

# INDEPENDENT TECHNICAL REPORT

## JAMES BAY LOWLANDS PROPERTY

ONTARIO, CANADA



James Bay Resources Limited  
20 Victoria St.  
Suite 800  
Toronto, Ontario M5C 2N8

May 8<sup>th</sup>, 2008

Prepared By:



**Caracle Creek International Consulting Inc.**  
Suite 2 - 17 Froot Rd  
Sudbury, Ontario, Canada P3C 4Y9  
+1.705.671.1801

Brad Leonard, M.Sc., P.Geol.

TABLE OF CONTENTS

<b>1.0 EXECUTIVE SUMMARY .....</b>	<b>4</b>
<b>2.0 INTRODUCTION AND TERMS OF REFERENCE .....</b>	<b>6</b>
2.1 INTRODUCTION.....	6
2.2 TERMS OF REFERENCE AND UNITS .....	6
2.3 CCIC QUALIFICATIONS.....	7
<b>3.0 RELIANCE ON OTHER EXPERTS .....</b>	<b>7</b>
<b>4.0 PROPERTY DESCRIPTION AND LOCATION .....</b>	<b>8</b>
<b>5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY .....</b>	<b>13</b>
5.1 ACCESSIBILITY .....	13
5.2 CLIMATE .....	13
5.3 LOCAL RESOURCES AND INFRASTRUCTURE .....	13
5.4 PHYSIOGRAPHY .....	13
<b>6.0 EXPLORATION HISTORY .....</b>	<b>14</b>
<b>7.0 GEOLOGICAL SETTING.....</b>	<b>15</b>
7.1 REGIONAL GEOLOGY.....	15
7.1.1 Sachigo Subprovince.....	16
7.2 PROPERTY GEOLOGY.....	18
<b>8.0 DEPOSIT TYPES.....</b>	<b>20</b>
8.1 MAGMATIC-TYPE NI-CU-PGE DEPOSITS.....	20
8.2 VMS DEPOSITS .....	22
<b>9.0 MINERALIZATION.....</b>	<b>24</b>
<b>10.0 EXPLORATION .....</b>	<b>25</b>
<b>11.0 DRILLING .....</b>	<b>39</b>
<b>12.0 SAMPLING METHOD AND APPROACH .....</b>	<b>39</b>
<b>13.0 SAMPLE SECURITY, PREPARATION, AND ANALYSES.....</b>	<b>39</b>
<b>14.0 DATA VERIFICATION.....</b>	<b>39</b>
<b>15.0 ADJACENT PROPERTIES.....</b>	<b>39</b>
<b>16.0 MINERAL PROCESSING AND METALLURGICAL TESTING.....</b>	<b>42</b>
<b>17.0 MINERAL RESOURCE AND RESERVE ESTIMATES .....</b>	<b>42</b>
<b>18.0 OTHER RELEVANT DATA AND INFORMATION .....</b>	<b>42</b>
<b>19.0 CONCLUSIONS.....</b>	<b>42</b>
<b>20.0 RECOMMENDATIONS.....</b>	<b>43</b>
<b>21.0 STATEMENT OF AUTHORSHIP.....</b>	<b>47</b>
<b>22.0 REFERENCES.....</b>	<b>48</b>

## LIST OF FIGURES

FIGURE 4-1 LOCATION OF THE JAMES BAY LOWLANDS PROPERTY, NORTHERN ONTARIO.....	9
FIGURE 4-2 LAND TENURE SKETCH OF THE JBR LAND HOLDINGS .....	12
FIGURE 6-1 PROVINCIAL AIRBORNE MAGNETICS MAP OF THE MCFAULD'S LAKE AREA. ....	15
FIGURE 7-1 GENERAL GEOLOGICAL SUBPROVINCE SKETCH OF ONTARIO.....	16
FIGURE 7-2 REGIONAL GEOLOGY OF THE EASTERN SACHIGO SUBPROVINCE, MCFAULD'S LAKE AREA. ....	18
FIGURE 7-3 JBR PROPERTY GEOLOGY MAP .....	19
FIGURE 8-1 IDEALIZED NI-CU MINERALIZATION ALONG CONTACTS OF MAFIC TO ULTRAMAFIC BODIES (AFTER PECK ET. AL. 2001).....	22
FIGURE 8-2 IDEALIZED CHARACTERISTICS OF A VMS DEPOSIT (AFTER J.W. LYDON, GSC, 1990).....	24
FIGURE 10-1 AIRBORNE MAGNETIC AND EM SURVEY BLOCKS. ....	26
FIGURE 10-2. B-FIELD EM PROFILES FOR BLOCK A .....	27
FIGURE 10-3. TOTAL FIELD MAGNETICS FOR BLOCK A.....	28
FIGURE 10-4. B-FIELD EM PROFILES FOR BLOCK B1 .....	29
FIGURE 10-5. TOTAL FIELD MAGNETICS FOR BLOCK B1.....	30
FIGURE 10-4. B-FIELD EM PROFILES FOR BLOCK B2 .....	31
FIGURE 10-5. TOTAL FIELD MAGNETICS FOR BLOCK B2.....	32
FIGURE 10-6. B-FIELD EM PROFILES FOR BLOCKS C AND C-EXTENSION.....	34
FIGURE 10-7.TOTAL FIELD MAGNETICS AND TOTAL B-FIELD EM PROFILES FOR BLOCKS C AND C-EXTENSION .....	35
FIGURE 10-8. B-FIELD EM PROFILES FOR BLOCK D .....	36
FIGURE 10-9.TOTAL FIELD MAGNETICS FOR BLOCK D .....	37
FIGURE 10-10. B-FIELD EM PROFILES FOR BLOCK E .....	38
FIGURE 10-11.TOTAL FIELD MAGNETICS FOR BLOCK E .....	38

## LIST OF TABLES

TABLE 4-1 SUMMARY OF CLAIMS HELD BY JBR.....	10
TABLE 15-1 SELECTED DRILL HOLE RESULTS FROM NORONT'S DOUBLE EAGLE PROPERTY .....	41
TABLE 20-1. PROPOSED BUDGET, PHASE I, JAMES BAY LOWLANDS PROPERTY. ....	45
TABLE 20-2. PROPOSED PHASE II BUDGET - DIAMOND DRILLING .....	46

## LIST OF APPENDECIES

Appendix 1 Certificate of Qualifications

## 1.0 EXECUTIVE SUMMARY

At the request of James Bay Resources Limited (the "Company" or "James Bay"), Caracle Creek International Consulting Inc. ("CCIC") has completed a review of the James Bay Lowlands Property (the "Property") and prepared an Independent Technical Report (the "Report"), compliant with National Instrument 43-101 ("NI43-101"), companion policy NI43-101CP and Form 43-101F1. The purpose of this Report is to provide an independent review of the Property in order to facilitate a business transaction by James Bay.

CCIC has prepared this Report to provide a summary of scientific and technical data on the Property, including historic exploration activities, and make recommendations concerning future exploration and development. This Report is based on exploration and property information supplied to CCIC by James Bay and a review of public domain geological and exploration information. The Property is completely covered by overburden with little or no exposed bedrock. The Qualified Person for this report is Mr. Brad Leonard, who visited the Property on January 11, 2008.

The Property consists of 82 unpatented mining claims registered 100% to James Bay Resources Limited., located in the James Bay lowlands area approximately 300 km north of Nakina, and 600 km northwest of Timmins, Ontario. The area was staked owing to the discovery of nearby volcanogenic massive sulphide ("VMS") deposits by Spider Resources Inc. ("Spider") and a nickel-copper-platinum group element ("Ni-Cu-PGE") discovery by Noront Resources Ltd. ("Noront"). The area represents a virtually unexplored greenstone belt, and has the potential of developing into a new and important base and precious metal mining camp.

According to the Geology of Ontario 1:250,000 base maps, the Property is underlain by Archean mafic to intermediate metavolcanic rocks, mafic intrusive rocks and granitoid rocks of the Sachigo Volcanic Belt ("SVB"). Owing to topography and overburden cover, geological units in the area and within the claim boundaries are interpreted to consist only of Archean metavolcanic, mafic intrusive and granitoid rocks. A provincial airborne magnetics survey flown at line spacing from 200 m to 400 m provides the most accurate depiction of the subsurface geology, displaying an arcuate belt of highly magnetic rocks approximately 100 km in length, which could be caused by the presence of mafic metavolcanic rocks.

The Property is located within the same stratigraphic package of rocks as the McFauld's Lake VMS occurrence, discovered by Spider in 2002, as well as the Ni-Cu-PGE occurrence discovered by Noront in 2007. The Property is also situated adjacent to several recently discovered VMS occurrences as well as Ni-Cu-PGE occurrences.



**The geological and geophysical data suggests that the James Bay Lowlands Property has a strong potential for economic base metal sulphide and PGE mineralization of the Ni-Cu-PGE intrusive type as well as mineralization of the volcanogenic massive sulphide-type.**

To advance the James Bay Lowlands Property, a two phase program is recommended at an estimated cost of CAD **\$3,350,000** for Phase I and an estimated cost of CAD **\$3,000,000** for Phase II. Phase I work program includes additional airborne geophysics to re-fly portions of Block C and C-extension, a detailed ground geophysical survey over favourable areas identified from the airborne geophysical surveys, followed by 5000 m diamond drilling. Phase II, contingent on favourable results from Phase I, consists of an additional 5000 m of diamond drilling.

**Total Proposed Work Plan and Exploration Budget:**

Item	Amount
Phase I Exploration	
Airborne Geophysics	\$125,500
Ground Geophysics	\$167,500
Diamond Drilling	\$2,474,500
Contingency	\$553,500
Subtotal proposed exploration	\$3,350,000
Phase II Exploration	
Diamond Drilling	\$2,498,500
Subtotal Proposed exploration	\$2,498,500
Contingency	\$499,700
<i>TOTAL PHASE II (CAD):</i>	\$3,000,000
<b>Total Phase I &amp; II</b>	<b>\$6,350,000</b>

***CCIC has concluded that the Property is of merit as an early-stage exploration project for Cu-Ni-PGE mineralization in addition to VMS mineralization, diamondiferous kimberlites and Mesozoic gold mineralization.***

## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

### **2.1 Introduction**

At the request of JBR, CCIC has prepared this Report to provide a summary of scientific and technical data on the James Bay Lowlands Property and to provide an independent review of the Property in order to facilitate a business transaction by JBR. The Property is located in the James Bay lowlands area, northern Ontario, Canada and consists of 82 unpatented mining claims that total 1,075 units or 17,200 ha. recorded 100% in the name of James Bay Resources Limited.

This report provides a summary of technical and scientific work on and around the Property carried out by government geologists and other mineral exploration companies actively exploring the area. Information in the report comes from work carried out on the Property by previous operators, JBR and publicly available information including all public news releases, company websites and SEDAR describing discovered mineralization and all publicly available analytical results. The Property was visited by Mr. Brad Leonard of CCIC on January 11, 2008.

### **2.2 Terms of Reference and Units**

The Metric System or System International (SI) is the primary system of measure and length used in this Report. Conversions from the 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. Further information is available online from a number of sources including [www.maden.hacettepe.edu.tr/dmmrt/index.html](http://www.maden.hacettepe.edu.tr/dmmrt/index.html).

Conversion factors utilized in this Report include: 1 pound (lb.) = 0.454 kilograms (kg); 1 foot (ft) = 0.3048 metres (m); 1 mile (mi) = 1.609 kilometres (km); 1 acre (ac) = 0.405 hectares (ha); and, 1 sq mile = 2.59 square kilometres. The term gram/tonne or g/t is expressed as "gram per tonne" where 1 gram/tonne = 1 ppm (parts per million) = 1000 ppb (parts per billion). Other abbreviations include ppb = parts per billion; ppm = parts per million; opt or oz/t = ounce per short ton; Moz = million ounces; Mt = million tonne; t = tonne (1000 kilograms); SG = specific gravity; lb/t = pound/tonne; and, st = short ton (2000 pounds).

Dollars are expressed in Canadian currency (CAD\$) unless otherwise noted. Unless otherwise mentioned, all coordinates in this Report are provided as UTM datum NAD83, Zone 16.

### **2.3 CCIC Qualifications**

Caracle Creek International Consulting Inc. is an international consulting company based in Sudbury, Ontario, Canada. CCIC provides a wide range of geological and engineering services to the mineral exploration and development industry. With offices in Canada (Sudbury and Toronto, Ontario and Abbotsford, British Columbia) and South Africa (Johannesburg), CCIC is well positioned to service its international client base.

CCIC's mandate is to provide professional geological and engineering services to the mineral exploration and development industry at competitive rates and without compromise. CCIC's group of professionals have international experience in a variety of disciplines with services that include:

- Exploration Project Generation, Design and Management
- Data Compilation and Exploration Target Generation
- Property Evaluation and Due Diligence Studies
- Independent Technical Reports (NI43-101)/Competent Person's Reports
- Mineral Resource/Reserve Modelling, Estimation, Audit; Conditional Simulation
- 3D Geological Modelling, Visualization and Database Management

In addition, CCIC has access to the most current software for data management, interpretation and viewing, manipulation and target generation.

The Qualified Person for this Report is Mr. Brad Leonard, Exploration Manager of CCIC and a member in good standing of the Association of Professional Geoscientists of Ontario (P.Geo. #0927). Mr. Leonard has over 24 years experience in mineral exploration including gold, base metals, uranium, diamonds and platinum-group elements, and has authored/co-authored Independent Technical Reports (NI43-101). A Certificate of Qualifications for Mr. Leonard is provided in Appendix 1.

### **3.0 RELIANCE ON OTHER EXPERTS**

CCIC has completed this Report in accordance with the methodology and format outlined in National Instrument 43-101, companion policy NI43-101CP and Form 43-101F1. This Report was prepared by competent and professional individuals from CCIC on behalf of JBR and is directed solely for the development and presentation of data with recommendations to allow JBR and current or potential partners to reach informed decisions.

The information, conclusions and recommendations contained herein are based on a review of digital and hard copy data and information supplied to CCIC by JBR, as well as various published geological reports, and discussions with representatives from JBR who are familiar with the Property and the area in general. CCIC has assumed that the reports and other data listed in the "References" section of this report are substantially accurate and complete.

CCIC has relied on information provided by JBR regarding land tenure, underlying agreements and technical information not in the public domain, and all of these sources appear to be of sound quality. CCIC is unaware of any technical data other than that presented by JBR or its agents. CCIC have reviewed mineral title and status as provide by JBR. CCIC has also used the spatial claim information found on the website <http://www.claimaps.gov.on.ca> to portray the claim boundaries relative to local topography and geology.

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 NI43-101 definition of a Qualified Person. CCIC has made every attempt to accurately convey the content of those files, but cannot guarantee either the accuracy or validity of the work contained within those files. However, CCIC 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 JBR.

#### **4.0 PROPERTY DESCRIPTION AND LOCATION**

The Property is located approximately 50 km southeast of the First Nations community of Webequie, and approximately 600 km northwest of the city of Timmins Ontario, Canada. (Figure 4-1).



Figure 4-1 Location of the James Bay Lowlands Property, northern Ontario

The Property consists of 82 unpatented mining claims that total 1,075 claim units or 17,200 ha. located within the BMA 526863, BMA 526864, BMA 525863, and BMA 525864 area maps, Thunder Bay Mining Division. All claims are recorded 100% in the name of James Bay Resources Limited and are in good standing as of the date of this report. The claim numbers, status and groupings are listed in Table 4-1 and presented in Figure 4-2. The property boundaries are located from claim information downloaded from the Ontario MNDM Claimaps website ([www.claimaps.mndm.gov.on.ca](http://www.claimaps.mndm.gov.on.ca)).

Table 4-1 Summary of claims held by JBR.

Township/Area	Claim Number	Recording Date	Claim Due Date	Work Required
BMA 525863	4225341	2007-Dec-05	2009-Dec-05	\$6,400
BMA 526863	4225342	2007-Dec-05	2009-Dec-05	\$6,400
BMA 526864	4225343	2007-Dec-05	2009-Dec-05	\$1,200
BMA 526864	4225344	2007-Dec-05	2009-Dec-05	\$6,400
BMA 525864	4225345	2007-Dec-05	2009-Dec-05	\$6,400
BMA 525864	4225346	2007-Dec-05	2009-Dec-05	\$6,400
BMA 525864	4225347	2007-Dec-05	2009-Dec-05	\$6,400
BMA 525864	4225348	2007-Dec-05	2009-Dec-05	\$3,200
BMA 525864	4225349	2007-Dec-05	2009-Dec-05	\$6,400
BMA 525864	4225350	2007-Dec-05	2009-Dec-05	\$3,200
BMA 525864	4225351	2007-Dec-05	2009-Dec-05	\$4,800
BMA 525864	4225352	2007-Dec-05	2009-Dec-05	\$3,200
BMA 525864	4225353	2007-Dec-05	2009-Dec-05	\$6,400
BMA 525864	4225354	2007-Dec-05	2009-Dec-05	\$6,400
BMA 525864	4225355	2007-Dec-05	2009-Dec-05	\$3,200
BMA 525864	4225356	2007-Dec-05	2009-Dec-05	\$6,400
BMA 526864	4225371	2007-Dec-05	2009-Dec-05	\$6,400
BMA 526864	4225372	2007-Dec-05	2009-Dec-05	\$6,400
BMA 526864	4225373	2007-Dec-05	2009-Dec-05	\$6,400
BMA 526863	4226131	2007-Dec-03	2009-Dec-03	\$2,000
BMA 526863	4226132	2007-Dec-03	2009-Dec-03	\$3,200
BMA 526863	4226133	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4226134	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4226135	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4226136	2007-Dec-03	2009-Dec-03	\$4,800
BMA 526863	4226137	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4226138	2007-Dec-03	2009-Dec-03	\$3,200
BMA 526863	4226140	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4226141	2007-Dec-03	2009-Dec-03	\$4,000
BMA 526863	4226142	2007-Dec-03	2009-Dec-03	\$2,000
BMA 526863	4226143	2007-Dec-03	2009-Dec-03	\$1,600
BMA 526863	4226144	2007-Dec-03	2009-Dec-03	\$3,600
BMA 526863	4226145	2007-Dec-03	2009-Dec-03	\$6,400

Township/Area	Claim Number	Recording Date	Claim Due Date	Work Required
BMA 526863	4226146	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4226147	2007-Dec-03	2009-Dec-03	\$2,800
BMA 526863	4227279	2007-Dec-03	2009-Dec-03	\$2,400
BMA 526863	4227280	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4227281	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4227282	2007-Dec-03	2009-Dec-03	\$2,400
BMA 526863	4227283	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4227284	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4227285	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	04227286	2007-Dec-03	2009-Dec-03	\$2,400
BMA 526863	4227288	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4227289	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4227290	2007-Dec-03	2009-Dec-03	\$4,800
BMA 526863	4227291	2007-Dec-03	2009-Dec-03	\$4,800
BMA 526863	4227292	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526863	4227297	2007-Dec-03	2009-Dec-03	\$4,000
BMA 526863	4227298	2007-Dec-03	2009-Dec-03	\$3,600
BMA 526863	4227299	2007-Dec-03	2009-Dec-03	\$1,600
BMA 526863	04227300	2007-Dec-03	2009-Dec-03	\$6,400
BMA 526864	4225365	2008-Jan-27	2010-Jan-27	\$6,400
BMA 526864	4225360	2008-Jan-27	2010-Jan-27	\$6,400
BMA 526864	4225359	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4226139	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225284	2008-Feb-05	2010-Feb-05	\$6,400
BMA 526864	4225364	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225358	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225285	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225357	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225370	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225369	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225368	2008-Jan-25	2010-Jan-25	\$6,400
BMA 526864	4225367	2008-Jan-24	2010-Jan-24	\$6,400
BMA 526864	4225366	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225340	2008-Feb-01	2010-Feb-01	\$4,000
BMA 526864	4225374	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225378	2008-Feb-02	2010-Feb-02	\$2,000
BMA 526864	4225375	2008-Feb-04	2010-Feb-04	\$6,400
BMA 526864	4225376	2008-Feb-05	2010-Feb-05	\$3,200
BMA 526864	4225380	2008-Feb-04	2010-Feb-04	\$6,000
BMA 526864	4222789	2008-Feb-03	2010-Feb-03	\$4,400
BMA 526864	4222790	2008-Feb-05	2010-Feb-05	\$6,400

Township/Area	Claim Number	Recording Date	Claim Due Date	Work Required
BMA 526864	4225377	2008-Feb-05	2010-Feb-05	\$6,400
BMA 526864	4222791	2008-Feb-03	2010-Feb-03	\$5,200
BMA 526864	4222792	2008-Feb-03	2010-Feb-03	\$6,400
BMA 526864	4225267	2008-Jan-26	2010-Jan-26	\$6,400
BMA 526864	4226148	2008-Feb-04	2010-Feb-04	\$2,800
BMA 525864	5217307	2008-Apr-8	2010-Apr-8	\$3,200
BMA 525864	5217308	2008-Apr-9	2010-Apr-9	\$6,400
BMA 525864	5217309	2008-Apr-10	2010-Apr-10	\$4,800

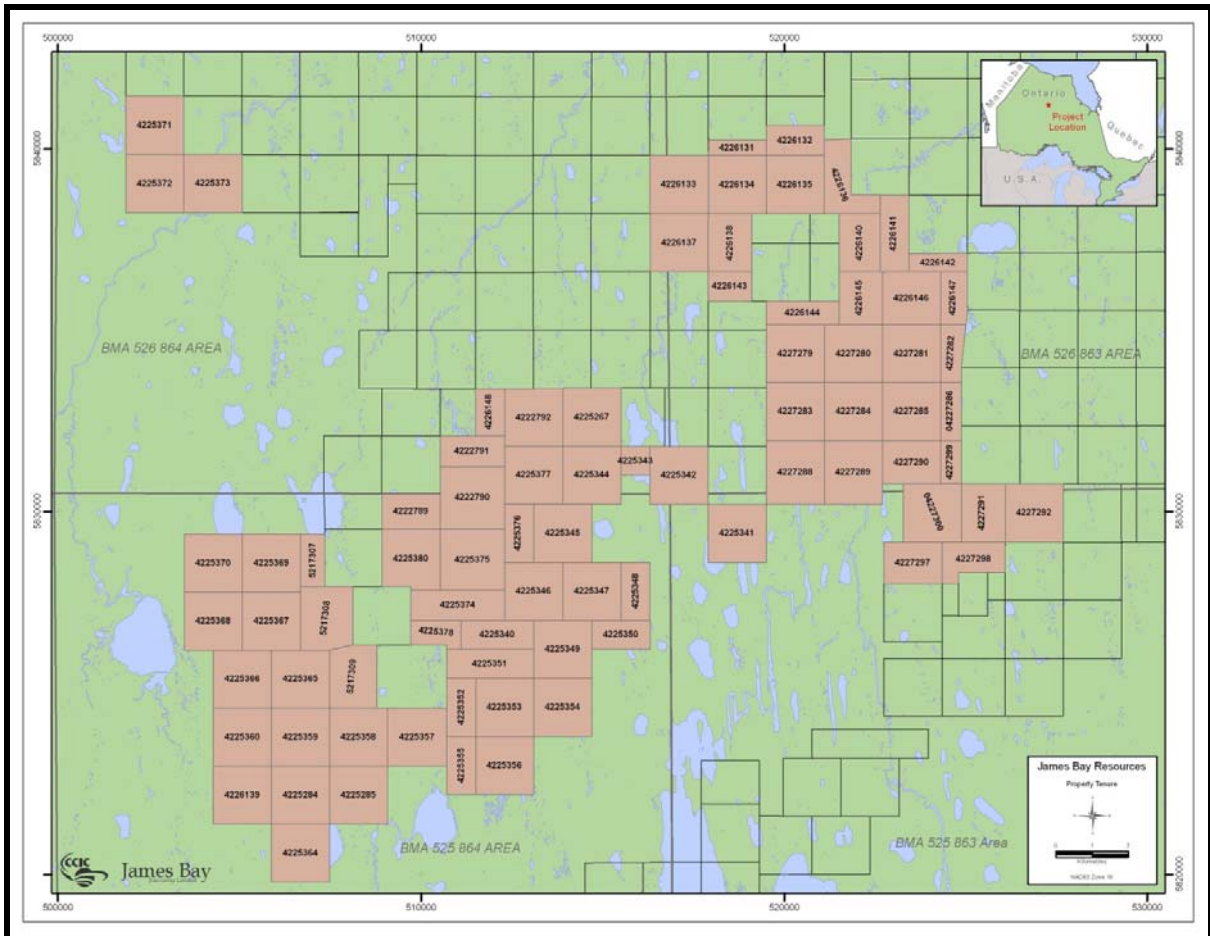


Figure 4-2 Land Tenure sketch of the JBR land holdings

## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

### **5.1 Accessibility**

Access to the Property is by way of float-equipped fixed wing aircraft in the ice-free months, ski-equipped fixed-wing aircraft in the winter or helicopter. No immediate water access exists for the Property. The closest air bases are at Ogoki Post, ~120 km to the south-southeast, Nakina, ~295 km to the south, Pickle Lake, ~325 km to the west-southwest and Hearst, ~360 km to the southeast. Winter roads connect the First Nations communities of Webequie, Neskantaga (Landsdowne House) and Eabametoong (Fort Hope) to Pickle Lake and Marten Falls to Nakina. A forestry access road that may be used year round extends from Nakina to within approximately 60 km of Eabametoong (Fort Hope). The closest First Nations community to the Property is Webequie.

### **5.2 Climate**

The area experiences a temperate climate with long cold winters and short warm to hot summers. Break-up or freeze-up conditions may impinge upon exploration activities, but normally exploration and mining activities could be conducted year round.

### **5.3 Local Resources and Infrastructure**

The Property lies close to the First Nations community of Webequie, which could provide a source for general labour and supplies. Otherwise, there is no major infrastructure in the region and most supplies must be flown in from larger cities such as Timmins and Thunder Bay, which are several hundred kilometres away. A pool of skilled labour for both exploration and mining activities and accustomed to working in remote locales may be found in both of these cities. Some services, such as airports with regularly scheduled flights, nursing stations, etc. are available at Webequie and at other nearby First Nations communities. An adequate supply of water for diamond drilling can be sourced from the lakes within and around the Property boundaries. The nearest high voltage power line of the provincial power grid is at Nakina.

### **5.4 Physiography**

Vegetation is typical for a fringe area to a Boreal forest. Tree cover is generally sparse and stunted, with the larger trees found in the better drained areas closer to rivers, creeks, lakes and ponds. Dominant species include black spruce and tamarack with lesser quantities of balsam, birch, jack pine and poplar.

The Property lies within the James Bay Lowlands of Ontario, an area characterized by a plain of low relief, which gently slopes towards James Bay to the northeast. Across the Property the elevation ranges from 185 to 210 m ASL, with local variations of less than 10 metres. Hydrographic features include the Attawapiskat River and numerous small lakes, creeks and rivers, although no large-scale drainage features are found within the immediate area of the claims. Owing to the thick clay deposits

and low relief, the area is poorly drained with string bogs interspersed with numerous small ponds and muskeg swamp that dominate the landscape. Drainage is to the northeast via tributaries to the Attawapiskat and Muketei Rivers. Lakes in the area can reach up to 5 km in length.

## **6.0 EXPLORATION HISTORY**

Prior to the discovery of VMS mineralization in the Sachigo Volcanic Belt by Spider, only limited physical examination of the area was undertaken by the OGS, consisting of regional-scale mapping (Thurston et. al., 1975) and airborne magnetic surveys (OGS, 1991). There is no assessment work on file for the area under the claims within BMA's 526864, 526863, 525864 and 525863 in the MNM database at [www.geologyontario.mndm.gov.on.ca](http://www.geologyontario.mndm.gov.on.ca). Owing to topography, geological exposures are scarce and, within the claim boundaries, consist only of Archean metavolcanic, mafic intrusive and granitoid rocks. River cuts found through the Property contain small outcrops of mafic flows and mafic intrusives found as layers within meta-granitoid rocks (Thurston et. al., 1975). Volcanic horizons typically show sub-vertical to vertical dips. A provincial airborne magnetism survey provides the most accurate depiction of the subsurface geology, displaying an arcuate belt of highly magnetic rocks approximately 100 km in length, known as the "Ring of Fire", which could be caused by the presence of mafic metavolcanic rocks.

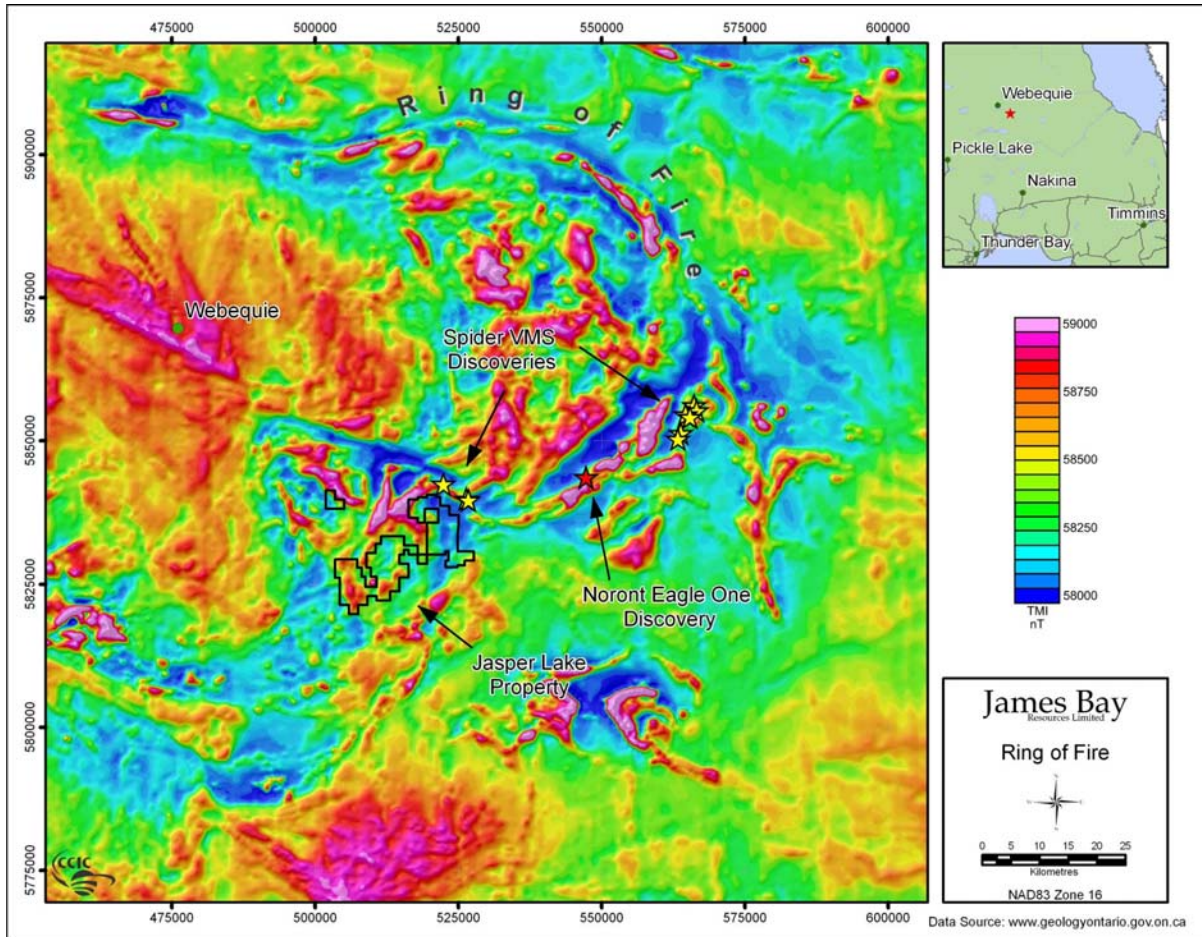


Figure 6-1 Provincial airborne magnetics map of the McFauld's Lake area.

No defined mineral deposits are known in the area surrounding the Property, although recent exploration activities by companies such as Spider, Noront, De Beers Canada Exploration Inc. ("De Beers"), Freewest Resources Ltd. ("Freewest"), Probe Mines Ltd. ("Probe"), MacDonald Mines Ltd. ("MacDonald"), KWG Resources Inc. ("KWG), Superior Diamonds Inc. ("Superior") and Lake Shore Gold Corp. ("Lake Shore") suggests the potential for economic base metal (Cu-Pb-Zn) VMS deposits, magmatic Ni-Cu mineralization, mesothermal gold and diamondiferous kimberlites is high. The bulk of the previous work data available is taken from public disclosure documents provided by all mineral exploration companies active in the area as no published assessment work is available.

## 7.0 GEOLOGICAL SETTING

### 7.1 Regional Geology

The Property is just west of the unconformable contact between Archean aged (2.8-2.9 Ga) granite gneiss, volcanic greenstone belts and related intrusions of the Superior Province of the Canadian Shield and Palaeozoic, Upper Ordovician aged (450-438 Ma) sedimentary rocks of the James Bay

Lowlands (Thurston et al., 1991). The Superior Province is divided into numerous subprovinces, each bounded by linear faults and characterized by differing lithologies, structural/tectonic conditions, ages and metamorphic conditions (Figure 7-1). These subprovinces can be classified as one of four types: 1) Volcano-plutonic, consisting of low-grade metamorphic greenstone belts, typically intruded by granitic magmas, and products of multiple deformation events; 2) Metasedimentary, dominated by clastic sediments and displaying low grade metamorphism at the subprovince boundary and Amphibolite to Granulite Facies towards the centers; 3) Gneissic/plutonic, comprised of tonalitic gneiss containing early plutonic and volcanic mafic enclaves, and larger volumes of granitoid plutons, which range from sodic (early) to potassic (late); and 4) High-grade gneissic subprovinces, characterized by Amphibolite to Granulite Facies igneous and metasedimentary gneisses intruded by tonalite, granodioritic and syenitic magmas (Card and Ciesieliski, 1986). The Property lies within the Sachigo Subprovince (Figure 7-1)

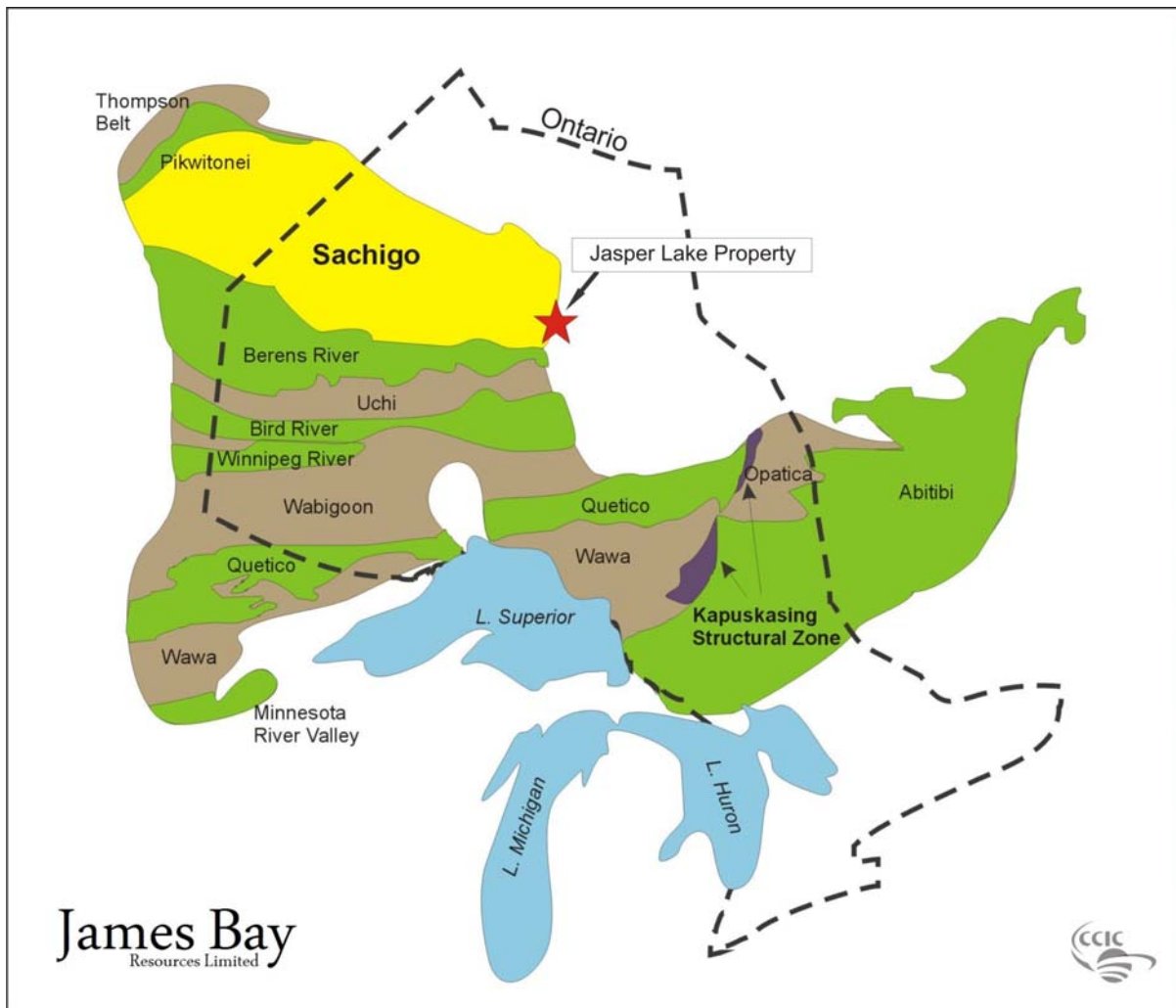


Figure 7-1 General geological subprovince sketch of Ontario

### 7.1.1 Sachigo Subprovince

The Sachigo Subprovince represents the northernmost extent of exposed Archean basement rocks of the Superior Province (Figure 7-1). To the west, the Sachigo is bounded by the ~1.8 Ga Trans-Hudson-Orogen (“THO”), while to the northwest the subprovince is in contact with granitoid and mafic/ultramafic rocks of the Thompson Belt, a collisional zone formed during the THO. To the east, the Sachigo is delimited by the Winisk River Fault, which separates the Superior Province from rocks of the THO Fox River Belt, while the southern limit of the Sachigo Subprovince is defined by the Berens River Subprovince, a granite-greenstone terrane (Thurston et al., 1991).

Much less is known about the Sachigo Subprovince than the more accessible granite-greenstone belts to the south, with most work concentrating on the handful of isolated greenstone belts found enclosed within the granitic and gneissic units (e.g. Bennett and Riley, 1969; Ayres, 1974; Card and Ciesielski, 1986; Thurston et al., 1991). However, a number of differences can be noted between the greenstone belts of the Sachigo Subprovince and younger greenstone terranes to the south. The Sachigo Subprovince includes some of the oldest ages for greenstones in the Superior Province at 2.9-3.0 Ga (Corfu and Wood, 1986; Thurston et al., 1991) and includes an unusual sequence of quartz-rich metasedimentary rocks within a sequence of mafic and felsic volcanic rocks (Thurston et al., 1991).

The Berens River granite-greenstone subprovince, immediately to the south of the Sachigo, is interpreted to represent a deeply eroded arc or micro continental core, while rocks of the Sachigo Subprovince are considered remnants of widespread, early (3.0 Ga) sialic crust (Thurston et al., 1991). Geological similarities between the Sachigo, Berens River, and the Uchi Subprovince, situated to the south of the Berens River Subprovince, have prompted some researchers to define an Uchi-Sachigo-Berens River superterrane (Card and Ciesielski, 1986; Thurston et al., 1991).

Granitic rocks represent the dominant lithologies in the Sachigo subprovince and include, from oldest to youngest: gneissic tonalites; foliated tonalites; a muscovite granodiorite–granite series; and a diorite-monzonite-granodiorite suite (Thurston et al., 1991).

Pre-tectonic mafic intrusive rocks in the Sachigo subprovince are considered to be synvolcanic by Thurston et al. (1991), and comprise predominantly mafic to ultramafic sills. Post-tectonic magmatism in the northwestern Superior Province includes three diabase dike swarms, comprising the 2171 Ma Marathon Dike Swarm, the 1888 Ma Molson Dike Swarm and the 1267 Ma MacKenzie Dike Swarm. The Big Trout Lake Intrusive Complex represents the largest known exposed mafic-ultramafic intrusion in the general area and consists of a folded 5,000 m thick sill containing a 500 m thick lower ultramafic sequence of dunite, chromite and chromite-rich layers overlain by

homogeneous peridotite. Two batches of tholeiitic magma are indicated in the formation of the sill (Borthwick and Naldrett, 1984).

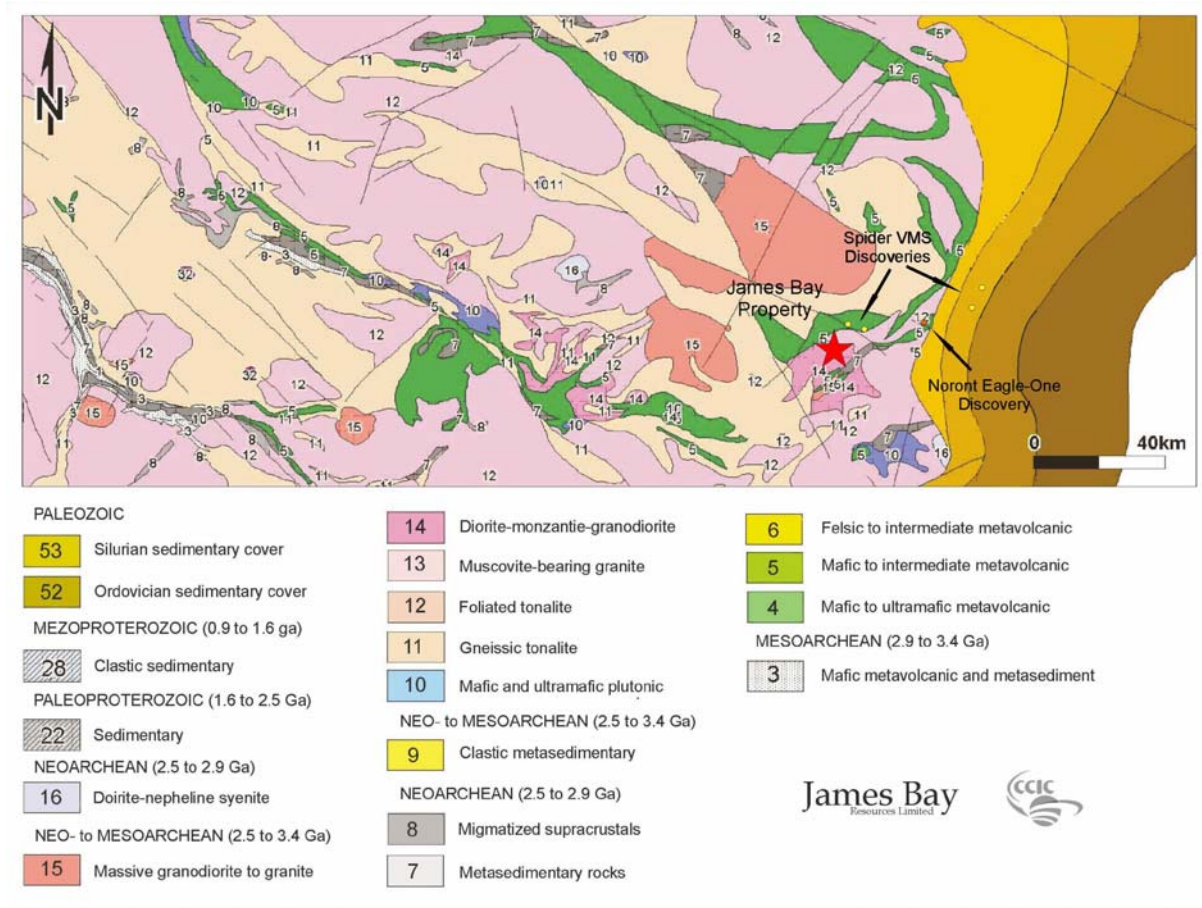


Figure 7-2 Regional geology of the eastern Sachigo Subprovince, McFauld's Lake area.

## 7.2 Property Geology

Outcrop exposure is sparse on the Property. Geologic knowledge of the underlying bedrock is not well understood and has been obtained from recent drilling in the area of the Ni-Cu-PGE discoveries as well as the VMS discoveries at the eastern extent of the volcanic rocks and these data are restricted to local areas only (Franklin, 2003).

Based on the 1:250,000 scale Geology of Ontario Provincial geological map (MRD126-rev) and work performed in the area by Thurston et. al. (1975), the property is underlain by Archean gneissic and tonalitic rocks, with lesser mafic to intermediate metavolcanic rocks and mafic to ultramafic intrusive rocks (Figures 7-2, 7-3). Most of these interpretations were derived from compilation work and airborne magnetic surveys (Thurston et. al., 1975).

The volcanic sequence at the location of the original VMS discovery by Spider and DeBeers comprises highly altered mafic and felsic volcanic rocks, which have in some cases undergone extensive Mg-metasomatism as reflected by talc-magnetite alteration. In most cases this replacement alteration has occurred to such a degree as to make primary lithologies indiscernible, with all units resembling basaltic flows (Franklin, 2003). The hydrothermal character of the talc-magnetite rock was established to a fair degree of confidence through whole rock geochemical comparisons utilizing major and trace element characteristics, while precursor lithologies have been demonstrated to be a bimodal population of basaltic and rhyolitic-dacitic volcanic rocks (Franklin, 2003). The character of the felsic sequence suggested to Franklin (2003), that there was significant heat available to the system, which indicates a greater potential for the formation of VMS mineralization in the volcanic strata. The locations of the Noront Eagle One Ni-Cu-PGE deposit and Spider, Spider/KWG/De Beers VMS discoveries on Figures 7-2 and 7-3 are derived from [www.norontresources.com/projects/double-eagle/index.html#](http://www.norontresources.com/projects/double-eagle/index.html#).

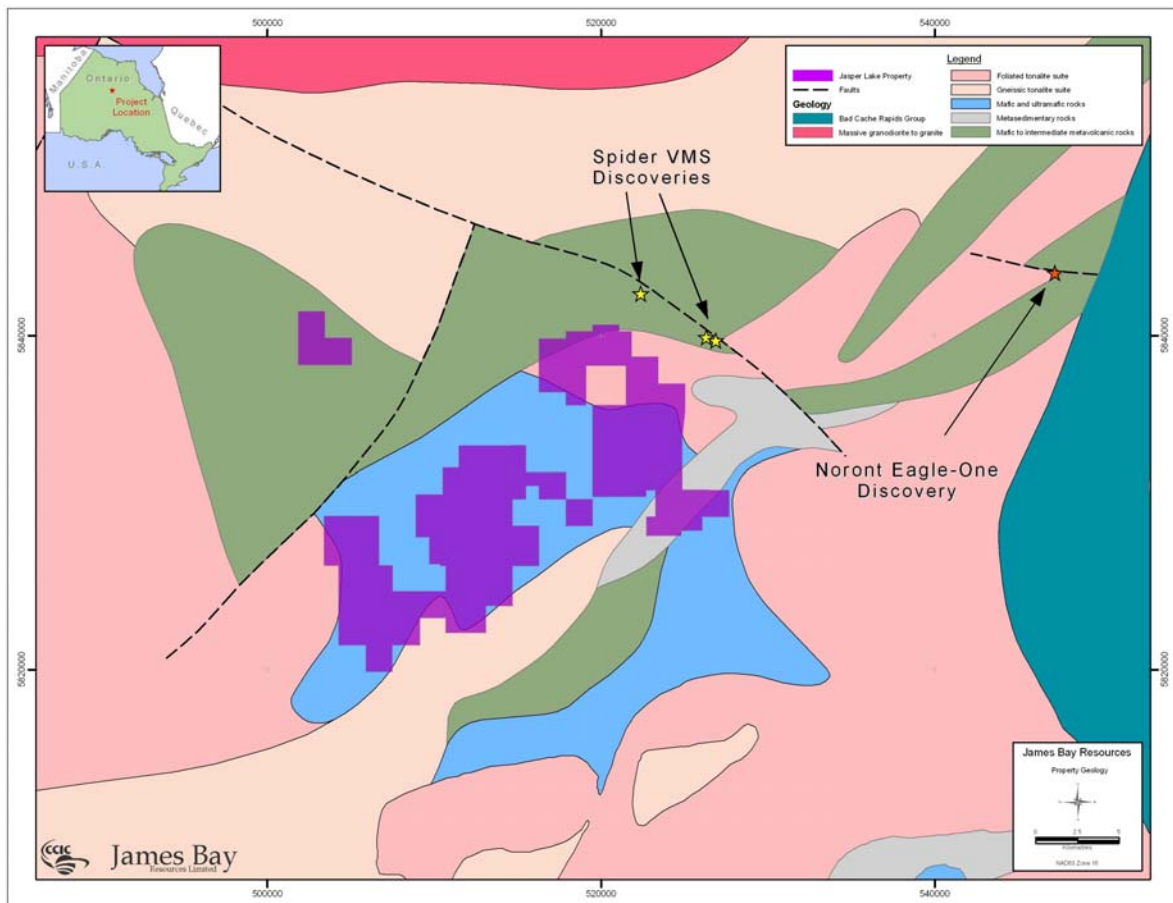


Figure 7-3 JBR Property geology map

## 8.0 DEPOSIT TYPES

The main focus of exploration on the Property is magmatic Ni-Cu-PGE mineralization. Exploration will also consider volcanogenic massive sulphide base metal (Cu-Zn-Pb-Au-Ag) deposits, and mesothermal gold mineralization as well as diamondiferous kimberlites.

### 8.1 Magmatic-type Ni-Cu-PGE Deposits

Magmatic-type Ni-Cu-PGE mineralization commonly occurs as masses and disseminations within or along the contacts with mafic to ultramafic intrusive bodies and the surrounding host rock. A feature of many large Ni sulphide deposits is the association of their ores with the lower contact of an intrusion or flow, or the localization of mineralization within dyke-like conduits (Lightfoot, 2007). According to Eckstrand and Hulbert, (2007) "mafic and ultramafic magmatic bodies that host the Ni-Cu sulphide ores are diverse in form and composition, and can be subdivided into the following four sub-types:

1. A meteorite-impact mafic melt sheet that contains basal sulphide ores (Sudbury, Ontario is the only known example in the world).
2. Rift and continental flood basalt-associated mafic sills and dyke-like bodies (Noril'sk-Talnakh, Russia; Jinchuan, China; Duluth Complex, Minnesota; Muskox, Nunavu and Crystal Lake intrusion, Ontario).
3. Komatiitic (magnesium-rich) volcanic flows and related sill-like intrusions (Thompson, Manitoba; Raglan and Marbridge, Quebec; Langmuir, Ontario; Kambalda and Agnew, Australia; Pechenga, Russia; Shangani, Trojan, and Hunter's Road, Zimbabwe).
4. Other mafic/ultramafic intrusions (Voisey's Bay, Labrador; Lynn Lake, Manitoba; Giant Mascot, British Columbia; Kotalahti, Finland; Råna, Norway; Selebi-Phikwe, Botswana).

The general features in common with the rift/continental flood basalt-associated deposits are that these tend to be associated with large magma systems. Within these systems, the sulphide ores tend to be associated with conduits or feeders to the larger igneous masses (Figure 8-1). Much of the sulphur in the sulphides has been derived by contamination of the magma through incorporation of sulphur from adjoining wallrocks. The sulphides tend to settle gravitationally in the moving magma, and collect in the conduits at points where magma velocity is reduced (Eckstrand and Hulbert, 2007). The Noril'sk deposit is the best example of this deposit sub-type.

In the komatiitic (magnesium-rich) volcanic flows and related sill-like intrusions, the ore bodies generally occur in two different settings with the following general features in common; 1) One setting is as komatiitic volcanic flows and sills in mostly Neoproterozoic greenstone belts where the sulphide-rich ores are composed of massive, breccia and matrix-textured ores that consist of pyrrhotite,

pentlandite and chalcopyrite. The sulphides generally occur at the basal contact of the hosting ultramafic flows and sills; 2) Paleoproterozoic komatiitic sills associated with rifting at cratonic margins, where the sulphide-poor disseminated ore forms internal lens-like zones of sparsely dispersed sulphide blebs, which consist mainly of pentlandite (Eckstrand and Hulbert, 2007). The Thompson Nickel Belt is an example of this deposit sub-type.

The other mafic/ultramafic intrusion deposit type generally occurs as multi-phase stocks and highly deformed sills. The styles of mineralization are also varied, including massive sulphides, breccia sulphides, stringers and veins and disseminated sulphides (Eckstrand and Hulbert, 2007). Voisey's Bay is the most important example of this deposit sub-type.

The closest significant producing Ni-Cu deposit area to the James Bay Lowlands area, with the exception of Sudbury, is the Thompson Nickel Belt in central Manitoba. The Thompson orebody in the Thompson Nickel Belt, Manitoba is of the komatiitic volcanic flows and related sill-like intrusion subtype, as mentioned above. It is associated with an exceptionally small volume of ultramafic rock, but is hosted largely within strongly deformed schist of the Pipe paragneiss unit (Layton-Mathews et al., 2007). The deposit was formed in a craton margin rift environment and has produced over 89,000,000 tonnes of ore with an average grade of 2.50% Ni and 0.13% Cu (Eckstrand and Hulbert, 2007).

According to Lightfoot (2007), several features are common to igneous systems that contain Ni sulphide mineralization; these have been referred to as 'key features' (e.g., Keays and Lightfoot, 1994), and they are commonly used in evaluation of exploration opportunities. Mafic-ultramafic rocks that host Ni sulphide mineralization have potentially distinctive field properties, which can contrast with the country rocks. Moreover, the associated disseminated and massive sulphides are typically highly conductive and commonly provide a strong conductivity contrast with the host rocks. Magnetite is a common primary mineral or hydrothermal alteration product in mafic-ultramafic rocks. Further, such rocks have a high density that is typically greater than the adjacent rocks, by virtue of the elevated abundance of mafic minerals like olivine and pyroxene. This has led to the common utilization of airborne magnetic surveys in the identification of mafic rocks (Lightfoot, 2007).

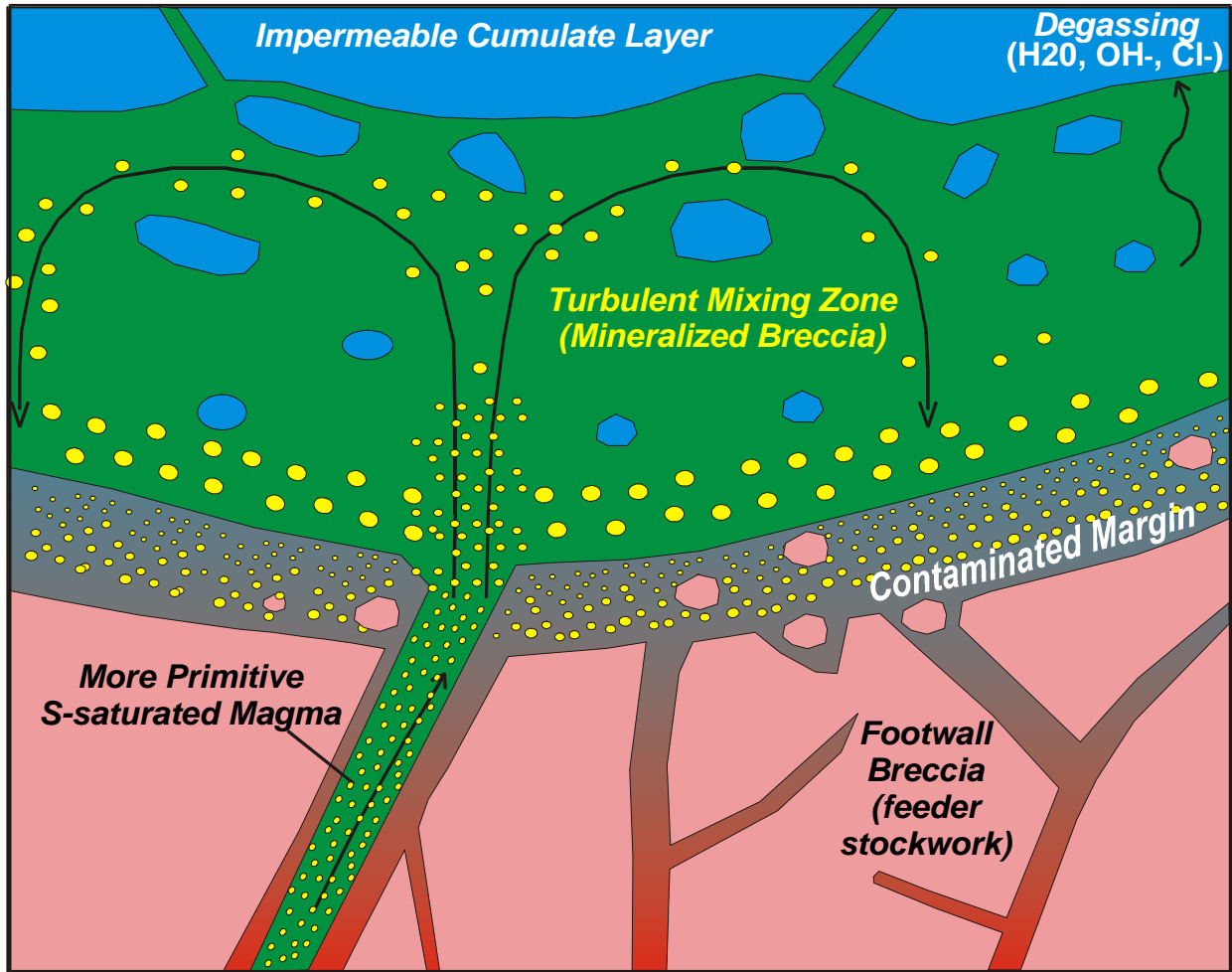


Figure 8-1 Idealized Ni-Cu mineralization along contacts of mafic to ultramafic bodies (after Peck et. al. 2001).

## 8.2 VMS Deposits

According to Franklin et. al. (2005), VMS deposits are stratabound accumulations of sulphide minerals that precipitated at or near the sea floor. All VMS deposits occur in terranes dominated by volcanic rocks, although individual deposits may be hosted by volcanic or sedimentary rocks that form part of the overall volcanic complex (Franklin, 1996). VMS deposits, as noted by Hart et. al. (2004), primarily occur in subaqueous, rift related environments (i.e. oceanic, fore-arc, back-arc, continental margins or continental) and are hosted by bi-modal mafic-felsic successions, where the felsic volcanic rocks have specific geochemical characteristics and are referred to as FI, FII, FIII, and FIV based on the REE classification scheme of Lesher et al. (1986).

As noted by Höy (1991) and Franklin et. al. (2005), a typical VMS deposit, illustrated on Figure 8-2, consists of a concordant synvolcanic lens or body of massive sulphides that stratigraphically overlies a cross cutting, discordant zone of intense alteration and stockwork veining. The discordant alteration and stockwork-veining zone is interpreted to be the channel-way or conduit for

hydrothermal fluids that precipitated massive sulphides at or near the seafloor. A heat source such as a subvolcanic intrusion is required to induce the water-rock reactions that result in metal leaching from the surrounding rocks and create the hydrothermal convection system (Franklin et. al., 2005).

The massive sulphide body is generally in sharp contact with the overlying sedimentary or volcanic stratigraphy (hangingwall stratigraphy), while the massive sulphide body may be in sharp or gradational contact with the underlying stringer and alteration zone (footwall stratigraphy) (Höy, 1991).

Most VMS deposits, including Archean VMS deposits, are surrounded by alteration zones, which are spatially much larger than the deposits themselves. As noted by Höy, 1991, a number of zones of alteration are commonly recognized; the footwall alteration pipe, alteration within the ore zone, a large semi-conformable zone beneath the ore zone and alteration of the hangingwall. Figure 8-2, from Lydon (1990), is a synthesis of alteration zones associated with Zn-Cu-Pb (minor Au, Ag) deposits that formed in bimodal mafic-felsic volcanic sequences. The core of the alteration pipe, as seen on Figure 8-2 labelled "hydrothermal alteration pipe", can be up to 2 km in diameter and is reflected mineralogically by a strong chloritic core surrounded by sericitic and chloritic alteration. Chemically, the alteration pipe zone on Figure 8-2 is represented by additions of Si, K, Mg and Fe and depletions in Ca and Na. According to Franklin (1996), alteration zones adjacent to the main alteration pipe are not well defined. Franklin (1996) also noted that Na depletions are laterally extensive, but are confined only to a few hundred metres vertically in this type of deposit. As further noted by Franklin (1999b), virtually all alteration pipes are characterized by Na depletion and the resulting alkali depletion common to many alteration zones is manifested as abundant aluminosilicate minerals.

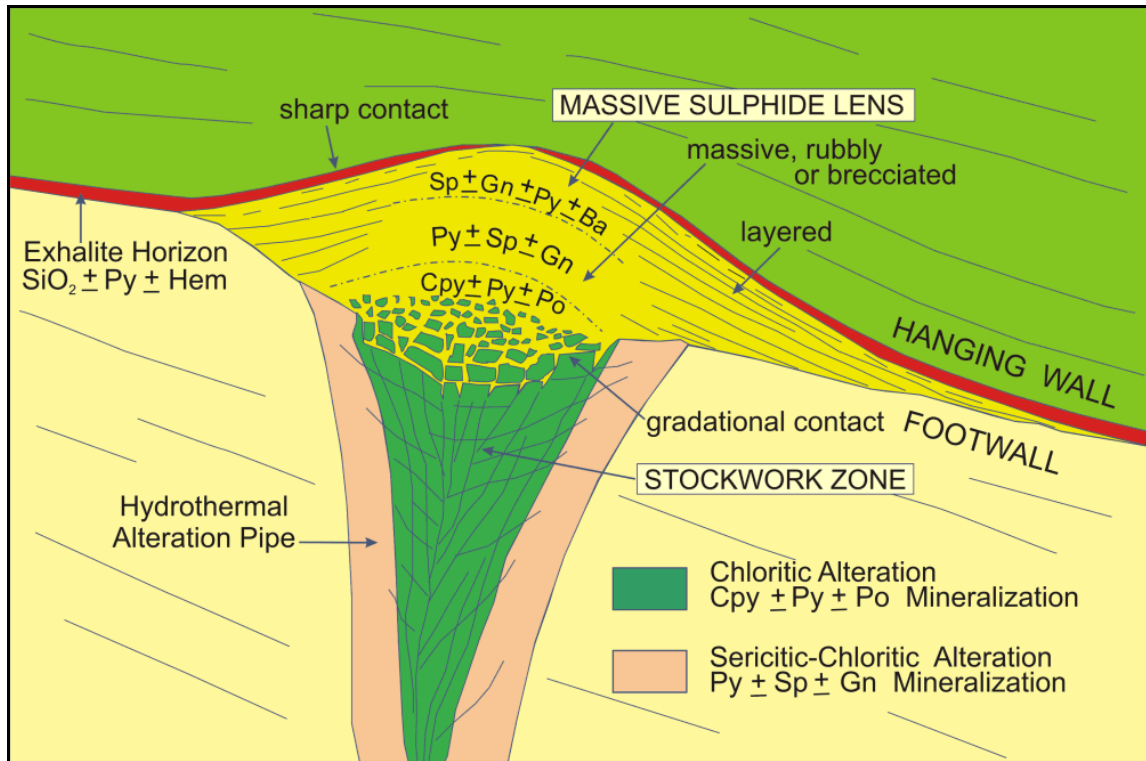


Figure 8-2 Idealized characteristics of a VMS Deposit (after J.W. Lydon, GSC, 1990).

## 9.0 MINERALIZATION

The Property is located near the McFauld's Lake area Ni-Cu-PGE Eagle One discovery by Noront on the Double Eagle Property and the VMS occurrences discovered by Spider and Spider/KWG/De Beers. The Property cover features thought to represent geological environments similar to the geological environment near the Noront and Spider discoveries. Numerous diamond drill intersections of base and precious metal-bearing massive sulphides along with a description of mineralization have been reported by Noront and Spider. Due to the lack of bedrock exposure in the area, airborne geophysics has been used as an effective exploration tool by all mineral exploration companies active in the James Bay Lowlands area. In fact, all the mineral discoveries in the James Bay Lowlands area have been made by diamond drilling of airborne and ground geophysical EM and magnetic anomalies.

Mineralization on the Eagle One deposit has been reported from drill intersections by Noront as "massive sulphide magmatic nickel mineralization, surrounded in part by net textured sulphides in peridotite within a much larger variably mineralized steeply dipping peridotite that has an 80 degree dip to the west, with a steep plunge along a southerly strike" (October 30, 2007 press release: [www.norontresources.com](http://www.norontresources.com)). As an example, mineralization reported in drill hole NOT-07-28 was over

a length of 73.2 m as measured down the drill hole (January 28, 2008 press release: [www.norontresources.com](http://www.norontresources.com)).

Noront geological consultant Jim Mungall, Ph.D, Associate Professor from the University of Toronto commented on the Ni-Cu-PGE mineralization on the Double Eagle property where he suggested that *"The large amounts of sulphide and of ultramafic cumulate make it absolutely clear that the Eagle One deposit has formed in a magmatic conduit. No magma could have carried the observed amount of sulphide in solution; therefore the sulphides have been left behind by a through-going volume of magma much greater than what presently remains in the intrusion. If the intrusion is accepted to be a conduit then it must be continuous over considerable distances likely measurable in kilometres"* ([www.norontresources.com/projects/double-eagle/index.html](http://www.norontresources.com/projects/double-eagle/index.html)). If the interpreted structure is continuous over such a large distance, there is an excellent potential in the area for more discoveries of this type.

Spider reported massive sulphide intersections of up to 42 m in width from the McFauld's #3 occurrence, with significant grades of Cu and Zn. To date more than five individual zones have been identified in the area by Spider, with intersections spaced as far apart as 14 kilometres. Sufficient analytical data is available to indicate that sulphide mineralization is typical of VMS style deposition, containing a significant base metal component. To date, drilling suggests that that sulphide mineralization is copper-rich and lead-poor, with Zn:Cu ratios similar to those in the bimodal mafic-dominated Noranda-type deposits (Franklin, 2003). The high Zn:Pb ratios also support this comparison, and are in sharp contrast to the younger bimodal felsic and bimodal siliciclastic deposits typical of Kuroko-type and Bathurst-type deposits, respectively (Franklin, 2003).

Since the discovery of the kimberlite-hosted Victor Diamond deposit by De Beers, approximately 220 km east of Webequie near the First Nations community of Attawapiskat, numerous companies such as Superior, Spider, KWG and De Beers have also been actively exploring for mesothermal gold and diamondiferous kimberlite pipes.

## **10.0 EXPLORATION**

Two airborne total field magnetics and EM surveys were completed by Geotech Ltd. on the property in late February, March, 2008. The first survey covered Blocks A, B1, B2, C and E. The second survey covered Blocks C-extension, and D (Figure 10-1). Blocks A, B1, B2 and E were flown in a N-S direction, Block C was flown in a NE-SW direction and Blocks C-extension (C-ext) and D were flown in a NW-SE direction. Both sets of geophysical survey data were interpreted by Mr. Steve Balch of BECI Exploration Consulting in April, 2008.

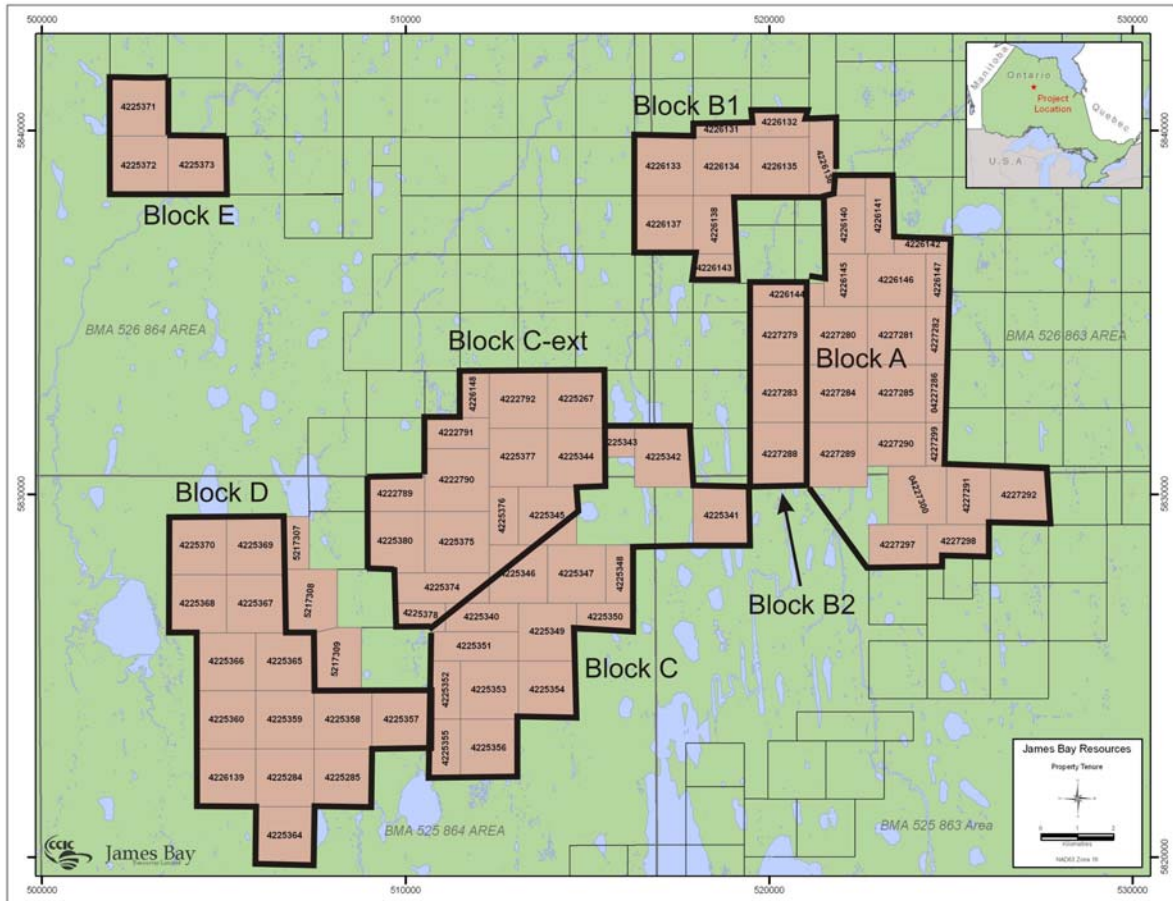


Figure 10-1 Airborne magnetic and EM survey blocks.

### Block A

According to Balch (2008), the total magnetic field image of Block A (Figure 10-3) defines a series of north-south trending geologic features, which could represent volcanic rocks containing magnetite or perhaps ultra mafic rocks (e.g. gabbro).

Balch (2008) suggested that the EM responses (Figure 10-2) define a north-south trending conductor that is coincident with a topographic low, which is also closely related to the magnetic field trends.

Based on the observations made, Balch (2008) suggested that the EM responses are perhaps caused by conductive overburden which has weathered along the geologic trend. Balch (2008) concluded that there were no discrete conductors within Block A that could be related to Ni-Cu or VMS mineralization, but two possible low sulphide gold targets are suggested and are shown on Figure 10-2.

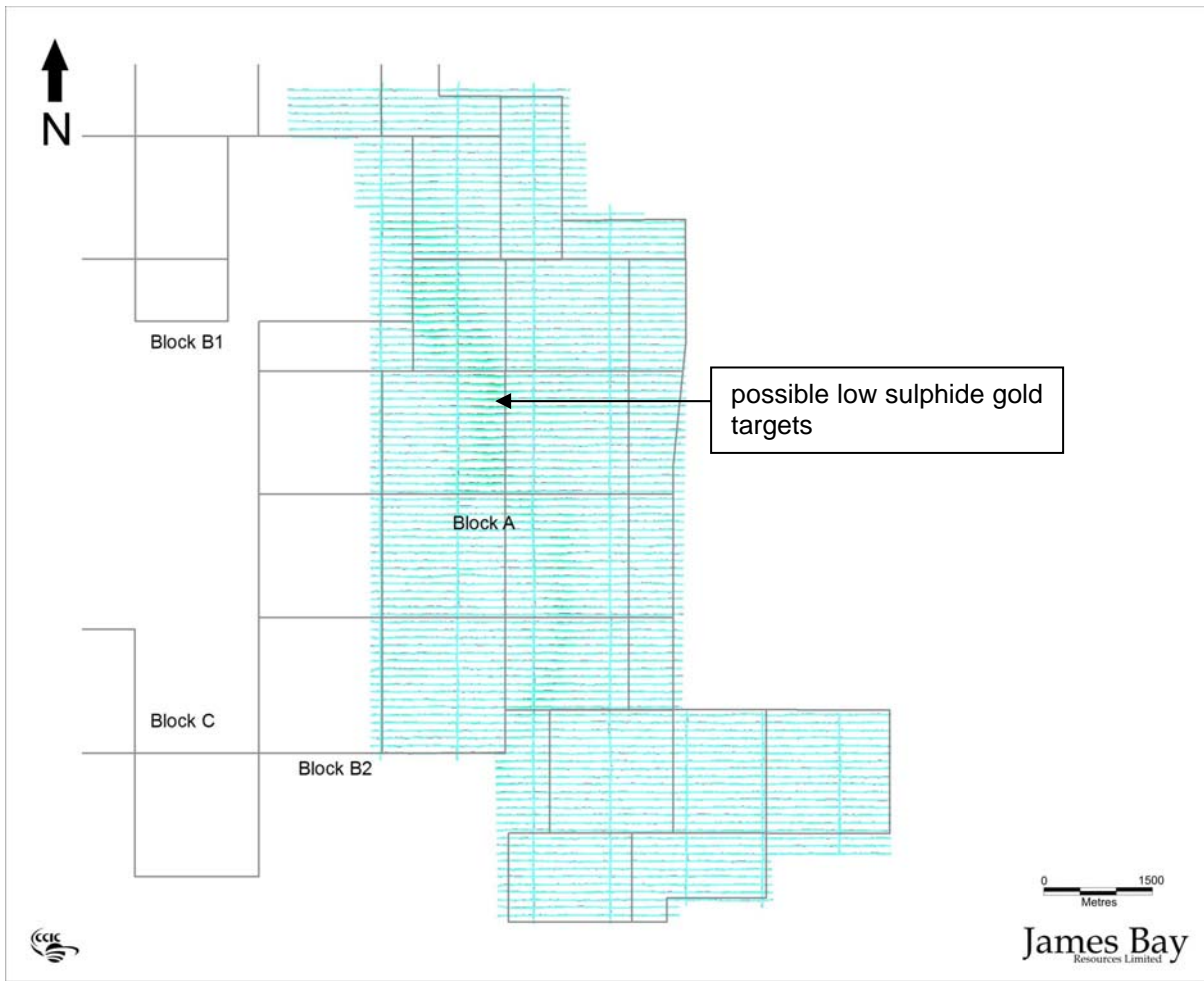


Figure 10-2. B-field EM profiles for Block A

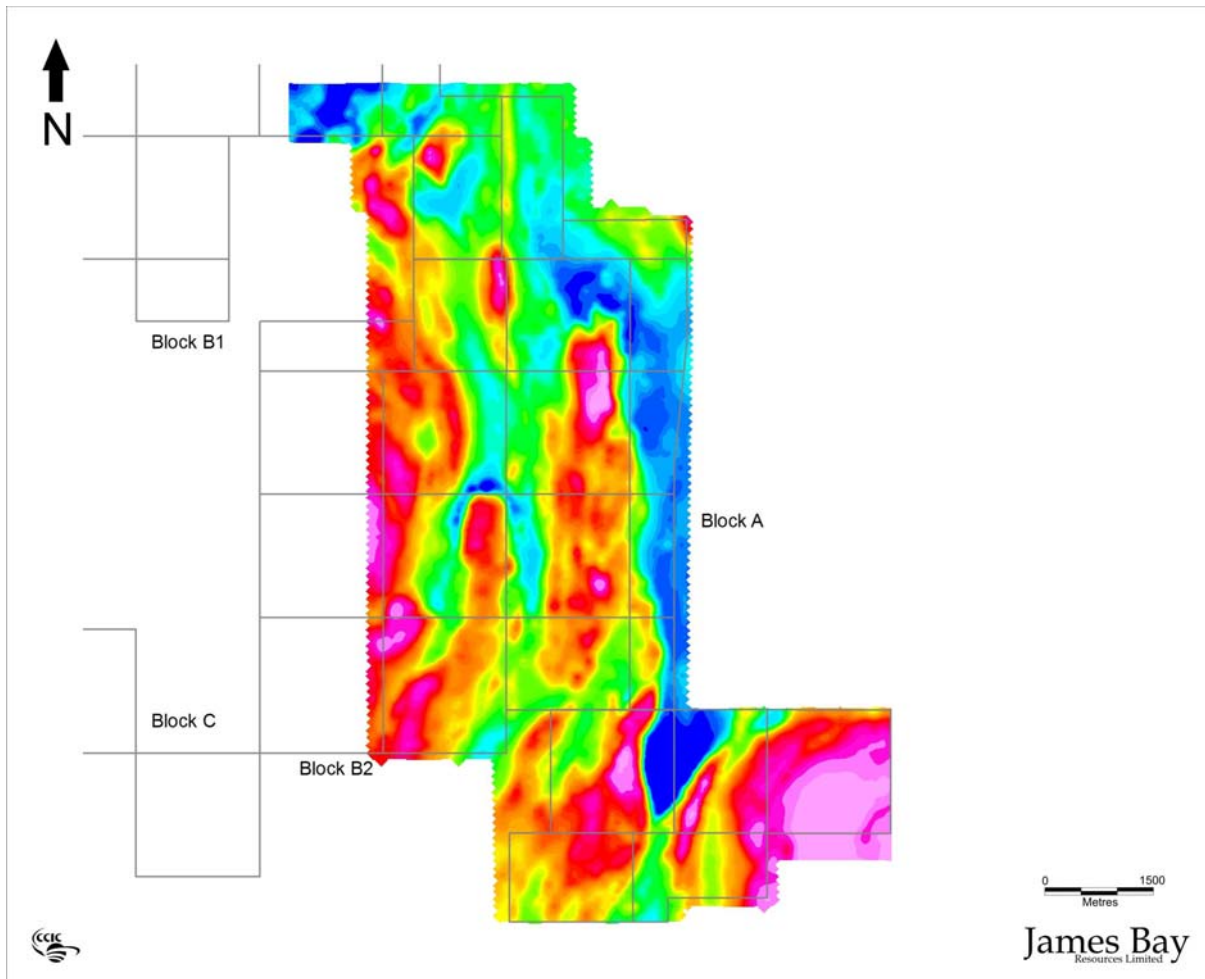


Figure 10-3. Total field magnetics for Block A

### Block B1

According to Balch (2008a), this block contains a conductor, which could be caused by VMS-style mineralization (Figure 10-4), with a secondary conductor that could represent Au in iron formation (Figure 10-4, 10-5). The possible VMS conductor appears to be immediately adjacent to the north of the northern Block B1 claim boundary and may not be on the JBR claims.

On Figure 10-4, Balch (2008a) indicated that the VMS target occurs on two VTEM flight lines and the conductor is close to surface. In addition, Balch (2008a) further suggested that the conductor dips to the south and/or plunges to the east.

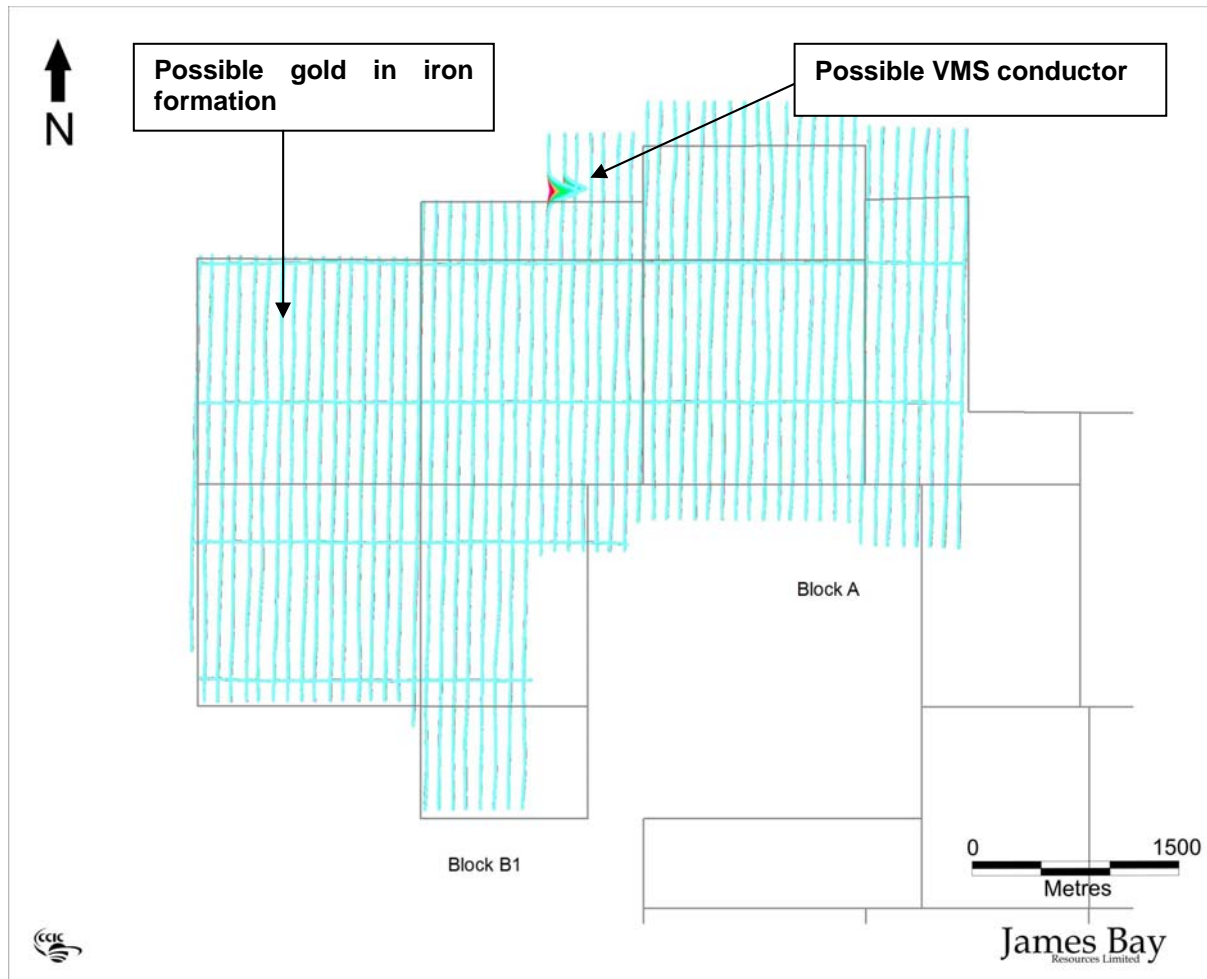


Figure 10-4. B-field EM profiles for Block B1

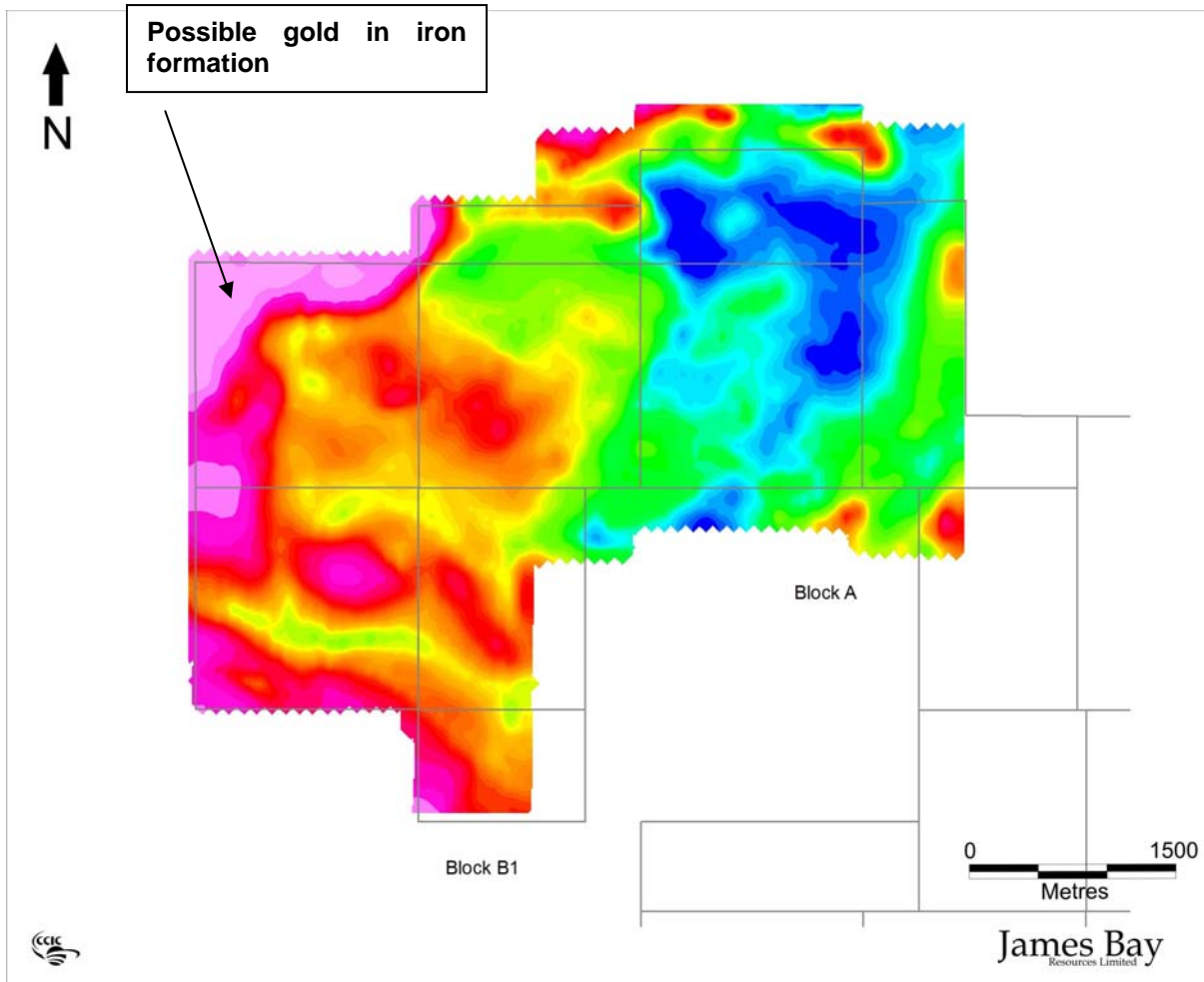


Figure 10-5. Total field magnetics for Block B1

### Block B2

Figures 10-7 illustrates the geophysical responses over Block B2. Balch (2008a) suggested that there are two responses, possibly related to each other within this Block. The conductance of the responses did not appear to Balch (2008a,b) to be very strong and the conductors were perhaps deeper than elsewhere on JBR properties (such as Block B1 and Block C).

Balch (2008a) also suggested that the conductors did not appear to be overburden related, nor associated with sulphide iron formation. Since the responses looked rather broad to Balch (2008), this suggested low sulphide accumulation over a wide area, which Balch (2008a) suggested was not the typical geophysical signature of either Ni-Cu or VMS mineralization.

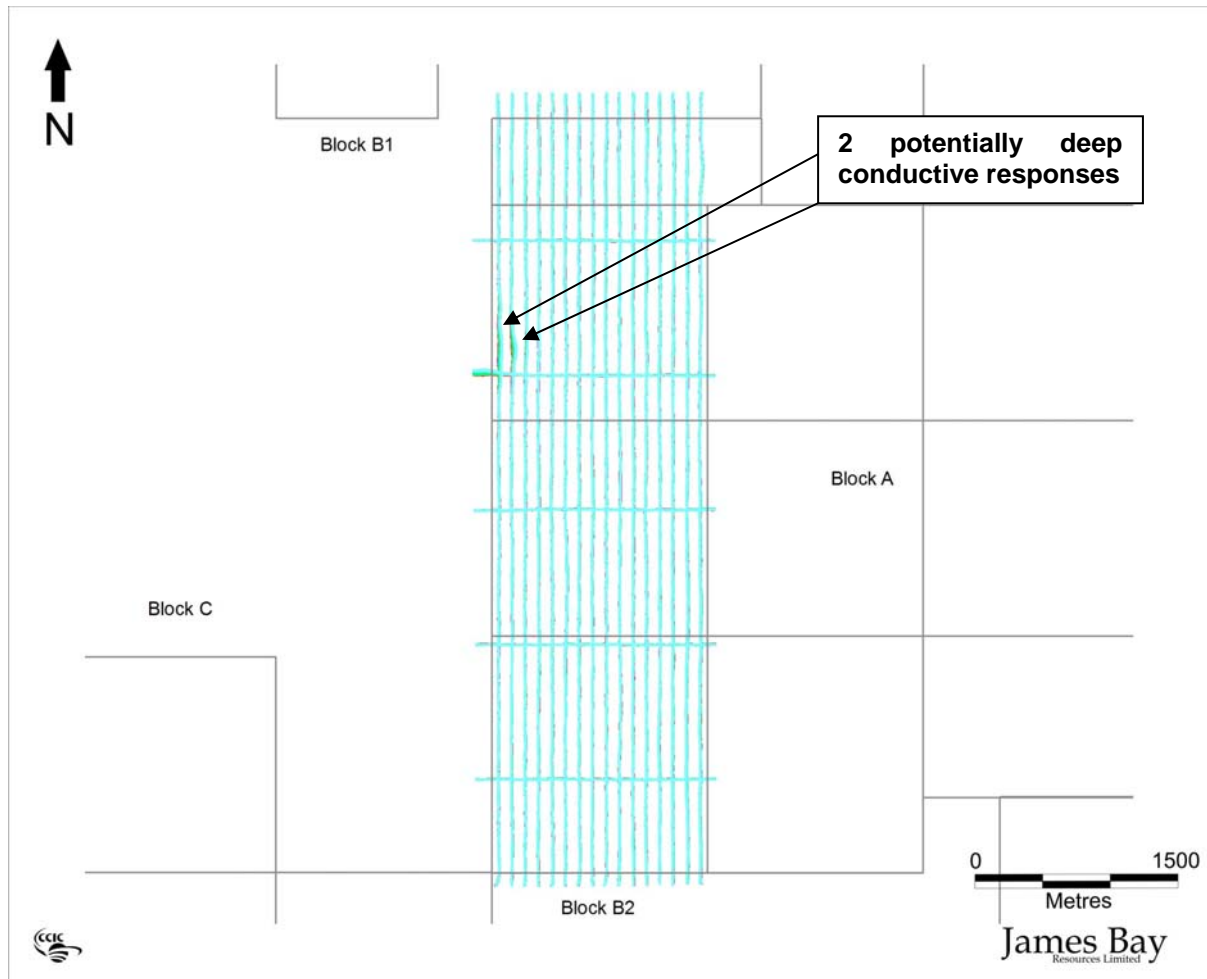


Figure 10-4. B-field EM profiles for Block B2

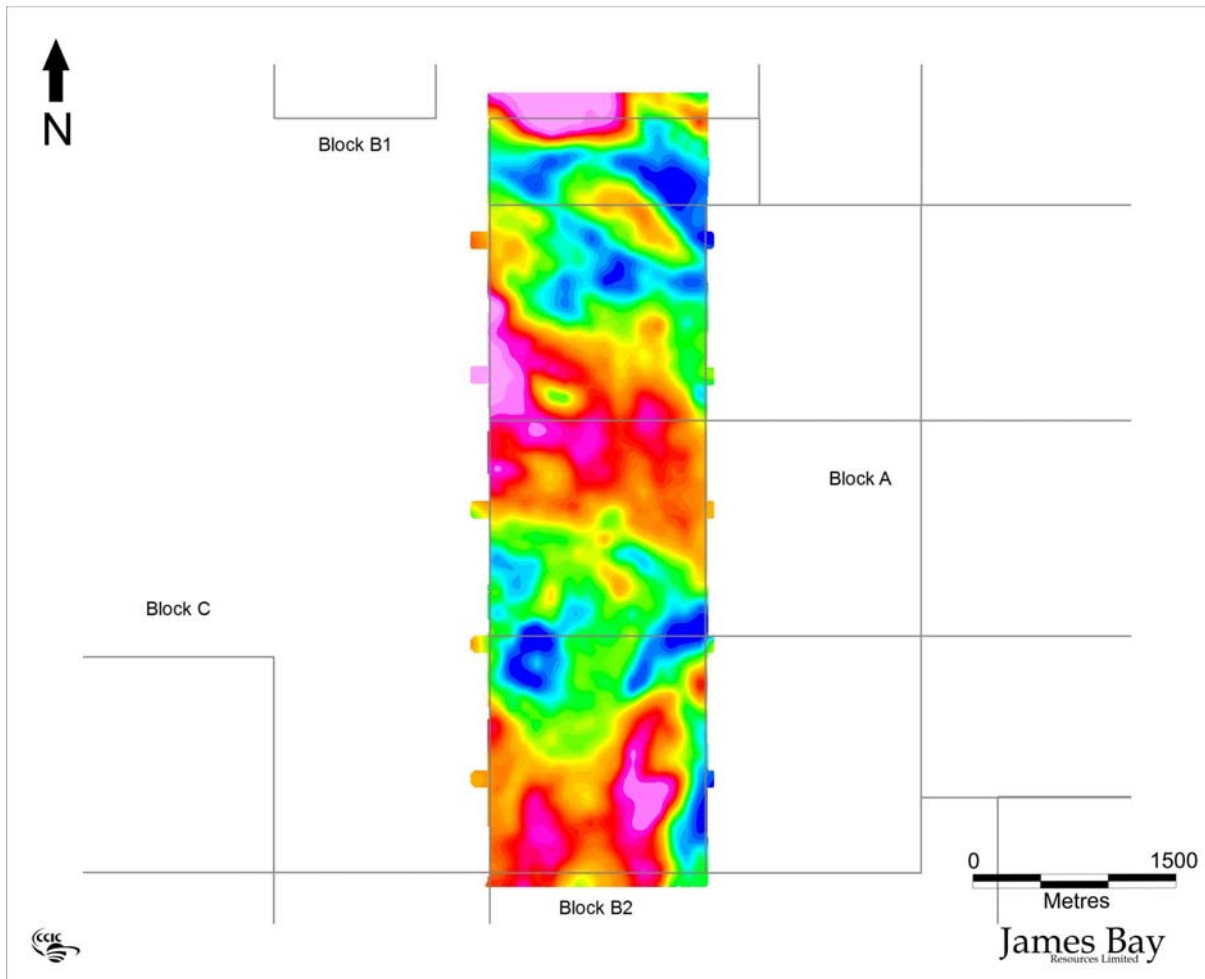


Figure 10-5. Total field magnetics for Block B2

### Block C and C-extension

Block C (from the first EM survey) and Block C-extension (from the second survey) contains several discrete bedrock conductors, which Balch (2008a,b) suggested warrant further work. Analysis of the airborne data by Balch (2008a,b) shows several structural features that correlate with conductive trends making the Block C area very favourable for possible concentrations of economic sulphide mineral deposits. Balch (2008) recommended a combined program of ground-checking, geologic mapping, and diamond drilling. In addition, Balch (2008a,b) results from the second EM survey also show that the conductors continue along trend on JBR's claims beyond the limits identified from the first EM survey.

According to Balch (2008a), the magnetic signature of an area in Block C looks like a layered intrusion approximately 7 km long (solid line on Figure 10-7) with possibly a major east northeast fault or other structure intersecting the area to the north (dashed line on Figure 10-7).

According to Balch (2008b) from his interpretation of the Block C-extension data, the EM response is clearly picking up a large, approximately 5 km long conductive trend (Figure 10-6). Balch (2008b) further suggested that it could in fact represent 2-3 separate conductors each having its own composition. For example, Balch (2008b) suggested that some of the trends appear to have magnetic association; some conductors appear to be dipping, others appear to be steep.

Balch (2008b) suggested that the large EM conductor is separated into 2 separate conductors, one to the northwest (NW zone) of the other (Figure 10-6). The southeast zone (SE zone) appeared to Balch (2008b) to be dipping to the southeast, with a strike length of 4 km. The northwest zone has a shorter strike length (600 m) and (unlike the southeast zone) has a magnetic association. Balch (2008b) suggested that these two conductors have a different composition that could be related to VMS or Ni-Cu mineralization.

In an area northwest of the 5 km long conductor on the JBR property boundary, Balch (2008) described a very high EM response located on the northern side of a magnetic high (extreme NW zone, Figure 10-6). Balch (2008b) suggested that this conductor could possibly be caused by pyrrhotite that may be related to Ni-Cu mineralization.

Balch (2008b) also indicated that there are a series of strike limited conductive trends (3-zone) located southeast of the SE zone that appear to form three separate zones, each zone having a lower peak amplitude than the previous in a direction west to east (Figure 10-6). This suggested to Balch (2008b) that the conductors may be related but are probably fault-separated towards the east (Figure 9). According to Balch (2008b), these conductive trends do not have a strong magnetic association and could be VMS-related.

In an area to the northeast of the 5 km long EM conductor trend, Balch (2008b) identified a relatively small area that has a discrete conductor with no real magnetic association (single zone, Figure 10-6). According to Balch (2008b), the conductor could be dipping northward and could also be VMS-related.

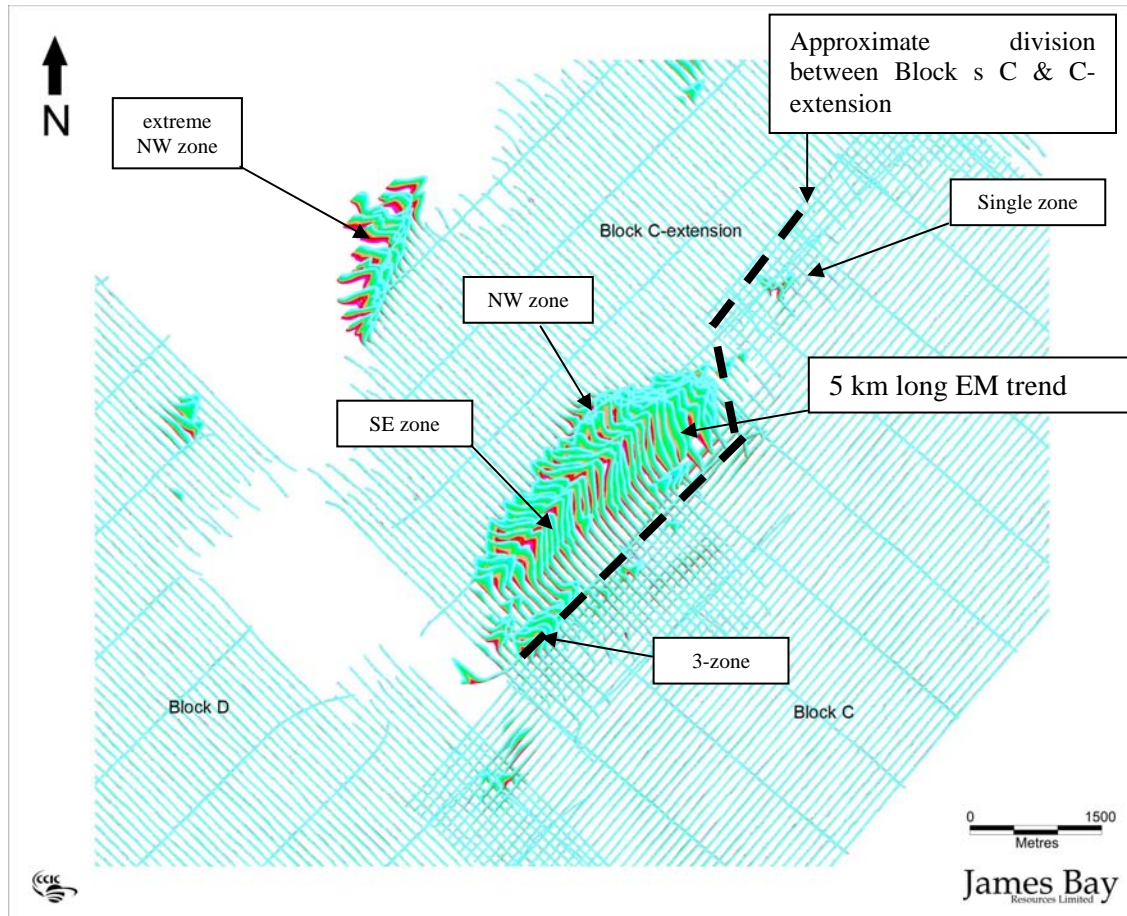


Figure 10-6. B-field EM profiles for Blocks C and C-extension

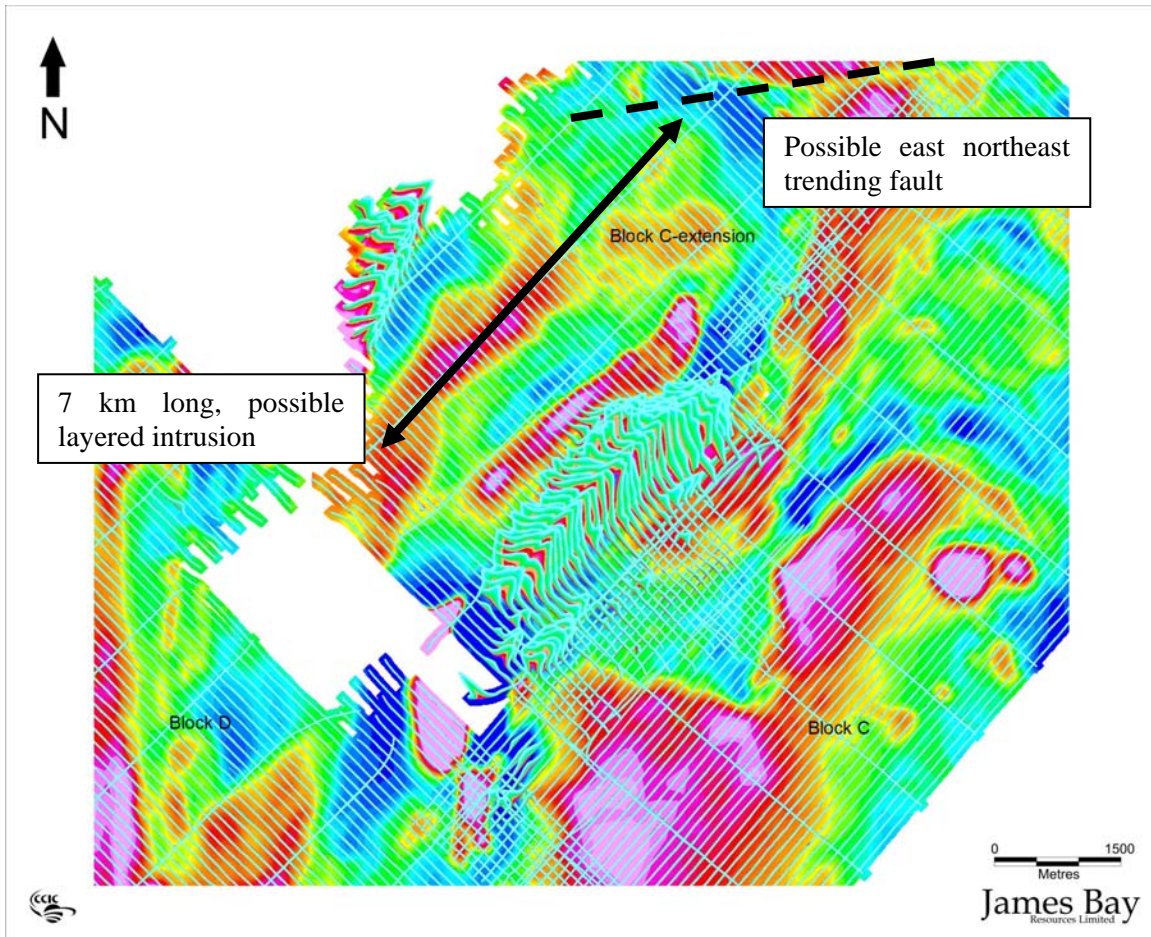


Figure 10-7. Total field magnetics and total B-field EM profiles for Blocks C and C-extension

### Block D

According to Balch (2008c), Block D contains 2 shallow conductors (shallow zone 1, 2) and one deeper conductor (deep zone) that could be related to VMS mineralization or Ni-Cu mineralization. The EM conductor at Shallow zone 2 (Figure 10-8) crosses a linear feature trending north-northeast, possibly dipping to the east and, according to Balch (2008c), appears to be within 30 m of the surface.

Balch (2008c) suggested that the EM conductor in Shallow zone 1 (Figure 10-8) shows a set of EM responses along a linear feature (Figure 10-9) trending north-northeast and possibly dipping to the east. Balch (2008c) further suggested that the responses appear to be deeper towards the south but are relatively shallow (within the upper 50 m or so). The EM response also appears to cross a magnetic feature that subparallels the EM conductor.

According to Balch (2008c), the Deep zone EM responses appears to be a series of closely spaced conductors with a strike length of about 400 m in association with a strong magnetic feature. Balch (2008c) suggested that the strong magnetic feature could be an ultramafic body. In general, Balch (2008c) suggested that the anomalies are not as well developed, appear to be deep and perhaps the zone is broken up into a series of smaller conductors.

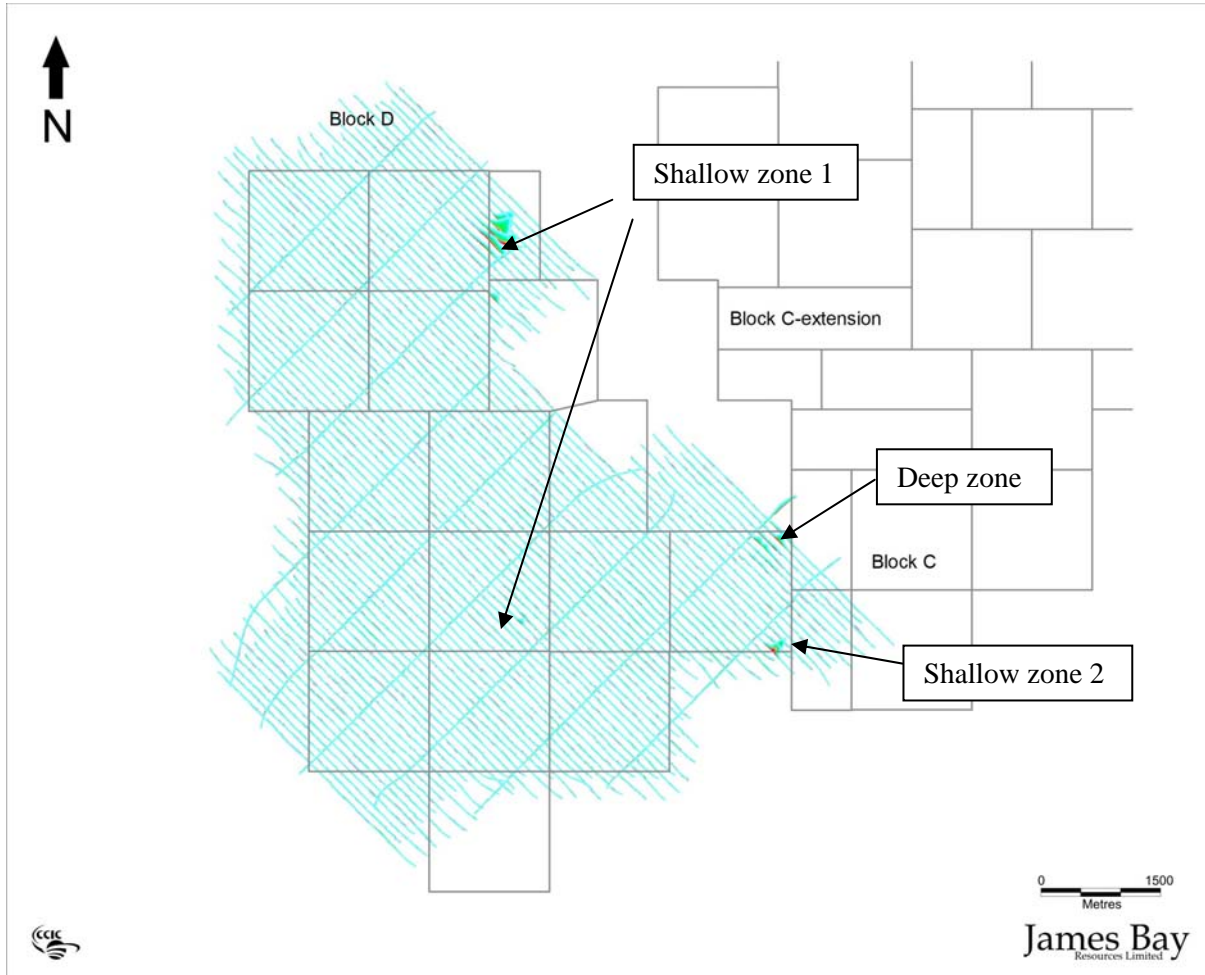


Figure 10-8. B-field EM profiles for Block D

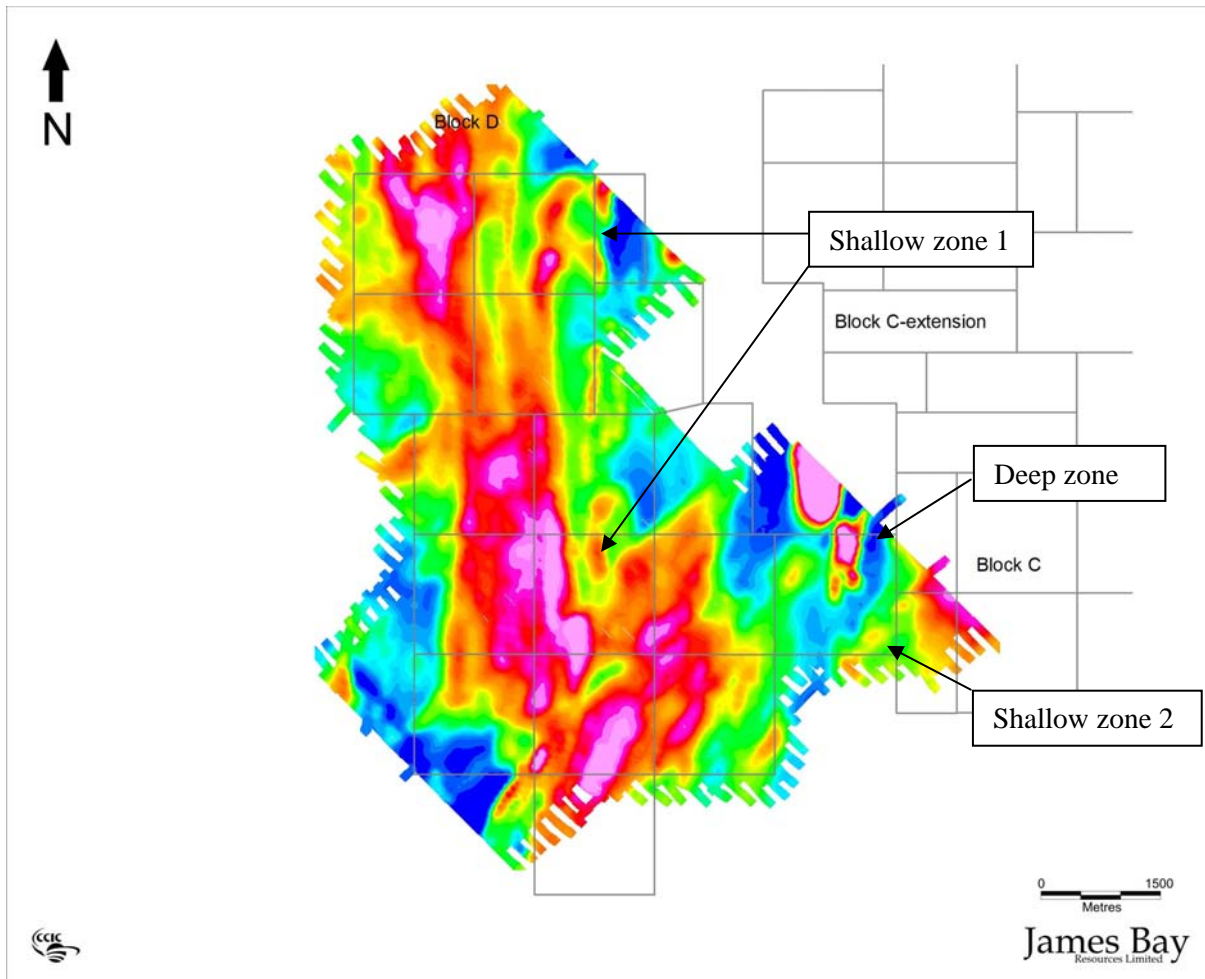


Figure 10-9. Total field magnetics for Block D

### Block E

According to Balch (2008a), there are no targets on Block E. Balch (2008a) described one conductor that could be formational within iron formation where a possible AuIF target may be located (Figure 10-10).

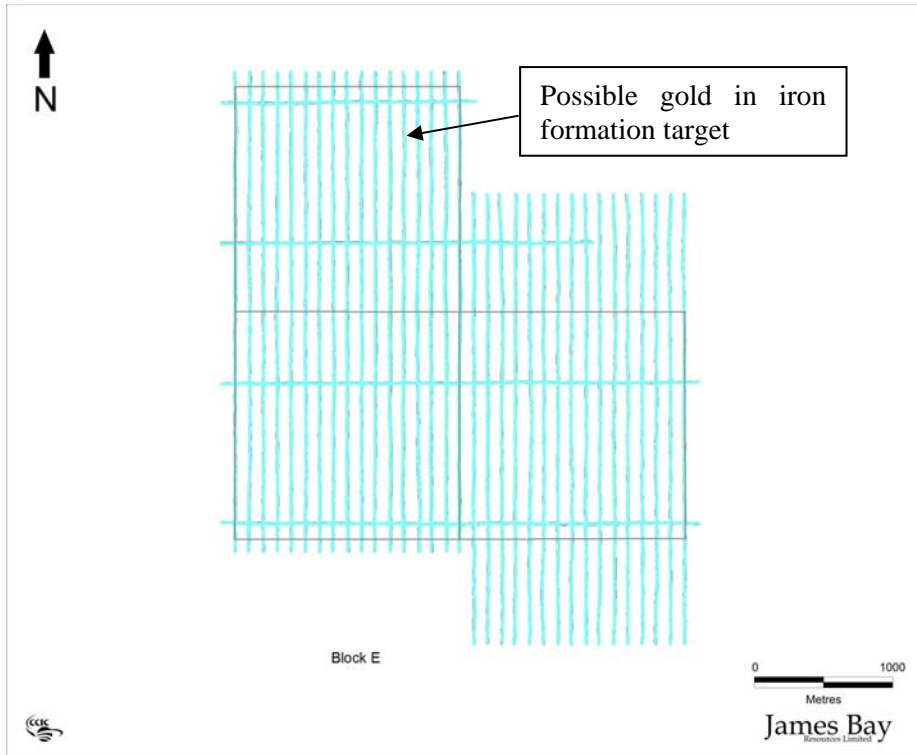


Figure 10-10. B-field EM profiles for Block E

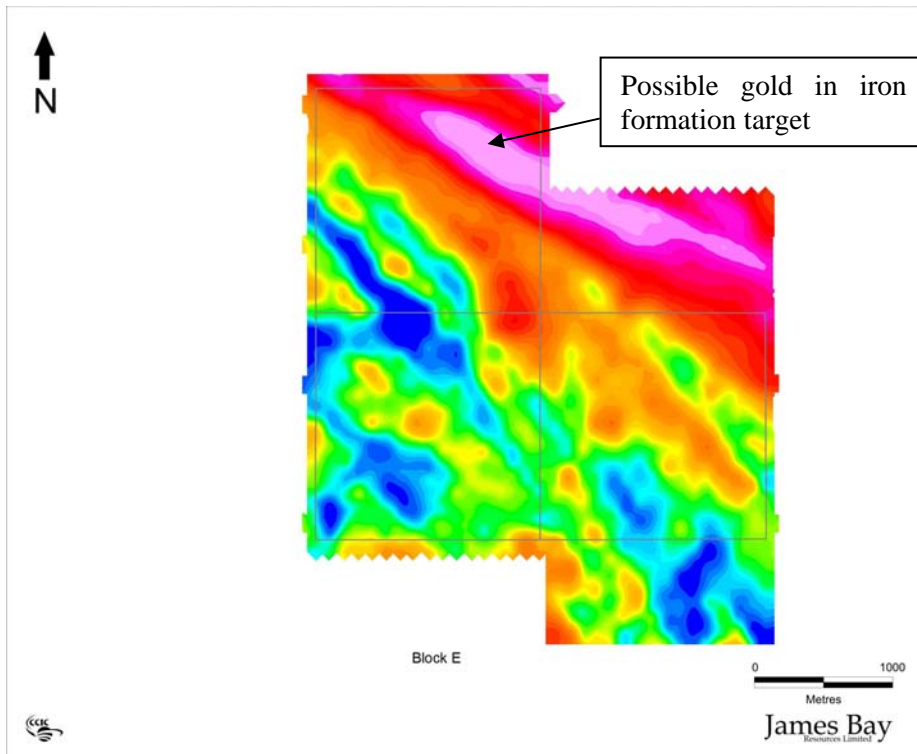


Figure 10-11. Total field magnetics for Block E

## **11.0 DRILLING**

CCIC is not aware of any diamond drilling completed on the Property by JBR.

## **12.0 SAMPLING METHOD AND APPROACH**

This section does not apply to this Report.

## **13.0 SAMPLE SECURITY, PREPARATION, AND ANALYSES**

This section does not apply to this Report.

## **14.0 DATA VERIFICATION**

The Property was visited by Brad Leonard on January 11, 2008. At the time of the property visit, the Property was completely frozen and covered by snow. In general, the property is covered by swamp with little to no exposed bedrock. One area of outcrop was located, but could not be sampled because of the packed snow and ice cover. All Information in this report comes from work carried out on the Property by JBR and all publicly available information including all public news releases, company websites who are actively exploring the area, information on SEDAR describing discovered mineralization, MNDM website for any other assessment work and all publicly available analytical results.

## **15.0 ADJACENT PROPERTIES**

There are a number of junior exploration companies and individuals with mining claims in the immediate area of the Property exploring for Ni-Cu-PGE mineralization, VMS mineralization, mesothermal gold mineralization and diamondiferous kimberlites. All mineralization and analytical results discussed in this section were collected from public domain sources, which are referenced in the applicable sections and may or may not be indicative of mineralization on the Property.

The original VMS occurrence was initially discovered in 2002 by Spider, KWG, and De Beers, working in joint venture, while exploring the area for kimberlite bodies, the host for diamonds. Several kimberlite targets were selected by De Beers as drill targets, based upon regional indicator mineral studies, airborne geophysics, ground magnetic and electromagnetic surveying. The initial massive sulphide discovery was in a reverse circulation drill hole that ended in sulphides. Sampling results from this hole returned values that averaged 1.6% Cu over 8 metres. This discovery became the site of McFauld's #1 VMS occurrence ([www.spiderresources.com](http://www.spiderresources.com)).

In five field seasons 10 individual VMS occurrences have been discovered and drill-tested, some with only a single hole by Spider and their joint venture partners. Seven of these contain VMS-style sulphide zones. In addition to the original discovery (McFauld's #1 occurrence) a second significant

mineralized occurrence was discovered in late 2003, McFauld's #3. This occurrence is 1.5 km southwest of McFauld's #1 occurrence and has been intersected by 31 holes, all of which contained massive sulphides. The widest intersection and the last hole drilled in the 2004 field season intersected 18.8 metres containing 8.02% Cu at a vertical depth of 250 metres ([www.spiderresources.com](http://www.spiderresources.com)).

In September 2007, Spider and joint venture partner UC Resources Ltd. announced the intersection of additional base metal mineralization on their McFauld's Lake property. Holes McF-07-75 and McF-07-76 (August 30, 2007 press release: [www.spiderresources.com](http://www.spiderresources.com)) encountered massive sulphide mineralization containing appreciable chalcopyrite and sphalerite. Drill hole McF-07-75 encountered mineralization between 164.28 metres and 183.3 metres (19.02 metres), which averaged 0.35 g/t Au, 6.63 g/t Ag, 2.69% Cu and 4.35% Zn over 19.02 metres. Drill hole McF-07-76 encountered mineralization between 154 metres and 161.5 metres (7.5 metres), which averaged 0.22 g/t Au, 7.47 g/t Ag, 1.8% Cu and 3.3% Zn over 7.5 metres.

In September, 2005, Probe commenced a Phase Two drill program (402 metres in 3 holes) aimed at testing targets on their Tamarack Property. The discovery hole, M6, intersected a 7.8 metre section of chalcopyrite-rich VMS mineralization grading 3.1% copper in the A-Zone, starting at a vertical depth of 50 metres. Drill hole M7, collared 50 metres west and down dip from M6, intersected the A-Zone at 97 metres vertical depth and returned 2.4% Cu over 6.0 metres. Both intercepts also returned anomalous concentrations of Zn, Au and Ag (September 20, 2005 press release: [www.probemines.com/s/McFauld.asp](http://www.probemines.com/s/McFauld.asp)).

In June, 2007, MacDonald announced Ni sulphide discoveries on their McNugget Property, including Drill hole MN-07-39 assayed 0.36% Ni over 4.5 metres and 0.26% Ni over 27.0 metres hosted by Gabbro (including 0.37% Ni over 6.0 metres and 0.40% Ni over 4.5 metres). In addition, drill hole MN-07-40 intersected 0.23% Cu and 0.17% Ni over 3 metres in Gabbro. Drill hole MN-07-40 is located 1.1 km west of MN-07-39 on what is interpreted to be a separate conductor array. Mineralization in both holes occurs as stringer sulphide (June 14, 2007 press release: [www.macdonaldmines.com/PressReleases/June 14,2007.htm](http://www.macdonaldmines.com/PressReleases/June 14,2007.htm)).

In September 2007, Noront announced the discovery of high grade Ni, Cu, Pt, Pd and indications of Rh in drill core over significant widths on the Eagle One deposit and have recently completed 5,047 metres of diamond drilling in 27 drill holes. Drill results in Table 15-1 include a 117 metre section grading 4.1% Ni, 2.2% Cu, 2.1 g/t Pt, and 7.1 g/t Pd (September 19, 2007 press release: [www.norontresources.com/projects/double-eagle/index.html](http://www.norontresources.com/projects/double-eagle/index.html)).

Table 15-1 Selected drill hole results from Noront's Double Eagle property

Hole No.	Length (m)	Nickel (%)	Copper (%)	Platinum (g/t)	Palladium (g/t)	Gold (g/t)	Silver (g/t)
1	71.5	1.1%	0.9%	0.7	2.1	0.1	2.9
(including)	36.0	1.8%	1.5%	1.1	3.5	0.1	4.8
2	86.4	1.9%	1.2%	1.0	3.2	0.1	4.1
(including)	57.9	2.0%	1.4%	1.0	3.3	0.1	5.3
5	117.4	4.1%	2.2%	2.1	7.1	0.4	6.3
(including)	68.2	5.9%	3.1%	2.9	9.8	0.6	8.5
7	51.5	3.7%	1.5%	2.3	7.5	0.8	5.2
(including)	2.8	8.5%	3.0%	22.2	22.4	0.2	10.1
9	45.6	2.9%	1.8%	0.6	7.2	0.2	5.0
(including)	17.4	4.8%	3.9%	1.0	14.8	0.3	11.3
11	21.3	1.7%	1.0%	0.6	3.8	0.1	3.9
(including)	1.6	7.1%	4.8%	2.5	14.7	0.2	14.0
12	94.5	1.4%	0.6%	0.7	2.6	0.1	1.9
(including)	9.5	7.0%	1.5%	2.6	10.0	0.2	5.2
14	64.1	1.5%	0.8%	1.0	2.8	0.1	NA
(including)	3.6	7.5%	3.4%	5.0	9.1	0.1	NA
16	40.9	1.0%	0.7%	1.0	2.5	0.2	2.0
(including)	12.7	2.4%	1.6%	2.6	5.1	0.1	4.5
17	81.0	1.6%	0.8%	0.9	3.0	0.1	3.1
(including)	7.5	6.8%	1.5%	2.2	6.6	0.2	6.1
18	124.6	2.4%	1.1%	1.1	3.9	0.3	3.9
(including)	18.8	7.4%	3.2%	1.1	10.2	0.2	8.9
19	17.8	1.3%	0.4%	0.6	1.9	0.1	1.7
(including)	6.6	2.3%	0.6%	1.1	3.9	0.1	3.0
27	46.2	6.3%	2.8%	1.9	10.2	3.0	7.3
(including)	35.6	7.9%	3.5%	1.7	12.8	3.9	9.3
29	65.9	1.5%	1.1%	1.2	2.9	0.1	3.3
(including)	16.7	1.7%	1.4%	2.5	3.9	0.1	3.6

In October, 2007, Freewest reported that their McFauld's property likely covers the north-easterly extension of the same basal portion of the stratigraphic section that hosts the Eagle One deposit. Lending further support to this premise, are a series of discrete northeast-trending magnetic highs and associated electromagnetic conductors on the Freewest property that are similar to the geophysical signature of the Eagle One deposit. An earlier drill hole completed by Freewest, Spider and KWG (Spider-KWG joint venture) on Freewest's property in 2006, returned high-grade chrome mineralization with anomalous nickel and PGE mineralization within a peridotite host rock. Drill hole FW-06-03, testing one of the geophysical conductors, returned an intercept of 24.3 % Cr, 0.115% Ni, 0.185 g/t Pt, 0.210 g/t Pd, 0.320 g/t Ru and 0.049 g/t Rh (October 1, 2007 press release: [www.freewest.com/news/index.php?&content\\_id=63](http://www.freewest.com/news/index.php?&content_id=63)).

In December, 2007, Temex and joint venture (JV) partner MacDonald announced the start of a diamond drilling program on their Ni-Cu-PGE properties in the area of, and immediately adjacent to,

the Noront Eagle One Ni-Cu-PGE Discovery. However, no results of that drilling have been published to date (December 6, 2007 press release: [www.temexcorp.com/s/Home.asp](http://www.temexcorp.com/s/Home.asp)).

## **16.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

JBR has not completed any mineral processing or metallurgical testing in association with the Property.

## **17.0 MINERAL RESOURCE AND RESERVE ESTIMATES**

JBR has not completed any mineral resources or reserve estimates in association with the Property.

## **18.0 OTHER RELEVANT DATA AND INFORMATION**

All other relevant information and data have been described and reported in this Report. CCIC is not aware of any other relevant data and information that would be pertinent to the evaluation of the Property that is not already contained in this Report, as available in the public domain and/or provided to CCIC by JBR and/or any of its agents.

## **19.0 CONCLUSIONS**

The James Bay Lowlands Property of JBR Resources Ltd. consists of 82 unpatented mining claims that total 1,075 units or 17,200 ha. in the James Bay lowlands area of northern Ontario. The Property is underlain by Archean mafic to intermediate metavolcanic rocks, mafic intrusive rocks and granitoid rocks of the Sachigo Volcanic Belt ("SVB").

Owing to topography and overburden cover, geological exposures are scarce. Within the claim boundaries, the underlying rocks are interpreted to consist only of Archean metavolcanic, mafic intrusive and granitoid rocks of the Sachigo Volcanic Belt ("SVB"). A provincial airborne magnetics survey has provided the most accurate depiction of the subsurface geology, which has identified a significant arcuate magnetic feature, which could be caused by the presence of mafic metavolcanic rocks.

The Property is also situated adjacent to several Ni-Cu-PGE and VMS occurrences, which appear to be related to the arcuate magnetic feature. Prior to the discovery of VMS mineralization in the SVB by Spider in 2002, only limited physical examination of the area was undertaken by the OGS, consisting of regional-scale mapping (Thurston et. al., 1975) and airborne magnetic surveys at flight line spacing from 200 m to 400 m (MNDM, 2003).

The Property is located within the same stratigraphic package of rocks as the McFauld's Lake VMS discoveries by Spider, 2002-2007 as well as the magmatic Ni-Cu-PGE occurrence discovered by

Noront in 2007. The Property is also in the vicinity of several other recently discovered Ni-Cu-PGE and VMS occurrences reported by such companies as Spider, Freewest, MacDonald and Probe.

Completion of two airborne geophysical surveys by JBR has successfully outlined several conductive trends that are worthy of follow investigations. Steve Balch, a highly-qualified professional geophysicist, has provided JBR with three interpretation reports for the survey blocks flown over JBR's claims.

The interpreted results from the airborne geophysical survey that cover Blocks A, B1, B2, C, C-extension, D and E illustrated several high priority bedrock conductors that warrant ground follow-up work.

Block C (comprising Block C from the first EM survey and Block C-extension from the second survey) and Block D contain several discrete bedrock conductors that warrant further work. Preliminary analysis of the airborne data shows several structural features that correlate with conductive trends making the Block C area very favorable for possible concentrations of economic sulphide mineral deposits. Balch recommended a combined program of ground-checking, geologic mapping, and diamond drilling. In addition, results from the second EM survey also show that the conductors continue along trend on JBR's claims beyond the limits identified from the first EM survey.

In addition to Block C and Block D, other conductors have also been identified within JBR's other claim blocks and analysis of these anomalies is continuing in preparation for a follow up ground exploration program.

***CCIC has concluded that the James Bay Lowlands Property is of merit as an early-stage exploration project to warrant, at a minimum, the exploration program outlined in this Report.***

## **20.0 RECOMMENDATIONS**

To advance the James Bay Lowlands Property, a two phase exploration program is recommended. Phase I consists of additional airborne geophysics to re-fly the 5 km conductive trend on Blocks C and C-extension. The 5 km conductive trend needs to be re-flown in order to make better interpretations since Blocks C and C-extension were flown at different flight directions. From the Provincial airborne survey and discussion with Greg Stott of the OGS, the geology in the area of Blocks C and C-extension trends NE-SW, therefore flight lines need to be oriented perpendicular to the geological trends for the best interpretation, which is in a NW-SE direction.

The airborne survey should be followed up by ground geophysical surveys on favourable areas identified from the airborne geophysical survey to locate the conductive trends, when conditions permit. Following the ground geophysics, 5000 m of diamond drilling is recommended to test the conductors.

Phase I recommendations are at an estimated cost of **CAD \$3,350,000**. Phase II, contingent on favourable results from Phase I, consists of an additional 5000 m of diamond drilling at an estimated cost of **CAD \$3,000,000**.

Dollar values (CAD\$) as presented are general estimates and may change going forward as increased level of details in program planning develop and initial results are interpreted.

Table 20-1. Proposed budget, Phase I, James Bay Lowlands Property.

Category	Item	Units	No. Units	CAD\$/Unit	Amount	Sub-Totals
Airborne Geophysics						
	Mob-Demob, inc. helicopter support, ferry time	day	1	\$12,500	\$12,500	
	Survey and reporting	km	680	\$122	\$82,960	
	camp, fuel,				\$30,000	
					<b>Subtotal</b>	<b>\$125,460</b>
Ground Geophysics						
	Mob-Demob	ea	1	\$10,000	\$10,000	
	Helicopter support inc fuel (Astar)	day	45	\$2,500	\$112,500	
	Deep penetration EM survey	km	45	\$400	\$18,000	
	line cutting	km	45	\$600	\$27,000	
					<b>Subtotal</b>	<b>\$167,500</b>
Diamond Drilling						
	Mob-Demob	ea	1	\$25,000	\$25,000	
	Drilling, setup and site prep	m	5000	\$200	\$1,000,000	
	Helicopter support inc fuel (Astar)	hr	400	\$2,000	\$800,000	
	Core Assays	ea	2500	\$35	\$87,500	
	shipment to lab	ea	2500	\$20	\$50,000	
	core standards/blanks/duplicates	ea	1	\$3,000	\$3,000	
	Miscellaneous	ea	1	\$20,000	\$20,000	
					<b>Subtotal</b>	<b>\$1,985,500</b>
Supervision						
	Senior Management (inc. travel to property)	day	10	\$2,000	\$20,000	
	Senior Geologist	day	120	\$800	\$96,000	
	Labourer - 1	day	120	\$400	\$48,000	
	report writing	ea	1	\$10,000	\$10,000	
					<b>Subtotal</b>	<b>\$174,000</b>
Operating Expenses						
	camp setup	month	1	\$50,000	\$50,000	
	Fuel	month	3	\$1,000	\$3,000	
	Food/Accomm. 14 persons @200/day)	day	1260	\$200	\$252,000	
	Miscellaneous	ea	1	\$10,000	\$10,000	
					<b>Subtotal</b>	<b>\$315,000</b>
	<b>Subtotal proposed exploration</b>					<b>\$2,767,460</b>
				Administration	10%	\$276,746
				Contingency	10%	\$276,746
				<b>TOTAL (CAD):</b>		<b>\$3,320,952</b>

Table 20-2. Proposed Phase II budget - diamond drilling

Category	Item	Units	No. Units	CAD\$/Unit	Amount	Sub-Totals
Diamond Drilling						
	Mob-Demob	ea	1	\$25,000	\$25,000	
	Drilling, setup and site prep	m	5000	\$200	\$1,000,000	
	Helicopter support inc fuel (Astar)	hr	400	\$2,000	\$800,000	
	Core Assays	ea	2500	\$35	\$87,500	
	shipment to lab	ea	2500	\$20	\$50,000	
	core standards/blanks/duplicates	ea	1	\$3,000	\$3,000	
	Miscellaneous	ea	1	\$20,000	\$20,000	
					<b>Subtotal</b>	<b>\$1,985,500</b>
Supervision						
	Senior Management (inc. travel to property)	day	15	\$2,000	\$30,000	
	Senior Geologist	day	120	\$800	\$96,000	
	Labourer - 1	day	120	\$400	\$48,000	
	report writing	ea	1	\$10,000	\$10,000	
					<b>Subtotal</b>	<b>\$184,000</b>
Operating Expenses						
	camp setup	month	1	\$50,000	\$50,000	
	Fuel	month	4	\$1,000	\$4,000	
	Food/Accomm. 14 persons @200/day)	day	1300	\$200	\$260,000	
	Miscellaneous	ea	1	\$15,000	\$15,000	
					<b>Subtotal</b>	<b>\$329,000</b>
	<b>Subtotal proposed exploration</b>					<b>\$2,498,500</b>
				Administration	10%	\$249,850
				Contingency	10%	\$249,850
				<b>TOTAL (CAD):</b>		<b>\$2,998,200</b>

**CCIC recommends that the following be implemented in any diamond drilling programs and during the drill core logging procedures:**

1. Dip and azimuth tests on all drill holes should be recorded at the collar and at intervals down the drill hole in order to control the spatial location of the drill hole.
2. All drill hole collar locations should be measured using a differential GPS system.
3. In so far as the ability to utilize diamond drill hole data for future resource estimations, a QA/QC regime should be implemented and consistently followed.

## **21.0 STATEMENT OF AUTHORSHIP**

This Report titled "Independent Technical Report, James Bay Lowlands Property, Ontario, Canada", and dated May 8<sup>th</sup>, 2008 was prepared and signed by the following author:

SIGNED AND SEALED

"Brad Leonard"  
Brad Leonard, M.Sc., P.Geo.  
Dated May 8<sup>th</sup>, 2008  
Sudbury, Ontario

## 22.0 REFERENCES

- Ayres, L.D., 1974. Geology of the Trout Lake Area; Ontario Division of Mines, Geological Report 113, 199pp.
- Balch, S., 2008a. Report on a VTEM Airborne Survey for James Bay Resources. Private company report.
- Balch, S., 2008b. Short Notes on C-Extension Block. Private report for James Bay Resources.
- Balch, S., 2008c. Short Notes on D Block. Private report for James Bay Resources.
- Bennett, T., and Riley, R.A., 1969. Operation Lingman Lake; Ont. Dept. of Mines, Miscellaneous Paper 27, 52pp.
- Borthwick, A.A., and Naldrett, A.J., 1984. Platinum-group elements in layered intrusions; in Geoscience Research Grant Program, Summary of Research, 1983-1984, OGS Misc. Paper 121, p.13-15.
- Card, K.D., and Ciesielski, A., 1986. DNAG#1. Subdivisions of the Superior Province of the Canadian Shield, Geoscience Canada, v. 13, p.5-13.
- Chartrand, F., and Cattalani, S., 1990. Massive sulphide deposits in northwestern Quebec, In The northwestern Quebec polymetallic belt; a summary of 60 years of mining exploration; proceedings of the Rouyn-Noranda 1990 symposium, Canadian Institute of Mining and Metallurgy Special Volume, 43, p.77-91.
- Eckstrand, R. O. and Hulbert, L. 2007. Magmatic Nickel-Copper-Platinum Group Elements Deposits, Geological Survey of Canada,  
[http://gsc.nrcan.gc.ca/mindep/synth\\_dep/ni\\_cu\\_pge/index\\_e.php#fig](http://gsc.nrcan.gc.ca/mindep/synth_dep/ni_cu_pge/index_e.php#fig) – Last accessed Jan 31, 2008.
- Franklin, J. M., 1996. Volcanic-Associated Massive Sulphide Base Metals; Geology of Canadian Mineral Deposit Types, (ed.) O.R. Eckstrand, W. D. Sinclair and R. I. Thorpe; Geological Survey of Canada, no. 8, p.158-183.
- Franklin, J. M., 1999b. Systematic Analysis of Lithogeochemical Data in, Exploration Tools for Volcanogenic Massive Sulphide Deposits short course sponsored by Mineral Deposits Research Unit, University of British Columbia.
- Franklin, J. M., Gibson, H., 1999. Exploration Tools for Volcanogenic Massive Sulphide Deposits short course sponsored by Mineral Deposits Research Unit, University of British Columbia.
- Franklin, J. M., 2003. Preliminary review of a VMS occurrence McFaulds Lake Area, N.W. Ontario, company report, Spider Resources Inc. ([www.spiderresources.com](http://www.spiderresources.com)), 27pp.
- Franklin, J. M., Gibson, H. L., Jonasson, I. R., and Galley, A. G., 2005. Volcanogenic Massive Sulphides; Economic Geology 100th Anniversary Volume p.523-560.
- Freewest Resources website - <http://www.freewest.com>
- Geotech Ltd., 2008a. Report on a Helicopter-borne Versatile Time Domain Electromagnetic (VTEM) Geophysical Survey, Blocks A, B1, B2, C & E Webequie, Ontario, Canada. Private report for James Bay Resources Ltd.

Geotech Ltd., 2008b. Report on a Helicopter-borne Versatile Time Domain Electromagnetic (VTEM) Geophysical Survey, Blocks C-extension & D Webequie, Ontario, Canada. Private report for James Bay Resources Ltd.

Hart, T. R., Gibson, H. L. and Leshner, C.M., 2004. Trace Element Geochemistry and Petrogenesis of Felsic Volcanic Rocks Associated with Volcanogenic Massive Cu-Zn-Pb Sulphide Deposits; *Economic Geology*, v.99, p.1003-1013.

Hutchinson, R.W., 1973. Volcanogenic sulphide deposits and their metallogenic significance, *Economic Geology*, v.8, p.1223-1246.

Höy, T., 1991. Volcanogenic Massive Sulphide Deposits in British Columbia; Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, W.J. McMillan, Coordinator, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1991-4, p. 89-123.

Keays, R.R. and Lightfoot, P.C., 1994. New exploration strategies for Ni-Cu-PGE deposits. Fourth Annual CIM Geological Society Conference. Sudbury.

Leshner, C.M., Goodwin, A.M., Campbell, I.H., Gorton, M.P., 1985. Trace-element geochemistry of the ore-associated and barren, felsic metavolcanic rocks in the superior province, Canada, Department of Geology, The University of Toronto, 15pp.

Lightfoot, P.C., 2007. Advances in Ni-Cu-PGE Sulphide Deposit Models and Implications for Exploration Technologies. Fourth Annual CIM Geological Society Conference. Sudbury.

Lydon, J.W., 1984, Volcanogenic massive sulphide deposits, Part 1--A descriptive model: *Geoscience Canada*, v. 11, p. 195-202.

Ministry of Northern Development and Mines; Geology of Ontario, Assessment File Research Information (AFRI) found at [www.geologyontario.mndm.gov.on.ca](http://www.geologyontario.mndm.gov.on.ca) (last accessed Jan 24, 2008).

Ministry of Northern Development and Mines (MNDM); Geology of Ontario, Bedrock Geology of Ontario at 1:250K found at [www.geologyontario.mndm.gov.on.ca](http://www.geologyontario.mndm.gov.on.ca) (last accessed Jan 24, 2008).

Noront Resources website -<http://www.norontresources.com>

Ontario Geological Survey 2006. 1:250 000 Scale Bedrock Geology of Ontario; Ontario Geological Survey, Miscellaneous Release---Data 126-revised.

Ontario Geological Survey, 2003. Ontario Geological Survey Airborne Magnet Survey series M60215, M60216, M60233, M60253, M60254 and M60271, Attawapiskat Area;

Peck, D.C., Keays, R. R., James, R. S., Chubb, P. T. and Reeves, S. J., 2001. Controls on the Formation of Contact-Type Platinum-Group Element Mineralization in the East Bull Lake Intrusion; *Economic Geology*, v. 96, no. 3, p. 559-581.

Probe Mines Ltd. website - <http://www.probemines.com>

SEDAR website - <http://www.sedar.com>

Spider Resources website - <http://www.spiderresources.com>

Superior Diamonds website - <http://www.superiordiamonds.ca>

Temex website - <http://www.temexcorp.com/s/Home.asp>

Thurston, P.C., L.A. Osmani, and Stone, D., 1991. Northwestern Superior Province: Review and Terrane Analysis; in Geology of Ontario, Ontario Geological Survey, Special Volume 4, pt. 1, p.81-139.

Thurston, P.C., Sage, R.P., and Siragusa, G.M., 1975. Operation Winisk Lake, District of Kenora, Patricia portion, Ontario Geological Survey, Open File Report 5720.

***Sources researched but not included in the report***

Thurston, P.C., 1991. Archean geology of Ontario: Introduction, In Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part 1, p.73-78.

Greg Stott, Ontario Geological Survey, personal communications, January 22, 2008.

APPENDIX 1  
CERTIFICATE OF QUALIFICATIONS



**Brad Leonard M.Sc., P.Geo**  
17 Froid Rd Suite 2  
Sudbury, Ontario,  
Canada, P3C 4Y9  
Telephone: 705-671-1801  
Email: bleonard@cciconline.ca

**CERTIFICATE OF AUTHOR**

I, Brad Leonard, do hereby certify that:

1. I am the Exploration Manager of the geological consulting firm of Caracle Creek International Consulting Inc. Canada (CCIC).
2. I hold the following academic qualifications:  
B.Sc. (Hons) Geology (1983), University of Toronto, Toronto, Ontario, Canada  
M.Sc. Geology (2007), Laurentian University, Sudbury, Ontario, Canada
3. I am a member of the Association of Professional Geoscientists of Ontario (Member #0927).
4. I have worked in the mineral exploration industry for more than 24 years as a geologist and project manager on a variety of exploration programs searching for various commodities including gold, VMS, Cu-Ni, and diamond.
5. I have had no prior 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.
8. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements as a Qualified Person for the purposes of NI 43-101.
9. I am responsible for the preparation of all sections of the technical report titled "Independent Technical Report: James Bay Lowlands Property, Ontario, Canada", dated May 8, 2008 and prepared for James Bay Resources Limited.
10. I have no direct or indirect interest in the Property, nor do I expect to receive any direct or indirect interest in the Property.
11. I consent to the filing of the 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 websites accessible by the public.

Dated this 8<sup>th</sup> Day of May, 2008.

Respectfully Submitted

SIGNED AND SEALED

"Brad Leonard"  
Brad Leonard, M.Sc., P.Geo.  
Exploration Manager, CCIC Canada