survey of the Firetower gold property for Eden Roc Mineral Corp. (Oct 21, 1983) (AFRI 42C13SW0037).
- Anderson, S. D. (1995) Geophysical report on the Wabikoba Lake property White Lake Area Thunder Bay Mining Division for Homestake Canada Inc. (AFRI 42C13SE0067).

В

- Baker, N. W. (1986) Report on VLF and Magnetometer surveys (June 22, 1986) for Key Lake Exploration Ltd. & Brandy Brook Mines Ltd. (AFRI 42C13SW0119).
- Barry, J. M. (1983) Report on the Geological mapping in the Theresa Lake area (Aug 31, 1983) for Neptune Resources Corp. (AFRI 42C13SE0045).
- Barry, J. M. (1983) Report on the Geological Mapping in the Theresa Lake area (Sep 13, 1983) for Tylox Resources Corp. (AFRI 42C13SE0051).
- Barry, J. M. (1983) Report on Geological Mapping in the Theresa Lake area (Sep 30, 1983) for Midnapore Resources Inc. (AFRI 42C13SE0053).
- Barry, J. M. (1983) Report on the Geological mapping in the Theresa Lake area (Sep 10, 1983) for Carrera Resources Ltd. (AFRI 42C13SE0040).
- Bartley, M.W. and T.W. Page, Department of Industrial Development, CPR (1957) A Geological Report on the Hemlo Area, Thunder Bay District, Ontario (AFRI 42C13SE0059).
- Bernatchez, R. A. (2003) Report on the EM-VLF and magnetic surveys of Valley Lake property (Nov 27, 2003) for B. Fowler (AFRI 42C13SW2004).



Boileau, P. and Turcotte, R. (1989) Geophysical Survey property of Aylmer Mines Ltd. Wabikoba Project Wawa District Ontario (AFRI 42C13SE0006).

Bumbu, C. (1992) Report on Trenching and prospecting, Theresa Lake property (Aug 7, 1992) (AFRI 42C13SE0101).

С

Caravelle Mines Ltd. (1967-1969) Diamond Drilling Report No. 13, Wabikoba Lake Area (AFRI 42C13SW0088).

Caravelle Mines Ltd. (1966-1969) Diamond Drilling Report No. 12 for Wabikoba Lake Area (AFRI 42C13SW0090).

Carriere, D. (1984) Report on airborne electromagnetic survey (Aug 13, 1984) (AFRI 42C13SW0022).

- Carriere, D. R. (1986) Report of Work VLF-EM Survey Kelly Kerr Claim Group (NTS 42C13) for Noranda Exploration Company Ltd. (May 2, 1986) (AFRI 42C13SW0120).
- Carriere, D. R. (1986) Report on geophysical survey, Kelly Kerr claim group (Feb 7, 1986) for Noranda Exploration Co. Ltd. (AFRI 42C13SW0131).
- Cavey, G. (1985) Report on the property of Qued Resources, Wabikoba Lake area (Jan 3, 1985) for Qued Resources Corp. (AFRI 42C13SW0124).
- Charlton, G. (1992) Report of work, Lampson Lake-Pinegrove Lake property (Nov 30, 1992) for Noranda Minerals Inc. (AFRI 42C13NW8755).
- Clark, J. G. (1996) Report of the VLF-EM survey on the Phil Lake property (Jan 1996) for B. Fowler and M. Schuman (AFRI 42C13SW0129).
- Consolidated Mining and Smelting Co. (1965) Diamond Drilling Report No. 11 (AFRI 42C13SW0091).
- Cooper, P. (1983) Line-cutting/Geochemical Report, Pryme Energy Option, Wabikoba Lake for Noranda Exploration Co. Ltd. (Oct 20, 1983) (AFRI 42C13SW0032).

D

- Degagne, P. (1996) Report on Diamond drilling, Oracle Property (March 25, 1996) for Hemlo Gold Mines, Inc.
- Domsalski, W. (1965) Report on Combined Airborne Geophysical Survey Over Pulfa Group of Claims (AFRI 42C13NE0010).
- Downie, I. F. (1994) Report on work, Phil Lake property for Brian Fowler (Dec 20, 1994) (AFRI 42C13SW0031).
- Dutka, R. J. (1983) Report on the geological and geochemical surveys of the Black River property for Seemar Mines Ltd. (Sep 20, 1983) (AFRI 42C13SW0041).
- Dutka, R. J. (1983) Report on the Geochemical survey of the Black River property for Rodeo Resources Ltd. (Sep 30, 1983) (AFRI 42C13SW0052).

Ε

- Edwards, J. (1997) Battle Mountain Canada Ltd. Report on Diamond Drilling Placer Option (Qued) Property (NTS 42C13) Project No 443 (July 27, 1997) (AFRI 42C13SW0177).
- Eveleigh, A. J. (1993) Geology Report, Armand Lake Property (Sept 1993) for B. Fowler and M. Shuman.

F

Ferderber, H. (1983) Report on the Geophysical Surveys on the Property of Rodeo Resources Ltd. Wabikoba Lake Area, Ontario by H. Ferderber Geophysics Ltd. (June 17, 1983) (AFRI 42C13SW0058).



- Ferderber, H. (1983) Report on the geophysical surveys on the Property of Seemar Mines Ltd. Wabikoba Lake Area by H. Ferderber Geophysics Ltd (June 22, 1983) (AFRI 42C13SW0059).
- Ferderber, H. (1983) Report on magnetometer and VLF-EM survey (Black River) for Tundra Gold Mines Ltd. (Oct 4 1983) (AFRI 42C13SW0061).
- Ferderber, H. (1983) Report on the geophysical surveys on the Property of Canova Resources Ltd. Wabikoba Lake Area by H. Ferderber Geophysics Ltd (June 23, 1983) (AFRI 42C13SW0066).
- Ferderber, H. (1983) Report on the Geophysical Surveys on the Property of Pawnee Oil Corp. Wabikoba Lake Area, Ontario by H. Ferderber Geophysics Ltd. (June 13, 1983) (AFRI 42C13SW0068).
- Ferderber, H. (1983) Report on the Geophysical Surveys on the Property of Tylox Resources Corp. Wabikoba Lake Area, Ontario by H. Ferderber Geophysics Ltd. (May 27, 1983) (AFRI 42C13SE0052).
- Ferderber, H. (1983) Report on the Geophysical Surveys on the Property Carrera Resources Ltd. Wabikoba Lake Area, Ontario by H. Ferderber Geophysics Ltd. (May 30, 1983) (AFRI 42C13SE0054).
- Foster, T. R. (1983) Report on the Geological mapping and Prospecting at the Musher Lake property for Qued Resources Corp. (Oct 7, 1983) (AFRI 42C13SW0016).
- Fowler, B. (1991) Stripping and Blasting Report, Armand Lake property (Dec 1991) (AFRI 42C13SW0165).
- Fowler, B. (1992) Report on the prospecting program for the claim block in the Theresa Lake area (Aug 10, 1992) (AFRI 42C13SE0002).
- Fowler, B. (1992) Final submission, summary technical report (Aug 14, 1992).
- Fowler, B. (2008) Theresa Lake prospecting report 2006-2007 field season (Jan 2008) (AFRI 20000002646).
- Fowler, B. (2009) Spruce Bay final report (May 19, 2009).
- Fowler, B. (2009) Prospecting report, Lunny Lake, prospecting and sampling program 2009 field season (August 2009). (AFRI 20000000284)
- Fowler, B. (2009) Prospecting report, Lunny Lake property, prospecting and sampling program, fall/winter 2009 (Dec 2009).

G

- Gagnon, J. (1985) Geochemical sampling report, Pryme North Joint Venture North Claims, Wabikoba Lake Area (Oct 18, 1985) for Noranda Exploration Ltd. (AFRI 42C13SW0132).
- Gagnon, J. (1986) Noranda Exploration Company, Ltd. Report on Diamond Drilling Tylox Resource Corporation Option, Theresa Lake Area, Thunder Bay Mining Division (March 28, 1986) (AFRI 42C13SE0011).
- Gillis, D. J. (1983) Report on Magnetics and Electromagnetics over the Firetower Property, Hemlo, Ontario for Eden Roc Mineral Corp. by ACA Howe International Ltd. (July 18, 1983) (AFRI 42C13SW0030).
- Giroux M. (1983) Report on Magnetometer and Electromagnetic (VLF) surveys, Wabikoba Area for Harlain Resources Ltd. (April 1983) (AFRI 42C13SW0038).
- Grant, R. (1998) Geological Survey report, Theresa Lake and Fowler options for Battle Mountain Gold (Jan 14, 1998) (AFRI 42C13SE2003).
- Grant, R. (1998) Report of Diamond Drilling Theresa Lake Option, NTS 42C13, Eastern Canada (May 22, 1998) for Battle Mountain Canada Ltd. (AFRI 42C13SE2006).
- Grant, R. (1998) Drilling Report for Midnapore Resources Inc.
- Grant, R. (1998) Drilling Report for Norman Resources Ltd.
- Grant, R. (1998) Report on trenching, Theresa Lake Property (Sept 1, 1998) for Battle Mountain Gold Corp.



- Gurney, M. (1986) Geological assessment report, Kelly-Kerr Option (July 31, 1986) for Noranda Exploration Co Ltd. (AFRI 42C13SW0114).
- Gurney, M. (1987) Report on trenching on Kelly-Kerr property, NTS 42C/13, Northwestern Ontario Division (June 3, 1987) for Noranda Exploration Co. Ltd. (AFRI 42C13SW0112).

Н

- Hallof, P. G. and Phoenix Geophysics Ltd. (1983) Report on a Reconnaissance Induced Polarization and resistivity Survey on a Claim Group at Theresa Lake, Hemlo Area, Thunder Bay Mining Division, Ontario for Tylox Resources Corp. (Dec 30, 1983) (AFRI 42C13SE0029).
- Hallof, P.G. (1984) Report of work on reconnaissance IP and Resistivity survey on Theresa Lake for Midnapore Resources Inc. (March 14, 1984).
- Hallof, P.G. (1984) Report on the detailed IP survey on the Qued Property for Qued Resources Corp.
- Hearn, K. (1987) Report of work on Shiningtree Project (NTS 42 C/13) Northwestern Ontario Division, Noranda Exploration Company Ltd. (August 7, 1987) (AFRI 42C13SW0111).
- Hearn, K. (1987) Assessment report for Geological, Geochemical and Geophysical Surveys, part of Newjay property for Noranda Exploration Co. Ltd. (Oct 16, 1987) (AFRI 42C13SW0006).
- Hearn, K. (1988) Assessment report for geophysical survey (Newjay property) (Jan 27, 1988) Noranda Exploration Co. Ltd. (AFRI 42C13SW0104).

I, J

- Johnston, P. (1994) Trench report, Wabikoba Lake area for Hemlo Gold Mines Inc. (Oct 10, 1994) (AFRI 42C13SW0007).
- Johnston, P. (1995) Geophysical Report for Hemlo Gold Mines, Inc. (March 9, 1995) (AFRI 42C13SW0008).
- Johnston, P. (1995) Hemlo Gold Mines Inc. Report of Work, Fowler #1 Property (NTS 42C13), Superior District (March 9, 1995) (AFRI 42C13SW0025).
- Johnston, P. (1995) Report of work on North Limb Property (March 9, 1995) for Hemlo Gold Mines Inc.
- Johnston, P. (1995) Report of work on Fowler #2 Property (March 8, 1995) for Hemlo Gold Mines Inc.
- Johnston, P. (1996) Report on Geophysics, Oracle Property (April 26, 1996) for Hemlo Gold Mines Inc. (AFRI 42C13SW0125).

Κ

- Kemp, R. (1984) Geological Assessment Report Pryme North Joint Venture, Wabikoba Lake Area, Thunder Bay District for Noranda Exploration Co. Ltd. (Aug 23, 1984) (AFRI 42C13SW0018).
- Kilburn, L. C. (1967) Report of geophysical assessment work, Dead Otter Lake claims for Falconbridge Nickel Mines Ltd. (AFRI 42C13SW0081).
- Kilburn, L. C. (1967) Report of geophysical assessment work, Phil Lake for Falconbridge Nickel Mines Ltd. (Feb 13, 1967) (AFRI 42C13SW0082).
- Kilburn, L. C. (1966) Geophysical Assessment Work Phil Lake Claims Thunder Bay Mining District, Ontario for Falconbridge Nickel Mines Ltd. (AFRI 42C13SW0083).
- Klatt, H. M. (1992) Lithogeochemical report on the Summers Lake E, Central claim block (June 25, 1992) for Newmont Exploration Ltd.



Kuhns, R. J. (1986) Alteration styles and trace element dispersion associated with the Golden Giant deposit, Hemlo, Ontario, Canada. In: MacDonald, A. J., ed., Gold '86: Willowdale, Ontario, Konsult International, p. 340-353.

L

- Lambert, G., and Turcotte, R. (1992) Geophysical Surveys Property of Placer Dome Inc. #429 Project North Limb Theresa Lake (July 1992) (AFRI 42C13SW8711).
- Lambert, G. (1995) Report on ground geophysical investigations: Induced Polarization Survey (July 7, 1995) for Hemlo Gold Exploration (AFRI 42C13SW0115) Lambert, G. and Lafleche, V. (1997) Report on Ground Magnetic and Induced Polarization Surveys (March 18, 1997) (AFRI 42C13SE0079).
- Lambert, G. (1995) Report on ground geophysical investigations: Induced Polarity Survey (July 7, 1995) for Hemlo Gold Exploration (AFRI 42C13SW0123).
- Lambert, G. (1997) Report on Ground magnetic and IP surveys, Theresa Lake for Battle Mountain Gold Corp. (March 18, 1997) (AFRI 42C13SE0083).
- Langstone, S. D. (1976) Geophysical Report Dead Otter 1-75 Dotted Lake Airborne Area (AFRI 42C13SW0077).
- Langstone, S. D. (1976) Geophysical Report Dead Otter Tower 1-76 Dotted Lake Airborne Area (AFRI 42C13SW0076).
- Langstone, D. (1977) Geophysical Report Dotted Lake Questor Missed Group 1-76 for Noranda Exploration (AFRI 42C13SE0079).
- Langstone, D. (1977) Geophysical Report Damsite 1-76 Dotted Lake Airborne Area for Noranda Exploration (AFRI 42C13SE0057).
- Lin, S. (2001) Stratigraphic and Structural Setting of the Hemlo Gold Deposit, Ontario, Canada. Economic Geology 96(3), 477-507.
- Lohman, G. (1983) Geotechnical Assessment Report on the Wabikoba Lake claims for R.J. McGowan and Trident Resources.
- Londry, J. (1995) Report on trenching, Pertant Lake option (March 30, 1995) for Hemlo Gold Mines Inc.
- Londry, J. (1995) Report on Trenching, Petrant Lake option for Hemlo Gold Mines Inc. (March 30, 1995) (AFRI 42C13SW0085).

Μ

- Maclean, D. (1996) Prospecting survey, Brinklow Property, Wabikoba Lake Area (June 1996) for Greater Lenora Resources (AFRI 42C13SW0133).
- MacIssac, M. (1993) Report of work, North Limb Property for Hemlo Gold Mines Inc.
- MacTavish, A. (1996) Amended report on the interpretation of reproduced airborne magnetic data and compilation of assessment data (August 16, 1996) for Homestake Canada Inc.
- Marsh, A. (2011) Work assessment report, Hemlo North Property, Wabikoba Area (April 12, 2011) for Entourage Metals Ltd.
- McDonald, J. (1987) Report on Soil Geochemical survey, Wabikoba Lake property (Sep 21, 1987) for Noranda Exploration Co. Ltd. (AFRI 42C13SW0110).
- McDonald, J. (1987) Assessment report for beneficiation, rock sampling, Wabikoba Lake Area (Nov 3, 1987) for Noranda Exploration Co. Ltd.
- McDonald, J. (1987) Soil Geochemical Survey, Part of the Newjay Property, Wabikoba Lake Area for Noranda Exploration Company Ltd. (Sept 21, 1987) (AFRI 42C13SW0106).



- McGowan, R. J. (1984) Diamond drilling report No 12 for Midnapore Resources Inc. (AFRI 42C13SE0024).
- McGowan, R. J. (1984) Diamond Drilling Report No. 12, White Lake Area, North Part (August 18, 1984) for Midnapore Resources Inc. (AFRI 42C13SE0032).
- McGowan, R. J. and Granges Exploration Ltd. (1985) Diamond Drilling Report No. 13, White Lake Area, North Part. (AFRI 42C13SE0023).
- McIntyre Porcupine Mines Ltd. (1962) Diamond Drilling Report No 10, Wabikoba Lake Area (AFRI 42C13SW0089).
- McKee, S. (1984) Report on VLF electromagnetic surveys of Theresa Lake claims (Dec 2, 1984) for Cassex Resources Ltd.
- Meikle, R. J. (1997) IP Survey Report White Lake Property White Lake Area, Thunder Bay Mining Division for Homestake Canada Inc. (October 1997) (AFRI 42C13SE0086).
- Midnapore Resources Inc. (1984) Diamond Drilling Report No. 11, White Lake Area, North Part (March, 1984) (AFRI 42C13SE0034).
- Midnapore Resources Inc. (1983) Report on the Geological Mapping in the Theresa Lake Area (Sept 30, 1983).
- Montgomery, J. H. (1985) Report on Diamond Drilling Program (1983) Hemlo North (Pine Grove Lake) Project, Thunder Bay Mining Division on behalf of Harlin Resources Ltd. (January 15, 1985) (AFRI 42C13SW0126).

Ν

- Neelands, J. T. (1984) Geological and Geophysical report on the Theresa Lake property (Nov 15, 1984) for R. J. McGowan (AFRI 42C13SE0025).
- Noranda Co. Ltd. (1983) Diamond Drilling Report No 14 (AFRI 42C13SW0073).
- Noranda Exploration Ltd. (1985) Drilling report No. 23.

0

- Osmani, I., MacTavish, A., and Samson, J. (1997) Ground magnetic survey report, Spruce Bay Property, White Lake Area (March 25, 1997) for Homestake Canada Inc.
- Osmani, I. A., Durdevic, Z., and MacTavish, A. (1997) Geological report on the Spruce Bay Property (October 20, 1997) for Homestake Canada Inc.
- Osmani, I. A., Durdevic, Z., and MacTavish, A. (1997) Geological report on the White Lake Property, White Lake Area for Homestake Canada Inc. (Sept 1997) (AFRI 42C13SE2001).

Р

- Peterson, D. (1988) Report on Trenching for assessment for Noranda Exploration Co. Ltd. (Sep 27, 1988) (AFRI 42C13SW0107).
- Peterson, D. (1988) Geological and geochemical report on the Norman Property for Noranda Exploration Co. Ltd. (Dec, 1988) (AFRI 42C13SW0005).
- Peterson, D. (1988) Report on Trenching, Tylox and McGowan (Sep 13, 1988) for Noranda Exploration Co. Ltd. (AFRI 42C13SE0007).
- Peterson, D. M. (1992) Diamond drilling report on the Summers Lake Property (Nov 1992) for Newmont Exploration Ltd.
- Pezim, M. and Clemiss, A. (1984) Diamond Drilling Report No. 18, Wabikoba Lake Area (June 1984) for Qued Resources Ltd. (AFRI 42C13SW0144).



- Phillips, P. (1984) Report on the geophysical work on the Theresa Lake property (April 25, 1984) for Cassex Resources Ltd.
- Phoenix Geophysical (1984) Report on Geophysical survey for Qued Resources Ltd. (May 28, 1984) (AFRI 42C13SW0017).
- Ploeger, C. J. (2009) Report on the VLF-EM survey on Lunny property (April 2009) for Silk Road Resources Ltd.
- Ploeger, C. J. (2010) Magnetometer survey over the Hemlo North Property, Wabikoba Lake (Dec 2010) for Big Bar Gold Corp.
- Ploeger, C. J. (2009) Report on Magnetometer and VLF-EM surveys, Spruce Bay Grid, White Lake Area (April 2009) for B. Fowler.
- Price, B. J. (2008) Technical Report, Lunny Property, Wabikoba Lake Township, Marathon, Ontario. Prepared for Silk Road Resources Ltd. by B.J. Price Geological Consultants Inc.

Q, R

- Reukl, R.J. and Siriunas, J.M. (1996) Report on Magnetometer and VLF-EM Surveys Lampson Road Property District of Thunder Bay, Ontario for Crowbush Minerals Inc. (Nov 6, 1996) (AFRI 42C13SW0170).
- Richardson, C. (1983) Geology of the Dillman Claim group for Key Lake Exploration Ltd. (Nov 13, 1983) (AFRI 42C13SW0015).
- Roth, J. (1984) Report on VLF and magnetometer surveys for Key Lake Exploration Ltd. & Brandy Brook Mines Ltd. (June 1984) (AFRI 42C13SW0014).

S

- Saunders, D. (1991) Report on the work program of the Ihnatko Property (Jan 1991).
- Schultz, D. (1995) Hemlo Gold Mines Inc. Report on Diamond Drilling North Limb Property NTS 42C13, Superior District (Project No 405) (Oct 1, 1995) (AFRI 42C13SW0033).
- Schultz, D. (1996) Hemlo Gold Mines Inc. Report on Diamond Drilling Fowler #1 Property, NTS 42C13, Superior District (Feb 25, 1996) (AFRI 42C13SE0070).
- Schultz, D. (1997) Report on diamond drilling, North Limb Property (April 30, 1997) for Battle Mountain Gold Corp.
- Schultz, D. (1997) Report on diamond drilling, Placer Option (Qued) Property (Jan 23, 1997) for Battle Mountain Gold Corp.
- Schultz, D. (1997) Report on petrographic study conducted on selected core samples from Fowler and Placer (Qued) Properties (March 31, 1997) for Battle Mountain Gold Corp.
- Schultz, D. (1997) Battle Mountain Canada Ltd., Report on Diamond Drilling, Fowler Option, NTS 42C13, Eastern Canada, Project No. 429 (March 31, 1997) (AFRI 42C13SW0173).
- Sears, S. M. (1983) Report on a Soil Geochemical survey in the Theresa Lake area (Dec 1, 1983) for Midnapore Resources Inc. (AFRI 42C13SE0041).
- Sears, S. M. (1983) Report of geophysical surveys on the Theresa Lake Property, Thunder Bay Mining Division, Ontario of Midnapore Resources Inc. (Nov 21, 1983) (AFRI 42C13SE0042).
- Sears, S.M. (1984) Progress report and recommended drill hole locations on the Theresa Lake property (Feb 11, 1984) for Midnapore Resources Inc.
- Sears, S. M. (1988) Report on a Geochemical survey on the Black River property, Hemlo Area for Dolphin Explorations Ltd. (March, 1988) (AFRI 42C13SW0105).
- Shuman, M. and Associates (1994) Geophysical Report.



- Simoneau, P. (1992) Results of 1991 Exploration Work, Geophysical Survey and Prospecting Ihnatko-Kusins Property, Wabikoba Lake Area, Northwestern Ontario for M. Dave Saunders (April 16, 1992) (AFRI 42C13SW0092).
- Simoneau, P. (1992) Results of 1992 exploration work, electromagnetic (VLF-EM16) and magnetic survey, Summers Lake property for M. Dave Saunders (June 1992) (AFRI 42C13SW0002).
- Simoneau, P. (1993) Results of 1993 Exploration Work, Summers Lake Property, Wabikoba Area (March 1993).
- Simoneau, P. (1993) Results of 1992 Exploration Work Mhometer Survey and Prospecting Ihnatko-Kusins Property Wabikoba Lake Area, Northwestern Ontario NTS 42C13/SW (March, 1993) (AFRI 42C13SW8801).
- Skrecky, A. (1962) McIntyre Porcupine Mines Ltd., von Klein Option Wabikoba Lake Area, ON, Surface Geology Maps (Dec 20, 1962) (AFRI 42C13SW0087).
- Smith, G. L. (1984) Report on trenching, Firetower property (July, 1984) for Eden Roc Mineral Corp. (AFRI 42C13SW0130).
- Staargaard, C. F. (1984) Assessment report, Brinklow property for Homestake Canada Inc. (June 13, 1984) (AFRI 42C13SW0012).
- Sutherland, D. B. (1983) Report on the magnetometer survey for Noranda Exploration Co. Ltd. (Oct 18, 1983) (AFRI 42C13SW0050).
- Sutherland, D. B. (1983) Report on the IP and resistivity survey, Pryme Energy Option for Noranda Exploration Co. Ltd. (Oct 18, 1983) (AFRI 42C13SW0054).

Т

- Thompson and Sharpe (1995) Report of work, Valley Property (Nov 24, 1995) for Hemlo Gold Mines Inc. (AFRI 42C13SW0101).
- Thompson, K. (1995) Report on Diamond Drilling, Valley Property (May 30, 1995) for Hemlo Gold Mines Inc.
- Tims, A. (1996) Report on 1996 Diamond drilling, Petrant Lake option (July 5, 1996) for Hemlo Gold Mines Inc.
- Tims, A. (1996) Work Report, Valley Property (Oct 21, 1996) for Battle Mountain Gold Corp.
- Tylox Resources Corp. (1986) Report on Diamond Drilling No. 23 (January 1986) (AFRI 42C13SE8795).

U

Unknown Author (1964) Diamond Drilling Report No. 10, White Lake Area, North Part (July 13, 1964) (AFRI 42C13SE0060).

#### V,W,X,Y,Z

- Walmsley, T. (1987) Report of Work VLF-EM Survey Newjay Claim Group NTS 42 C/13 Noranda Exploration Company Ltd. (August 20, 1987) (AFRI 42C13SW0109).
- Warne, G. R. J., Oswald, A., and Legault, J. M. (1997) Regarding the Gradient-Realsection TDIP Induced Polarization survey at the Wabikoba Lake property, White Lake ON on behalf of Homestake Canada, Timmins, ON (May 1997) (AFRI 42C13SE2004).
- Willy, A. J. (1983) Report on the Firetower Gold property for Eden Roc Minerals Corp. (March 1983) (AFRI 42C13SW0010).



# 28 Date

This technical report includes a signature page at the end, signed in accordance with section 5.2 of the Instrument. The effective date of the technical report and date of signing are located on the signature page.



# Appendix I Certificates of the Authors

Neil T. Pettigrew, M.Sc., P.Geo.
1158 Russell Street, Suite D
Thunder Bay, Ontario
Canada, P7B 5N2
Telephone: 807.345.5380
Email: neil.pettigrew@fladgateexploration.com

#### CERTIFICATE OF THE FIRST AUTHOR and QUALIFIED PERSON

I, Neil Thomas Pettigrew, do hereby certify that:

- 1. I am a Partner of Fladgate Exploration Consulting Corporation, the geological consulting firm tasked with this report.
- 2. I am a member in good standing of the Association of Professional Geoscientists of Ontario (APGO #1462).
- 3. I am a graduate of the University of New Brunswick (B.Sc.) and the University of Ottawa (M.Sc.).
- 4. I have practiced geology for 17 years in a variety of settings, mostly in Ontario, Canada. My experience includes the design and implementation of grassroots to advanced exploration programs in gold, PGEs, Lithium, Iron ore and base metals. I have also served as an officer and a director of several public exploration companies on both the Toronto and TSX-Venture exchanges.
- 5. I am a qualified person under the definition for 'qualified persons' as set out by NI 43-101.
- 6. I have no previous involvement with the property that forms the subject of this Technical Report.
- 7. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Reports, the omission to disclose which makes the Technical Report misleading.
- 8. I am independent of the parties involved in the transaction for which this report is required, other than providing consulting services, as per Section 1.5 of NI 43-101.
- 9. I have read National Instrument 43-101, companion policy NI 43-101CP and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
- 10. I share responsibility for the Technical Report titled 'NI 43-101 Technical Report on the North Limb Property' dated December 7, 2016.
- 11. Hast visited the North Limb Property, northwest of Marathon, Ontario, on August 15<sup>th</sup> and 16<sup>th</sup>, 2016.
- 12. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public.

Dated this 21<sup>st</sup> day of December, 2016.

Neil T. Pettigrew, M.Sc., P. Geo. (APGO #1462)



Lesley A. Weston, M.Sc., Ph.D., P.Geo. 1158 Russell Street, Suite D Thunder Bay, Ontario Canada, P7B 5N2 Telephone: 807.345.5380

Email: lesley.weston@fladgateexploration.com

#### CERTIFICATE OF THE SECOND AUTHOR

I, Lesley Anne Weston, do hereby certify that:

- 1. I am an Employee of Fladgate Exploration Consulting Corporation, the geological consulting firm tasked with this report.
- 2. I am a member in good standing of the Association of Professional Geoscientists of Ontario (APGO #2618).
- 3. I am a graduate of the University of Western Ontario (1998; Hons. B.Sc.), and the University of Toronto (2000; M.Sc. and 2007; Ph.D.).
- 4. I have practiced geology and geochemistry both academically and professionally for 9 years in Ontario, Canada, and Germany. My experience includes high pressure-high temperature experimental work on sulfide and metal liquids and publishing this work in peer-reviewed academic journals, detailed geochemical analyses of rocks and minerals by SEM, ICP-MS, and petrographic microscope, teaching geology at the University of Toronto and Lakehead University, managing the ICP-MS department in a commercial laboratory, and performing research services to the exploration industry.
- 5. I have no previous involvement with the property that forms the subject of this Technical Report.
- 6. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
- 7. I am independent of the parties involved in the transaction for which this report is required, other than providing consulting services, as per Section 1.5 of NI 43-101.
- 8. I have read National Instrument 43-101, companion policy NI 43-101CP and Form 43-101F1, and the Technical Report has been prepared in compliance with that Instrument and form.
- 9. I share responsibility for the Technical Report titled 'NI 43-101 Technical Report on the North Limb Property' dated December 7, 2016.
- 10. I have not visited the North Limb Property.
- 11. I consent to the filing of this Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their website accessible by the public.

Dated this 21<sup>st</sup> day of December, 2016.

Vesley Weston

Lesley A. Weston, M.Sc., Ph.D., P. Geo. (APGO #2618)



# **Appendix 2 Assay Certificates**

There are three assay certificates attached to Appendix 2, as listed below:

- Certificate # TB16156283 (1 rock sample confirmatory "Valley Boulder" sample taken by N. Pettigrew September 2016)
- 2. Certificate # TB16108848 (48 rock samples prospecting samples taken by Fladgate personnel June-July 2016)
- 3. Certificate # TB16108845 (14 soil samples prospecting samples taken by Fladgate personnel June-July 2016)





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: 1 Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-SEP-2016 Account: FLGEXP

#### CERTIFICATE TB16156283

Project: Wabikoba

This report is for 1 Rock sample submitted to our lab in Thunder Bay, ON, Canada on 16-SEP-2016.

The following have access to data associated with this certificate:

	SAMPLE PREPARATION	
ALS CODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
PUL-QC	Pulverizing QC Test	
CRU-31	Fine crushing - 70% <2mm	
SPL-21	Split sample - riffle splitter	
PUL-31	Pulverize split to 85% <75 um	

	ANALYTICAL PROCEDURES	5
ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS61L	Super Trace Lowest DL 4A by ICP-MS	ICP-MS
Au-AA24	Au 50g FA AA finish	AAS

To: FLADGATE EXPLORATION CONSULTING CORPORATION ATTN: NEIL PETTIGREW
1158 RUSSELL STREET
SUITE D
THUNDER BAY ON P7B 5N2

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature: Colin Ramshaw, Vancouver Laboratory Manager





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P78 5N2 Page: 2 - A Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-SEP-2016 Account: FLGEXP

Project: Wabikoba

Minera	1=							Proj	Project: Wadikoda									
illillera	13								C	CERTIFICATE OF ANALYSIS TB16156283					56283			
Sample Description	Method Analyte Units LOR	WEI-21 Recyd Wr. kg 0.02	Au AA24 Au ppm 0.005	ME-MSG1L Ag ppm 0.002	ME-MSGIL AI N 0.01	ME-MS61L Az ppm 0.05	ME-MS631. Ra ppm 1	ME-M561L Be ppm 0.02	ME-MSG1L Bi ppm 0.005	ME-MS61L Ca N 0.01	ME-MS61L Cd ppm 0.005	ME-MS61L Ce ppm 0.01	ME-MS61L Co ppm 0.005	ME-MS61L Cr ppm 0.3	ME-MS61L Ca ppm 0.01	ME-MS61 Cu ppm 0.02		
NP-16-WAB-001		1.03	6.54	0.607	7.08	>10000	143	0.84	1.055	9.05	0.200	8.26	43.8	205	32.6	140.5		





TO: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: 2 - B Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-SEP-2016 Account: FLGEXP

Project: Wabikoba

illillera	15								C	ERTIFIC	CATE O	F ANAI	YSIS	TB161	56283	
Sample Description	Method Analyte Units LOR	ME-MS61L Fe % 0.002	ME-MS61L Ga ppm 0.05	ME-MS61L Ge ppm 0.05	ME-MS61L Hf ppm 0.004	ME-MS61L in ppm 0.005	ME-MS61L K % 0.01	ME-MS61L La ppm 0.005	ME-MS61L Li ppm 0.2	ME-MS61L Mg % 0.01	ME-MS61L Mn ppm 0.2	ME-MS61L Mo ppm 0.02	ME-MS61L Na % 0.001	ME-MS61L Nb ppm 0.005	ME-MS61L NI ppm 0.08	ME-MS61L P % 0.001
NP-16-WAB-001		8.09	17.10	0.16	0.574	0.069	1.69	3.29	89.7	4.34	1625	0.29	0.802	2.43	149.5	0.026





ALS Canada Ltd.

2103 Dollarton Hwy North Vancouver BC V7H 0A7 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218 www.alsglobal.com

To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET

SUITE D

THUNDER BAY ON P7B 5N2

Page: 2 - C Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-SEP-2016 Account: FLGEXP

Project: Wabikoba

Minora	inerals								ect. Wabir			_				
illillera	12								С	ERTIFIC	CATE O	FANA	LYSIS	TB161	56283	
Sample Description	Method Analyte Units LOR	ME-MS61L Pb ppm 0.01	ME-MS61L Rb ppm 0.02	ME-MS61L Re ppm 0.002	ME-MS61L S % 0.01	ME-MS61L Sb ppm 0.02	ME-MS61L Sc ppm 0.01	ME-MS61L Se ppm 0.2	ME-MS61L Sn ppm 0.02	ME-MS61L Sr ppm 0.02	ME-MS61L Ta ppm 0.01	ME-MS61L Te ppm 0.04	ME-MS61L Th ppm 0.004	ME-MS61L TI % 0.001	ME-MS61L TI ppm 0.004	WE-MS610 U ppm 0,01
NP-16-WAB-001		3.54	59.8	<0.002	1.27	15.65	34.0	1.0	1.06	165.5	0.16	0.32	0.328	0.556	0.358	0.10





ALS Canada Ltd.

2103 Dollarton Hwy North Vancouver BC V7H 0A7 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218 www.alsglobal.com To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: 2 - D Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 28-SEP-2016 Account: FLGEXP

Project: Wabikoba

CERTIFICAT	TE OE	ANALVCIC	TB16156283
CERTIFICA	E OF	MINALISIS	1010130503

Sample Description	Method Analyte Units LOR	ME-MS61L V ppm 0.1	ME-MS61L W ppm 0.008	ME-MS61L Y ppm 0.01	ME-MS61L Zn ppm 0.2	ME-MS61L Zr ppm 0.1	
NP-16-WAB-001		251	12.90	19.20	127.5	18.6	





TO: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: Appendix 1 Total # Appendix Pages: 1 Finalized Date: 28-SEP-2016 Account: FLGEXP

Project: Wabikoba

CERTIFICATE OF ANALYSIS TB16156283

		CERTIFICATE COM	MIMEN 13	
			ATORY ADDRESSES	
Applies to Method:	Processed at ALS Thunder CRU-31 SPL-21	Bay located at 645 Norah Crescent, LOG-22 WEI-21	Thunder Bay, ON, Canada PUL-31	PUL-QC
Applies to Method:	Processed at ALS Vancouv Au-AA24	rer located at 2103 Dollarton Hwy, No ME-MS61L	orth Vancouver, BC, Canada.	





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2

Page: 1 Total # Pages: 3 (A - D) Plus Appendix Pages Finalized Date: 21-JUL-2016 Account: FLGEXP

#### CERTIFICATE TB16108848

Project: Wabikoba

This report is for 48 Rock samples submitted to our lab in Thunder Bay, ON, Canada on 6-JUL-2016.

The following have access to data associated with this certificate: GORD MCKINNON **NEIL PETTIGREW** 

	SAMPLE PREPARATION	
ALS CODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
CRU-QC	Crushing QC Test	
PUL-QC	Pulverizing QC Test	
CRU-31	Fine crushing - 70% <2mm	
SPL-21	Split sample - riffle splitter	
PUL-31	Pulverize split to 85% < 75 um	

	ANALYTICAL PROCEDURES	6
ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS61L	Super Trace Lowest DL 4A by ICP-MS	ICP-MS
Au-AA24	Au 50g FA AA finish	AAS
AU-AAZ4	Au oug FA AA TINISH	AAS

To: FLADGATE EXPLORATION CONSULTING CORPORATION ATTN: NEIL PETTIGREW 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature: Colin Ramshaw, Vancouver Laboratory Manager





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2

Page: 2 - A Total # Pages: 3 (A - D) Plus Appendix Pages Finalized Date: 21-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minera	12								C	ERTIFIC	CATE O	F ANAL	YSIS	TB161	08848	la l
Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-AA24 Au ppm 0.005	ME-MS61L Ag ppm 0.002	ME-MS61L AI % 0.01	ME-MS61L As ppm 0.05	ME-MS61L Ba ppm 1	ME-MS61L Be ppm 0.02	ME-MS61L BI ppm 0.005	ME-MS61L Ca % 0.01	ME-MS61L Cd ppm 0.005	ME-MS61L Ce ppm 0.01	ME-MS61L Co ppm 0.005	ME-MS61L Cr ppm 0.3	ME-MS61L Cs ppm 0.01	ME-MS61 Cu ppm 0.02
1384413		1.37	<0.005	0.008	5.88	1.37	621	4.61	0.080	7.11	0.113	99.9	28.0	326	4.82	0.47
1384414	- 1	1.12	<0.005	0.007	6.54	1.30	1920	1.86	0.087	5.89	0.187	75.8	24.5	254	1.68	4.18
1384415	- 1	1.33	<0.005	0.009	4.85	1.15	1460	1.96	0.086	8.16	0.167	70.8	26.9	347	2.98	0.36
1384416	- 1	1.22	<0.005	0.010	4.99	1.17	1630	1.49	0.112	6.16	0.210	68.3	24.4	272	1.49	3.01
1384417		1.03	0.903	0.235	7.21	2920	98	0.74	0.209	8.19	0.154	8.72	44.2	195.5	29.8	82.8
1384418		0.76	3.17	0.403	8.06	5340	150	1.09	0.612	7.27	0.122	9.60	41.7	236	27.9	128.5
1384419	- 1	0.87	0.005	0.138	7.23	14.95	217	0.69	0.179	1.63	0.249	20.2	20.4	41.8	1.34	41.0
1384420	- 1	1.92	<0.005	0.050	6.30	8.82	296	0.56	0.158	1.18	0.019	11.20	6.99	20.3	1.38	6.95
1384421	- 1	2.51	0.005	0.351	6.32	6.32	265	0.53	0.142	1.53	0.125	12.70	11.55	69.5	1.23	26.4
1384422	- 1	1.93	<0.005	0.042	8.52	0.92	76	0.67	0.020	5.54	0.466	14.05	49.9	77.5	0.32	136.5
1384423		1.29	<0.005	0.118	7.10	1.34	313	1.15	0.107	6.73	0.082	41.2	25.1	27.3	2.47	64.3
1384424	- 1	1.27	<0.005	0.110	8.09	0.36	924	1.85	0.344	2.51	0.025	30.2	8.99	48.3	6.24	69.1
1384425	- 1	1.61	<0.005	0.019	6.25	0.41	1680	0.83	0.191	6.25	0.113	6.23	73.9	590	64.3	5.79
1384426	- 1	0.96	<0.005	0.073	7.18	1.12	317	3.04	0.644	0.99	0.025	16.70	1.695	10.9	4.94	39.3
1384427	- 1	1.10	<0.005	0.017	4.42	0.32	743	0.37	0.181	5.05	0.130	5.68	79.0	791	221	22.0
The state of the s		1.16	<0.005	0.096	7.65	0.57	939	2.00	0.304	3.95	0.095	61.1	34.9	312	22.7	56.8
1384428	- 1	2.57	<0.005	1.065	6.05	0.52	123	0.64	0.356	7.32	1.390	12.25	53.0	138.0	1.16	363
1384429	- 1															
1384430	- 1	1.07	<0.005	0.109	7.32	0.53	235 851	1.60	0.350	6.35	0.176	12.30	42.4	160.5	1.22	123.0
1384431	- 1	2.30	<0.005	0.036	8.11 0.16	0.46	7	0.07	0.145	1.24	0.073	48.9 0.72	10.95 4,11	41.0 29.6	0.43	21.0
1384432								200000								
1384433		1.60	<0.005	0.118	5.82	0.48	220	1.15	0.858	2.91	0.468	7.03	9.30	25.0	3.77	22.3
1384434	- 1	2.37	<0.005	0.095	8.16	0.20	399	0.75	0.098	3.20	0.040	12.10	7.15	44.1	2.73	38.8
1384435	- 1	0.55	<0.005	0.068	7.07	0.54	60	0.35	0.123	6.88	0.145	7.69	50.5	109.5	1.56	87.5
1384436	- 1	0.79	<0.005	0.028	7.92	0.22	1230	1.92	0.198	2.08	0.095	44.6	8.70	27.7	2.41	13.50
1384437		2.51	<0.005	0.597	7.59	0.25	94	0.76	0.411	3.68	0.728	18.35	26.7	41.7	1.08	1480
1384438		2.54	0.010	1.210	6.87	0.30	104	0.54	1.020	3.73	0.913	17.10	28.8	32.8	1.25	2780
1384439	- 1	1.92	0.011	0.737	6.95	0.24	70	0.68	0.699	3.40	0.870	25.0	95.2	20.8	1.13	2120
1384440	- 1	2.19	<0.005	0.444	8.30	0.32	564	1.51	0.172	3.94	0.133	38.6	16.30	62.4	2.87	321
1384441	- 1	1.53	<0.005	0.100	6.87	0.30	237	0.79	0.047	4.31	0.200	28.2	20.4	34.2	1.80	50.3
1384442		1.96	0.049	1.060	0.59	3.96	13	0.09	0.265	0.44	0.261	2.71	2.38	18.9	1.08	58.6
1384443		2.36	0.064	1.020	0.38	6.73	11	0.11	0.541	0.85	0.181	2.04	17.40	15.3	0.87	37.2
1384444	I	0.84	<0.005	0.058	7.19	0.38	39	0.59	0.052	6.81	0.195	16.20	40.5	136.5	0.34	80.4
1384445	- 1	2.38	0.059	1.725	4.83	42.6	307	1.09	0.857	3.30	1.380	17.55	9.53	37.6	2.40	145.5
1384446	I	1.40	0.005	0.194	8.15	0.65	793	1.21	0.227	2.66	0.079	24.6	9.37	17.0	1.59	43.2
1384447		1.20	<0.005	0.114	8.23	1.86	383	0.68	0.303	2.88	0.036	11.60	4.71	19.0	1.55	25.6
1384448		1.90	<0.005	0.081	8.69	17.90	366	0.53	0.068	6.34	0.189	9.10	66.5	332	9.09	116.0
1384449	I	1.92	<0.005	0.063	6.16	1.13	187	10.25	1.705	3.74	0.075	7.58	7.22	31.3	16.50	47.4
1384450	- 1	1.73	<0.005	0.118	5.71	2.01	347	0.51	0.081	1.30	0.126	11.75	8.94	16.6	1.16	16.05
1459958	I	0.85	<0.005	0.216	6.48	4.59	422	0.55	0.289	1.25	0.010	9.92	0.275	13.6	0.97	9.99
1459959	- 1	0.75	<0.005	0.027	7.43	1.74	856	1.66	0.045	2.12	0.105	40.1	9.98	33.1	2.67	10.90





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2

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Project: Wabikoba

Minera	13								CERTIFICATE OF ANALYSIS TB1610884							
Sample Description	Method	ME-M561L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61L	ME-MS61						
	Analyte	Fe	Ga	Ge	Hf	In	K	La	LI	Mg	Mn	Mo	Na	Nb	NI	P
	Units	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%
	LOR	0.002	0.05	0.05	0.004	0.005	0.01	0.005	0.2	0.01	0.2	0.02	0.001	0.005	0.08	0.001
1384413		4.55	13.90	0.19	2.94	0.033	2.96	49.5	67.2	6.04	1120	0.27	2.03	9.79	83.1	0.154
1384414		4.98	16.35	0.19	2.71	0.058	4.28	29.5	17.5	4.31	1520	0.39	1.955	6.71	81.8	0.223
1384415		4.38	11.85	0.16	2.59	0.034	3.95	28.0	42.7	5.82	1250	0.25	1.210	4.38	87.0	0.161
1384416		5.14	13.60	0.17	1.870	0.065	3.56	25.7	17.4	4.36	1680	0.40	1.260	4.77	82.4	0.208
1384417		8.38	17.65	0.09	0.661	0.076	1.46	3.40	58.6	5.16	1550	0.34	1.225	2.62	111.5	0.032
1384418		7.88	18.90	0.11	0.799	0.058	1.97	3.66	63.0	4.19	1230	0.38	1.370	2.86	110.0	0.032
1384419		3.26	17.20	0.08	2.37	0.032	1.13	8.76	14.3	0.63	604	0.80	2.95	0.992	38.2	0.047
1384420		2.31	15.85	0.05	1.955	0.019	1.06	6.27	11.4	0.24	189.0	0.42	2.82	1.080	5.49	0.037
1384421		2.70	15.25	0.05	2.22	0.024	0.97	6.33	9.0	0.39	383	0.58	2.68	1.525	22.2	0.036
1384422		11.10	19.95	0.12	1.515	0.105	0.35	5.16	11.5	3.24	1680	31.0	2.86	6.26	75.0	0.044
1384423		7.78	17.75	0.12	2.09	0.048	0.65	19.65	19.5	2.80	1770	4.19	1.870	3.51	24.7	0.099
1384424		2.35	23.5	0.09	2.94	0.022	0.72	13.55	14.6	0.83	266	0.39	3.86	2.33	16.90	0.065
1384425		7.82	10.70	0.09	0.578	0.043	1.71	2.89	50.2	9.05	1410	0.26	1.205	0.932	352	0.016
1384426		0.650	17.50	0.06	2.34	<0.005	0.25	8.07	6.7	0.16	62.3	0.34	5.13	1.900	3.19	0.003
1384427		7.56	9.69	0.09	0.477	0.029	2.07	1.855	38.0	11.85	1380	0.28	0.257	1.365	442	0.011
1384428		5.48	20.4	0.15	3.57	0.050	1.40	23.1	27.0	4.89	984	0.34	3.09	5.57	149.0	0.146
1384429		15.90	17.25	0.13	1.350	0.096	0.41	5.27	8.0	2.51	8330	1.83	0.416	3.45	65.8	0.047
1384430		9.11	16.45	0.08	1.060	0.078	0.82	5.37	14.9	2.36	1810	0.47	1.880	3.27	64.2	0.054
1384431		3.06	19.35	0.11	3.73	0.030	1.42	21.4	26.8	0.92	534	0.17	3.72	6.16	19.40	0.103
1384432		6.26	0.91	0.05	0.055	0.023	0.02	0.329	0.7	0.96	4730	1.90	0.033	0.135	6.55	0.003
1384433		13.60	11.15	0.09	1.315	0.069	0.72	3.49	5.6	1.22	8800	1.80	1.200	2.55	17.00	0.021
1384434		3.49	19.65	0.06	2.65	0.015	1.10	4.61	23.1	0.83	865	0.46	2.84	2.94	14.35	0.056
1384435		10.20	18.10	0.09	0.878	0.076	0.27	2.72	20.2	4.68	1350	0.22	1.320	2.28	109.0	0.036
1384436		2.61	21.2	0.11	3.40	0.034	2.43	19.60	19.9	0.99	495	0.13	3.11	7.49	9.59	0.100
1384437		10.85	17.95	0.12	2.39	0.047	0.41	8.07	13.4	3.66	1110	3.23	2.16	4.52	67.7	0.063
1384438		16.35	18.20	0.15	2.08	0.065	0.53	7.51	12.7	3.17	1090	2.59	1.915	4.04	82.7	0.062
1384439		11.60	16.15	0.12	2.60	0.056	0.37	11.15	11.9	2.95	1040	1.49	2.01	5.18	63.2	0.069
1384440		4.87	19.75	0.11	3.39	0.029	1.88	16.65	28.1	1.49	914	0.14	2.79	6.04	21.6	0.123
1384441		13.05	16.95	0.12	2.24	0.036	1.14	13.15	29.5	1.43	4410	0.44	0.457	3.57	25.7	0.060
1384442		13.30	2.81	0.07	0.280	0.038	0.04	1.355	1.6	0.83	8000	0.94	0.010	0.419	8.55	0.011
1384443		13.80	2.35	0.08	0.133	0.048	0.03	0.979	0.9	0.85	7020	1.03	0.015	0.284	12.45	0.004
1384444		9.92	20.6	0.10	1.895	0.081	0.15	6.09	12.5	2.87	1500	0.58	1.725	5.60	67.0	0.074
1384445		7.66	18.55	0.09	1.725	0.696	1.21	8.50	19.7	1.38	1210	7.84	0.544	2.94	10.60	0.046
1384446		3.57	27.1	0.07	4.06	0.049	1.60	10.00	11.9	0.60	399	1.47	3.40	3.31	7.33	0.065
1384447		3.90	19.80	0.07	2.17	0.102	1.08	5.11	18.6	0.70	401	5.12	2.75	3.21	9.90	0.062
1384448		5.81	19.40	0.07	1.355	0.078	1.93	3.84	35.2	1.79	1520	0.58	1.125	2.77	157.5	0.036
1384449		1.850	20.4	0.05	1.000	0.038	1.32	3.23	22.3	0.18	434	1.27	1.575	3.14	11.10	0.080
1384450		1.750	15.00	0.08	1.915	0.019	1.16	5.63	7.4	0.23	282	0.24	2.61	1.500	13.40	0.026
1459958		3.10	17.50	0.07	2.46	0.012	1.78	5.73	2.8	0.08	121.0	1.01	2.91	1.955	2.02	0.031
1459959		2.99	22.8	0.13	3.59	0.043	1.71	15.35	27.9	1.16	500	0.09	2.77	5.03	16.30	0.117





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Project: Wabikoba

illille i a	-								C	ERTIFIC	CATEO	FANAL	YSIS	TB161	08848	
Sample Description	Method Analyte Units LOR	ME-MS61L Pb ppm 0.01	ME-MS61L Rb ppm 0.02	ME-MS61L Re ppm 0.002	ME-MS61L S % 0.01	ME-MS61L Sb ppm 0.02	ME-MS61L Sc ppm 0.01	ME-MS61L Se ppm 0.2	ME-MS61L Sn ppm 0.02	ME-MS61L Sr ppm 0.02	ME-MS61L Ta ppm 0.01	ME-MS61L Te ppm 0.04	ME-MS61L Th ppm 0.004	ME-MS61L TI % 0.001	ME-MS61L TI ppm 0.004	ME-MS61 U ppm 0.01
1384413		11.80	130.0	<0.002	0.01	0.06	19.85	0.3	0.79	942	0.33	<0.04	6.78	0.264	0.770	0.70
1384414		14.40	110.5	<0.002	0.01	0.04	18.60	<0.2	1.16	857	0.24	<0.04	4.37	0.325	0.623	1.24
1384415		13.40	122.0	<0.002	<0.01	0.05	20.7	0.4	0.75	1120	0.19	0.05	5.56	0.208	0.699	0.61
1384416		11.20	91.1	<0.002	0.01	0.05	19.30	0.2	1.18	591	0.17	<0.04	3.06	0.314	0.522	0.93
1384417		3.00	45.4	<0.002	0.64	6.96	38.7	1.1	0.73	145.5	0.17	0.07	0.370	0.573	0.368	0.09
1384418		4.29	52.6	⊲0.002	1.17	8.90	41.2	0.9	0.92	204	0.20	0.10	0.392	0.630	0.383	0.11
1384419		7.76	42.6	<0.002	1.68	0.08	13.40	1.0	0.43	253	0.08	0.04	1.030	0.221	0.358	0.28
1384420		5.81	33.3	<0.002	0.86	0.06	4.65	0.4	0.44	259	0.08	<0.04	1.145	0.149	0.315	0.25
1384421		6.49	26.3	<0.002	1.00	0.16	5.96	0.8	0.44	277	0.12	0.09	1.085	0.177	0.307	0.29
1384422		0.66	10.90	0.023	0.11	<0.02	36.7	0.9	1.78	186.5	0.40	<0.04	0.644	0.855	0.035	0.14
1384423		5.53	30.4	0.004	0.11	0.03	32.2	0.5	0.67	539	0.20	0.04	2.80	0.356	0.188	0.60
1384424		8.73	27.0	<0.002	0.33	0.02	5.51	0.5	0.84	969	0.13	<0.04	2.91	0.278	0.184	0.74
1384425		2.64	54.5	<0.002	0.01	0.02	29.9	0.2	0.43	240	0.06	<0.04	0.236	0.213	0.296	0.10
1384426		14.75	11.75	<0.002	0.16	0.03	0.90	0.5	0.14	794	0.64	<0.04	2.03	0.043	0.053	0.80
1384427		1.19	100.0	<0.002	0.03	0.02	29.1	0.4	0.53	30.1	0.08	0.08	0.143	0.175	0.562	0.09
1384428		10.65	52.6	<0.002	0.38	0.02	17.30	0.6	1.24	924	0.34	0.05	4.31	0.367	0.435	1.10
1384429		3.74	8.84	0.003	1.52	0.05	46.2	2.0	1.21	57.7	0.23	0.42	0.663	0.438	0.068	0.39
1384430		3.31	18.90	<0.002	0.28	0.05	44.1	0.7	0.63	220	0.21	0.05	0.468	0.629	0.130	0.13
1384431		8.87	51.6	<0.002	0.03	0.02	9.10	0.3	1.06	710	0.39	<0.04	4.17	0.308	0.280	1.03
1384432		0.31	0.95	⊲0.002	0.42	<0.02	6.17	0.4	0.14	10.95	0.01	0.37	0.031	0.011	<0.004	0.02
1384433		9.89	25.7	<0.002	0.24	0.02	15.35	0.5	0.70	408	0.19	0.31	0.793	0.261	0.155	0.20
1384434		6.29	29.6	⊲0.002	0.36	<0.02	8.95	0.5	0.59	547	0.20	0.06	1.725	0.341	0.208	0.37
1384435		1.04	5.31	<0.002	0.08	0.07	41.1	0.4	0.53	82.9	0.15	<0.04	0.259	0.607	0.035	0.06
1384436		14.20	56.6	<0.002	0.18	< 0.02	7.62	0.2	1.12	728	0.47	0.05	3.69	0.226	0.323	1.18
1384437		8.47	12.75	0.002	3.00	0.02	21.7	2.4	0.87	243	0.31	0.32	0.941	0.436	0.145	0.25
1384438		8.09	24.4	0.002	6.92	0.03	20.0	8.6	1.09	231	0.27	0.81	0.970	0.412	0.223	0.24
1384439		7.59	17.75	0.002	4.79	< 0.02	21.1	3.4	1.59	245	0.35	0.28	1.115	0.472	0.168	0.27
1384440		6.68	44.4	<0.002	0.46	< 0.02	10.15	0.8	0.91	431	0.36	0.05	3.51	0.353	0.318	1.14
1384441		11.30	36.7	<0.002	0.48	0.06	12.75	0.3	0.55	153.5	0.24	0.04	1.380	0.333	0.170	0.45
1384442		7.41	2.19	<0.002	1.24	0.04	3.31	0.8	0.36	2.12	0.02	0.25	0.155	0.030	0.037	0.08
1384443		9.16	1.27	<0.002	6.74	0.05	3.65	8.0	0.15	3.07	0.02	0.42	0.082	0.014	0.014	0.09
1384444		2.43	5.42	<0.002	0.14	0.05	35.9	0.9	0.95	269	0.37	0.09	0.580	1.025	0.035	0.15
1384445		58.5	40.4	0.004	0.67	0.31	10.10	5.0	6.34	157.5	0.21	1.23	1.450	0.238	0.452	0.36
1384446		11.40	48.9	<0.002	0.47	0.05	5.83	0.6	0.91	913	0.24	0.13	2.55	0.231	0.303	1.02
1384447		4.31	31.4	<0.002	0.46	0.11	9.66	0.4	0.64	340	0.23	0.19	1.555	0.318	0.233	0.28
1384448		4.17	30.5	<0.002	0.10	<0.02	37.5	0.4	0.81	290	0.18	0.08	0.422	0.590	0.486	0.12
1384449		3.73	32.1	<0.002	0.05	0.15	6.81	0.4	1.04	205	0.19	0.11	0.447	0.238	0.200	0.20
1384450		6.80	27.7	<0.002	0.71	0.09	5.42	0.2	0.37	262	0.11	< 0.04	0.715	0.171	0.338	0.21
1459958		10.20	34.7	<0.002	0.39	0.09	3.66	0.4	0.49	293	0.15	< 0.04	0.858	0.208	0.397	0.23
1459959		10.80	51.8	<0.002	0.07	0.08	8.43	<0.2	1.05	896	0.31	< 0.04	3.68	0.300	0.507	0.85

<sup>\*\*\*\*\*</sup> See Appendix Page for comments regarding this certificate \*\*\*\*\*





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: 2 - D Total # Pages: 3 (A - D) Plus Appendix Pages Finalized Date: 21-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minora							Project. Wabikoba
Minera	13						CERTIFICATE OF ANALYSIS TB16108848
Sample Description	Method Analyte Units LOR	ME-MS61L V ppm 0.1	ME-MS61L W ppm 0.008	ME-MS61L Y ppm 0.01	ME-MS61L Zn ppm 0.2	ME-MS61L Zr ppm 0.1	
1384413 1384414 1384415 1384416 1384417		97.5 106.5 92.8 106.5 251	0.321 0.159 0.138 0.159 3.66	17.95 19.65 14.15 17.00 22.3	69.4 110.5 73.8 115.5 95.5	118.0 100.0 88.9 54.2 19.7	
1384418 1384419 1384420 1384421 1384422		283 94.7 38.0 44.3 317	17.05 0.277 0.206 0.138 0.060	23.4 8.37 2.93 4.71 31.1	85.4 119.0 23.7 55.3 172.0	15.3 85.0 73.7 83.1 53.9	
1384423 1384424 1384425 1384426 1384427		184.5 51.3 153.0 7.5 123.0	0.543 0.323 0.110 0.764 0.067	19.45 4.41 10.15 6.98 10.55	69.2 57.8 85.3 8.2 87.5	79.5 113.5 18.0 79.4 14.2	
1384428 1384429 1384430 1384431 1384432		117.5 204 254 74.9 20.1	0.218 13.55 0.526 0.376 0.153	18.30 30.5 26.1 13.60 3.70	95.3 415 108.5 58.4 103.5	140.5 41.6 29.5 141.5 4.5	
1384433 1384434 1384435 1384436 1384437		75.9 94.3 290 55.2 154.5	1.180 0.411 0.716 0.233 0.124	8.27 6.00 20.6 12.40 15.20	190.5 55.7 114.5 63.7 219	53.0 92.2 27.5 120.0 94.0	
1384438 1384439 1384440 1384441 1384442		157.0 148.0 89.7 88.2 20.4	0.114 0.117 1.440 0.320 0.472	15.55 17.30 15.50 16.60 4.11	206 236 63.7 207 134.0	82.1 113.5 145.5 90.6 13.1	
1384443 1384444 1384445 1384446 1384447		29.5 279 65.2 85.8 79.6	3.28 0.398 2.13 0.384 5.52	5.20 35.1 8.74 6.44 5.35	88.7 111.0 638 59.0 29.0	7.1 47.3 69.5 181.0 83.0	
1384448 1384449 1384450 1459958 1459959		295 105.5 42.8 41.7 76.4	0.598 3.64 0.123 0.146 0.056	15.15 8.44 3.67 1.04 9.72	115.5 18.1 57.9 18.6 81.0	48.1 36.8 72.4 91.5 139.5	





ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 (604) 984 0221
www.alsglobal.com
Fax: +1 (604) 984 0218

To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2

Page: 3 - A Total # Pages: 3 (A - D) Plus Appendix Pages Finalized Date: 21-JUL-2016 Account: FLGEXP

1-							Proje	ect: Wabik	oba						
13								CI	ERTIFIC	CATE O	F ANAL	YSIS	TB161	08848	
Method Analyte Units LOR	WEI-21 Recvd Wt. kg 0.02	Au-AA24 Au ppm 0.005	ME-MS61L Ag ppm 0,002	ME-MS61L Al % 0.01	ME-MS61L As ppm 0.05	ME-MS61L Ba ppm 1	ME-MS61L Be ppm 0.02	ME-MS61L Bi ppm 0.005	ME-MS61L Ca % 0.01	ME-MS61L Cd ppm 0.00S	ME-MS61L Ce ppm 0.01	ME-MS61L Co ppm 0.005	ME-MS61L Cr ppm 0.3	ME-MS61L Cs ppm 0.01	ME-MS61 Cu ppm 0.02
	1.94 1.29 1.96 0.78 2.74	0.013 <0.005 <0.005 <0.005 <0.005	0.244 0.109 0.160 0.123 0.143	6.51 5.59 6.48 5.78 7.20	11.75 7.76 15.90 8.27 3.12	552 130 253 248 261	0.64 0.48 0.60 0.55 0.65	0.204 0.303 0.087 0.075 0.124	0.84 2.94 1.18 0.87 1.40	0.142 0.165 0.035 0.017 0.042	16.80 12.30 13.90 14.75 18.30	16.10 8.86 6.91 6.64 5.21	76.6 190.0 54.6 59.7 219	1.35 1.60 2.05 1.44 1.62	19.05 11.60 10.90 7.50 15.40
	1.64 1.93 2.76	0.012 <0.005 <0.005	0.348 0.063 0.170	6.62 7.10 6.46	3.38 1.11 1.62	282 73 226	0.53 0.57 0.54	0.151 0.050 0.097	1.09 4.74 1.82	0.276 0.068 0.150	20.4 11.50 20.4	13.80 57.4 19.30	93.8 56.9 313	0.99 0.26 1.51	32.8 63.2 37.7
	Analyte Units	Method Analyte Units LOR	Method Analyte Units LOR	Method Analyte Units LOR	Method Analyte Units LOR	Method Analyte Units LOR	Method Analyte Units   LOR   Method   Method LOR   Au	Method Analyte Units LOR   No.   Au	Method Analyte Units LOR	Method Analyte Units   Au	Method Analyte Units LOR	Method Analyte Units LOR   Method No.   Au	Method Analyte Units LOR	Method Analyte Units LOR   WEI-21	Method Analyte Units LOR   WEI-21





TO: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: 3 - B Total # Pages: 3 (A - D) Plus Appendix Pages Finalized Date: 21-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minera	IS							Proje	ect: Wabik							
	-	_							C	ERTIFIC	CATE O	FANA	LYSIS	TB161	08848	St.
Sample Description	Method Analyte Units LOR	ME-M561L Fe % 0.002	ME-MS61L Ga ppm 0.05	ME-MS61L Ge ppm 0.05	ME-MS61L Hf ppm 0.004	ME-MS61L In ppm 0.005	ME-MS61L K % 0.01	ME-MS61L La ppm 0.005	ME-MS61L LI ppm 0.2	ME-MS61L Mg % 0.01	ME-MS61L Mn ppm 0.2	ME-MS61L Mo ppm 0.02	ME-MS61L Na % 0.001	ME-MS61L Nb ppm 0.005	ME-MS61L NI ppm 0.08	ME-MS61 P % 0.001
1459960 1459961 1459962 1459963 1459964		3.63 2.15 2.10 1.570 2.53	15.90 18.65 16.80 15.10 18.25	0.11 0.09 0.07 0.08 0.10	2.11 1.320 2.41 1.915 2.44	0.026 0.027 0.020 0.022 0.026	1.93 0.77 1.19 1.04 1.22	8.18 6.20 7.20 7.31 9.60	18.3 13.3 16.1 16.1 19.4	0.37 0.32 0.29 0.24 0.41	243 529 270 201 312	0.57 0.88 0.49 0.31 0.37	2.61 1.380 2.80 2.49 3.03	1.840 1.310 1.220 0.953 0.846	35.3 19.80 6.79 3.44 4.84	0.029 0.050 0.026 0.027 0.041
1459965 1459966 1459967		1,990 9.61 2.78	16.70 19.60 16.10	0.09 0.15 0.11	2.29 1.665 2.27	0.027 0.083 0.019	1.21 0.35 0.89	9.95 4.25 9.21	13.5 11.4 16.6	0.32 2.53 0.70	224 2620 476	0.47 0.19 0.51	3.59 3.57 2.51	1.465 3.13 2.49	28.7 49.2 90.2	0.029 0.048 0.037





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: 3 - C Total # Pages: 3 (A - D) Plus Appendix Pages Finalized Date: 21-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minera	IS							Fion	C		CATE O	F ANA	LYSIS	TB161	08848	
Sample Description	Method	ME-MS61L	ME-MS61i													
	Analyte	Pb	Rb	Re	5	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	TI	TI	U
	Units	ppm	ppm	ppm	%	ppm	%	ppm	ppm							
	LOR	0.01	0.02	0.002	0.01	0.02	0.01	0.2	0.02	0.02	0.01	0.04	0.004	0.001	0.004	0.01
1459960		10.80	39.1	<0.002	2.56	0.18	6.69	0.7	0.55	343	0.13	0.09	1.110	0.174	0.452	0.30
1459961		4.14	32.6	<0.002	0.53	0.26	6.29	0.3	0.59	304	0.10	0.07	0.736	0.155	0.430	0.21
1459962		7.56	33.6	<0.002	0.41	0.16	6.44	0.5	0.37	217	0.09	<0.04	1.075	0.166	0.390	0.27
1459963		6.83	30.0	<0.002	0.34	0.12	5.99	0.5	0.38	188.5	0.07	0.05	1.055	0.146	0.338	0.26
1459964		6.93	34.7	<0.002	0.25	0.06	7.86	0.5	0.43	287	0.06	0.08	1.240	0.180	0.366	0.30
1459965		8.56	29.5	<0.002	0.87	0.10	6.82	0.9	0.53	160.0	0.11	0.09	1.140	0.162	0.276	0.32
1459966		2.78	10.25	<0.002	0.47	0.07	49.3	0.9	0.77	104.5	0.20	<0.04	0.389	0.893	0.058	0.12
1459967		4.27	25.8	<0.002	0.72	0.05	10.55	0.3	0.48	270	0.19	0.10	1.075	0.263	0.253	0.33





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P78 5N2 Page: 3 - D Total # Pages: 3 (A - D) Plus Appendix Pages Finalized Date: 21-JUL-2016 Account: FLGEXP

Project: Wabikoba

mmera							CER	TIFICATE OF ANALYSIS	TB16108848
Sample Description	Method Analyte Units LOR	ME-MS61L V ppm 0.1	ME-MS61L W ppm 0.008	ME-MS61L Y ppm 0.01	ME-MS61L Zn ppm 0.2	ME-MS61L Zr ppm 0.1			
1459960 1459961 1459962 1459963 1459964		52.5 51.6 54.7 47.0 61.1	0.281 0.104 0.218 0.183 0.232	4.67 4.02 2.74 2.33 2.92	61.8 43.6 54.3 31.6 38.6	80.2 49.9 88.8 70.1 91.0			
1459965 1459965 1459966 1459967		51.1 51.4 376 72.2	0.285 0.573 0.118	4.51 28.3 8.26	112.0 119.5 93.0	82.9 49.2 87.6			





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: Appendix 1 Total # Appendix Pages: 1 Finalized Date: 21-JUL-2016 Account: FLGEXP

Project: Wabikoba

CERTIFICATE OF ANALYSIS TB16108848

		CERTIFICATE COM	IMEN I S	
			ATORY ADDRESSES	
Applies to Method:	Processed at ALS Thunder CRU-31 PUL-QC	Bay located at 1160 Commerce Stree CRU-QC SPL-21	t, Thunder Bay, ON, Canada. LOG-22 WEI-21	PUL-31
Applies to Method:	Processed at ALS Vancouv Au-AA24	rer located at 2103 Dollarton Hwy, No ME-MS61L	rth Vancouver, BC, Canada.	
				PUL-31
				PUL-31





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: 1 Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 19-JUL-2016 Account: FLGEXP

#### CERTIFICATE TB16108845

Project: Wabikoba

This report is for 14 Soil samples submitted to our lab in Thunder Bay, ON, Canada on 6-JUL-2016.

The following have access to data associated with this certificate:

	SAMPLE PREPARATION	
ALS CODE	DESCRIPTION	
WEI-21	Received Sample Weight	
LOG-22	Sample login - Rcd w/o BarCode	
SCR-41	Screen to -180um and save both	

	ANALYTICAL PROCEDURE	S
ALS CODE	DESCRIPTION	INSTRUMENT
Au-AA24	Au 50g FA AA finish	AAS
ME-MS41L	Super Trace Lowest DL AR by ICP-MS	

TO: FLADGATE EXPLORATION CONSULTING CORPORATION ATTN: NEIL PETTIGREW
1158 RUSSELL STREET
SUITE D
THUNDER BAY ON P7B 5N2

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:
Colin Ramshaw, Vancouver Laboratory Manager





ALS Canada Ltd.

2103 Dollarton Hwy North Vancouver BC V7H 0A7 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218 www.alsglobal.com

To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2

Page: 2 - A Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 19-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minera	IS								C		CATE O	FANA	LYSIS	TB161	.08845	
Sample Description	Method Analyte Units LOR	WEI-21 Recyd Wt. kg 0.02	Au-AA24 Au ppm 0.005	ME-MS41L Au ppm 0.0002	ME-MS41L Ag ppm 0.001	ME-MS41L Al % 0.01	ME-MS41L As ppm 0.01	ME-MS41L B ppm 10	ME-MS41L Ba ppm 0.5	ME-MS41L Be ppm 0.01	ME-MS41L 81 ppm 0.001	ME-MS41L Ca % 0.01	ME-MS41L Cd ppm 0.001	ME-MS41L Ce ppm 0.003	ME-MS41L Co ppm 0.001	ME-MS41 Cr ppm 0.01
1589551 1589552 1589553 1589554 1589555		0.21 0.27 0.25 0.20 0.38	<0.005 <0.005 <0.005 <0.005 0.018	<0.0002 0.0002 0.0002 <0.0002 <0.0002	0.005 0.012 0.007 0.010 0.010	0.57 0.69 1.00 0.70 0.66	1.37 1.38 1.90 1.13 1.88	<10 <10 <10 <10 <10	15.4 13.4 21.0 12.1 16.2	0.13 0.15 0.24 0.14 0.16	0.046 0.057 0.065 0.051 0.080	0.10 0.07 0.10 0.06 0.09	0.065 0.068 0.048 0.027 0.068	12.15 14.15 16.70 11.30 12.90	2.93 1.760 5.54 1.975 2.86	13.40 12.50 21.2 13.65 17.90
1589556 1589557 1589558 1589559 1589560		0.28 0.28 0.28 0.28 0.20	<0.005 <0.005 <0.005 <0.005 <0.005	<0.0002 <0.0002 0.0004 <0.0002 <0.0002	0.026 0.018 0.019 0.015 0.007	1.17 0.69 1.33 1.06 0.49	1.51 1.13 1.67 1.31 1.51	<10 <10 <10 <10 <10	21.7 14.7 23.6 23.9 8.0	0.27 0.18 0.36 0.29 0.13	0.046 0.061 0.064 0.060 0.052	0.09 0.06 0.11 0.07 0.05	0.095 0.050 0.065 0.043 0.048	16.40 12.45 16.80 14.90 9.18	3.73 1.595 3.46 3.61 1.335	18.35 12.90 21.3 20.3 10.00
1589561 1589562 1589563 1589564		0.28 0.21 0.25 0.28	<0.005 <0.005 <0.005 <0.005	<0.0002 <0.0002 <0.0002 <0.0002	0.013 0.014 0.017 0.022	0.80 0.90 0.62 1.11	1.30 1.19 0.69 1.04	<10 <10 <10 <10	11.0 14.0 15.3 22.8	0.17 0.20 0.16 0.26	0.046 0.052 0.051 0.056	0.09 0.06 0.05 0.09	0.045 0.073 0.043 0.085	13.05 13.85 12.05 11.35	2.38 2.32 1.525 2.09	13.95 13.35 10.35 13.65





To: FLADGATE EXPLORATION CONSULTING CORPORATION
1158 RUSSELL STREET
SUITE D
THUNDER BAY ON P7B 5N2

Page: 2 - B Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 19-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minera	IS							Proj	ect: Wabik		CATE O	FANAL	YSIS	TB161	08845	
Sample Description	Method Analyte Units LOR	ME-MS41L Cs ppm 0.005	ME-MS41L Cu ppm 0.01	ME-MS41L Fe % 0.001	ME-MS41L Ga ppm 0.004	ME-MS41L Ge ppm 0.005	ME-MS41L Hf ppm 0.002	ME-MS41L Hg ppm 0.004	ME-MS41L In ppm 0.005	ME-MS41L K % 0.01	ME-MS41L La ppm 0.002	ME-MS41L U ppm 0.1	ME-MS41L Mg % 0.01	ME-MS41L Mn ppm 0.1	ME-MS41L Mo ppm 0.01	ME-MS41 Na % 0.001
1589551 1589552 1589553 1589554 1589555		0.334 0.440 0.582 0.386 0.484	1.90 1.82 3.12 1.63 3.20	0.850 0.900 1.360 0.910 1.240	2.37 2.64 2.84 2.72 3.30	0.033 0.035 0.041 0.029 0.033	0.021 0.024 0.042 0.025 0.018	0.018 0.023 0.020 0.014 0.017	0.006 0.005 0.009 0.005 0.006	0.02 0.02 0.03 0.02 0.02	5.48 6.91 7.18 5.14 6.15	5.1 5.9 9.6 6.4 6.0	0.10 0.08 0.17 0.09 0.11	200 53.7 148.0 38.1 141.5	0.17 0.17 0.22 0.20 0.28	0.002 0.001 0.003 0.002 0.003
1589556 1589557 1589558 1589559 1589560		0.507 0.517 0.548 0.541 0.333	2.89 1.51 2.29 1.95 1.21	1.210 0.980 1.380 1.290 0.780	2.84 3.27 4.32 3.31 3.18	0.040 0.032 0.043 0.042 0.024	0.030 0.015 0.035 0.041 0.016	0.027 0.024 0.027 0.023 0.011	0.008 0.011 0.011 0.013 0.007	0.03 0.02 0.03 0.02 0.02	8.16 6.14 8.38 7.73 4.74	8.7 6.1 9.9 9.2 4.4	0.15 0.08 0.12 0.11 0.07	99.9 36.8 100.5 94.8 34.1	0.24 0.27 0.26 0.32 0.15	0.003 0.001 0.004 0.005 0.003
1589561 1589562 1589563 1589564		0.412 0.437 0.386 0.496	1.98 1.91 1.34 2.12	0.960 0.950 0.700 1.090	2.50 2.96 2.62 3.45	0.036 0.031 0.029 0.029	0.037 0.033 0.019 0.027	0.022 0.026 0.014 0.039	0.005 0.007 <0.005 0.010	0.02 0.02 0.02 0.02	6.48 7.15 6.09 6.12	7.2 7.6 4.3 7.5	0.10 0.09 0.06 0.08	43.9 61.5 37.2 86.2	0.17 0.20 0.19 0.29	0.004 0.003 0.003 0.003





ALS Canada Ltd.

2103 Dollarton Hwy North Vancouver BC V7H 0A7 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218 www.alsglobal.com

To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D

THUNDER BAY ON P7B 5N2

Page: 2 - C Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 19-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minera	IS							Fioj	C Wabis		CATE O	FANAI	YSIS	TB161	08845	
Sample Description	Method Analyte Units LOR	ME-MS41L Nb ppm 0.002	ME-MS41L NI ppm 0,04	ME-MS41L P % 0.001	ME-MS41L Pb ppm 0.005	ME-MS41L Pd ppm 0,001	ME-MS41L Pt ppm 0.002	ME-MS41L Rb ppm 0.005	ME-MS41L Re ppm 0.001	ME-MS41L S % 0.01	ME-MS41L Sb ppm 0.005	ME-MS41L Sc ppm 0.005	ME-MS41L Se ppm 0.1	ME-MS41L Sn ppm 0.01	ME-MS41L Sr ppm 0.01	ME-MS41 Ta ppm 0.003
1589551 1589552 1589553 1589554 1589555		1.310 1.275 1.525 1.390 1.325	5.53 4.52 13.85 5.59 6.59	0.083 0.064 0.050 0.026 0.082	4.26 3.77 5.66 3.43 5.11	<0.001 <0.001 <0.001 <0.001 <0.001	<0.002 <0.002 <0.002 <0.002 <0.002	3.34 3.60 4.43 3.35 4.85	<0.001 <0.001 <0.001 <0.001 <0.001	0.01 0.01 0.01 0.01 0.01	0.033 0.040 0.048 0.044 0.048	0.836 0.824 1.245 0.848 0.918	0.3 0.4 0.4 0.3 0.4	0.24 0.26 0.26 0.26 0.38	4.41 4.12 4.62 3.47 4.28	0.005 0.013 0.012 0.010 0.006
1589556 1589557 1589558 1589559 1589560		1.540 1.335 1.610 1.475 1.150	9.08 4.95 9.50 7.83 3.77	0.056 0.044 0.088 0.034 0.049	4.10 4.11 5.92 4.90 3.49	<0.001 <0.001 <0.001 <0.001 <0.001	<0.002 <0.002 <0.002 <0.002 <0.002	4.32 4.91 4.48 4.74 3.22	<0.001 <0.001 <0.001 <0.001 <0.001	0.01 0.01 0.01 0.01 <0.01	0.033 0.040 0.046 0.041 0.044	1.395 0.812 1.370 1.240 0.727	0.3 0.4 0.2 0.2 0.1	0.26 0.30 0.33 0.32 0.24	4.01 3.54 5.31 3.90 2.93	0.021 <0.005 0.018 0.010 0.009
1589561 1589562 1589563 1589564		1.135 1.250 1.005 1.210	6.13 5.69 3.78 5.26	0.052 0.064 0.022 0.045	3.86 4.77 3.32 5.08	<0.001 <0.001 <0.001 <0.001	<0.002 <0.002 <0.002 <0.002 <0.002	3.49 3.60 4.11 4.79	<0.001 <0.001 <0.001 <0.001	0.01 0.01 <0.01 0.01	0.043 0.043 0.028 0.038	0.961 0.910 0.800 0.997	0.2 0.1 0.2 0.3	0.21 0.28 0.24 0.32	3.68 3.16 3.25 4.96	0.011 0.011 <0.005 0.014





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2

Page: 2 - D Total # Pages: 2 (A - D) Plus Appendix Pages Finalized Date: 19-JUL-2016 Account: FLGEXP

Project: Wabikoba

Minera	15							110)	ect. Wabis			
								CERTIFICATE OF ANALYSIS		TB16108845		
Sample Description	Method Analyte Units LOR	ME-MS41L Te ppm 0.01	ME-MS41L Th ppm 0.002	ME-MS41L TI % 0.001	ME-MS41L TI ppm 0.002	ME-MS41L U ppm 0.005	ME-MS41L V ppm 0.1	ME-MS41L W ppm 0.001	ME-MS41L Y ppm 0.003	ME-MS41L Zn ppm 0.1	ME-MS41L Zr ppm 0.01	
1589551 1589552 1589553 1589554 1589555		0.01 0.01 <0.01 0.01 0.02	1.730 2.27 1.605 1.560 1.200	0.040 0.038 0.050 0.043 0.047	0.033 0.028 0.041 0.027 0.051	0.219 0.306 0.267 0.237 0.276	17.0 17.6 24.2 18.5 27.3	0.076 0.071 0.097 0.071 0.090	1.795 1.830 2.29 1.545 1.860	11.7 16.8 13.1 8.4 17.1	0.75 0.70 1.30 0.99 0.57	
1589556 1589557 1589558 1589559 1589560		0.01 <0.01 0.02 0.02 0.01	2.67 1.590 2.69 3.39 1.385	0.051 0.045 0.048 0.048 0.041	0.037 0.035 0.037 0.040 0.024	0.366 0.265 0.395 0.296 0.185	23.9 20.9 29.0 25.5 16.7	0.109 0.097 0.112 0.108 0.077	2.38 1.360 2.46 1.725 1.245	16.7 11.8 17.3 14.4 6.3	1.16 0.53 1.20 1.53 0.81	
IS89561 IS89562 IS89563 IS89564		0.02 0.01 0.01 0.02	2.36 2.60 1.855 1.610	0.042 0.039 0.041 0.039	0.031 0.033 0.032 0.038	0.305 0.254 0.233 0.240	18.1 19.6 15.7 20.4	0.089 0.086 0.083 0.082	1.905 1.565 1.380 1.750	10.3 12.4 8.9 19.2	1,38 0,90 0,95 0.82	





To: FLADGATE EXPLORATION CONSULTING CORPORATION 1158 RUSSELL STREET SUITE D THUNDER BAY ON P7B 5N2 Page: Appendix 1 Total # Appendix Pages: 1 Finalized Date: 19-JUL-2016 Account: FLGEXP

Project: Wabikoba

CERTIFICATE OF ANALYSIS TB16108845

	CERTIFICATE COMMENTS	
	ANALYTICAL COMMENTS	
Applies to Method:	Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g). ME-MS41L	
	LABORATORY ADDRESSES	
Applies to Method:	Processed at ALS Thunder Bay located at 1160 Commerce Street, Thunder Bay, ON, Canada. LOG-22 SCR-41 WEI-21	
Applies to Method:	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.  ME-MS41L	



# Appendix 3 2016 Geotech Airborne Geophysical Survey - Preliminary Report

# VTEM™ max

PRELIMINARY REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM™ max) AND AEROMAGNETIC

**GEOPHYSICAL SURVEY** 

PROJECT:

WABIKOBA PROPERTY

LOCATION:

MANITOUWADGE, ONTARIO

FOR: SURVEY FLOWN:

CANADAIAN OREBODIES INC OCTOBER - NOVEMBER 2016

PROJECT:

GL160206

Geotech Ltd. 245 Industrial Parkway North Aurora, ON Canada L4G 4C4 Tel: +1 905 841 5004 Web: <u>www.geotech.ca</u>

Email: info@geotech.ca



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#### **EXECUTIVE SUMMARY**

#### WABIKOBA PROPERTY MANITOUWADGE, ONTARIO

During October 19th to November 9th, 2016 Geotech Ltd. carried out a helicopter-borne geophysical survey over the Wabikoba Property situated near Manitouwadge, Ontario.

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM™max) system and a caesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 823 line-kilometres of geophysical data were acquired during the survey.

In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The processed survey results are presented as the following maps:

- Electromagnetic stacked profiles of the B-field Z Component,
- Electromagnetic stacked profiles of dB/dt Z Components,
- Flight Path Map
- Calculated Vertical Derivative of TMI,
- Total Magnetic Intensity (TMI),

Digital data includes all electromagnetic and magnetic products, plus ancillary data including the waveform.

The survey report describes the procedures for data acquisition, processing, image presentation and the specifications for the digital data set.



#### 1. INTRODUCTION

#### 1.1 GENERAL CONSIDERATIONS

Geotech Ltd. performed a helicopter-borne geophysical survey over the Wabikoda Property situated near Manitouwadge, Ontario (Figure 1 & Figure 2).

The geophysical surveys consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEM) max system with Full-Waveform processing. Measurements consisted of Vertical (Z) and In-line Horizontal (X) components of the EM fields using an induction coil and the aeromagnetic total field using a caesium magnetometer. A total of 823 line-km of geophysical data were acquired during the survey.

The crew was based out of Manitouwadge (Figure 2) in Ontario for the acquisition phase of the survey. Survey flying started on October 19<sup>th</sup> and was completed on November 9<sup>th</sup>, 2016.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during the acquisition phase of the project. Preliminary reporting, data presentation and archiving were completed from the Aurora office of Geotech Ltd. in November, 2016.



Figure 1: Survey location



#### 1.2 SURVEY AND SYSTEM SPECIFICATIONS

The survey area is located approximately 26 kilometres south of Manitouwadge, Ontario (Figure 2).

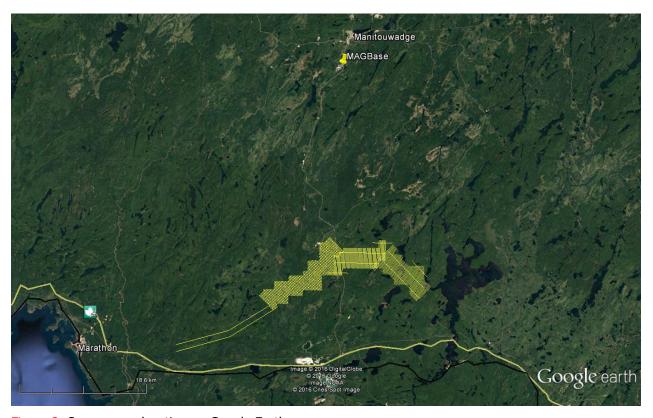


Figure 2: Survey area location on Google Earth.

The survey area was flown in various directions with traverse line spacing of 150 metres as depicted in Figure 3. Tie lines were flown perpendicular to the traverse lines. For more detailed information on the flight spacing and direction see Table 1.



#### 1.3 TOPOGRAPHIC RELIEF AND CULTURAL FEATURES

Topographically, the survey area exhibits a shallow relief with an elevation ranging from 239 to 521 metres above mean sea level over an area of 108 square kilometres (Figure 3).

There are various rivers and streams running through the survey area which connect various lakes and wetlands. There are visible signs of culture such as roads, trails and buildings located in the survey area. Also nearby are towers and mining areas



Figure 3: Flight path over a Google Earth Image

### 2. DATA ACQUISITION

#### 2.1 SURVEY AREA

The survey area (see Figure 3 and Appendix A) and general flight specifications are as follows:

Table 1: Survey Specifications

Survey block	Line spacing (m)	Area (Km²)	Planned <sup>1</sup> Line-km	Actual Line- km	Flight direction	Line numbers
East	Traverse: 150	28	190	199.2	N 45° E / N 225° E	L5000 - L5550
East	Tie: 1500	20	18	18.7	N 135° E / N 315° E	T6000 – T6020
North	Traverse: 150	23	155	163.4	N 0° E / N 180° E	L3000 - L3500
NOLLI	Tie: 1500		19.5	20.2	N 90° E / N 270° E	T4000 – T4030
West	Traverse: 150	42	274	289.1	N 135° E / N 315° E	L1000 - L1890
vvest	Tie: 300	42	135.5	144.6	N 45° E / N 225° E	T2000 – T2030
Testlines	Traverse: 950	15	31	31.9	N 73° E / N 253° E	L8010 & L8030
resulties	ilaveise: 950				N 57° E / N 2237° E	L8000 & L8020
TOTAL		108	823	867.1		

Survey area boundaries co-ordinates are provided in Appendix B.

#### 2.2 SURVEY OPERATIONS

Survey operations were based out of Manitouwadge in Ontario from October 19<sup>th</sup> until November 9<sup>th</sup> 2016. The following table shows the timing of the flying.

Table 2: Survey schedule

Date	Flight #	Flown km	Block	Crew location	Comments	
19-Oct-2016				Manitouwadge, Ontario	Mobilization	
20-Oct-2016				Manitouwadge, Ontario	Crew arrived & local logistics	
21-Oct-2016				Manitouwadge, Ontario	System assembly	
22-Oct-2016				Manitouwadge, Ontario	Waiting for helicopter	
23-Oct-2016				Manitouwadge, Ontario	Helicopter arrived & install done & testing	
24-Oct-2016	1,2,3	105		Manitouwadge, Ontario	105km flown	
25-Oct-2016	4,5	105		Manitouwadge, Ontario	105km flown	
26-Oct-2016	6,7	105		Manitouwadge, Ontario	105km flown	
27-Oct-2016	8,9	106		Manitouwadge, Ontario	106km flown	
28-Oct-2016				Manitouwadge, Ontario	No production due to weather	
29-Oct-2016				Manitouwadge, Ontario	No production due to weather	
30-Oct-2016	10,11	42		Manitouwadge, Ontario	42km flown	
31-Oct-2016				Manitouwadge, Ontario	No production due to weather	
1-Nov-2016				Manitouwadge, Ontario	No production due to weather	
2-Nov-2016	12,13	92		Manitouwadge, Ontario	92km flown limited due to weather	
3-Nov-2016	14	41		Manitouwadge, Ontario	41km flown limited due to weather	
4-Nov-2016				Manitouwadge, Ontario	No production due to weather	
5-Nov-2016	15,16,17	148		Manitouwadge, Ontario	148km flown	

 $<sup>^{1}</sup>$  Note: Actual Line kilometres represent the total line kilometres in the final database. These line-km normally exceed the Planned Line-km, as indicated in the survey NAV files.



Date	Flight #	Flown km	Block	Crew location	Comments	
6-Nov-2016	18,19	67		Manitouwadge, Ontario	67km flown limited due to weather	
7-Nov-2016	20			Manitouwadge, Ontario	Flight aborted due to weather	
8-Nov-2016				Manitouwadge, Ontario	No production due to weather	
9-Nov-2016	21	12		Manitouwadge, Ontario	Remaining kms were flown – flying complete	



#### 2.3 FLIGHT SPECIFICATIONS

During the survey the helicopter was maintained at a mean altitude of 117 metres above the ground with an average survey speed of 80 km/hour. This allowed for an actual average Transmitter-receiver loop terrain clearance of 69 metres and a magnetic sensor clearance of 107 metres.

The on board operator was responsible for monitoring the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic features.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer. The data were then uploaded via ftp to the Geotech office in Aurora for daily quality assurance and quality control by qualified personnel.

#### 2.4 AIRCRAFT AND EQUIPMENT

#### 2.4.1 SURVEY AIRCRAFT

The survey was flown using a Eurocopter Aerospatiale (A-star) 350 B3 helicopter, registration C-FKOI. The helicopter is owned and operated by Geotech Aviation. Installation of the geophysical and ancillary equipment was carried out by a Geotech Ltd crew.

#### 2.4.2 ELECTROMAGNETIC SYSTEM

The electromagnetic system was a Geotech Time Domain EM (VTEM™max) full receiver-waveform streamed data recorded system. The "full waveform VTEM system" uses the streamed half-cycle recording of transmitter and receiver waveforms to obtain a complete system response calibration throughout the entire survey flight. VTEM with the Serial number 36 had been used for the survey. The VTEM™ transmitter current waveform is shown diagrammatically in Figure 4.

The VTEM™ Receiver and transmitter coils were in concentric-coplanar and Z-direction oriented configuration. The receiver system for the project also included a coincident-coaxial X-direction coil to measure the in-line dB/dt and calculate B-Field responses. The Transmitter-receiver loop was towed at a mean distance of 48 metres below the aircraft as shown in Figure 5.

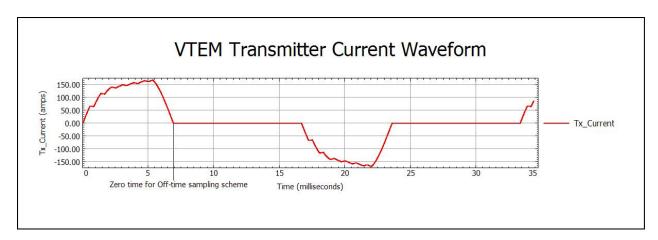


Figure 4: VTEM™ Transmitter Current Waveform



The VTEM $^{\text{M}}$  decay sampling scheme is shown in Table 3 below. Forty-three time measurement gates were used for the final data processing in the range from 0.021 to 8.083 msec. Zero time for the off-time sampling scheme is equal to the current pulse width and is defined as the time near the end of the turn-off ramp where the dI/dt waveform falls to 1/2 of its peak value.

Table 3: Off-Time Decay Sampling Scheme

VTEM™ Decay Sampling Scheme								
Index	Start	End	Middle	Width				
Milliseconds								
4	0.018	0.023	0.021	0.005				
5	0.023	0.029	0.026	0.005				
6	0.029	0.034	0.031	0.005				
7	0.034	0.039	0.036	0.005				
8	0.039	0.045	0.042	0.006				
9	0.045	0.051	0.048	0.007				
10	0.051	0.059	0.055	0.008				
11	0.059	0.068	0.063	0.009				
12	0.068	0.078	0.073	0.010				
13	0.078	0.090	0.083	0.012				
14	0.090	0.103	0.096	0.013				
15	0.103	0.118	0.110	0.015				
16	0.118	0.136	0.126	0.018				
17	0.136	0.156	0.145	0.020				
18	0.156	0.179	0.167	0.023				
19	0.179	0.206	0.192	0.027				
20	0.206	0.236	0.220	0.030				
21	0.236	0.271	0.253	0.035				
22	0.271	0.312	0.290	0.040				
23	0.312	0.358	0.333	0.046				
24	0.358	0.411	0.383	0.053				
25	0.411	0.472	0.440	0.061				
26	0.472	0.543	0.505	0.070				
27	0.543	0.623	0.580	0.081				
28	0.623	0.716	0.667	0.093				
29	0.716	0.823	0.766	0.107				
30	0.823	0.945	0.880	0.122				
31	0.945	1.086	1.010	0.141				
32	1.086	1.247	1.161	0.161				
33	1.247	1.432	1.333	0.185				
34	1.432	1.646	1.531	0.214				
35	1.646	1.891	1.760	0.245				
36	1.891	2.172	2.021	0.281				
37	2.172	2.495	2.323	0.323				
38	2.495	2.865	2.667	0.370				

VTEM™ Decay Sampling Scheme									
Index	Start	End	Middle	Width					
	Milliseconds								
39	2.865	3.292	3.063	0.427					
40	3.292	3.781	3.521	0.490					
41	3.781	4.341	4.042	0.560					
42	4.341	4.987	4.641	0.646					
43	4.987	5.729	5.333	0.742					
44	5.729	6.581	6.125	0.852					
45	6.581	7.560	7.036	0.979					
46	7.560	8.685	8.083	1.125					

Z Component: 4 - 46 time gates X Component: 20 - 46 time gates



## VTEM™ system specifications:

Transmitter	Receiver
<ul> <li>Transmitter loop diameter: 34.6 m</li> <li>Number of turns: 4</li> <li>Effective Transmitter loop area: 3761 m²</li> <li>Transmitter base frequency: 30 Hz</li> <li>Peak current: 168 A</li> <li>Pulse width: 6.97 ms</li> <li>Waveform shape: Bi-polar trapezoid</li> <li>Peak dipole moment: 631,848 nIA</li> <li>Average transmitter-receiver loop terrain clearance: 69 metres above the ground</li> </ul>	<ul> <li>X Coil diameter: 0.32 m</li> <li>Number of turns: 245</li> <li>Effective coil area: 19.69 m²</li> <li>Z-Coil diameter: 1.2 m</li> <li>Number of turns: 100</li> <li>Effective coil area: 113.04 m²</li> </ul>

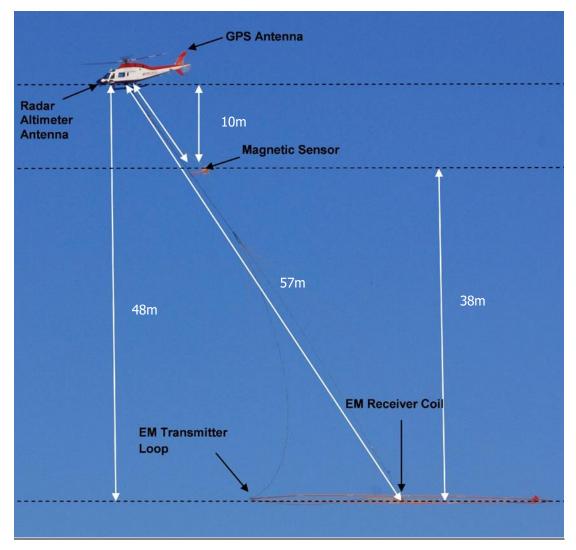


Figure 5: VTEM™max System Configuration.



#### 2.4.3 AIRBORNE MAGNETOMETER

The magnetic sensor utilized for the survey was Geometrics optically pumped caesium vapour magnetic field sensor mounted 10 metres below the helicopter, as shown in Figure 5. The sensitivity of the magnetic sensor is 0.02 nanoTesla (nT) at a sampling interval of 0.1 seconds.

#### 2.4.4 Full waveform vtem<sup>™</sup> sensor calibration

The calibration is performed on the complete  $VTEM^{m}$  system installed in and connected to the helicopter, using special calibration equipment.

The procedure takes half-cycle files acquired and calculates a calibration file consisting of a single stacked half-cycle waveform. The purpose of the stacking is to attenuate natural and man-made magnetic signals, leaving only the response to the calibration signal.

#### 2.4.5 RADAR ALTIMETER

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit (Figure 5).

#### 2.4.6 GPS Navigation System

The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel's WAAS (Wide Area Augmentation System) enabled GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and a NovAtel GPS antenna mounted on the helicopter tail (Figure 5). As many as 11 GPS and two WAAS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with WAAS active, it is 1.0 m. The co-ordinates of the survey area were set-up prior to the survey and the information was fed into the airborne navigation system.

#### 2.4.7 DIGITAL ACQUISITION SYSTEM

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The data type and sampling interval as provided in Table 4

Table 4: Acquisition Sampling Rates

Data Type	Sampling
TDEM	0.1 sec
Magnetometer	0.1 sec
GPS Position	0.2 sec
Radar Altimeter	0.2 sec
Inclinometer	0.1 sec



### 2.5 BASE STATION

A combined magnetometer/GPS base station was utilized on this project. A Geometrics Caesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer.

The base station magnetometer sensor was installed at the south of the airport pad (49° 05.0463' N, 85° 51.3318' W) away from culture and electric transmission lines and moving ferrous objects such as motor vehicles. The base station data were backed-up to the data processing computer at the end of each survey day.



### 3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

### FIELD:

Project Manager: Adrian Sarmasag (Office)
Data QC: Nick Venter (Office)

Crew chief: Colin Lennox

**Brian Youngs** 

Operator: Tristan Rice

Riyad Aliyev

The survey pilot and the mechanical engineer were employed directly by the helicopter operator – Geotech Aviation.

Pilot: Bill Hofstede

Mechanical Engineer: n/a

OFFICE:

Preliminary Data Processing:

Final Data Processing:

Final Data QA/QC:

Reporting/Mapping:

Nick Venter

Thomas Wade

Geoffrey Plastow

Wendy Acorn

Processing and Interpretation phases were carried out under the supervision of Geoffrey Plastow, P. Geo, and Data Processing Manager. The customer relations were looked after by Mandy Long.



### 4. DELIVERABLES

#### 4.1 SURVEY REPORT

The survey report describes the data acquisition, processing, and preliminary presentation of the survey results.

### 4.2 MAPS

Final maps were produced at scale of 1:10,000 for best representation of the survey size and line spacing. The coordinate/projection system used was NAD83 Datum, UTM Zone 16 North. All maps show the flight path trace and topographic data; latitude and longitude are also noted on maps.

The preliminary results of the survey are presented as EM profiles, a late-time gate gridded EM channel, and a colour magnetic TMI contour map.

• Maps at 1:10,000 in Geosoft MAP format, as follows:

GL160206\_10k\_dBdt\_bn: dB/dt profiles Z Component, Time Gates 0.220 – 7.036 ms

in linear – logarithmic scale.

GL160206\_10k\_Bfield\_bn: B-field profiles Z Component, Time Gates 0.220 - 7.036

ms in linear – logarithmic scale.

GL160206\_10k\_TMI\_bn: Total magnetic intensity (TMI) colour image and

contours.

GL160206\_10k\_CVG\_bn: Calculated Vertical Derivative of TMI

GL160206\_10k\_FlightPath\_bn: Flight Path Map

Where bn represents the block name i.e.  $GL160206\_10k\_dBdt\_East$ 

- Maps are also presented in PDF format.
- The topographic data base was derived from 1:50,000 the NRCAN Geogratis database and Geocommunities at, <a href="https://www.geogratis.ca">www.geogratis.ca</a>
- A Google Earth file *GL160206\_CDNOrebodies.kml* showing the flight path of the block is included. Free versions of Google Earth software from: <a href="http://earth.google.com/download-earth.html">http://earth.google.com/download-earth.html</a>



# 4.3 DIGITAL DATA

Databases in Geosoft GDB format, containing the channels listed in Table 5.

Table 5: Geosoft GDB Data Format

Channel name	Units	Description
X:	metres	UTM Easting NAD83 Zone 16 North
Y:	metres	UTM Northing NAD83 Zone 16 North
Longitude:	Decimal Degrees	WGS 84 Longitude data
Latitude:	Decimal Degrees	WGS 84 Latitude data
Z:	metres	GPS antenna elevation (above Geoid)
Radar:	metres	helicopter terrain clearance from radar altimeter
Radarb:	metres	Calculated EM transmitter-receiver loop terrain clearance
		from radar altimeter
DEM:	metres	Digital Elevation Model
Gtime:	Seconds of the day	GPS time
Basemag:	nT	Magnetic diurnal variation data
MAG1	nT	Raw Total Magnetic field data
MAG2	nT	Diurnal corrected Total Magnetic field data
SFz[4]:	pV/(A*m4)	Z dB/dt 0.021 millisecond time channel
SFz[5]:	pV/(A*m4)	Z dB/dt 0.026 millisecond time channel
SFz[6]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.031 millisecond time channel
SFz[7]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.036 millisecond time channel
SFz[8]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.042 millisecond time channel
SFz[9]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.048 millisecond time channel
SFz[10]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.055 millisecond time channel
SFz[11]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.063 millisecond time channel
SFz[12]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.073 millisecond time channel
SFz[13]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.083 millisecond time channel
SFz[14]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.096 millisecond time channel
SFz[15]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.110 millisecond time channel
SFz[16]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.126 millisecond time channel
SFz[17]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.145 millisecond time channel
SFz[18]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.167 millisecond time channel
SFz[19]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.192 millisecond time channel
SFz[20]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.220 millisecond time channel
SFz[21]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.253 millisecond time channel
SFz[22]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.290 millisecond time channel
SFz[23]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.333 millisecond time channel
SFz[24]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.383 millisecond time channel
SFz[25]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.440 millisecond time channel
SFz[26]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.505 millisecond time channel
SFz[27]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.580 millisecond time channel
SFz[28]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.667 millisecond time channel
SFz[29]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.766 millisecond time channel
SFz[30]:	pV/(A*m <sup>4</sup> )	Z dB/dt 0.880 millisecond time channel
SFz[31]:	pV/(A*m <sup>4</sup> )	Z dB/dt 1.010 millisecond time channel
SFz[32]:	pV/(A*m <sup>4</sup> )	Z dB/dt 1.161 millisecond time channel
SFz[33]:	pV/(A*m <sup>4</sup> )	Z dB/dt 1.333 millisecond time channel
SFz[34]:	pV/(A*m <sup>4</sup> )	Z dB/dt 1.531 millisecond time channel



Channel name	Units	Description
SFz[35]:	pV/(A*m <sup>4</sup> )	Z dB/dt 1.760 millisecond time channel
SFz[36]:	pV/(A*m <sup>4</sup> )	Z dB/dt 2.021 millisecond time channel
SFz[37]:	pV/(A*m <sup>4</sup> )	Z dB/dt 2.323 millisecond time channel
SFz[38]:	pV/(A*m <sup>4</sup> )	Z dB/dt 2.667 millisecond time channel
SFz[39]:	pV/(A*m <sup>4</sup> )	Z dB/dt 3.063 millisecond time channel
SFz[40]:	pV/(A*m <sup>4</sup> )	Z dB/dt 3.521 millisecond time channel
SFz[41]:	pV/(A*m <sup>4</sup> )	Z dB/dt 4.042 millisecond time channel
SFz[42]:	pV/(A*m <sup>4</sup> )	Z dB/dt 4.641 millisecond time channel
SFz[43]:	pV/(A*m <sup>4</sup> )	Z dB/dt 5.333 millisecond time channel
SFz[44]:	pV/(A*m <sup>4</sup> )	Z dB/dt 6.125 millisecond time channel
SFz[45]:	pV/(A*m <sup>4</sup> )	Z dB/dt 7.036 millisecond time channel
SFz[46]:	pV/(A*m <sup>4</sup> )	Z dB/dt 8.083 millisecond time channel
SFx[20]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.220 millisecond time channel
SFx[21]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.253 millisecond time channel
SFx[22]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.290 millisecond time channel
SFx[23]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.333 millisecond time channel
SFx[24]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.383 millisecond time channel
SFx[25]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.440 millisecond time channel
SFx[26]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.505 millisecond time channel
SFx[27]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.580 millisecond time channel
SFx[28]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.667 millisecond time channel
SFx[29]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.766 millisecond time channel
SFx[30]:	pV/(A*m <sup>4</sup> )	X dB/dt 0.880 millisecond time channel
SFx[31]:	pV/(A*m <sup>4</sup> )	X dB/dt 1.010 millisecond time channel
SFx[32]:	pV/(A*m <sup>4</sup> )	X dB/dt 1.161 millisecond time channel
SFx[33]:	pV/(A*m <sup>4</sup> )	X dB/dt 1.333 millisecond time channel
SFx[34]:	pV/(A*m <sup>4</sup> )	X dB/dt 1.531 millisecond time channel
SFx[35]:	pV/(A*m <sup>4</sup> )	X dB/dt 1.760 millisecond time channel
SFx[36]:	pV/(A*m <sup>4</sup> )	X dB/dt 2.021 millisecond time channel
SFx[37]:	pV/(A*m <sup>4</sup> )	X dB/dt 2.323 millisecond time channel
SFx[38]:	pV/(A*m <sup>4</sup> )	X dB/dt 2.667 millisecond time channel
SFx[39]:	pV/(A*m <sup>4</sup> )	X dB/dt 3.063 millisecond time channel
SFx[40]:	pV/(A*m <sup>4</sup> )	X dB/dt 3.521 millisecond time channel
SFx[41]:	pV/(A*m <sup>4</sup> )	X dB/dt 4.042 millisecond time channel
SFx[42]:	pV/(A*m <sup>4</sup> )	X dB/dt 4.641 millisecond time channel
SFx[43]:	pV/(A*m <sup>4</sup> )	X dB/dt 5.333 millisecond time channel
SFx[44]:	pV/(A*m <sup>4</sup> )	X dB/dt 6.125 millisecond time channel
SFx[45]:	pV/(A*m <sup>4</sup> )	X dB/dt 7.036 millisecond time channel
SFx[46]:	pV/(A*m <sup>4</sup> )	X dB/dt 8.083 millisecond time channel
SFy[20]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.220 millisecond time channel
SFy[21]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.253 millisecond time channel
SFy[22]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.290 millisecond time channel
SFy[23]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.333 millisecond time channel
SFy[24]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.383 millisecond time channel
SFy[25]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.440 millisecond time channel
SFy[26]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.505 millisecond time channel
SFy[27]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.580 millisecond time channel
SFy[28]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.667 millisecond time channel
SFy[29]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.766 millisecond time channel
SFy[30]:	pV/(A*m <sup>4</sup> )	Y dB/dt 0.880 millisecond time channel



Channel name	Units	Description
SFy[31]:	pV/(A*m <sup>4</sup> )	Y dB/dt 1.010 millisecond time channel
SFy[32]:	pV/(A*m <sup>4</sup> )	Y dB/dt 1.161 millisecond time channel
SFy[33]:	pV/(A*m <sup>4</sup> )	Y dB/dt 1.333 millisecond time channel
SFy[34]:	pV/(A*m <sup>4</sup> )	Y dB/dt 1.531 millisecond time channel
SFy[35]:	pV/(A*m <sup>4</sup> )	Y dB/dt 1.760 millisecond time channel
SFy[36]:	pV/(A*m <sup>4</sup> )	Y dB/dt 2.021 millisecond time channel
SFy[37]:	pV/(A*m <sup>4</sup> )	Y dB/dt 2.323 millisecond time channel
SFy[38]:	pV/(A*m <sup>4</sup> )	Y dB/dt 2.667 millisecond time channel
SFy[39]:	pV/(A*m <sup>4</sup> )	Y dB/dt 3.063 millisecond time channel
SFy[40]:	pV/(A*m <sup>4</sup> )	Y dB/dt 3.521 millisecond time channel
SFy[41]:	pV/(A*m <sup>4</sup> )	Y dB/dt 4.042 millisecond time channel
SFy[42]:	pV/(A*m <sup>4</sup> )	Y dB/dt 4.641 millisecond time channel
SFy[43]:	pV/(A*m <sup>4</sup> )	Y dB/dt 5.333 millisecond time channel
SFy[44]:	pV/(A*m <sup>4</sup> )	Y dB/dt 6.125 millisecond time channel
SFy[45]:	pV/(A*m <sup>4</sup> )	Y dB/dt 7.036 millisecond time channel
SFy[46]:	pV/(A*m <sup>4</sup> )	Y dB/dt 8.083 millisecond time channel
BFz	(pV*ms)/(A*m <sup>4</sup> )	Z B-Field data for time channels 4 to 46
BFx	(pV*ms)/(A*m <sup>4</sup> )	X B-Field data for time channels 20 to 46
BFy:	(pV*ms)/(A*m <sup>4</sup> )	Y B-Field data for time channels 20 to 46
SFxFF	pV/(A*m <sup>4</sup> )	Fraser Filtered X dB/dt
PLM:		60 Hz power line monitor

Electromagnetic B-field and dB/dt Z component data is found in array channel format between indexes 4 – 46, and X component data from 20 – 46, as described above.



• Grids in Geosoft GRD, as follows:

CVG: Calculated Vertical Derivative (nT/m)

TMI: Total Magnetic Intensity (nT)

A Geosoft .GRD file has a .GI metadata file associated with it, containing grid projection information. A grid cell size of 30 metres was used.

Respectfully Submitted,

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Thomas Wade, P.Geo.

Geotech Ltd.

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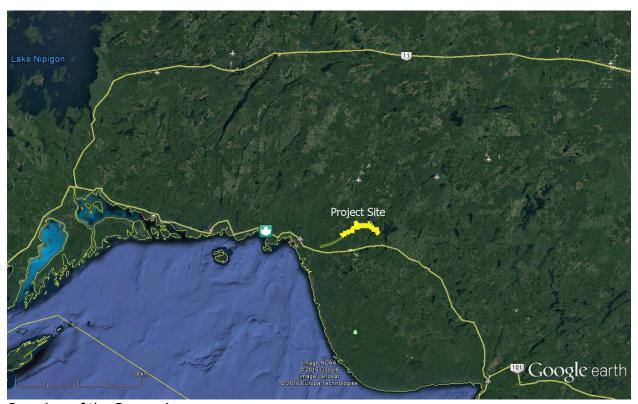
Geoffrey Plastow, P. Geo. Data Processing Manager

**Geotech Ltd** 

November, 2016

# **APPENDIX A**

## SURVEY AREA LOCATION MAP



Overview of the Survey Area



# **APPENDIX B**

## **SURVEY AREA COORDINATES**

(WGS 84, UTM Zone 16 North)

West	
X	Υ
582215	5412526
581474	5411745
580788	5411753
580756	5409106
579603	5409105
579604	5409054
579086	5409054
579102	5407532
578423	5407520
578416	5406823
576296	5406831
576288	5405994
574168	5405970
574160	5404782
572597	5404782
572582	5404407
572008	5403825
574129	5401704
574715	5402294
574717	5402660
576291	5402655
576294	5403857
576826	5403861
578416	5403860
578419	5404723
579625	5404714
581247	5404682
581194	5406322
581209	5406936
582892	5406948
582878	5407219
582879	5409619
583599	5409622
584336	5410404

North	
X	Υ
584175	5406949
582892	5406948
582892	5409948
583593	5409952
583597	5410394
584151	5410398
584166	5411000
584310	5411005
586892	5411043
588635	5411042
589036	5411045
589039	5411099
589508	5411111
589499	5412206
590013	5412209
590366	5412211
590496	5412219
590504	5409219
590366	5409211
590013	5409209
589499	5409206
589504	5408526
589500	5408111
589039	5408099
589036	5408045
588635	5408042
586892	5408043
585779	5408049
584310	5408005
584166	5408000
584175	5406949

East	
X	Y
589472	5409217
590492	5409217
590483	5410559
591755	5410542
591764	5410150
592993	5410141
593010	5408555
596182	5408547
596165	5404416
594178	5404416
594178	5405741
591782	5405732
591738	5407327
590126	5407300
590126	5408102
589499	5408085

## **APPENDIX C**

# GEOPHYSICAL MAPS<sup>1</sup>

Flight Path Map

VTEM B-Field Z Component Profiles, Time Gates 0.220 to 7.036 ms

VTEM dB/dt Z Component Profiles, Time Gates 0.220 to 7.036 ms

Total Magnetic Intensity (TMI)

Calculated Vertical Derivative of TMI

