# GM 67726

TECHNICAL REPORT ON THE RIVIERE AU CASTOR PROPERTY

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# NI 43-101 TECHNICAL REPORT

# ON THE

# RIVIÈRE AU CASTOR PROPERTY, QUEBEC

# FOR

# ENTREPRISES MINIÈRES DU NOUVEAU-MONDE INC.

**Prepared by:**

**Antoine Cloutier, géo.**

**February 24th, 2013**

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## APPENDICES

## 1. SUMMARY

At the request of Entreprises Minières du Nouveau-Monde Inc. ("Nouveau-Monde), the author completed a review of the Rivière au Castor property (or "the property") and prepared an Independent Technical Report (or "the report"), compliant with National Instrument 43-101 ("NI43-101") and Form 43-101F1.

The author prepared this report to provide a summary of scientific and technical data on the property, including historical exploration activities, and made recommendations concerning future exploration and development of the Rivière au Castor property. This report is based on exploration and property information supplied to the author by Nouveau-Monde, as well as by the review of geological and exploration information available in the public domain.

The Rivière au Castor property is situated approximately 40 km southeast of the community of Radisson, James Bay municipality, Province of Québec, Canada. The property is 100 % owned by Nouveau-Monde and is composed of 94 contiguous map designated claims covering 4788.05 hectares.

The claims were acquired under requests filled with the *Ministère des Ressources Naturelles et de la Faune* (or "MRNF") in January and February of 2012. Nouveau-Monde is wholly responsible for the claim renewal and assessment work filing to the MRNF. The property is bounded and partially intruded on the northeastern side by a broad zone where mineral exploration is permitted, but falls unto a zone reserved by the state. This zone is part of the La Grande 2 hydroelectric reservoir. The state reserves its right to apply conditions on future development as they can affect the hydroelectric complex. A total of 11 claims forming the property are in part, or completely, within this zone which could be subject to specific conditions. The property is completely situated on crown land. No environmental concerns were noted by the authors during the site visits.

The Rivière au Castor property is mostly unexplored. According to an historical review of the area, only three meaningful exploration campaigns were performed previously on the property by mineral exploration companies. Ressources Minières Pro-Or Inc. (or "Pro-Or") visited the eastern portion of the property during 12 days in August of 1997. The limited prospecting resulted in the collection of grab samples returning anomalous gold (up to 0.17 g/t) and copper (up to 0.59%) results. Ressources Dianor Inc. (or "Dianor") prospected the area during a diamond exploration program in 2002. A total of 26 samples were collected in the central part of the property. Although no economical results were reported, the observed felsic to mafic differentiated volcanic pile was deemed favorable for VMS-type mineralization. Two days were spent prospecting by Soquem Inc. (or "Soquem") in 2003 on the eastern and central portions of the property. This area had been targeted by Soquem based on a regional magnetic (or "Mag") and electromagnetic (or "EM") airborne survey performed by INCO Ltd. and a subsequent in-house geochemical compilation. The best result from Soquem's sampling returned 4.32% copper (Cu) from a 2 cm wide quartz vein. Results were deemed uneconomical and no further work was recommended.

The Rivière au Castor property is located within the geological Superior Province, more precisely, in the western part of the La Grande volcano-plutonic Subprovince. The geology of the area was last mapped at a 1:50,000 scale by the MRNF which published a detailed report in 1998 (Goutier *et al*, 1998; RG 98-16). The oldest rocks observed on the property are tonalites and diorites of the Langelier complex. These are overlain by the Yasinski Group which is mostly composed of mafic to intermediate volcanic units as well as iron formations with minor conglomerates, wackes and felsic volcanics. This volcano-sedimentary suite runs southwest to northeast thru the middle of the property. Small slivers of the Ekomiak formation occur in the south end of the property; they are composed of conglomerates, wackes and iron formation. The Duncan monzonite, diorite and tonalite bodies that cover approximately half of the property were intruded later. Ultramafic intrusions were then emplaced in the northeastern part of the property, the most prominent being the Chapus Bay pyroxenite, a 1 km by 3 km oval-shaped body. The last reported local geological event is the intrusion of the NNW-SSE Esprit Lake Proterozoic gabbro dykes which crosscut the older Archean units.

In 2012, Nouveau-Monde staked the available area to form the Rivière au Castor property. A one day reconnaissance field campaign aimed at assessing the potential of the area was carried-out by the author. Although anomalous copper results from Soquem's samples were not repeated, a few anomalous gold values, up to 0.399 g/t Au, were obtained from the samples collected. Nouveau-Monde proceeded with an airborne magnetic (or "Mag") and time domain electromagnetic (or "TDEM") survey over the property in September of 2012 totaling 568 line km. A total of 14 TDEM anomalies were selected from the survey. Some of these anomalies were verified by the author during a three day campaign performed in October of 2012. An experimental portable ground TDEM system called the "Phispy" was used on the occasion to prospect the area. The work confirmed two of the three main anomalous clusters interpreted from the airborne survey. A total of 35 selected grab samples were collected during the 2012 field campaigns, with 9 samples returning anomalous results in either one or a combination of the following elements; gold, copper, nickel, iron, titanium and vanadium. Samples were all collected by the author and analyzed by ICP-AES following a four-acid digestion, with gold analyzed by fire assay.

In 2012, Nouveau-Monde incurred field related costs totalling $ 111,554.30 on the Rivière au Castor property. The program was limited to prospecting, sampling, as well as airborne and ground geophysical surveying on the property.

It is recommended that a comprehensive GIS database be established, encompassing all important information, including historical work and the results of the recent work completed by Nouveau-Monde. A Phase 1 prospecting, and mapping program is recommended for the property, along with ground geophysical surveying on the ultramafic Chapus Bay pyroxenite. A one month campaign should be sufficient to properly assess the property. Upon favourable results from the Phase 1 program, core drilling should be performed on the most promising targets. Finally, a regional gradient IP survey is recommended in areas where anomalous gold and polymetallic values were obtained in rock samples. Estimated cost for the Phase 1 and 2 programs are $ 238,700.00 and $ 375,650.00, respectively.

## 2. INTRODUCTION AND TERMS OF REFERENCE

### 2.1 Introduction

At the request of Entreprises Minières du Nouveau-Monde Inc. (or "Nouveau-Monde"), the author prepared this independent technical report (or "the report"), compliant with National Instrument 43-101 ("NI43-101") and Form 43-101F1, to provide a summary of scientific and technical data on the Rivière au Castor property.

The Rivière au Castor property (or "the property") is situated approximately 40 km southeast of the community of Radisson, James Bay municipality, Province of Québec, Canada. The property is composed of 94 contiguous map designated claims (or "CDC" from the French "claim désigné sur carte"), covering 4788.05 hectares. The property is located within National Topographic System (or "NTS") sheets 33F06 and 33F11. The property is 100% owned by Nouveau-Monde. The property covers crown land. No environmental concerns were noted by the author during the independent site visits.

This report provides a summary and results from exploration work on the property carried out by previous operators, Nouveau-Monde, and publicly available information.

### 2.2 Terms of Reference

The author was retained by Nouveau-Monde to carry out an independent technical review of the project. The review commenced December 10th and continued unto February 24th, 2013.

The author's assignment consisted of:

- Reviewing and summarizing historical exploration data for the property prior to Nouveau-Monde's involvement;
- Undertaking site field visits to confirm historical and current data;
- Preparing a National Instrument 43-101 compliant technical report for the project;
- Making recommendations for future exploration activities on the property.

### 2.3 Sources of Information

The historical information was mostly gathered from the Québec government databases. When applicable, the document code given for historical assessment reports made accessible by the *Ministère Des Ressources Naturelles et de la Faune* (or "MRNF") in the format of GM XXXXX (some others in the form of DPV XXX, DV XXXXX or MB XX-XX etc…) , was used for reference purposes in this report. These reports can be viewed free of charge on the MRNF web site (http://www.mrnfp.gouv.qc.ca/english/mines/geology/geology-databases.jsp) using the E-SIGÉOM application. Such reports usually contain technical information of geological, geochemical or/and geophysical work conducted by mineral exploration companies. Government compilations of geoscientific work, historical drilling, geophysical surveys and other mineral exploration themes are also available on the E-SIGEOM system. The digital data from the project area was downloaded in shapefile format and compiled in ESRI's geographical information system ("GIS"), ArcGIS®. This exercise provided a geographical view of historical

work used throughout this report. For geographical reference purposes, all UTM locations in this report are using Universal Transverse Mercator (or "UTM") WGS84 Zone 18T projection, unless otherwise noted. It is important to note that a large portion of the historical work locations was digitized from hand-drawn paper maps, thus, precision and accuracy can vary by hundreds of meters or more.

Information about the claims was gathered from the MRNF's online GESTIM system (https://gestim.mines.gouv.qc.ca) which provides a downloadable claim database in various GIS formats, as well as an online viewer. Tenure information presented in this report was valid on the GESTIM system on February 24th, 2013. Other online database sites providing basic geographic information used for this report, such as topographic contours, digital elevation model, drainage systems and roads, include: http://geogratis.cgdi.gc.ca/ and http://www.geobase.ca/.

### 2.4 Details of Personal Inspection of the Property

The author, Mr A. Cloutier, géo., visited the property on August 7th, October 10th, October 11th and October 12th, 2012. The last site visit by Mr. Cloutier lasted 8 hours; the time was spent prospecting the eastern side of the property. During the August property visit, the author was accompanied by Mr. Nathan Lintner (geologist in training, APGO) and during the October property visit, the author was accompanied by Mr. Joel Dubé Eng. (OIQ). It is important to note that these site visits were planned as mineral exploration campaigns and property reconnaissance at the time. No work was performed by Nouveau-Monde on the property since the work mentioned above. Further details on the samples collected during the site visit are available in Section 9.

The site visits confirmed the easy access to the property, especially the eastern side which was reached by minivan. While prospecting, a few seldom used ATV trails were noted on the property. No buildings were sighted on the property. High-voltage power lines and a quarry, presumably used for road and dike building by Hydro-Québec in the 1970's, were observed on the property (Figure 1).

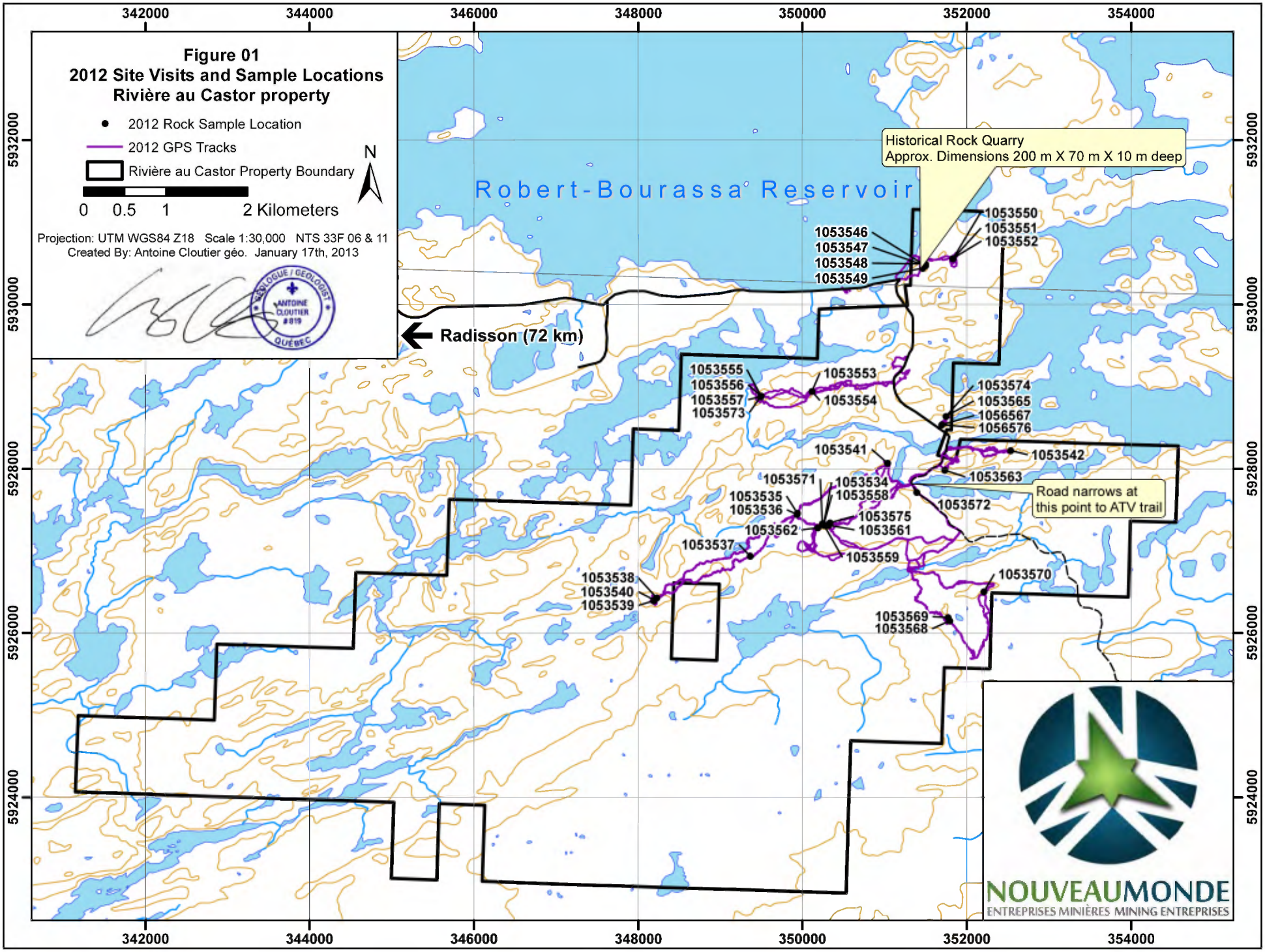
Figure 01
2012 Site Visits and Sample Locations
Rivière au Castor property
2012 Rock Sample Location
2012 GPS Tracks
Rivière au Castor Property Boundary
0 0.5 1 2 Kilometers
N
Projection: UTM WGS84 Z18 Scale 1:30,000 NTS 33F 06 & 11
Created By: Antoine Cloutier géo. January 17th, 2013
GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
#819
QUÉBEC
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
Robert-Bourassa Reservoir
Historical Rock Quarry
Approx. Dimensions 200 m X 70 m X 10 m deep
Radisson (72 km)
Road narrows at
this point to ATV trail
1053550
1053551
1053552
1053546
1053547
1053548
1053549
1053555
1053556
1053557
1053573
1053553
1053554
1053574
1053565
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1056576
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1053569
1053568
NOUVEAUMONDE
ENTREPRISES MINIÈRES MINING ENTREPRISES

## 2.5 Units and Currency

This report uses both the Imperial and Metric Systems (or "System International" or "SI") as systems of measure and length. 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.

Conversion factors utilized in this report include: 1 inch = 2.54 centimetres (cm); 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.

From Fe to $Fe_2O_3$, multiply by a factor of 1.4297
From Ti to $TiO_3$, multiply by a factor of 1.6681
From V to $V_2O_5$, multiply by a factor of 1.7852

Table 3 lists the common abbreviations that are used in this report. Dollars are expressed in Canadian currency (CAD$) unless otherwise noted. Unless otherwise mentioned, all coordinates in this report are provided in UTM datum WGS84, Zone 18T.

**Table 1. Abbreviations.**

| Abbreviation | Unit or Term |
|---|---|
| Au | gold |
| Ga | billion years |
| Ma | million years |
| cm | centimetre |
| ° | degree (degrees) |
| géo. | Geologist recognized by the Order of Quebec Geologist (OGQ) |
| ddh | diamond drill hole |
| ft | foot (feet) |
| g | gram |
| ha | hectare |
| km | Kilometre |
| $km^2$ | square kilometres |
| m | metre |
| lb | pound(s) |
| mm | millimetre |
| MRNF | Ministère des Ressources naturelles et de la Faune |
| NI 43-101 | Canadian National Instrument 43-101 |
| % | percent |
| ppb | parts per billion |
| ppm | parts per million |
| QA/QC | Quality Assurance/Quality Control |
| g/t | Grams per metric tonne, equivalent to ppm |
| REE | Rare Earth Elements |
| T | metric tonne (2,000 kg) (2,204.6 pounds) |

## 3. RELIANCE ON OTHER EXPERTS

The author completed this report in accordance with the methodology and format outlined in National Instrument 43-101 and Form 43-101F1.

The information, conclusions and recommendations contained herein are based on a review of digital and hard copy data and information supplied to the author by Nouveau-Monde, as well as various published geological reports.

The author has not sought a formal legal opinion with regard to the ownership status of the claims comprising the property and has, in all aspects of tenure, relied on materials made available on the MRNF's online GESTIM system (https://gestim.mines.gouv.qc.ca). All tenure information from the GESTIM system was last updated for this report on February 24th, 2013.

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. The author has made every attempt to accurately convey the content of those files, but cannot guarantee either the accuracy, validity, or completeness of the data contained within those files. However, it is believed that these reports were written with the objective of presenting the results of the work performed without any promotional or misleading intent.

The author was authorized to complete a NI43-101 Technical Report by Mr. Éric Desaulniers, géo., President and CEO, Entreprises Minières du Nouveau-Monde on December 3rd, 2012.

## 4. PROPERTY DESCRIPTION AND LOCATION

### 4.1 Location

The Rivière au Castor property is located about 40 km southeast of the community of Radisson, in the James Bay Municipality, Province of Québec, Canada, on National Topographic System (or "NTS") map sheets 33F06 and 33F11. The property is centered approximately at UTM coordinates 348596E 5926175N (latitude 53°27'46.02" N and longitude 77°16'50.44" W) (Figures 2 and 3). It consists of one contiguous block of 94 mining titles totalling 4788.05 ha and measuring approximately 13 km in length by 8 km in width. One active cell located roughly in the center of the property is not owned by Nouveau-Monde, nor is it part of any agreements with the company and thus is not part of the Rivière au Castor property.

The property is bounded and partially intruded on the northeastern side by a broad zone where mineral exploration is permitted, but falls in a zone reserved by the state. This zone is part of the La Grande 2 (or "LG2") hydroelectric reservoir. The state reserves its right to apply conditions on future development as they can affect the hydroelectric complex. There are also two small zones adjacent to the property boundary where mineral exploration is prohibited; they coincide with water retaining dikes confining the LG2 reservoir (Figure 3).

## 4.2 Mineral Dispositions

In Quebec, claims are now referred to as map designated cells (or "CDC"). These pre-determined cells each measure 30'' longitude by 30'' latitude. Cells can be acquired for a fee using an online form on the Gestim web site (https://gestim.mines.gouv.qc.ca). Claims are valid for a period of two years, after which a certain amount of work, or credits, are required for renewal. These credits can be spread to adjacent claims contained completely within a 4.5 km radius of the centroid of the claim from which credits are borrowed.

The current information on the Gestim system from claims composing the Rivière au Castor property, such as required renewal fees, credits accumulated from recent work, claim size and expiry date, is provided in Table 2.

**Table 2. Rivière au Castor Claim list, these claims are owned 100% by Nouveau-Monde.**

| Claim ID | NTS Sheet | Claim Designation Date (Yr-Mo-Day) | Claim Expiry Date* (Yr-Mo-Day) | Cumulated Work Credits | Required Work Credits | Renewal Fees | Surface Area (Ha) |
|---|---|---|---|---|---|---|---|
| 2330241 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2330242 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2330243 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2330244 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2330245 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
| 2330246 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
| 2330247 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
| 2330248 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
| 2330249 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
| 2330250 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
| 2330251 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
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| 2330258 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.34 |
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| 2330270 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.33 |
| 2330271 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.33 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
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| 2330273 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.33 |
| 2330274 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.33 |
| 2330275 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.33 |
| 2330276 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2330277 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2330278 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.32 |
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| 2330282 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2330283 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2330284 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2330285 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2330286 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330287 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330288 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330289 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330290 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330291 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330292 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330293 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330294 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330295 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330296 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330297 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330298 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2330299 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330300 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330301 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330302 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330303 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330304 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330305 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330306 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330307 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330308 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.3 |
| 2330309 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.29 |
| 2330310 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.29 |
| 2330311 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.29 |
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| 2330313 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.29 |
| 2330314 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.28 |
| 2330315 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.28 |
| 2330316 | 33F11 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.27 |
| 2330317 | 33F11 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 51.27 |
| 2330318 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $120.00 | $100.00 | 37.96 |
| 2330319 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $120.00 | $100.00 | 34.58 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2330320 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $126.00 | 50.43 |
| 2330321 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $112.00 | 49.11 |
| 2330322 | 33F06 | 2012-01-16 | 2014-01-15 | $0.00 | $135.00 | $112.00 | 48.4 |
| 2332044 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2332045 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2332046 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2332047 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2332048 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.35 |
| 2332049 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.33 |
| 2332050 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.33 |
| 2332051 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2332052 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.32 |
| 2332053 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2332054 | 33F06 | 2012-02-21 | 2014-02-20 | $0.00 | $135.00 | $126.00 | 51.31 |
| 2337052 | 33F06 | 2012-03-20 | 2014-03-19 | $0.00 | $135.00 | $126.00 | 51.32 |
| **n = 94** | | | **Total** | **$ -** | **$12,660.00** | **$11,764.00** | **4788.05 ha** |

A total of **$ 24,424.00**, including renewal fees, has to be spent on the property in order to renew all claims for an additional 2 years over the present expiry dates. This does not take into account the amount spent during the 2012 field work which is evaluated at $ 111,554.30.

The author has not sought a formal legal opinion with regard to the ownership status of the claims comprising the property, and has in all aspects of tenure relied on materials presented on the Gestim web site (https://gestim.mines.gouv.qc.ca). The claims have not been surveyed as there are no requirement to survey unpatented claims in the Province of Québec. Land tenure information used in this report was last verified on the GESTIM system on February 24th, 2013.

### 4.3 Environmental Liabilities and Permitting

To the best of Nouveau-Monde's, and the author's knowledge, there are no environmental or physical hazards or liabilities that Nouveau-Monde is responsible for within the Rivière au Castor property. There is, however, a historical rock quarry located on the northeastern side of the property where walls, some over 10 m high, were observed by the author (Figure 1). There are no barriers around the quarry to prevent falls or related injuries. Personnel working in the area should be made aware of the potential risks of rock falls and keep a safe distance from the quarry walls.

Certain areas in the province are defined as "restricted zones" in which it is either not permitted to "stake" a claim, or where claims (or parts of claims) are subject to specific laws. These zones are available for viewing on the Gestim system and specific information relative to the restrictions is also available on the Gestim online viewer. Such zones usually refer to native reserves, biological reserves, parks and urban areas. Part of the Rivière Au Castor property is located within such a restricted zone; however, due to the nature of the restriction, it does not prohibit mineral exploration there. A total of 11 claims intersect this zone which is reserved to the state. This zone delimits the LG2 reservoir and is considered to be part of the hydroelectric power complex. Any major work on this zone by Nouveau-Monde, such as core drilling, would first require permission of the state to satisfy the requirements in regards to the hydroelectric

complex. The MRNF should be able to provide additional information about such permissions if the need arises.

All work performed to date by Nouveau-Monde on the Rivière au Castor property has not required any special permit or licences. However, an "Intervention" permit is required by the Québec government for any work requiring the removal of trees over four inches in diameter. Fees are subject to the amount and species of wood needed to be removed for exploration work. This is usually required for trenching and drilling campaigns. No such permit has yet been required due to the nature and scope of the work performed on the property to date. Due to the proximity of lodging and accommodations (community of Radisson), as well as easy access to the property by road, the need for an exploration camp is not necessary at this stage of the project thus all related permits are not yet required.

The property is located within Cree trap line CH36/VC04. It is recommended that the Cree Mineral Exploration Board (or "CMEB"), the community of Chissasibi and tallyman Mr. Samuel Cox be contacted prior to any intervention on the property, both to address any concerns and as a gesture of good will.

It is recommended that discussions with local communities and possible user groups be held as the project advances.

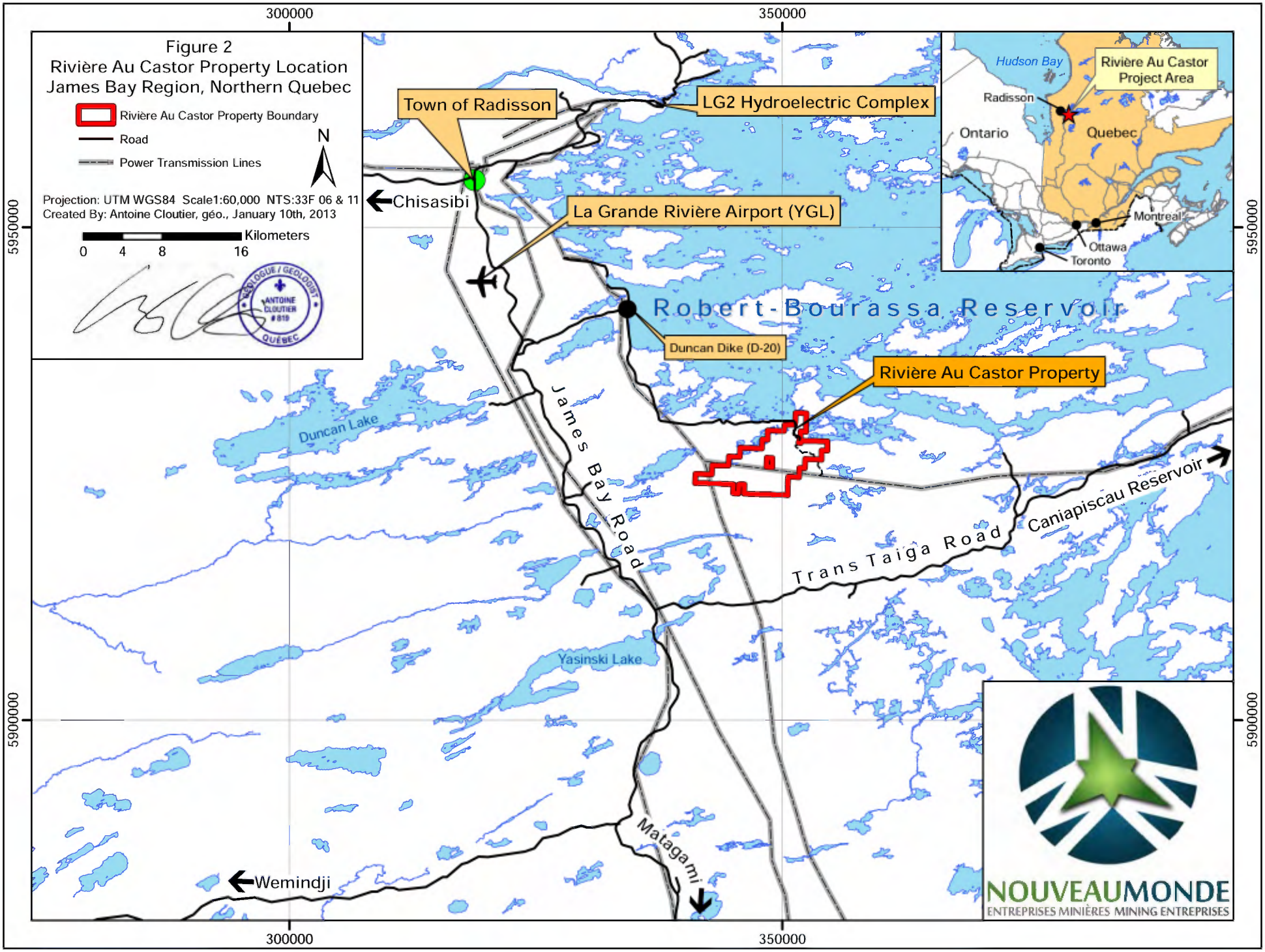
Figure 2
Rivière Au Castor Property Location
James Bay Region, Northern Quebec
Rivière Au Castor Property Boundary
Road
Power Transmission Lines
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
Kilometers
0 4 8 16
300000
350000
5950000
5900000
Town of Radisson
LG2 Hydroelectric Complex
Chisasibi
La Grande Rivière Airport (YGL)
Robert-Bourassa Reservoir
Duncan Dike (D-20)
Rivière Au Castor Property
Duncan Lake
James Bay Road
Trans Taiga Road
Caniapiscau Reservoir
Yasinski Lake
Matagami
Wemindji
Hudson Bay
Rivière Au Castor Project Area
Radisson
Ontario
Quebec
Montreal
Ottawa
Toronto
NOUVEAUMONDE
ENTREPRISES MINIÈRES MINING ENTREPRISES

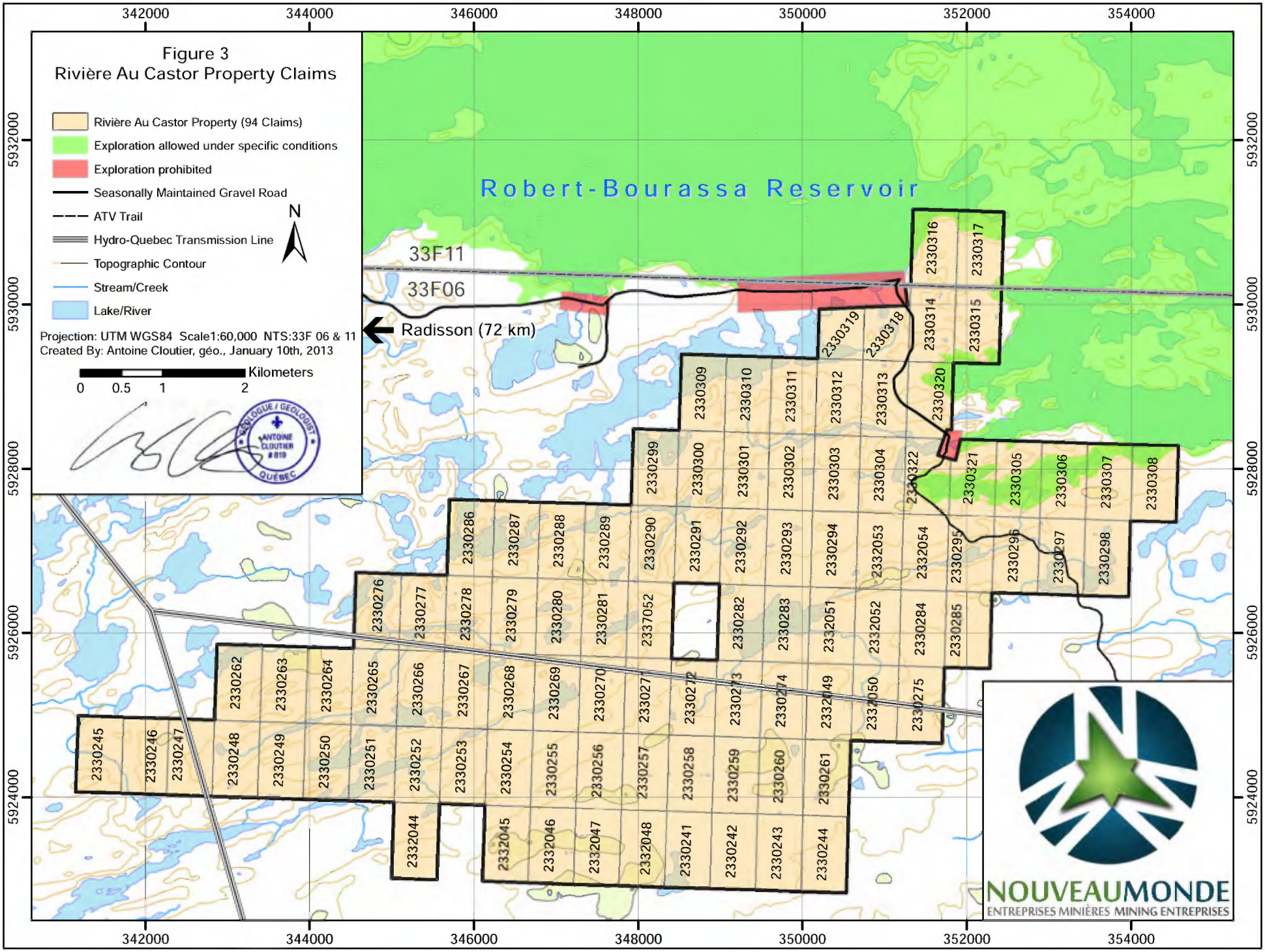
Figure 3
Rivière Au Castor Property Claims
Rivière Au Castor Property (94 Claims)
Exploration allowed under specific conditions
Exploration prohibited
Seasonally Maintained Gravel Road
ATV Trail
Hydro-Quebec Transmission Line
Topographic Contour
Stream/Creek
Lake/River
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
Kilometers
0 0.5 1 2
GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
# 819
QUÉBEC
Robert-Bourassa Reservoir
33F11
33F06
Radisson (72 km)
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
2330245
2330246
2330247
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2332046
2332047
2332048
2332049
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2332054
2337052
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2330243
2330244
NOUVEAUMONDE
ENTREPRISES MINIÈRES MINING ENTREPRISES

## 5. ACCESS, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

### 5.1 Accessibility

The Rivière au Castor property is easily accessed by road from the town of Radisson. From Radisson, the northeastern part of the property can be reached by travelling 40 km south along the paved James Bay Road, then turning east, at about the 581 km road marker, on a gravel road accessing the Duncan dike / Chapus Bay. From this intersection, proceed 12 km east until the main Duncan dike (also known as the D-20 dike) is reached. It is the first dike reached and is perpendicular to the road. Once arrived at the D-20 dike, turn right (south) and follow the main gravel road in an eastern direction for about 28 km to reach the property boundary. The road continues southwards within the property for another 3 km and quickly deteriorates to an ATV trail.

The gravel road is maintained from the James Bay Road to about the point where it meets the property. From the D-20 dike, the road is not plowed during winter. From the main Duncan dike, access in winter can be done by snowmobile. It might also be possible to have a contractor plow the road during the winter months if the need arises.

Only the northeastern part of the property is accessible by road. It might be necessary to charter a helicopter to access other remote parts of the property. Chartered helicopters can resupply at the La Grande Airport located about 30 km northwest of the property. Helicopter tours of the LG2 complex in Radisson occur during parts of the summer, and it is usually possible to charter such helicopter for quick mobilization, demobilization of crews during the day. This strategy can save on costs of helicopter crew and minimum flight hours associated with a full time chartered helicopter.

The small remote community of Radisson can be reached by all season paved road from any of the major cities in the Province of Québec. Radisson is located approximately 1400 km by road from Montreal. Air Inuit provides regular scheduled flights from Montreal to the "La Grande" Airport (airport code: YGL) located some 30 km south of Radisson where taxi service is available.

### 5.2 Climate

The Radisson area has a humid subarctic continental climate with cool summers and no dry season. The mean January temperature is -23°C; the mean July temperature is 14°C, average summer minimum and maximum temperatures are 7°C and 20°C respectively. The annual precipitation is approximately 437 mm of rain and 266 cm of snow. The beginning of permanent snow cover varies from year to year, usually starting at about mid-October and builds up to approximately 45 cm to 55 cm depth by late winter. All major roads can be used throughout the winter as they are well maintained. As stated in section 5.1, part of the gravel road leading to the property is not maintained during the winter months.

### 5.3 Local Resources and Infrastructure

Local resources on the property consist of an abundance of fresh water, aggregate and coniferous trees. The general area has limited road coverage, with a few unmapped local ATV

trails. The closest community is Radisson which has a population of 270 (2011 census, Statistics Canada). It offers accommodation, food, gas, and limited lumber and hardware supplies. The community usually caters to hunting and fishing enthusiasts, as well as mineral exploration workers and Hydro-Québec personnel. Cell phone coverage is available in the community of Radisson. The closest large contingent of skilled workforce, such as forest workers, mechanics, and heavy equipment operators, can be found in Matagami, Québec, some 620 km south of Radisson along the James Bay road. Some workers might also be available from the native reserves of Chisasibi and Wemindji, located respectively at 143 km and 195 km from the project area by road. Electrical power is available on the property in the form of high-voltage power lines which cross the property from west to east (Figures 3 and 4). The nearest medical clinic is located in Radisson. It is important to note that Radisson provides support to the La Grande hydroelectric complex and as such, is well equipped to provide emergency services of all kinds.

### 5.4 Physiography

The topography of the project area is typical of the James Bay Taiga, characterized by a series of rounded elongated hills interspersed with shallow lakes and bogs (Figure 4). The hills are often aligned to form a number of parallel ridges which, in and near the study area, trend WSW, with summits reaching 100 m above the bottom of adjacent valleys. The valleys themselves vary considerably in width and are often occupied by marshes, small streams, or, when wide, lake-filled basins. Larger basins, most of which are probably structurally controlled, form the lakes occurring in the project area. Elevation on the property varies between 550 m and 700 m above sea level. Outcrops are plentiful in the northern and western part of the property, especially on hilltops, and get progressively scarcer going south.

The area is mostly covered by quaternary sediments. Hilltops and elevated areas are generally concealed by a thin veneer of undifferentiated glacial till, usually less than 1 m thick. Adjacent valleys generally include considerable accumulations of organic matter. The lack of relief in the southern part of the property suggests thick overburden (depth > 10 m).

The vegetation is consistent with typical taiga-type ecosystems. By far the most common tree species in the area is the Black Spruce (*Picea mariana*), followed by jack pine and less frequently, Tamarack. Birch and alder are usually found along creeks and streams. Various species of lichen are found with the most common being Caribou moss (Cladonia rangiferina). Most of the understory shrubs are in the Ericaceae, a family known to tolerate acid, infertile and flooded habitats: examples include Labrador tea, Sheep-laurel and Blueberry.

The fauna in the area consists mainly of black bear, otter, beaver, wolf, moose, muskrat, partridge, ptarmigan, various types of jays, sparrows, geese, ducks, various small rodents and many other species typical of the taiga forests. Caribou is sometime present in the area, usually during the migration period (December to March). Speckled and lake trout, as well as pike, walleye, whitefish and carp abound in lakes and streams of the area.

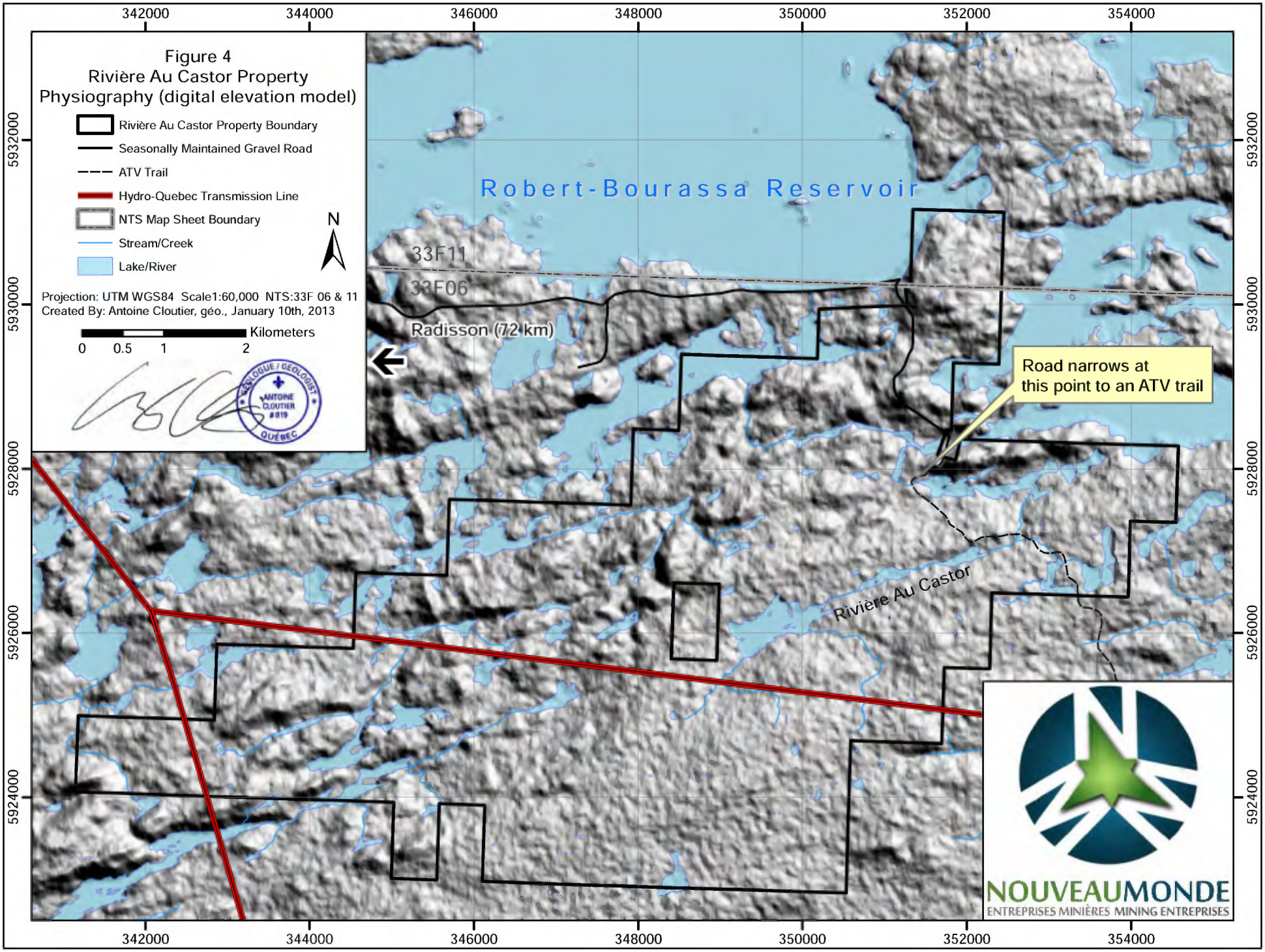
Figure 4
Rivière Au Castor Property
Physiography (digital elevation model)
Rivière Au Castor Property Boundary
Seasonally Maintained Gravel Road
ATV Trail
Hydro-Quebec Transmission Line
NTS Map Sheet Boundary
Stream/Creek
Lake/River
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
Kilometers
0 0.5 1 2
GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
#819
QUÉBEC
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
Robert-Bourassa Reservoir
33F11
33F06
Radisson (72 km)
Road narrows at
this point to an ATV trail
Rivière Au Castor
NOUVEAUMONDE
ENTREPRISES MINIÈRES MINING ENTREPRISES

# 6. HISTORY

## 6.1 Previous Ownership

Previous owners of mining titles within the Rivière au Castor property (or parts of the property) are illustrated on Figure 5. Of the owners listed, only Ressources Minières Pro-Or Inc. (or "Pro-Or") and Ressources Dianor Inc. (or "Dianor") reported work over the Rivière au Castor property. Other exploration and geoscientific work was also performed by the Quebec government and companies such as Soquem Inc. (or "Soquem") , but neither held mineral rights within the Rivière au Castor property.

## 6.2 Historical Mineral Exploration

The earliest reported work on the property was preliminary geological mapping performed by the Geological Survey of Canada (or "GSC") in 1957 (Eade *et al.*, 1957). The earliest mineral exploration work dates from 1972. From 1972 to 1975, an extensive regional campaign of geoscientific investigations and exploration was performed, covering an area of over 40,000 $km^2$. This campaign was initiated because of the construction of the massive La Grande hydroelectric complex whose consequence was the flooding of large areas in the process of creating a series of reservoirs, namely the La Grande-1 thru La Grande-4 reservoirs. Numerous mapping, prospecting, rock sampling and lake bottom sediment sampling programs, as well as radiometric, magnetic and electromagnetic airborne surveys were carried-out by the Société de Développement de la Baie-James (or "SDBJ"), along with other partners and subcontractors. Most of the reports pertaining to the regional study of the James Bay area do not go into much detail, nor do they suggest significant results were obtained over the area covered by the Rivière au Castor property. The author did not deem necessary to summarize most of these reports (most are under the GM 30000 series) in detail since they are considered too broad of scale to properly assess the potential of the Rivière au Castor property. Other companies later staked claims in the area for diamond exploration (Dianor) while the presence of nearby ultramafic related mineralization attracted a few additional players (Pro-Or, Soquem). Although many anomalous results were obtained with little effort on the property, no major discoveries were made to date.

## 6.3 Summary of Historical Work Reports

A large amount of historical work performed over the Rivière au Castor property perimeter was reviewed by the author. In total, 55 relevant reports were found to cover parts or the complete area composing the property (Table 3). Only the most significant historical reports were retained and summarized by the author in this section. All the historical information used for the preparation of this section was obtained from the E-SIGEOM online system managed by the MRNF. If mentioned, it is important to note that historical resources detailed in these reports might not be compliant with the NI43-101 standard. It should be expected that the geographical information from these historical reports be somewhat imprecise and inaccurate to a certain degree.

**Table 3. Rivière au Castor historical exploration and geoscientific report list from E-SIGEOM.**

| Report | Published Year | Title |
|---|---|---|
| GM 34000 | 1972 | EVALUATION DU POTENTIEL MINIER DU BASSIN DE LA BAIE JAMES |
| GM 34040 | 1973 | RAPPORT DU TRAVAIL SUR LE TERRAIN, FONDS DE LACS, LA GRANDE RIVIERE |
| GM 34041 | 1973 | LAKE SEDIMENT GEOCHEMISTRY, LA GRANDE RIVIERE PROJECT |
| GM 34043 | 1973 | RELEVES DE FONDS DE LACS, PROJET LA GRANDE RIVIERE 73 |
| DP 221 | 1974 | LA GRANDE RIVER AREA (1973 PROJECT), NEW QUEBEC TERRITORY - INTERIM GEOLOGICAL REPORT |
| GM 34002 | 1974 | SUMMARY REPORT ON MINERAL RESOURCE STUDIES IN THE JAMES BAY REGION |
| GM 34042 | 1974 | GEOCHEMICAL REPORT ON A LAKE SEDIMENT SURVEY OF LA GRANDE RIVIERE AREA |
| GM 34044 | 1974 | LAKE SEDIMENT GEOCHEMISTRY |
| GM 34001 | 1975 | ETUDE DE LA GEOLOGIE ET DU POTENTIEL MINERAL DU TERRITOIRE DE LA BAIE-JAMES |
| GM 34045 | 1975 | GEOCHEMICAL REPORT ON A LAKE SEDIMENT SURVEY OF LA GRANDE RIVIERE-SAKAMI LAKE AREA, APRIL 1975 |
| GM 34046 | 1975 | GEOCHEMICAL REPORT ON A LAKE SEDIMENT SURVEY, BEREZIUK LAKE, EASTMAIN RIVER AND RUPERT RIVER AREAS |
| GM 34084 | 1975 | SEDIMENTS DES LACS |
| GM 34085 | 1975 | SUMMARY REPORT OF GEOCHEMICAL SURVEYS |
| GM 34087 | 1975 | DESCRIPTION OF THE GEOLOGICAL UNIT, TAKEN FROM THE PRELIMINARY GEOLOGY REPORTS |
| GM 34094 | 1975 | PRELIMINARY REPORT, LONG LAKE AND DUNCAN LAKE SECTORS |
| GM 34096 | 1975 | PETROGRAPHIE, STRATIGRAPHIE |
| GM 34097 | 1975 | ANALYSE TECTONIQUE |
| GM 34098 | 1975 | HISTOIRE GEOLOGIQUE |
| GM 34099 | 1975 | PHOTOGEOLOGIE MAGNETISME |
| GM 34100 | 1975 | ETUDE PETROGRAPHIQUE, PROJET SES |
| GM 34102 | 1975 | CARTE GEOLOGIQUE 75 |
| GM 34107 | 1975 | RELEVES AEROPORTES |
| GM 34117 | 1975 | RAPPORT PROSPECTION CHIEN DE CHASSE |
| GM 34125 | 1975 | RAPPORT SUR UN MODELE GEOLOGIQUE POSSIBLE APPLICABLE A LA ZONE COUVERTE PAR LE PERMIS S E S |
| GM 34128 | 1975 | INTERPRETATION REPORT ON AN AIRBORNE GEOPHYSICAL SURVEY IN THE JAMES BAY AREA |
| GM 50002 | 1975 | GEOCHEMICAL REPORT ON A LAKE SEDIMENT SURVEY OF LA GRANDE RIVER - SAKAMI LAKE AREA |
| GM 50026 | 1975 | LEVES GEOLOGIQUES D'UNE PARTIE DE LA PROPRIETE DU GROUPE MINIER S E S, CAMPAGNE 75 |
| GM 34047 | 1976 | 126 PLANS D'UN LEVE GEOCHIMIQUE (SEDIMENTS DE LAC), REGION DU LAC BEREZIUK, RIV. EASTMAIN ET RIV. RUPERT |
| GM 34114 | 1976 | RAPPORT SUR LA PHOTO-INTERPRETATION DE LA PARTIE SUD DU PERMIS (NON CARTOGRAPHIEE) |
| GM 34118 | 1976 | RAPPORT DE SYNTHESE DES TRAVAUX 1975 |
| GM 34129 | 1976 | INTERPRETATION REPORT ON AN AIRBORNE GEOPHYSICAL SURVEY IN THE JAMES BAY AREA |
| DPV 455 | 1977 | ATLAS GEOCHIMIQUE DES SEDIMENTS DE RUISSEAU: LA GRANDE RIVIERE |
| DPV 456 | 1977 | DONNEES BRUTES DE L'ECHANTILLONNAGE DES SEDIMENTS DE RUISSEAUX DE LA GRANDE RIVIERE (see DPV-455) |
| RG 184 | 1977 | REGION DE LA GRANDE RIVIERE |
| GM 38000 | 1978 | LEVE GEOCHIMIQUE DES SEDIMENTS DE LAC |
| GM 37017 | 1979 | RAPPORT DE SYNTHESE DU PERMIS SES |
| DPV 940 | 1983 | CATALOGUE DES GITES MINERAUX: REGION DE LA BAIE JAMES |
| GM 48591 | 1989 | RAPPORT GEOLOGIQUE, LAC MENARIK |
| GM 49087 | 1989 | DIGHEM IV SURVEY, PROJECT RADISSON - 1241 |
| FG 033F - CL | 1990 | CARTE DE LOCALISATION DES GITES MINERAUX 033F |
| MB 96-13 | 1996 | GEOLOGIE DE LA REGION DU LAC SAKAMI, SNRC 33F |
| GM 56368 | 1997 | RECONNAISSANCE GEOLOGIQUE (PROSPECTION ET CARTOGRAPHIE), PROPRIETE MENARIK-NORD |
| MB 97-30 | 1997 | CADRE GEOLOGIQUE, STYLE ET REPARTITION DES MINERALISATIONS METALLIQUES, LA GRANDE RIVIERE, BAIE JAMES |
| RG 98-16 | 1998 | GEOLOGIE DE LA REGION DU LAC KOWSKATEHKAKMOW (33F/06) |
| RG 98-17 | 1999 | GEOLOGIE DE LA REGION DE LA PASSE SHIMUSUMINU ET DU LAC VION (33F/11 ET 33F/12) |

| | | |
|---|---|---|
| MB 2000-13 | 2000 | GEOCHIMIE DES ROCHES VOLCANIQUES & FORMATIONS DE FER DU GROUPE YASINSKI, SOUS-PROVINCE DE LA GRANDE |
| GM 59908 | 2002 | CARTOGRAPHIE, PROSPECTION ET PROGRAMME D'ECHANTILLONNAGE DES BLOCS DU SNRC 33F PARTIE SUD |
| GM 61565 | 2003 | RAPPORT SUR LA CAMPAGNE D'EXPLORATION, PROJET EM-BAIE (1320) |
| DP-2006-04 | 2006 | DONNEES NUMERIQUES DES LEVES GEOPHYSIQUES AEROPORTES, TRAVAUX STATUTAIRES - OPATICA-LA GRANDE |
| PRO 2007-06 | 2007 | EXPLORATION TARGETS FOR OROGENIC GOLD DEPOSITS - JAMES BAY REGION |
| EP 2008-02 | 2008 | ASSESSMENT OF THE POTENTIAL FOR OROGENIC GOLD DEPOSITS IN THE BAIE-JAMES REGION |
| PRO 2008-04 | 2008 | EXPLORATION TARGETS FOR PORPHYRY CU-AU±MO DEPOSITS, JAMES BAY REGION |
| EP 2009-02 | 2009 | ASSESSMENT OF THE POTENTIAL FOR PORPHYRY CU-AU ± MO DEPOSITS IN THE BAIE-JAMES REGION |
| CG SIGEOM33F | 2010 | CARTE(S) GÉOLOGIQUE(S) DU SIGEOM - feuillet 33f |
| DP 2010-06 | 2010 | LEVE MAGNETIQUE AEROPORTE DANS LE SECTEUR SUD DE RADISSON, TERRITOIRE DE LA BAIE-JAMES, QUEBEC |
| GM Pending | 2013 | HELIBORNE, MAGNETIC AND TDEM SURVEY, RIVIÈRE AU CASTOR PROPERTY, JAMES BAY AREA, QUÉBEC |

In the following summaries, historical reports are listed in chronological order, starting with the earliest reports. The GM number, or other E-SIGEOM designation, is given for ease of reference use.

**1957.**
Eade, K E, Heywood, W W. Lee, H A. *Preliminary Map, 23-1957, Sakami Lake Area, New Quebec.*
This is the first detailed geological map of the area. It was produced by the Geological Survey of Canada (or "GSC"). The geology was mapped at a scale of 1: 506,880 (one inch to 8 miles).

**1972.** GM 34000
Caron, Dufour, Séguin & Assocs.(Company) *Evaluation du potentiel minier du bassin de la Baie James.*
This report summarizes historical work and proposes prospecting, mapping, sampling and interpretation work over and around an area which was expected to be flooded due to the construction of a number of hydroelectric and retaining dams on the Fort George River (now known as La Grande river) hydrographic basin. This study area covers the Rivière au Castor property although no specific information is given over the area covered by the property itself. This study was mandated by the Société de Développement de la Baie James (or "SDBJ") which was charged with the development of natural resources in the area. This is the first of numerous reports pertaining to the assessment of the Fort George (La Grande) River hydrographic basin prior to the planned flooding.

**1973.** GM 34043
Martin, L., Bonneau, J., Gleeson, C F. *Relevés de fonds de lacs, projet La Grande Rivière 73.*
This report contains compilation maps of results from lake bottom sediment surveys performed in the James Bay area by the SDBJ. A total of 2431 samples were collected across an irregular area measuring approximately 330 km by 90 km. The samples were analysed for As, Cu, Co, Fe, Mn, Mo, Ni, Pb, U, and Zn. The 3rd map shows a Cu residual anomaly over the Rivière au Castor property where approximately a dozen samples were collected. The anomalous region is but one of many identified by this geochemical survey. Other documents presenting data related

to this survey such, as logistics, statistics and results, can be found in GM 34040, GM 34041 and GM 34042.

**1974.** GM 34047
Gleeson, C F., *126 Plans d'un levé géochimique (sédiments de lac), région du lac Bereziuk, Rivière Eastmain et Rivière Rupert.*
This report summarizes the 1973 and 1974 lake bottom sediment sampling campaigns. The area covered in 1973 (GM 34047) was further expanded in 1974 when an additional 8100 lake bottom sediment samples were collected over approximately 40,000 $km^2$. The resulting maps suggest that the Rivière au Castor area shows anomalous Cu results. Other documents related to this survey such as logistics, statistics and laboratory results can be found in GM 34044, GM 34045 and GM 34046.

**1975**. DPV 455
Cockburn, G H. *Atlas géochimique des sédiments de ruisseaux : La Grande Rivière*
Between 1973 and 1975, a regional geochemical stream sampling campaign was performed for the SDBJ to cover the area to be flooded by the damming of the La Grande River. A total of 11,750 samples were collected over an area totaling approximately 5850 $km^2$. Analysis for U, Cu, Zn, Pb, Ni, Co, Mn, V, Cr, Ba, Li, Mo, Cs, Sn and Ag were performed on the samples. The area covered by the Rivière au Castor property shows an elevated background in Cu and Mg. Sample location and individual results are available in DPV 456.

**1978.** GM 38000
SDBJ, *Levé géochimique des sédiments de lac*
This set of maps show a compilation of the 1973 (GM 34043), 1974 (GM 34047) and 1978 lake bottom sampling campaigns and confirms the presence of a Cu anomaly over the Rivière au Castor property.

**1975.** GM 50026
Dupuis, J-C., Oakes, B W., *Levés géologique d'une partie de la propriété du groupe minier SES, campagne 75.* Geological mapping by the SES group (Soquem Inc. Eldorado and SERU) on a 1:50,000 scale. Among the area covered is the Rivière au Castor property on NTS maps 33F/06 and 33F/11.

**1988.** GM 48591
Virolle, F. *Rapport géologique, Lac Ménarik.*
Ressources MSV Inc. mandated Mr. Virolle (author of report GM 48591) to conduct a brief visit to the Ménaric property which covered part of the eastern portion of the Rivière au Castor property (Figure 5). The author concluded that the property has never been properly assessed and recommended further compilation work to be followed by geochemical soil sampling, geological and induced polarization surveying on the most promising areas. According to searches on the Gestim system, no further exploration work was performed on the property by Ressources MSV Inc.

**1997.** GM 56368

Dugas, M. *Reconnaissance géologique (prospection et cartographie), propriété Mérarik-Nord.*

Ressources Minières Pro-Or Inc.`s Ménarik-Nord property covered the Eastern part of the Rivière au Castor property (Figure 5). A total of 12 days were spent to assess the mineral potential of the Ménarik-Nord property by prospecting and the carrying-out of a 1:20,000 scale geological survey (Figure 6). A total of 24 km of line cutting was performed which delimited the claim boundaries. A total of 20 samples were collected within the limit of the Rivière au Castor property, including 16 sent for laboratory analysis. The best results were obtained for sample #707016 which returned 0.167 g/t Au, 0.5878% Cu and 0.0618% Ni. Most samples were only analyzed for Au while a few select samples were also analyzed for Ag, Cu, Zn, Pb, Ni, Pd and Pt. The author concluded that although no significant results were obtained, the mineralization observed within some of the ultramafic units, as well as in sheer zones is encouraging. Dugas recommended systematic magnetic and EM surveying, as well as geochemical soil or hummus sampling and a compilation of all available information on the property. According to searches on the Gestim system, no further exploration work was performed on the property by Pro-Or.

**1998.** RG 98-16

Goutier, J. *et Al. Géologie de la région du Lac Kowskatehkakmow (33F/06).*

The MRNF began an extensive geological mapping program in the James Bay area covering NTS sheets 33F/03, 04, 05, 06, 11, and 12. Mapping was initiated in 1996 and completed in 1997. The geological mapping was performed on a 1: 50,000 scale and it details the geological units, the stratigraphy and the structural geology, with an emphasis on known and potential deposit types encountered in the region. This particular report covers the 33F/06 NTS sheet on which most of the Rivière au Castor property lies. The mapped geological units are illustrated on Figure 9.

**1998.** RG 98-17

Goutier, J. *et Al. Géologie de la région de la Passe Shimusuminu et du lac Vion (33F/11 et 33F/12).*

This report summarizes the 1996-97 geological mapping campaign (see report RG 98-16) on NTS map sheets 33F/11 and 12, with the former covering the northern portion of the Rivière au Castor property. The mapped geological units are illustrated on Figure 9.

**2001.** CG SIGEOM33F

Goutier, J., Ouelette, M-C. *Carte géologique du SIGEOM, Feuillet 33F*

Geology of the NTS map sheet 33F area. This is a compilation map of all 1:50,000 scale geological maps available for the NTS 33F series (33F/01 to 33F/16). It includes both stratigraphic and lithological units.

**2002.** GM 59908

Canova, E. *Cartographie, prospection et programme d'échantillonnage des blocs du SNRC 33F, partie sud.*

This report details a diamond exploration campaign carried out on numerous claim blocks owned by Ressources Dianor Inc. The goal of the campaign was to identify and sample

potential diamond bearing ultramafic rocks, such as pyroxenites, lamprophyres etc., which were previously mapped by the MRNF on NTS map sheet 33F. Three claim blocks labeled 33F06-3, 33F06-4 and 33F06-5, and totaling seven (7) claims fall unto the Rivière au Castor property. A total of two days were spent on these blocks, resulting in the collection of 24 samples. Although these samples did not return any significant results, the author reports that according to his observations, the Yasinski volcanic Group, with an assemblage of volcanic units ranging from felsic volcanics to mafic volcanics, has the potential to host VMS-type mineralization, with an emphasis on blocks 33F06-4 and 33F06-5.

**2003.** GM 61565
Lavoie, S. *Rapport sur la campagne d'exploration, Projet EM-Baie (1320).*
The report summarizes a preliminary field campaign performed by Soquem (which was in partnership with INCO Ltd) in the James Bay area, including work performed on the Rivière au Castor property. Prospecting work was initiated to follow-up airborne magnetic and electromagnetic surveys performed by INCO over a vast area (these surveys were kept confidential by INCO, they do not appear in the assessment report database E-SIGEOM). A compilation of the INCO airborne survey results combined with the lake bottom sediment surveying and geological data from the MRNF were used to define seven targets. One of these targets, the "Chapus West" area, covers the eastern part of the Rivière au Castor property. It appears that no claims were staked from the work on this target. A total of two days was spent in the area by Soquem, resulting in the collection of 45 grab samples. The best reported results were as follows: 4.32% Cu (sample #148894, noted as being a 2 cm quartz vein), 1200 ppm Ni (sample #148887), 0.116 g/t Au and 580 ppm Zn (sample #148174). The report concludes that results were sub-economic and did not recommend any further work in this area. Significant results are displayed on Figure 6. No follow-up work was performed.

**2007.** PRO 2007-06
Lamothe, D. *Exploration Targets for Orogenic Gold Deposits, James Bay Region.*
This document presents the preliminary results of an assessment of the gold potential of the James Bay region. It covers a total of 24 NTS sheets at the 1:50,000 scale, including the Rivière au Castor property. Data processing of 28 geological parameters from Quebec`s geomining information system E-SIGEOM using "hybrid fuzzy logic" was used to create a potential map. This technique measures the probability of special association between each of the 28 parameters and a set of 71 orogenic gold deposits within the study area. On the resulting map, the Rivière au Castor area is labelled as target F6-7 and is one of 102 exploration targets of high favourability in a then unstaked portions of the study area.

**2009.** EP 2009-02
Lamothe, D. *Assessment of the Potential For Porphyry Cu-Au ± Mo Deposits In The James Bay Region.*
The purpose of the study was to determine the location of highly-favourable areas for porphyry Cu-Au ± Mo deposits in the James Bay region using a multitude of various weighed parameters. The study area covers a total of 12 NTS map sheets at the 1:250,000 scale. The integration of public geodata using a "hybrid Fuzzy Logic" approach to processing led to the creation of a

reliable favorability map. On the resulting map, the Rivière au Castor area is labelled as target F6-4 and is one of 198 exploration targets of high-favourability in then unstaked portions of the study area.

**2010.** DP 2010-06
D'Amour, I., *Levé magnétique aéroporté dans le secteur sud de Radisson, territoire de la Baie-James, Québec.*
A large airborne magnetic survey was performed by the MRNF in 2009-2010. It covered a total of 13 NTS sheets at the 1:50,000 scale, including sheets 33F06 and 33F11 where the Rivière au Castor property lies. Lines were flown N-S at 250 m intervals using fixed-winged aircraft equipped with cesium vapor magnetometers with 0.005 nT sensibility. The survey was performed for the MRNF by Geo Data Solution Inc. Both a paper copy and digital data from this survey are available on the SIGEOM application for a minor fee.

**2012.** GM Pending
Dubé, J., *Heliborne, Magnetic and TDEM Survey, Rivière au Castor property, James Bay Area, Quebec, 2012.*
This report summarizes a helicopter-borne magnetometer and time domain electromagnetic survey performed in 2012 for Nouveau-Monde. The survey totaled 568 line km over the Rivière au Castor property. It covers most of the property, with the exception of the western portion. Flight-lines were flown at 100 m interval in a N-S direction. Details of this survey are further discussed in Section 9 of this report.

**Table 4. Historical significant grab sample results.**

| Sample | Year | Company | Anomalous Results | Reference |
|---|---|---|---|---|
| 148894 | 2003 | SOQUEM Inc. | 4.32% Cu, 61 g/t Ag | GM 61565 |
| 148174 | 2003 | SOQUEM Inc. | 0.116 g/t Au | GM 61565 |
| 148887 | 2003 | SOQUEM Inc. | 0.12% Ni | GM 61565 |
| 148881 | 2003 | SOQUEM Inc. | 0.12% Cu | GM 61565 |
| 148882 | 2003 | SOQUEM Inc. | 0.12% Cu | GM 61565 |
| 707016 | 1997 | Ressources minières Pro Or inc. | 0.17 g/t Au, 0.59% Cu | GM 56368 |
| 707020 | 1997 | Ressources minières Pro Or inc. | 0.15% Cu | GM 56368 |
| 708215 | 1997 | Ressources minières Pro Or inc. | 0.36% Cu | GM 56368 |
| 96-JG-1331 | 1996 | MRNF | 45.81% Fe, 5.44% Ti, 0.33% V, 0.24% Cu | RG 98-16 |

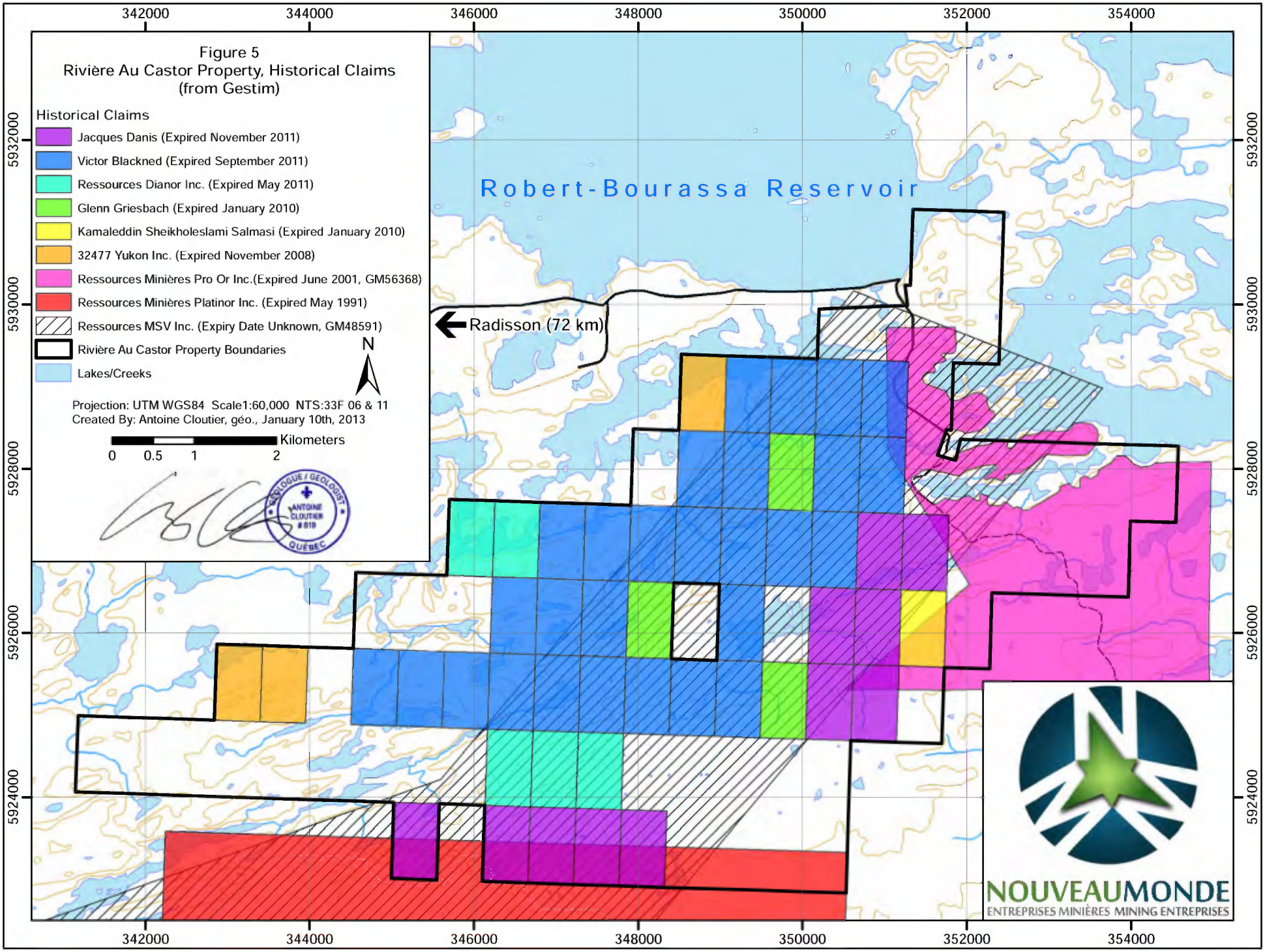
Figure 5
Rivière Au Castor Property, Historical Claims
(from Gestim)
Historical Claims
Jacques Danis (Expired November 2011)
Victor Blackned (Expired September 2011)
Ressources Dianor Inc. (Expired May 2011)
Glenn Griesbach (Expired January 2010)
Kamaleddin Sheikholeslami Salmasi (Expired January 2010)
32477 Yukon Inc. (Expired November 2008)
Ressources Minières Pro Or Inc.(Expired June 2001, GM56368)
Ressources Minières Platinor Inc. (Expired May 1991)
Ressources MSV Inc. (Expiry Date Unknown, GM48591)
Rivière Au Castor Property Boundaries
Lakes/Creeks
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
Kilometers
0 0.5 1 2
GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
#819
QUÉBEC
Robert-Bourassa Reservoir
Radisson (72 km)
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
NOUVEAUMONDE
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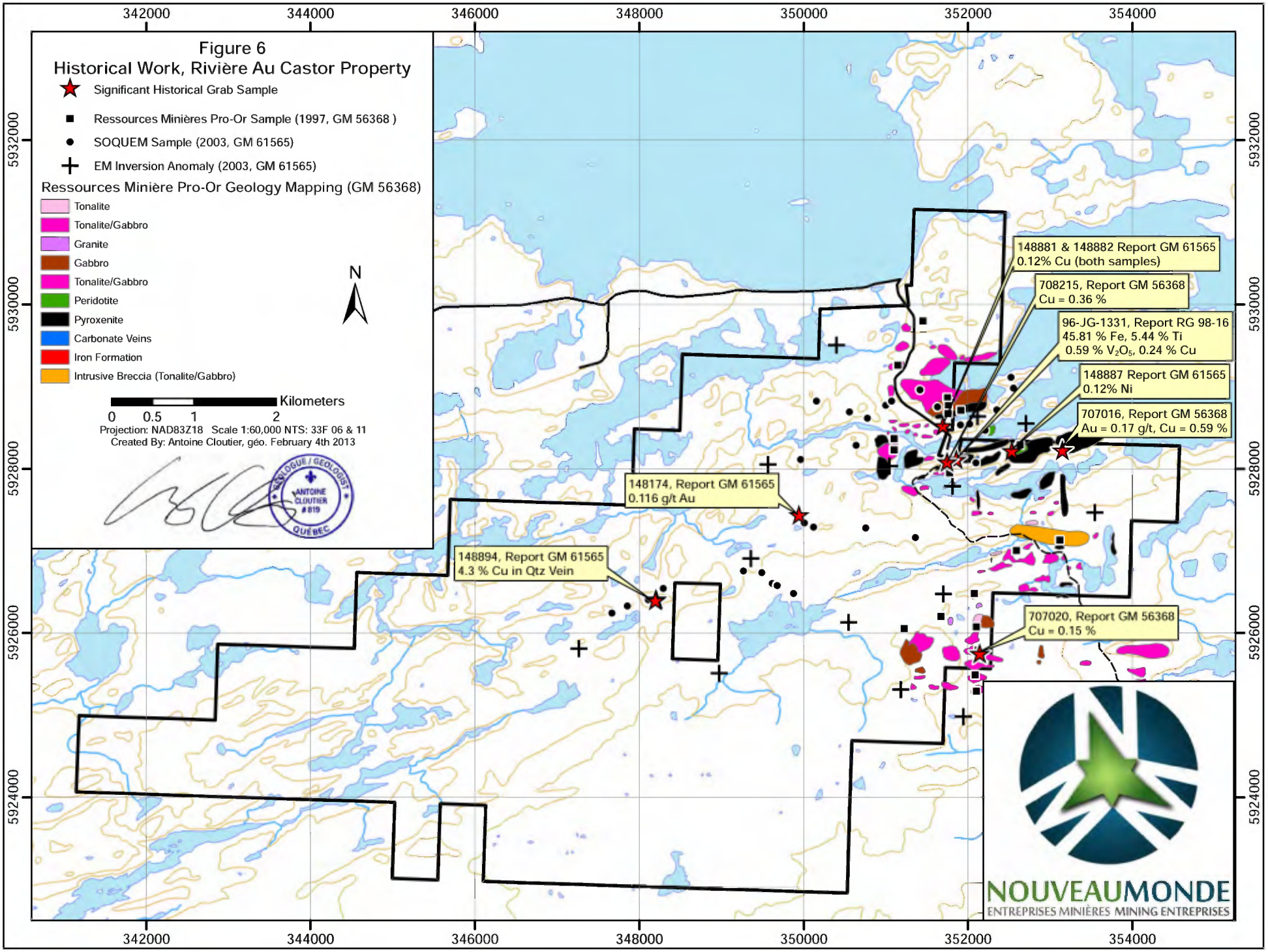
Figure 6
Historical Work, Rivière Au Castor Property
Significant Historical Grab Sample
Ressources Minières Pro-Or Sample (1997, GM 56368 )
SOQUEM Sample (2003, GM 61565)
EM Inversion Anomaly (2003, GM 61565)
Ressources Minière Pro-Or Geology Mapping (GM 56368)
Tonalite
Tonalite/Gabbro
Granite
Gabbro
Tonalite/Gabbro
Peridotite
Pyroxenite
Carbonate Veins
Iron Formation
Intrusive Breccia (Tonalite/Gabbro)
N
Kilometers
0 0.5 1 2
Projection: NAD83Z18 Scale 1:60,000 NTS: 33F 06 & 11
Created By: Antoine Cloutier, géo. February 4th 2013
GEOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
# 819
QUÉBEC
148881 & 148882 Report GM 61565
0.12% Cu (both samples)
708215, Report GM 56368
Cu = 0.36 %
96-JG-1331, Report RG 98-16
45.81 % Fe, 5.44 % Ti
0.59 % V2O5, 0.24 % Cu
148887 Report GM 61565
0.12% Ni
707016, Report GM 56368
Au = 0.17 g/t, Cu = 0.59 %
148174, Report GM 61565
0.116 g/t Au
148894, Report GM 61565
4.3 % Cu in Qtz Vein
707020, Report GM 56368
Cu = 0.15 %
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
NOUVEAUMONDE
ENTREPRISES MINIÈRES MINING ENTREPRISES

## 7. GEOLOGICAL SETTING AND MINERALIZATION

Geological information presented in this section is mostly derived from the MRNF's more recent work in the area as presented in reports RG 98-16 (Goutier *et al.*, 1998), RG 98-17 (Goutier *et al.,* 1999) and MM 94-01 (Hocq *et al.,*1994). More specific information on the local geology has also been derived from historical exploration campaigns presented in Section 6 and from the author`s observations on the field.

### 7.1 Regional Geology

The Rivière au Castor property is located within the central part of the geological region known as the Superior Province which constitutes the heart of the Canadian Shield. The Superior Province covers about 630,000 $km^2$ and is mostly composed of various Archean terranes dated at $\leq$ 2.90 Ga to 2.65 Ga. This province is bounded to the north and the east by the Trans-Hudsonian Orogeny (Churchill province). The Grenville front, a major Proterozoic tectonic structure, bounds the Superior Province to the southeast. The south of the Superior Province is limited by the Southern Province and the Keweenaw continental rift (Hocq *et al.,* 1994; MM 94-01). The Superior Province can be divided into a number of sub-provinces whose limits are more or less obvious. Various aspects, such as significant lithological, metamorphic, structural and geochronological contrasts are used to differentiate between the subprovinces. In 2012, the MRNF published an updated geological map of the province of Québec at a 1:2,000,000 scale (Thériault *et al.*, 2012; DV 2012-06). It separates the Province of Québec in nine geological subprovinces. The Rivière au Castor property lies over the western portion of the volcano-plutonic La Grande Subprovince (Figure 7).

The La Grande Subprovince is mostly composed of intrusive rocks such as tonalites, granites, ultramafics, gabbros and lamprophyres. Together, they compose over 70% of the lithologies encountered in this subprovince. Volcano-sedimentary assemblages make up about 20% of the area and tonalitic gneiss from the Langelier Complex constitutes the remaining 10%. Most rock units found in the La Grande Subprovince are Archean in age, with the exception of the Sakami Formation and of a number of gabbroic dykes, both formed during the Proterozoic (Goutier *et al.*, 1998; RG 98-16).

The oldest geological units in the area belong to the Langelier complex which is composed of three main units. The first and oldest unit is made up of tonalitic gneiss (2811 +/-2 Ma, Mortensen *et al.*, 1987). The second unit is a granoblastic diorite which occurs in discontinuous bands. The third, more conspicuous unit, is a foliated to gneissic hornblende-biotite tonalite (2788 -4/+3 Ma and 2794 +/-2 Ma. respectively, (Goutier et al., 1999; RG 98-18).

The Langelier complex is overlain by concordant to discordant volcano-sedimentary sequences which formed during the construction of the continental crust and are products of continental rifting episodes. The Apple Formation is a sedimentary sequence composed mostly of monomictic conglomerate lying unconformably over the Langelier Complex. This formation represents sediments typical of a stable platform environment. A concordant contact separates the Apple Formation from the overlying Yasinski Group. The latter is mostly composed of mafic volcanic units (tholeiitic basalts), with minor intermediate and felsic volcanics (Richer-LaFlèche *et al.,* 2000; MB 2000-13), wakes, polymictic conglomerates and iron formations. The

Shabudowan and Ekomiak Formations represent the upper volcano-sedimentary sequences in the area. These are mainly composed of polymictic conglomerate, sandstones and iron formations.

A series of igneous intrusions cross-cut the Langelier complex and the volcano-sedimentary sequences. The earliest of these events is represented by the Duncan intrusions (composed of monzonite, monzodiorite, diorite and tonalite) and the Amisach Wat pluton (made up of tonalite and diorite). These intermediate to felsic intrusions were followed by mafic to ultramafic intrusions of which the Menarik Complex and Chapus Bay are among the most prominent. During the Proterozoic eon, multiple gabbro dykes were injected thru the older units. Figure 8 summarizes the stratigraphy of the regional geology.

Metamorphism in the area varies from greenshist facies in the central part of the La Grande Subprovince to amphibolite facies approaching the Minto and Opinaca Subprovinces. The structural grain has a northeast to ENE orientation and is the result of three coaxial phases of deformation (Goutier *et al.*, 1998; RG 98-16).

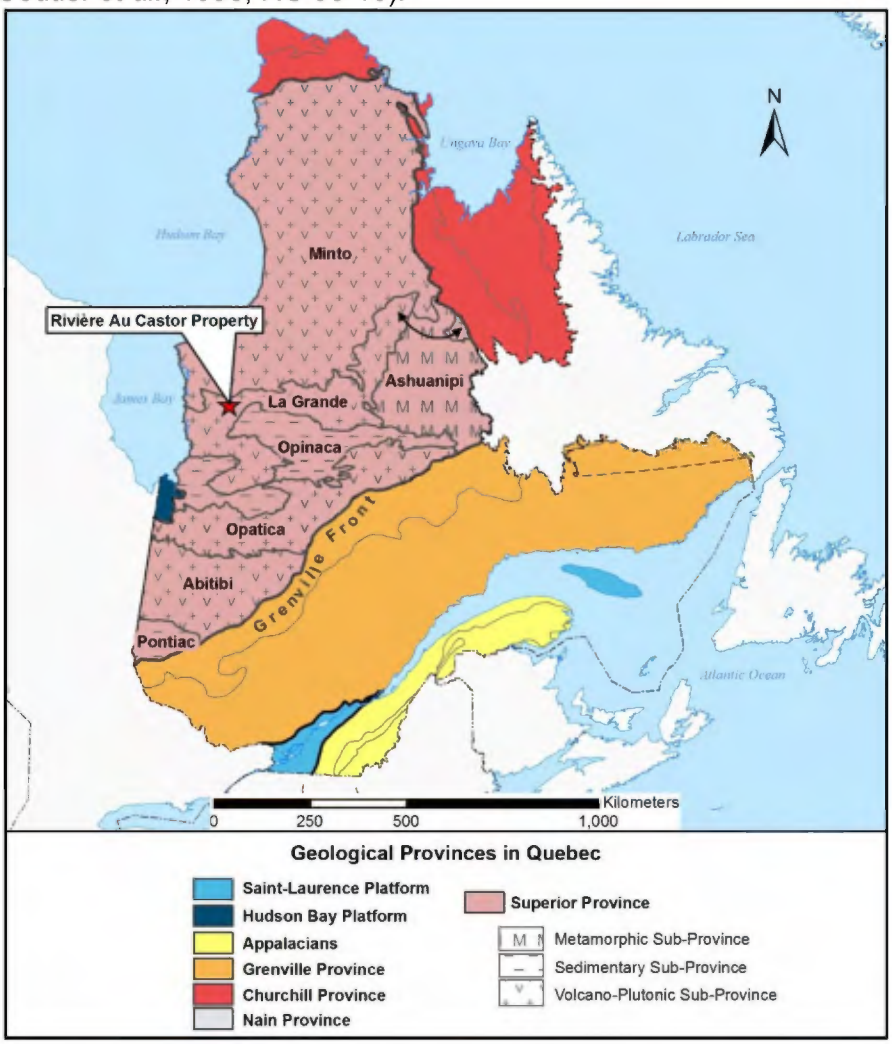


**Figure 7. Superior geological Province (modified from Simard, M *et al.*, 2008; MM 2008-02 and Thériault *et al.*, 2012; DV 2012-06).**

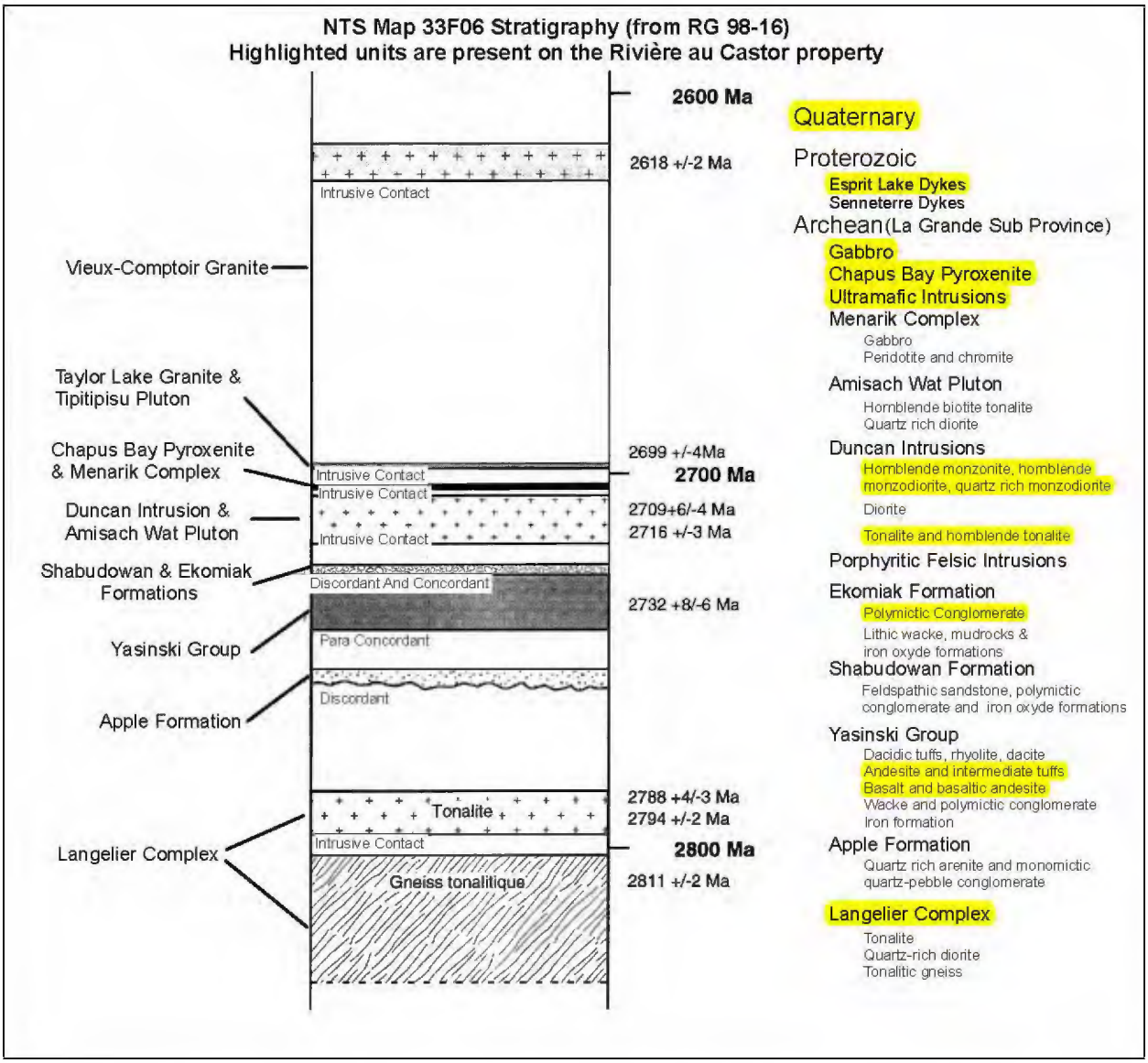


**Figure 8. Regional Stratigraphy of the Rivière au Castor area (modified from Goutier *et al.*, 1998; RG 98-16).**

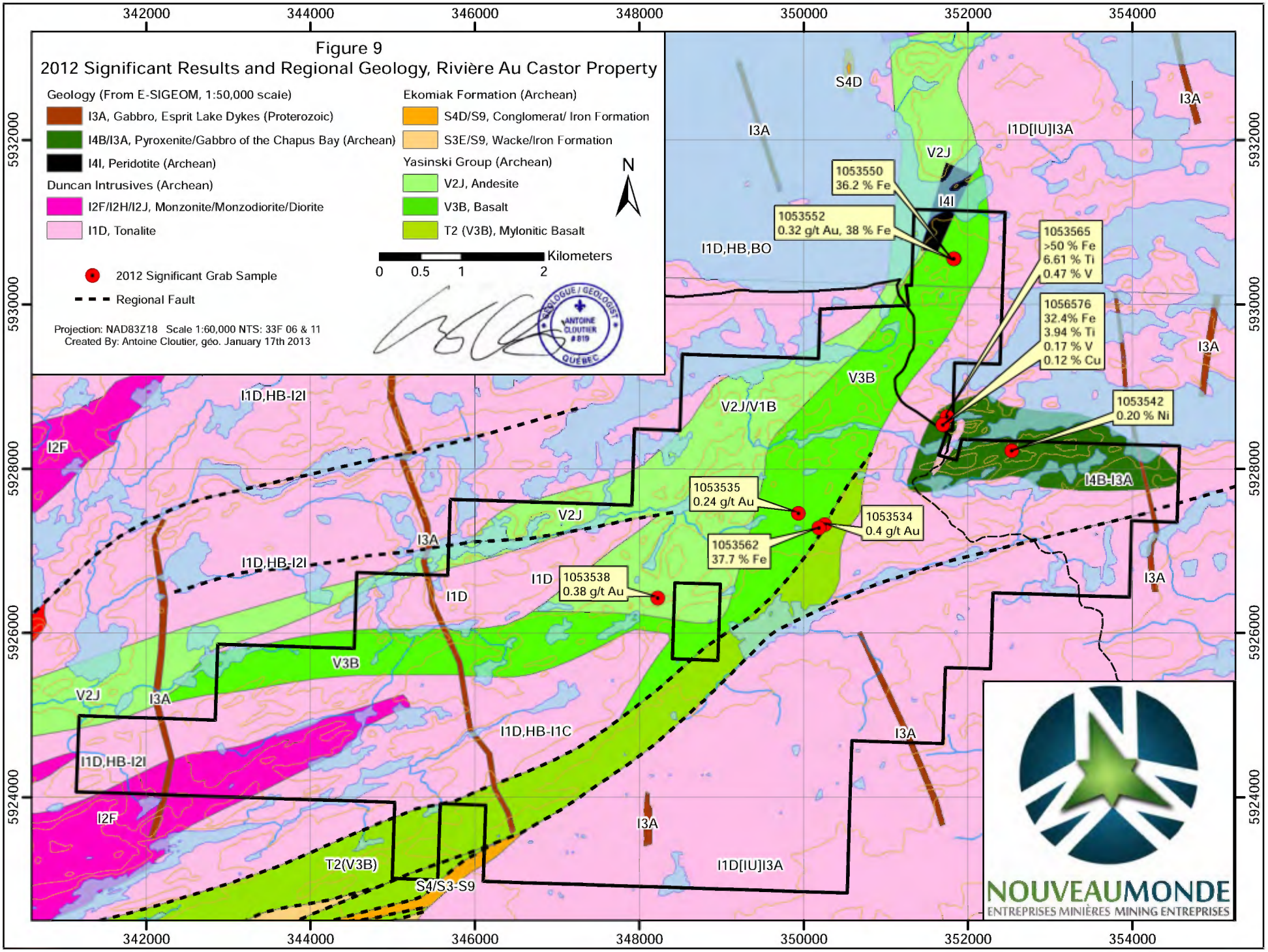
Figure 9
2012 Significant Results and Regional Geology, Rivière Au Castor Property
Geology (From E-SIGEOM, 1:50,000 scale)
I3A, Gabbro, Esprit Lake Dykes (Proterozoic)
I4B/I3A, Pyroxenite/Gabbro of the Chapus Bay (Archean)
I4I, Peridotite (Archean)
Duncan Intrusives (Archean)
I2F/I2H/I2J, Monzonite/Monzodiorite/Diorite
I1D, Tonalite
Ekomiak Formation (Archean)
S4D/S9, Conglomerat/ Iron Formation
S3E/S9, Wacke/Iron Formation
Yasinski Group (Archean)
V2J, Andesite
V3B, Basalt
T2 (V3B), Mylonitic Basalt
2012 Significant Grab Sample
Regional Fault
Kilometers
0 0.5 1 2
N
Projection: NAD83Z18 Scale 1:60,000 NTS: 33F 06 & 11
Created By: Antoine Cloutier, géo. January 17th 2013
GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
# 819
QUÉBEC
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
1053550
36.2 % Fe
1053552
0.32 g/t Au, 38 % Fe
1053565
>50 % Fe
6.61 % Ti
0.47 % V
1056576
32.4% Fe
3.94 % Ti
0.17 % V
0.12 % Cu
1053542
0.20 % Ni
1053535
0.24 g/t Au
1053534
0.4 g/t Au
1053562
37.7 % Fe
1053538
0.38 g/t Au
S4D
I3A
I1D[IU]I3A
V2J
I4I
I1D,HB,BO
V3B
V2J/V1B
I4B-I3A
I1D,HB-I2I
I2F
I1D
I1D,HB-I1C
T2(V3B)
S4/S3-S9
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## 7.2 Property Geology

The Rivière au Castor property is located in the northeastern sector occupied by the Yasinski Group volcano-sedimentary sequence. A 0.5 km to 2 km-wide band of basalt and andesitic volcanics belonging to the Yasinski Group runs SW-NE across the center of the property. The volcanic sequences are believed to have formed deep on the ocean floor since most of the units in this group are pillowed, display little to no vesicules and have little textural variation (Goutier *et al.*, 1998; RG 98-16). Due to the metamorphic grade and deformation of the volcanic units on the Rivière au Castor property, most of these observations were derived from less deformed areas to the south. The andesite units are distinguishable from the basalts due to their more developed porphyritic plagioclase texture, as well as their pale green weathering appearance as opposed to darker green for the basalt units. The author noticed traces of disseminated sulphide, mostly pyrite, in most of the mafic volcanic units observed during his site visits.

A small sliver of sedimentary rocks from the Ekomiak formation is mapped on the southern side of the property. The sediments are described as poorly sorted, polymictic, clast-supported conglomerates. The presence of massive conglomerate suggests deposition in a high-energy fluvial or alluvial environment.

More than half of the property lies over the Duncan intrusive suite which is composed of tonalite and monzonite and bounds the volcanic units to the NW and SE. This assemblage is mostly homogeneous and displays little deformation. The tonalites are pale grey to pink and weathering gives them a whitish appearance. They are composed of 40% to 50% plagioclase, 35% to 50% quartz and 1% to 15% mafic minerals, typically hornblende and biotite. A horblende monzonite unit is also present in the SW part of the property. Its appearance varies from pink to slightly green, depending on the amount of mafic minerals present.

A series of mafic and ultramafic bodies intrude the Rivière au Castor property. The Chapus Bay pyroxenite intrusion is the most prominent ultramafic intrusion found within the property and it covers the northeastern corner. According to the mapping carried out by the MRNF, the Chapus Bay pyroxenite is an oval-shaped body, striking E-W and measuring approximately 3 km by 1 km. It is the result of a series of pyroxenite, peridotite and gabbroic injections thru the Duncan tonalites. The pyroxenite is medium-grained, dark green to slightly bluish and mostly composed of clinopyroxene. Locally, a pegmatitic texture is observed where an accumulation of 5 cm to 70 cm of plagioclase and centimeter-sized pyroxene is observed (Goutier *et al.*, 1998; RG 98-16). Disseminated chalcopyrite is also visible locally. Gabbro dikes and peridotite xenoliths ranging from decimeter to meter in size are also observed. A small peridotite unit is present in the northern portion of the property. It displays a brown weathering color and is medium-grained. Primary minerals have mostly been altered to serpentine, chlorite, magnetite, talc and carbonate.

A few N-S and NNW-SSE striking Proterozoic dykes crosscut the older units across the property. They are dated at 2069 +-1 Ma (Goutier et al, 1998; RG 98-09). The gabbro is usually dark brown to green and fine to medium-grained. The dykes are considered to be part of the Lac Esprit swarm.

The property geology, as mapped by the MRNF and according to E-SIGEOM digital 1:50,000 scale maps, is displayed on Figure 9, along with the 2012 significant grab sample results.

Structural measurements by the MRNF show a well-developed NE-SW striking foliation present in the units forming the Yasinski Group. The foliation is steeply dipping and varies usually from the mid-70 degrees to vertical. The regional foliation's strike and dip were confirmed by the author during his site visits. The volcanic sequences are metamorphosed in greenschist to sometimes amphibolite facies.

Airborne magnetic surveying over the property by the MRNF (D'Amour, 2010; DP 2010-06) and by Nouveau-Monde (Figures 11 and 12) has returned local high magnetic values suggesting the presence of an iron formation within the center of the volcanic belt. This was also confirmed by the author who observed and sampled (samples 1053550, 1053552 and 1053562) iron-rich units displaying fine millimeter-scale bands of silica indicative of Algoma-type banded iron formations (or "BIF"). This unit of BIF is typical of the Yasinski Group, but does not appear on the MRNF geology map of the area.

The magnetic signature of the main gabbro dyke cutting across the western side of the property is fairly unusual due to the fact that it forms a magnetic-low on the airborne surveys. Gabbro is usually very magnetic due to its mafic nature. This suggests that some gabbro dykes in the sector could display remnant reverse magnetization resulting from the preservation of an older magnetic fabric (Halls, H.C., 2005). In some cases, the preserved fabric would result in such an anomaly.

The property was blanketed by glacial sediments during the last glaciation. The geomorphologic landscape is typical of the James Bay area, with a thin till veneer covering the hills and thickening in the valleys. The linear geometry, limited width and regular spacing between the crests of some moraines located on the property, especially visible on the southeastern side, suggest the emplacement of DeGeer moraines. These landforms are created in contact with large glacial lake or in coastal areas. This would be consistent with the observation by the author of fluvioglacial sediments in his southernmost traverse. Three ice directions were noted in the area, the oldest having a northwest orientation and the others a western and WSW orientation (Veillette, 1995).

### 7.3 Mineralization

Mineralized areas are known on the Rivière au Castor property. According to public historical assessment reports, 16 days were spent within the property area by mineral exploration crews (excluding work by Nouveau-Monde) actively searching for economic deposits. In spite of the small amount of work done over the property however, a number of significantly mineralized samples were collected (Figures 6 and 9).

Sample #96-JG-1331, collected by the MRNF during a mapping campaign, returned 45.81% Fe (65.5% $Fe_2O_3$), 5.44% Ti (9.07% $TiO_2$), 0.33% V (0.59% $V_20_5$) and 0.24% Cu. This grab sample, indicative of Fe-Ti-V type mineralization, was taken from a magnetite-rich metric horizon within

the Chapus Bay pyroxenite (Goutier *et al.*, 1998; RG 98-16). It is important to note that, according to the coordinates, this sample falls approximately 5 m outside the property boundary but is considered relevant by the author since most of the host rock is located within the property boundaries. Considering a reasonable margin of error of 25 m, it is possible that the sample was collected within the property. There is no indication about the exact width, length or attitude of this mineralized horizon.

Pro-Or also reported significant mineralization in the area (Figure 6) (Dugas, 1997; GM 56368). Sample #707016, collected on the eastern part of the Chapus pyroxenite, returned 0.17 g/t Au and 0.59% Cu. This sample is described as displaying trace amounts of malachite, azurite and was taken in a fracture zone. Another sample (#708215) collected over the Chapus Bay pyroxenite and associated with magnetite returned anomalous Cu values of 0.36%. Although Pro-Or collected a few samples over this ultramafic unit, only a few select base and precious metal assays were reported as being performed.

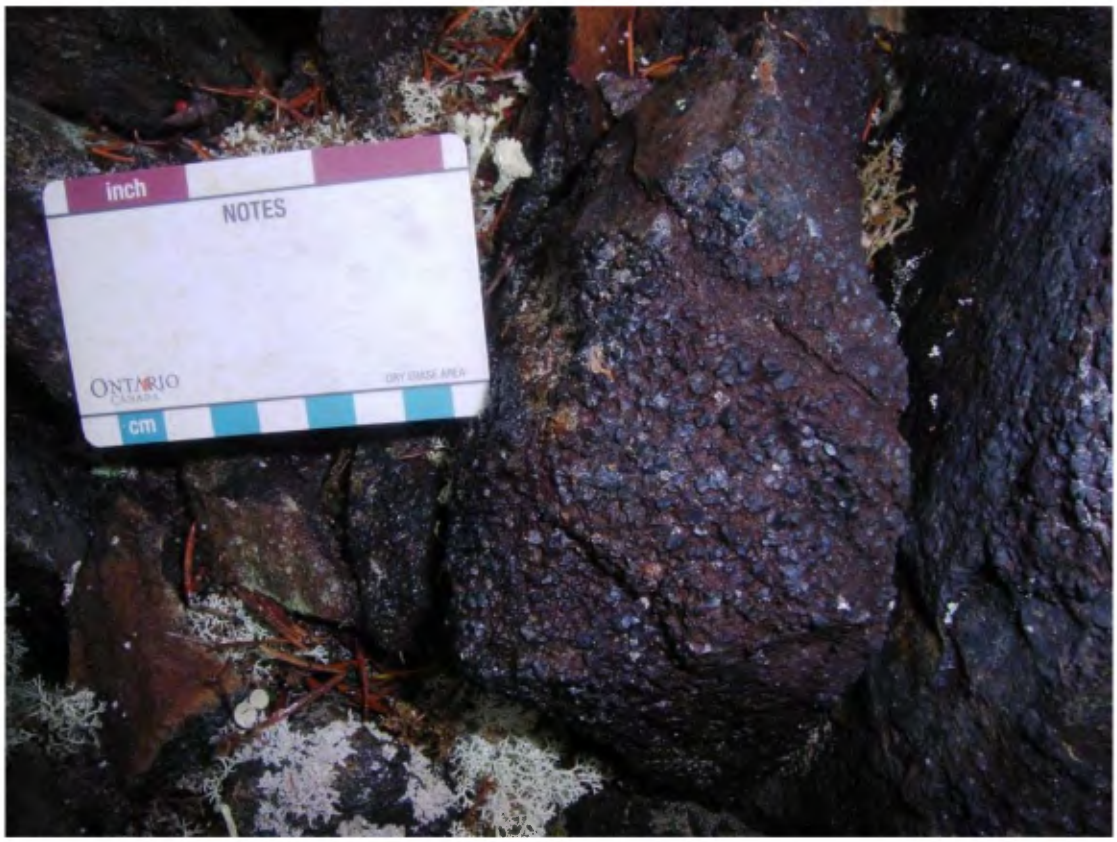
Soquem visited the area in 2003 (Figure 6) (Lavoie, 2003; GM 61565). They collected a few significant grab samples over the central and eastern part of the property. Sample #148894, reported as being taken from a 2 cm-wide quartz-clinopyroxene vein within a foliated mafic volcanic unit, returned 4.32% Cu and 61 g/t Ag. Attempts by the author to locate the sample area were unsuccessful. Soquem's sample #148174, collected in a rusty foliated volcanic unit displaying trace amounts of pyrite returned 0.116 g/t Au. Sample #148887, collected over the Chapus Bay pyroxenite returned 0.12% Ni and was associated with a sequence displaying massive magnetite. Samples #148881 and #148882, collected from quartz veins in proximity to the Chapus Bay pyroxenite, both returned 0.12% Cu. No dimensions of the mineralized areas were provided.

During the author's visits to the sites, a few selected grab samples collected in the volcanic units and ultramafic intrusions returned significant results. Sample #1053534, taken from a foliated mafic volcanic sequence representative of the area and displaying traces of pyrite, returned 0.399 g/t Au. Attempts to repeat these results by collecting an adjacent sample during the second site visit were unsuccessful. Sample #1053535, collected from a 20 cm wide rusty zone adjacent to a contact between felsic and mafic volcanics returned 0.235 g/t Au. This sample is believed to originate from the same mineralized zone as Soquem's sample #148174. Sample #1053538 returned 0.379 g/t Au. It is located on a rusty outcrop showing alternating felsic and mafic volcanic bands, close to where Soquem's Cu-rich sample #148894 was reportedly collected. Sample #1053552 was taken from a banded iron formation. The sample is fine - grained, highly magnetic, and contained about 3% pyrite and 10% quartz veins. This sample returned 0.32 g/t Au and 38% Fe. The iron formation here is visible over about 4 m wide, and forms decimetre- to meter-size bands alternating with a foliated volcanic unit and quartz veins.

Sample #1053542 was taken in the same area as Soquem's sample #148887 and confirmed the nickel mineralization, returning a value of 0.12% Ni. No attempts were made to delineate the mineralized zone. Samples #1053565 and #1053576 returned values of <50% Fe, 6.61% Ti, 0.471% V and 32% Fe, 3.94% Ti and 0.17% V, respectively. They confirm the presence of Fe-

Ti-V type mineralization obtained by the MRNF over the Chapus Bay pyroxenite (Goutier *et al.*, 1998; RG 98-16). Sample #1053565 displayed coarse grained magnetite (Photo 1) and both it and #1053576 sample were collected from what appears frost-heaved subcrop.

*Photo 1. Sample # 1053565 depicting coarse grained magnetite.*




The Rivière au Castor property is still at the early stage of exploration and the presence of gold, copper, nickel and Fe-Ti-V mineralization has already been confirmed. In this section, all samples reported from the property, both from historical and from more recent work, should be considered as selected grab samples. Further work is needed to confirm the extent of the mineralized zones found to date. It is also important to note that only a few areas located on the northeastern and central parts of the property were covered by prospecting and that other types of mineralization could exist on the property. These are further discussed in Section 8.

## 8. DEPOSIT TYPES

The economic geology of the 33F06 NTS sheet area was mainly assessed through the MRNF mapping campaign (Goutier *et al.*, 1998; RG 98-16). The MRNF's work in the area, as well as the author's field observations, have established the possibility of at least four main deposit types on the Rivière au Castor property, based on the known geological information and anomalous samples. The observed presence of iron formations suggests the possibility for Algoma-Type banded iron deposits and BIF-hosted gold deposit. This type of deposit can also

suggest the possibility for volcanogenic massive sulfide (or "VMS") deposits. Samples collected from the Chapus Bay pyroxenite demonstrate a potential for Fe-Ti-V, Ni and Cu magmatic-type deposits. The presence of anomalous gold and copper values in some samples could suggest the presence of Au-Polymetallic vein-type deposits.

### 8.1 Magmatic Fe-Ti-V and Ni-Cu Deposits

The presence of Fe-Ti-V, Ni- and Cu-mineralized samples from the Chapus Bay pyroxenite (see Section 7.3) suggests the possibility for magmatic-type deposits within the Rivière au Castor property.

Mafic to ultramafic late- to post-tectonic intrusions are possible host rocks for magmatic-type deposits which can display a variety of mineralization, such as Fe-Ti-V, Cu, Ni, Cr and platinum group elements (or "PGE"). These deposits occur in intrusive complexes which typically are emplaced at deeper levels in the crust. Progressive differentiation of liquids in residual magmas can lead to late-stage intrusions enriched in various elements. Due to their depositional nature, these deposits usually form lensoid, dyke-like or sill-like bodies. Typically, the massive material has sharp, cross-cutting contacts with its hosts. In layered deposits, individual layers range in thickness from centimetre to metre in size and may be followed up to several thousand metres. The mineralization can consist of ilmenite, titeniferous magnetite, magnetite, chromite, nickel and copper sulfides, as well as others. A few examples of these layered mafic/ultramafic Fe-Ti-V type and magmatic deposits include the Lake Doré Complex in Chibougamau, Quebec, the Windimurra Complex in Australia and the Bushveld Complex in South Africa.

Exploration methods for this type of deposit include detailed ground magnetic surveying (due to association of magnetite in Fe-Ti-V-type deposits), as well as induced polarization (or "IP") methods which can be useful in detecting disseminated or massive Ni, Cu sulfides. Since the Chapus Bay pyroxenite forms a positive relief with thin to no overburden cover, prospection can also be a valid exploration tool here.

### 8.2 Au and Polymetallic Vein-Type Deposit

Gold and Polymetallic vein-type deposits include a wide variety of deposit types such as; epithermal, orogenic, and mesothermal deposits, among others… These deposits all have a common general mode of formation. They form when hydrothermal fluids circulate within faults, fractures or other channels and precipitate their metallic contents due to pressure, temperature or chemical changes. Many valuable ore minerals, such as gold and silver, as well as metal sulphides, can be deposited along with gangue minerals such as quartz and/or calcite, in a vein structure. The hydrothermal fluids usually circulate due to the presence of an intrusive body or heat engine which enables the creation of convection cells. Vein-type deposits can form narrow tabular bodies occurring in faults, fractures or shear zones within the country rock where hydrothermal fluids are free to roam. The gold in solution may come either directly from the magma source or it may be leached out of the host volcanic rocks as the fluids travel through them (Norcross, C, 1997). Veins are usually concordant to the stratigraphy or tectonic grain and they are usually present in shear zones where the deformation is more intense. Due to their nature, vein- type deposits are relatively small in size and can be produce very high-grade

mineralization. Examples of vein type deposits include the Hollinger, Campbell, Red Lake, McIntyre as well as the Kirkland Lake camp.

Ground prospecting and systematic sampling are among the various exploration methods used to explore for vein-type deposits. Faults and shear zones should be targeted. The presence of certain elements in veins such as arsenic, antimony and bismuth can be used as pathfinders to gold. Special attention to minerals associated with hydrothermal activity such as epidote, as well as the presence of sulphides within veins can also be indicators of possible Au or polymetallic mineralization. Due to the limited amount of metallic minerals in vein-type deposits, magnetic and electromagnetic survey methods offer little direct exploration assistance. However, a broad regional induced polarization (or "IP") survey over the property could help in mapping fault and related structures associated with possible vein-type deposits.

### 8.3 Algoma-Type Banded Iron Formation and BIF Hosted Gold Deposits.

Algoma-type banded iron deposits consist of alternating millimetric to centimetric layers of dark blue to black magnetite and paler colored chert, wacke, sandstone or mudstone layers. They are usually interlayered and associated with volcanic or sedimentary units. Algoma-type deposits are formed by the deposition of iron and silica in colloidal size particles by chemical and biogenic precipitation processes. Their main constituents came from hydrothermal-effusive sources and were deposited in euxinic to oxidizing basin environments, in association with clastic and pelagic sediments, tuffs, volcanic rocks and a variety of clay minerals (Gross, 1996).

BIF-hosted gold deposits are generally thought to form by the reaction of auriferous and sulphur-bearing hydrothermal fluids with the iron oxide, or sulphide, in country rocks, causing precipitation of gold and sulphides (Wilton, D., 1998). The gold is present in quartz veins or the immediate wallrock, wherein the precipitation reactions occur. As such, the deposits are said to be stratabound because the specific chemical horizon responsible for gold precipitation is represented by a single sedimentary horizon. The Lupin and Musselwhite deposits in Canada are examples of BIF-hosted gold deposits.

The presence of an Algoma-Type banded iron formation has been noted on the property by the author and coincides with high magnetic values obtained from the 2012 airborne survey. Although the magnetic signature and field observations suggest that theses formations are too thin (mostly <3 m wide) to be of economic value for iron ore, they can play an important role for possible gold vein-type mineralization which is sometimes associated with this type of deposit. Sampling along the BIF is recommended; crosscutting and related veins should also be sampled for possible Au mineralization.

### 8.4 Volcanogenic Massive Sulfide-Type Deposit

The presence of Algoma-type mineralization on the Rivière au Castor property suggests the possibility for volcanogenic massive sulfide (or "VMS") type deposits. Algoma-type mineralization shares a similar formation environment to VMS deposits in that they both are a product of hydrothermal systems associated with submarine volcanic activity. VMS deposit form at, or near, the sea floor thru the focused discharge and subsequent precipitation of hot, metal-rich hydrothermal fluids (Galley *et al*, 2007). They can form clusters in rift or caldera settings, due to vast convection

cells created by large heat source(s). These deposits typically form sulfide-rich polymetallic lens-shaped bodies. Due to the hydrothermal nature of VMS deposits, they are usually associated with large alteration aureoles, or alteration pipes, displaying chloritization, sericitization and silicification of the host rocks. The immediate host rock can be sedimentary or volcanic such as the units observed on the Rivière au Castor property. VMS deposits are major sources of Zn, Cu, Pb, Ag and Au, and significant sources for Co, Sn, Se, Mn, Cd, In, Bi, Te, Ga and Ge. Some also contain significant amounts of As, Sb and Hg.

Due to their metal content, VMS-type deposit can be explored using various geophysical methods such as EM or IP. Although no operating VMS-type mines are found within the La Grande Subprovince, the geological environment does suggest their possibility.

## 9. EXPLORATION

### 9.1 Procedures/Parameters of Surveys and Investigation

All work performed on the property by Nouveau-Monde to date was carried out in 2012. During the author`s first site visit and property assessment on August 7$^{th}$, a total of nine grab samples was collected across the eastern and central part of the property. Some of these samples were taken from the anomalous outcrops sampled by Soquem in 2003 (Table 6) while others were collected from various lithologies between the historical anomalous sample sites. A Beep-mat, an electromagnetic device from GDD Instrumentation Inc. which can detect conductors at a maximum depth of 2 m, was also used for prospecting purposes. It can discriminate between magnetic conductors, such as magnetite and pyrhotite, and non-magnetic conductors, such as pyrite, graphite and chalcopyrite. Some of the samples collected resulted from the use of the Beep-mat which detected sulfide-enriched zones.

Following the one day assessment of the property in August, Nouveau-Monde proceeded to conduct a time-domain electromagnetic (or "TDEM") and magnetic (or "Mag") helicopter-borne survey. This survey was performed from September 17$^{th}$ to 19$^{th}$, 2012 by Prospectair Geosurveys Inc. and the resulting data was processed by Mr. Joel Dubé Eng., from Dubé & Desaulniers Geoscience LTD located in Gatineau, Québec. It is important to note that Mr. Dubé`s partner, Mr. Éric Desaulnier, géo., is also Nouveau-Monde`s president and CEO, although he reportedly did not participate in the processing or interpretation of the airborne survey data.

The airborne survey covered an area of approximately 47 km$^2$, with lines spaced every 100 m and oriented N-S, for a total of 568 line-km. Part of the survey lines were located outside of the Rivière au Castor property boundary because of the claim configuration and flight requirements. The objective of this survey was to detect conductive bodies, to gather magnetic data which would permit structural interpretation and to start building a high-quality database in what Nouveau-Monde considers a high potential, relatively underexplored area. Results from these surveys are presented in Figures 10 thru 12 and anomalies picked from the TDEM survey are listed in Table 5. Additional information and details on the systems used for the airborne surveys are available in a report (Dubé, 2012). It is important to note that the survey results located in close proximity to the Hydro-Québec power lines crossing the property are unreliable due to the magnetic and electromagnetic interference caused by these.

**Table 5. 2012 TDEM Picked anomalies (from Dubé, J., 2012).**

| Line | UTM WGS84 Z18 | | Time Constant (msec) | Amplitude at Zero Delay (nT/s) |
|---|---|---|---|---|
| | Easting | Northing | | |
| 801 | 349071.7 | 5928488.6 | 0.10 | 0 |
| 831 | 349376.2 | 5928897.7 | 0.59 | 119 |
| 841 | 349477.5 | 5928892.8 | 0.49 | 164 |
| 851 | 349573.3 | 5928943.2 | 0.10 | 0 |
| 881 | 349873.1 | 5927053.9 | 0.10 | 0 |
| 890 | 349975.4 | 5927122.0 | 0.46 | 113 |
| 900 | 350071.0 | 5927077.1 | 0.10 | 0 |
| 910 | 350175.9 | 5927032.0 | 0.10 | 0 |
| 940 | 350476.9 | 5927910.3 | 0.10 | 0 |
| 1030 | 351374.4 | 5926434.4 | 0.10 | 0 |
| 1070 (1) | 351767.4 | 5930564.1 | 0.44 | 168 |
| 1070 (2) | 351771.1 | 5926144.2 | 0.20 | 241 |
| 1080 | 351871.6 | 5930558.3 | 0.55 | 94 |
| 1100 | 352074.5 | 5925731.5 | 0.10 | 0 |

The second site visit performed by the author was carried-out during three days in October. It permitted the collection of 26 samples (not including duplicates) within the property. Its main purpose was to follow-up on the Mag and TDEM airborne survey conducted the previous month. All but two significant conductor anomalies located on line 801 and 940 were verified by prospecting. A sample was collected in the conductive area if deemed important (presence of sulfides, rusty alteration etc…).

During the second visit, the author was accompanied by a two-man crew carrying an experimental (at the time) ground TDEM device called the PhiSpy (Photo 2) manufactured by Xogenus in Ottawa, Ontario, Canada. Since this device if fairly new to the market and this is the first mention of its use in the literature, the author included the technical description provided by Mr. Dubé, Eng. who was the operator of the prototype on the Rivière au Castor property and who subsequently processed the PhiSpy data:

*The PhiSpy system is powered by light weight batteries, and consists of a horizontal transmitting loop of 44" by 77", in the centre of which a horizontal (co-axial), small size, receiver loop is located to record the Z component of the EM field. The single-turn transmitter loop, with its 2.2 $m^2$ area and 1200 A current, yields a dipole moment of 2640 NIA. The transmitter generates alternating 586 µs half sine pulses followed by off-time durations of 32.747 ms, at the rate of 30 pulses per second. The base frequency (full cycle) is therefore 15 Hz. The sampling rate of the EM field is 61440 Hz. Use of advanced technology enables reduction of the primary field at the receiver location, and permits On-time recording. The depth of investigation of the system has been estimated to be 20m.*
*The PhiSpy system is a versatile exploration tool. Contrary to large loop configurations requiring significant material and staff, the PhiSpy unit can be deployed rapidly and at low cost. It weighs about 40*

*kg and is operated by two persons. Its small size and the recording of location with a coupled GPS system enable its use in sparse forest, without the absolute necessity to have lines cut. This is not the case with other TDEM systems or co-planar horizontal loop frequency EM systems (Max-Min). The large screen of the unit has a map where the current location of the unit and other geoscientific information (such as targets from an airborne geophysical survey) can be visualized, enabling easy navigation to, and proper coverage of, areas of interest. In addition, the large screen enables real-time display of TDEM profiles, thus on the spot anomaly detection. Shallow anomalies can then be dug out, investigated and sampled right away. Unlike small size EM devices such as the Beep-mat, usually limited to about 1 m investigation depth, PhiSpy can reach much deeper conductors and records full TDEM decay curves which can be post-processed and analyzed to retrieve information about the conductance and geometry of conductors.*

*These characteristics makes the PhiSpy system a unique exploration tool, particularly well-suited for quick reconnaissance of shallow conductors in under-explored environments, and for ground follow up of near surface airborne EM anomalies. It fills the gap between powerful, deep penetration TDEM systems, and very small size EM devices.*

*Photo 2. The PhiSpy in action on the Rivière au Castor property.*

The PhiSpy was used to ground truth the conductive airborne TDEM anomalies on the property. Since the PhiSpy has the reported capacity to detect conductive bodies located at an estimated depth of 20 m, it proved to be a useful prospecting tool permitting real time TDEM monitoring. A total of approximately 13.1 km was surveyed using the prototype, resulting in the detection of three anomalous zones. Of the 14 anomalies selected from the airborne TDEM, a total of 9 forming three distinct clusters were surveyed (Figure 13). Other airborne TDEM target areas were not surveyed because of prototype failure due to poor weather. In order to properly survey the targets, their location were first imported on the PhiSpy's on-board GPS and the operator simply walked over and around the target area using a grid or zigzag pattern to find and

delineate the conductive zone. Results of the survey are shown on Figure 13 and further discussed in Section 9.4.

The sample locations and global positioning system (or "GPS") recorded tracks from both site visits can be viewed in Figure 1. Sample locations and notes are available in Table 6. Significant grab samples can be viewed in Table 8 and Figure 9 and complete analytical sample assay results are available in Appendix 1. No further work was carried-out on the property by Nouveau-Monde since the author's last visit on October 12th, 2012.

**Table 6. 2012 Grab sample locations and field notes.**

| Sample | Easting | Northing | Rock Type | Comment |
|---|---|---|---|---|
| 1053534 | 350257 | 5927320 | Mafic Volcanic shist | Chloritized, foliated greenstone, traces of pyrite. |
| 1053535 | 349936 | 5927459 | Mafic Volcanic (basalt) | Rusty contact between mafic/felsic volcanics. Possible Soquem sample site 148174 (GM 61565). |
| 1053536 | 349932 | 5927443 | Mafic Volcanic (basalt) | 20 cm wide rusty spot. Possible Soquem sample site 148174 (GM 61565). |
| 1053537 | 349364 | 5926937 | Mafic Volcanic (basalt) | Massive, sample collected close to EM anomaly Identified by Soquem (GM 61565). |
| 1053538 | 348225 | 5926428 | Mafic Volcanic (basalt) | 20 cm wide rusty zone. Mafic and felsic alternating bands. |
| 1053539 | 348188 | 5926394 | Qtz Vein | Sampled 5 cm wide Qtz vein. Possible Soquem sample site 148894 (GM 61565). |
| 1053540 | 348195 | 5926404 | Mafic Volcanic (basalt) | Rusty patch. Possible Soquem sample site 148894 (GM 61565). |
| 1053541 | 351032 | 5928069 | Mafic Volcanic (basalt) | Massive, traces of pyrite, close to EM anomaly identified by Soquem (GM 61565). |
| 1053542 | 352533 | 5928223 | Pyroxenite | Massive, traces of pyrite, magnetic. |
| 1053546 | 351496 | 5930471 | Basalt | Minor epidote, in old quarry, nose of fold, 1% pyrite, aphanetic. |
| 1053547 | 351496 | 5930471 | Qtz Vein | Minor epidote, in old quarry, nose of fold. Quartz band approx. 25 cm thick, traces of sulphides. |
| 1053548 | 351497 | 5930490 | Basalt | Minor epidote, In old quarry, aphanitic, traces of pyrite. |
| 1053549 | 351461 | 5930441 | Qtz Vein | In old quarry, , mix of basalt, 10 cm quartz vein with some minor pink feldspar and traces of pyrite. |
| 1053550 | 351833 | 5930559 | Banded iron formation | Banded iron formation, silicified, bands 1-3 cm thick, aphanitic, very magnetic. |
| 1053551 | 351831 | 5930557 | Basalt | 1 m wide basalt unit between 2 sequences of banded iron formation. Traces of pyrite. |
| 1053552 | 351829 | 5930557 | Banded iron formation | Banded iron formation, 10% quartz vein, 3% sulphides, aphanitic. |
| 1053553 | 350116 | 5928944 | Volcanic,intermediate | Near contact between mafic/intermediate volacnic rock. Traces of pyrite. |
| 1053554 | 350117 | 5928943 | Volcanic, mafic | Traces of pyrite in massive basalt. |
| 1053555 | 349495 | 5928886 | Felsic volcanic? | Felsic or intermediate volcanic, foliated, traces of sericite. |
| 1053556 | 349494 | 5928880 | Mafic Volcanic | Very rusty, foliated, traces of pyrite. |
| 1053557 | 349492 | 5928879 | Mafic Volcanic | Very rusty, foliated, traces of pyrite and possibly sericite. |
| 1053558 | 350255 | 5927316 | Mafic volcanic schist | Adjacent to sample 1053534, foliated, chloritized, serpentinized greenstone, traces of pyrite. |
| 1053559 | 350262 | 5927313 | Mafic volcanic | About 7 m south from Au rich sample 1053534, perpendicular to foliation. Idem to sample 1053534. |
| 1053561 | 350316 | 5927314 | Intermediate volcanic | 1 m from contact with mafic volcanic, foliated. |
| 1053562 | 350187 | 5927282 | Banded iron formation | Fine grained magnetite with fine veinlets of quartz and traces of sulphides. |
| 1053563 | 351732 | 5927981 | Peridotite? Basalt? | Very magnetic band about 5 m wide, aphanitic, traces of sulphides. |
| 1053565 | 351745 | 5928638 | Magnetite rich ultramafic | 3 mm euhedral crystals of magnetite, very localized, frost heaved material from subcrop. |
| 1056567 | 351697 | 5928537 | Qtz Vein | Vein over 1 m thick with some rusty spots, traces of pyrite, in contact with basalt. |
| 1053568 | 351789 | 5926149 | Gabbro? | Gabbro about 10 m wide incased in diorite/granite. 1% sulfides. |
| 1053569 | 351773 | 5926190 | Qtz Vein | 10 cm wide quartz vein. Multiple quartz veins in area. |
| 1053570 | 352210 | 5926506 | Qtz Vein | Rusty quartz vein |
| 1053571 | 350242 | 5927334 | Mafic volcanic | About 10 m north from Au rich sample 1053534, perpendicular to foliation. Idem to sample 1053534. |
| 1053572 | 351389 | 5927712 | Breccia | Angular/subrounded clasts, 3-15 cm, max 30 cm, matrix supported, (basalt, gabbro?), granitic clasts. |
| 1053573 | 349492 | 5928879 | Mafic Volcanic | Duplicate of sample 1053557 |
| 1053574 | 351745 | 5928638 | Ultramafic | Duplicate of sample 1053565 |
| 1053575 | 350331 | 5927344 | Qtz vein in granitoid | Rusty quartz vein in granitoid, traces of sulphides. |
| 1053576 | 351694 | 5928538 | Peridotite? Basalt? | Broken-up at surface, frost heaved subcrop, slightly magnetic, 2% sulphides. |

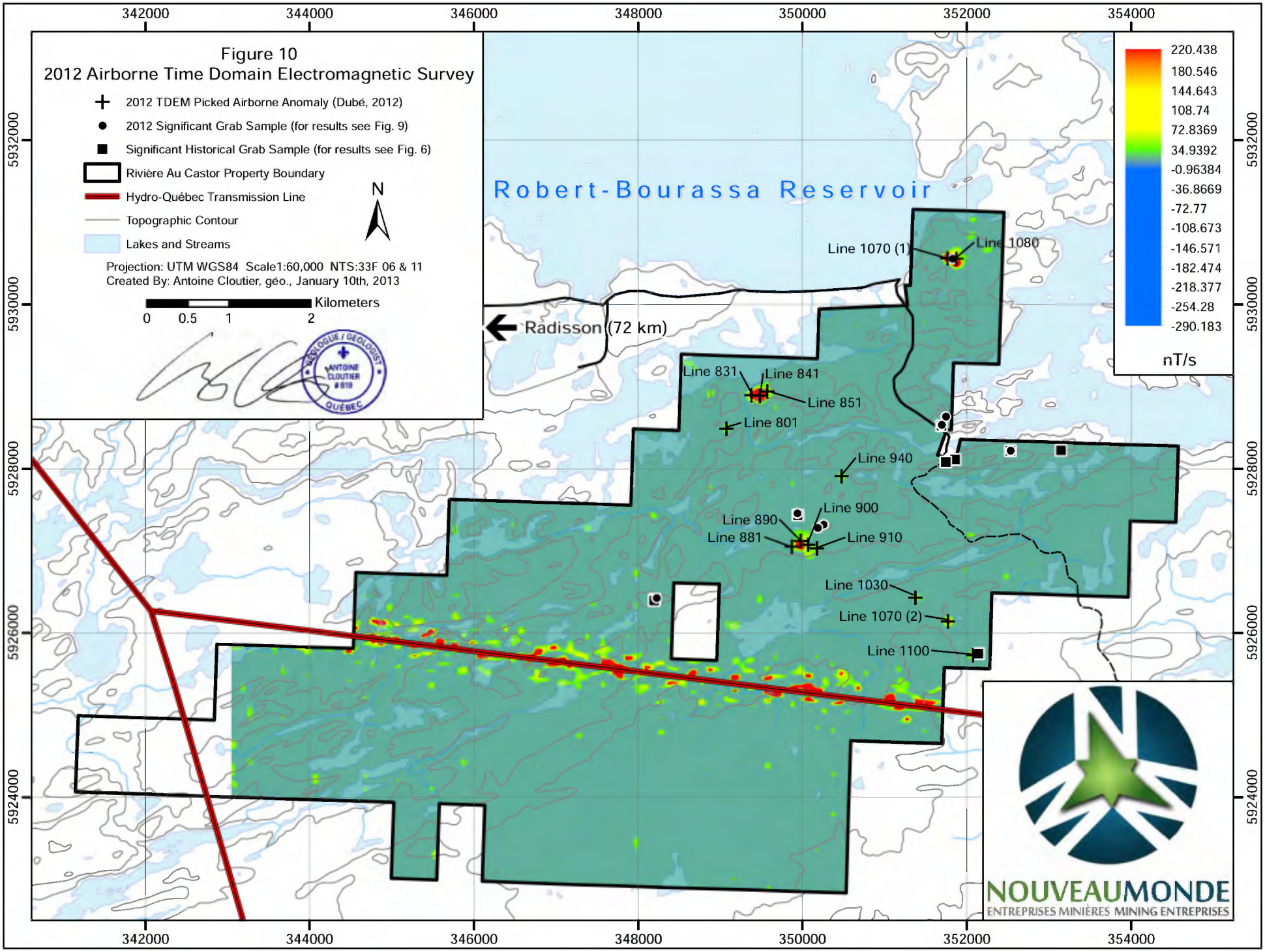


Figure 10
2012 Airborne Time Domain Electromagnetic Survey
2012 TDEM Picked Airborne Anomaly (Dubé, 2012)
2012 Significant Grab Sample (for results see Fig. 9)
Significant Historical Grab Sample (for results see Fig. 6)
Rivière Au Castor Property Boundary
Hydro-Québec Transmission Line
Topographic Contour
Lakes and Streams
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
Kilometers
0 0.5 1 2
GÉOLOGUE / GÉOLOGIST
ANTOINE CLOUTIER
# 819
QUÉBEC
Robert-Bourassa Reservoir
Radisson (72 km)
Line 1070 (1)
Line 1080
Line 831
Line 841
Line 851
Line 801
Line 940
Line 900
Line 890
Line 881
Line 910
Line 1030
Line 1070 (2)
Line 1100
220.438
180.546
144.643
108.74
72.8369
34.9392
-0.96384
-36.8669
-72.77
-108.673
-146.571
-182.474
-218.377
-254.28
-290.183
nT/s
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
NOUVEAUMONDE
ENTREPRISES MINIÈRES MINING ENTREPRISES

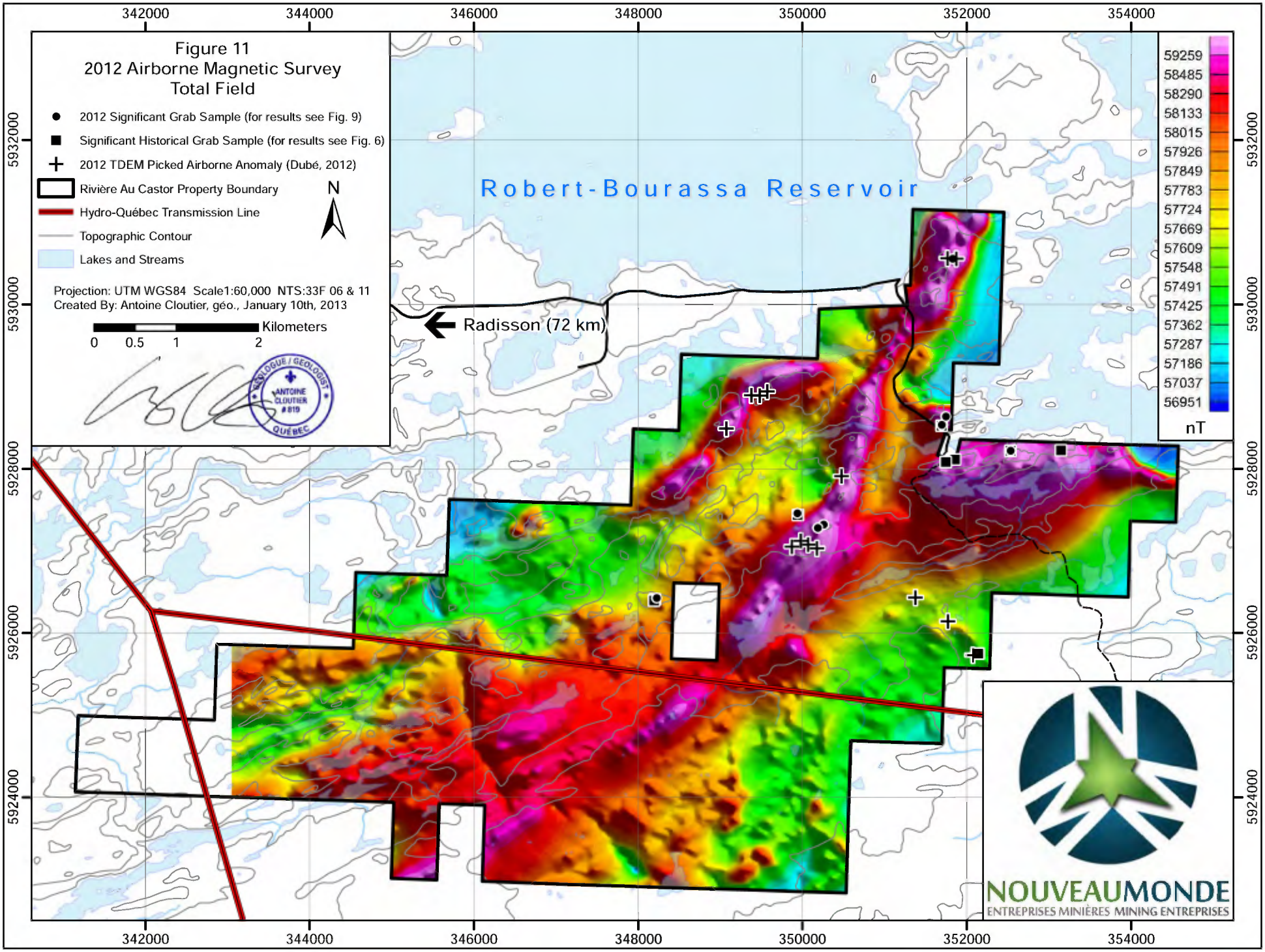


Figure 11
2012 Airborne Magnetic Survey
Total Field
2012 Significant Grab Sample (for results see Fig. 9)
Significant Historical Grab Sample (for results see Fig. 6)
2012 TDEM Picked Airborne Anomaly (Dubé, 2012)
Rivière Au Castor Property Boundary
Hydro-Québec Transmission Line
Topographic Contour
Lakes and Streams
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
0 0.5 1 2 Kilometers
GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
#819
QUÉBEC
Robert-Bourassa Reservoir
Radisson (72 km)
59259
58485
58290
58133
58015
57926
57849
57783
57724
57669
57609
57548
57491
57425
57362
57287
57186
57037
56951
nT
342000
344000
346000
348000
350000
352000
354000
5932000
5930000
5928000
5926000
5924000
NOUVEAUMONDE
ENTREPRISES MINIÈRES MINING ENTREPRISES

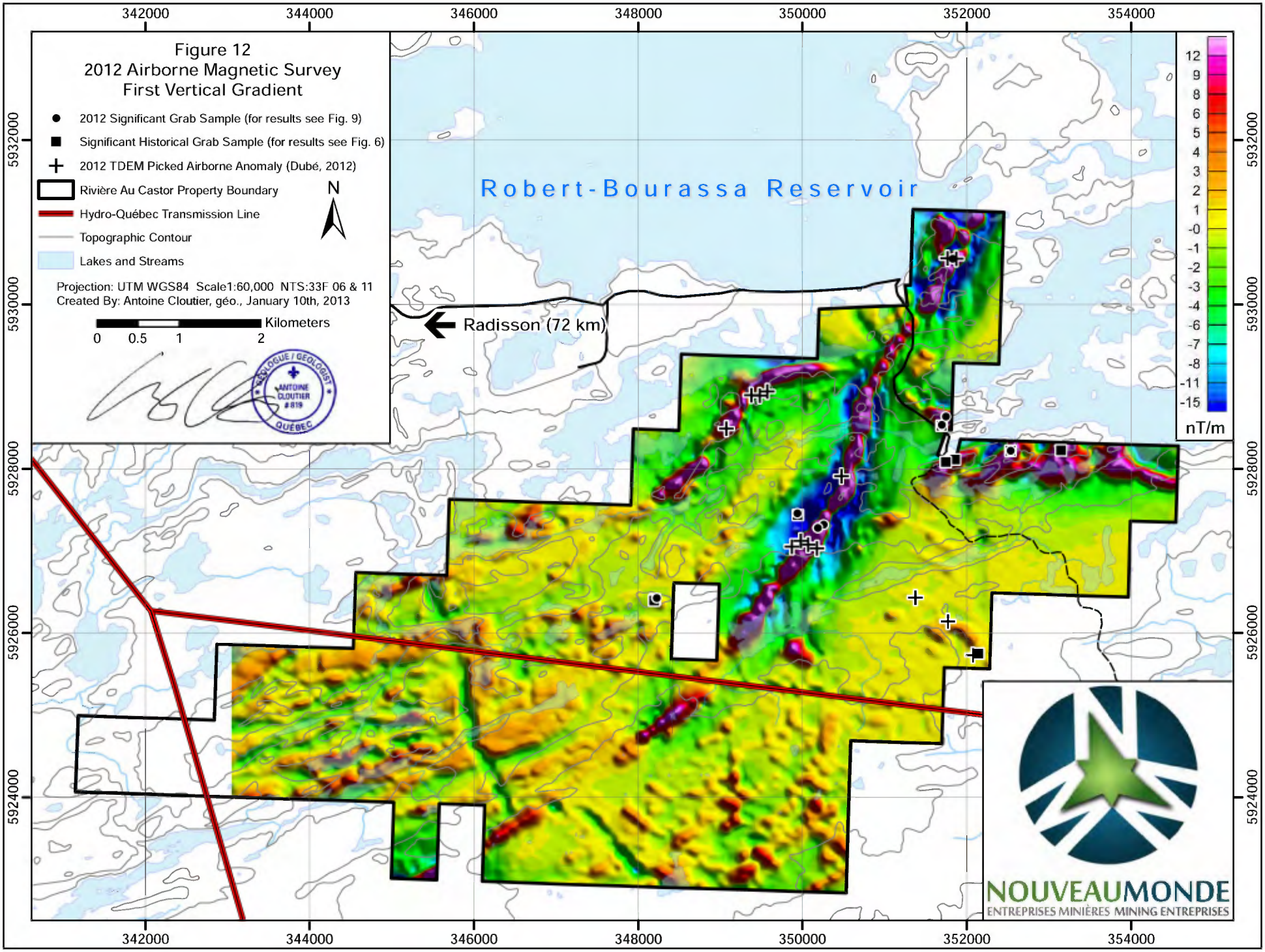


Figure 12
2012 Airborne Magnetic Survey
First Vertical Gradient
2012 Significant Grab Sample (for results see Fig. 9)
Significant Historical Grab Sample (for results see Fig. 6)
2012 TDEM Picked Airborne Anomaly (Dubé, 2012)
Rivière Au Castor Property Boundary
Hydro-Québec Transmission Line
Topographic Contour
Lakes and Streams
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
Kilometers
0 0.5 1 2
GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
# 819
QUÉBEC
Robert-Bourassa Reservoir
Radisson (72 km)
12
9
8
6
5
4
3
2
1
-0
-1
-2
-3
-4
-6
-7
-8
-11
-15
nT/m
342000
344000
346000
348000
350000
352000
354000
5932000
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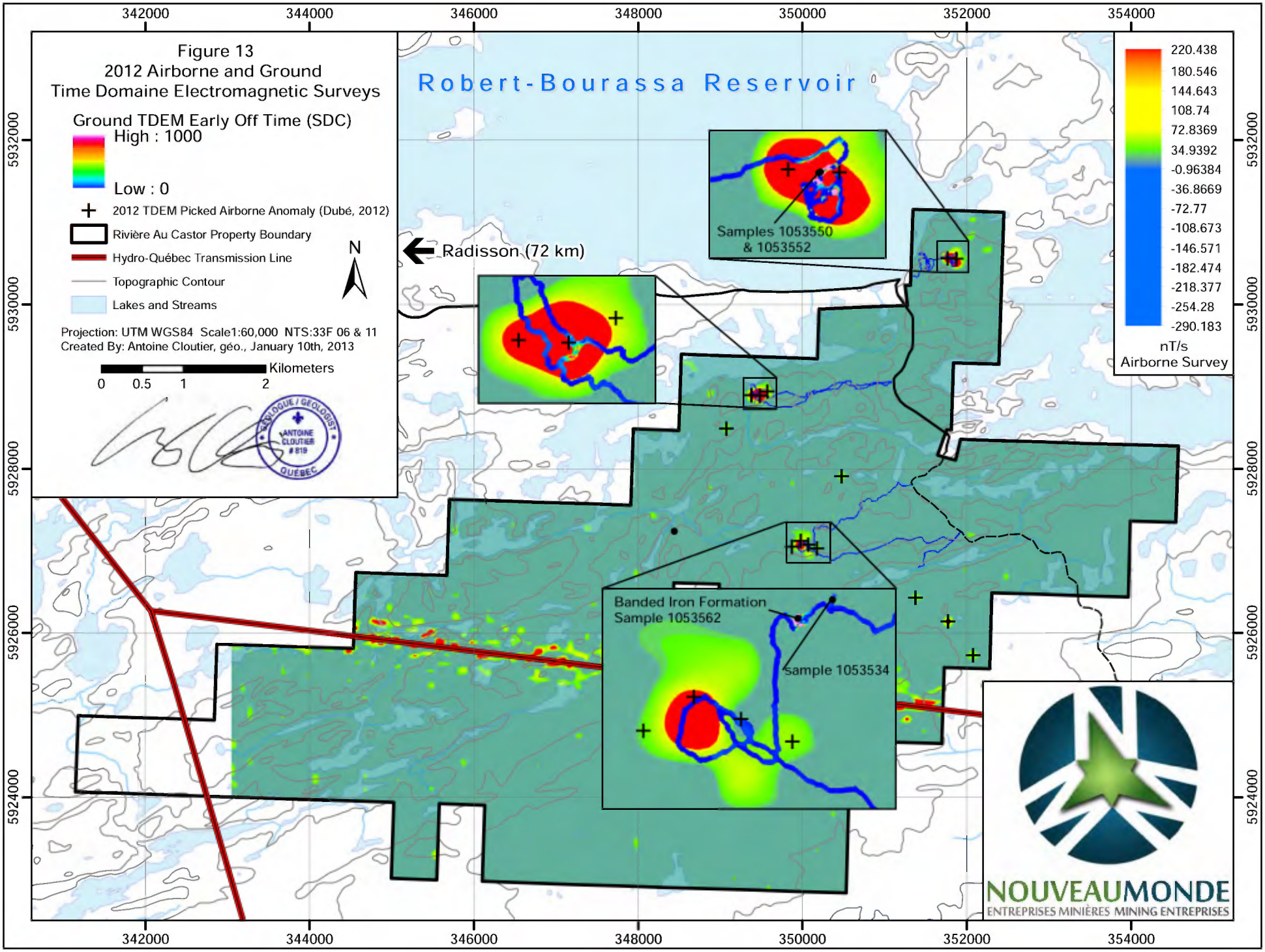
Figure 13
2012 Airborne and Ground
Time Domaine Electromagnetic Surveys
Ground TDEM Early Off Time (SDC)
High : 1000
Low : 0
2012 TDEM Picked Airborne Anomaly (Dubé, 2012)
Rivière Au Castor Property Boundary
Hydro-Québec Transmission Line
Topographic Contour
Lakes and Streams
N
Projection: UTM WGS84 Scale1:60,000 NTS:33F 06 & 11
Created By: Antoine Cloutier, géo., January 10th, 2013
Kilometers
0 0.5 1 2
Robert-Bourassa Reservoir
Radisson (72 km)
Samples 1053550
& 1053552
Banded Iron Formation
Sample 1053562
Sample 1053534
220.438
180.546
144.643
108.74
72.8369
34.9392
-0.96384
-36.8669
-72.77
-108.673
-146.571
-182.474
-218.377
-254.28
-290.183
nT/s
Airborne Survey
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## 9.2 Sampling Methods and Sample Quality

In 2012, a total of 35 grab samples from the Rivière au Castor property were collected, excluding duplicates. Grab samples collected by the author were initially described in the field and information such as rock type, mineralization and GPS coordinates (UTM) was recorded. The samples, which were larger than fist size and weighed between 0.66 kg to 4.32 kg, were placed in individual sample bags. They were mostly selected where mineralization, such as pyrite or magnetite, was visually more abundant. Some samples, such as # 1053534 which returned 0.399 g/t Au, were simply chosen as a representative sample to characterize the geochemical signature of the geological unit. It is to be noted that this is the only grab sample which returned significant values and was not chosen due to visual bias. All samples were collected directly from outcrop, or very shallow subcrop (<15 cm), mostly using a hammer and chisel. Two samples (#1053565 and #1053576) were collected from frost-heaved subcrop. All samples were taken by the author using the same equipment. To the author's knowledge, there was no sample contamination from the collection thru to the shipping of the samples to the laboratory.

## 9.3 Relevant Information

According to the recorded GPS tracks, a total of about 40 km were covered on the ground by the author during the four work days on the property. The goal of both sampling campaigns was mostly to assess specific targets, either historically anomalous sample sites or airborne anomalies, thus no systematic work was performed.

In 2012, Nouveau-Monde incurred field related costs on the Rivière au Castor property totalling $ 111,554.30 (Table 7).

**Table 7. 2012 Rivière au Castor property field expenses summary.**

| Work | Year | Value | Paid by |
|---|---|---|---|
| Airborne geophysical survey (Mag and TDEM). | 2012 | $ 90,000.00 | Entreprises Minières du Nouveau-Monde Inc |
| Prospecting, sampling and ground TDEM survey. | 2012 | $ 21,554.30 | Entreprises Minières du Nouveau-Monde Inc |
| | Total | $ 111,554.30 | |

## 9.4 Results and Interpretation of Exploration

The 2012 prospecting and follow-up work returned a total of nine anomalous samples deemed significant (excluding duplicate sample # 1053574). The samples are listed in Table 8 and located on Figure 9.

The massive dark blue to black aphanitic magnetite displaying mm- to cm-size quartz-rich bands suggest that Fe-rich samples #1053550, #1053552 and #1053562 are representative of Algoma-type banded iron formation (BIF). Their locations also coincide with a high magnetic anomaly crossing the property. Although the field observations and airborne survey interpretation suggest that the size of the Fe mineralization is too thin to be of economic value in

itself (mostly <3 m wide), it might be host to other types of mineralization such as BIF-hosted gold deposits.

A total of four samples returned anomalous gold values ranging from 0.235 g/t up to 0.399 g/t demonstrating the presence of gold on the property. Two of the samples displaying anomalous gold (#1053534 & #1053552) values are in proximity to, or part of, the BIF crossing the property. These samples could represent BIF-hosted gold mineralisation. The two other samples displaying anomalous gold (#1053538 and #1053535) are related to rusty areas and contact zones between mafic and felsic volcanic units. These areas also displayed limited shearing and veining which could suggest polymetallic vein-type mineralization partially due to the chemical environment offered by the differing volcanic units.

Most grab samples collected over the Chapus Bay pyroxenite displayed significant results. Sample #1053542 returned 0.192% Ni. Samples #1053565 (as well as its duplicate #1053575) and #1053576 returned anomalous Fe, Ti and V values which seem related to magnetite-rich layers. This is well displayed on the magnetic survey (Figures 11 & 12) where these samples coincide with SW-NE trending, high magnetic responses. The enrichment of all these elements suggests that magmatic differentiation occurred within this ultramafic body. This leads to the possibility for Fe-Ti-V and Ni-Cu sulfide magmatic-type deposit.

**Table 8. 2012 Significant grab sample results.**

| Sample | Au (g/t) | Cu (ppm) | Ni (ppm) | Fe (%) | Ti (%) | V (ppm) | Lab Certificate |
|---|---|---|---|---|---|---|---|
| 1053534 | **0.399** | 60 | 80 | 5.13 | 0.290 | 100 | VO12191795 |
| 1053535 | **0.235** | 330 | 70 | 13.05 | 0.160 | 50 | VO12191795 |
| 1053538 | **0.379** | 130 | 10 | 7.69 | 0.170 | 50 | VO12191795 |
| 1053542 | 0.002 | 20 | **1960** | 10.10 | <0.05 | 20 | VO12191795 |
| 1053550 | 0.026 | 5 | 5 | **36.20** | <0.05 | 20 | VO12246729 |
| 1053552 | **0.319** | **5** | 5 | **38.00** | <0.05 | 30 | VO12246729 |
| 1053562 | 0.002 | 5 | 5 | **37.70** | <0.05 | 10 | VO12246729 |
| 1053565* | 0.010 | 420 | 700 | **>50** | **6.610** | **4710** | VO12246729 |
| 1053574* | 0.006 | 360 | 690 | **>50** | **6.580** | **4630** | VO12246729 |
| 1053576 | 0.038 | **1170** | 230 | **32.40** | **3.940** | **1700** | VO12246729 |

Anomalous results

* Duplicate samples

Laboratory analysis by four acid digestion (total dissolution), ICP-AES, Au by Fire Assay

The 2012 airborne TDEM and Mag surveys were a necessary step to properly assess the property. The northern TDEM anomaly cluster (Figure 13), which also overlaps with a BIF, coincides with anomalous gold results. Prospecting of the other TDEM anomalies did not result in any significant discoveries. The airborne Mag survey has been instrumental in determining the position and approximate dimensions of the BIF. It also helped with the interpretation of geological boundaries between various units and provided insights about the structural history of the Rivière au Castor property. An interesting observation is the fact that a few NNW-SSE structures characterized by a low magnetic field coincide with mapped gabbro dykes. These

dykes are thought to display a reverse or remnant magnetic response since the mafic nature of gabbro usually provides for a highly magnetic anomaly. Further use and interpretation of the 2012 airborne surveys in conjunction with present and future results will help in determining better exploration targets.

Two ground TDEM anomalous zones, located in the northern part of the property, coincide with the anomalies picked from the airborne TDEM survey. The southernmost airborne TDEM cluster (Lines 881, 890, 900, 910, Figure 10) was not detected by the PhiSpy; this could be due to extensive overburden depth. This cluster falls over a dried-out bog-filled depression. In the same area, one anomaly located on top of a BIF (over sample #1053562) was detected by the PhiSpy and not by the airborne TDEM survey (Figure 13). The Phispy has been proven to be a useful tool and could be used on selected shallow (<20 m) targets to verify TDEM response and possibly to determine the extent of possible mineralization in a timely manner.

The results of the 2012 work on the Rivière au Castor property are encouraging. A total of four field days with a limited crew lead to the collection of 35 grab samples, including 9 samples displaying significant results. These samples were collected in various areas and demonstrate several different types of mineralization, including Au, Cu, Fe, Ni, Ti and V. Additional work should be performed to determine the extent of the known mineralization as well as to continue mineral exploration on the property.

## 10. DRILLING

### 10.1 Historical Drilling

Records from the government digital database, available on the E-SIGEOM application, show no prior drilling on the Rivière au Castor property.

### 10.2 Drilling

No drilling has been completed by Nouveau-Monde on the Rivière au Castor property.

## 11. SAMPLE PREPARATION, ANALYSES, AND SECURITY

### 11.1 Sample Preparation and Analyses

After each of the site visits, samples were brought back to Gatineau, Québec by road and prepared for shipping by Mr. Cloutier. The nine samples collected during the course of the August site visit were sent to the laboratory on August 31$^{st}$, 2012. No quality control samples were inserted in this batch. As part of quality control/quality assurance (or "QA/QC"), two blank samples (#1053560 and #1053566) and two duplicate samples (samples #1053573 and #1053574 are duplicates of samples #1053557 & #1053565, respectively) were inserted within the October sample stream. The certified blank samples (reference standard CDN-BL-4) were provided by CDN Resource Laboratories LTD. of Langley, BC, Canada. In Gatineau, a corresponding sample tag was inserted in each of the sample bags for redundant sample identification. Samples were then shipped in sealed plastic pails by means of Purolator courier to the ALS Minerals processing facility in Val d'Or, Québec to later be analyzed at the ALS Minerals laboratory in North Vancouver, BC. All sample handling was carried-out by the author until they were shipped to Val d'Or. ALS Minerals laboratories in North America are accredited

to 9001:2008 standards by QMI-SAI Global Quality Registrars for the provisions of assay and geochemical analytical services.

Analytical packages were chosen to test for base metals, gold, platinum and palladium; they include the ME-ICP61a and PGM-ICP23 packages. Samples were weighed, crushed and pulverised at <75 um. Depending on the package, various digestion and measuring methods were used. Additional information on the analytical packages is available on ALS Chemex's website (http://www.alsglobal.com) and on the analytical certificates from samples collected during the site visits provided in Appendix 1. ALS Chemex inserts its own standard and duplicate samples as part of its quality control commitment. Verification by the authors deemed the inserted quality control samples within acceptable limits. However, sample #1053558 (returning 0.005 g/t Au), collected during the second site visit had gold values well below sample #1053534 (returning 0.399 g/t Au) which was collected at the same location during the first site visit. This has not been explained. If possible, a re-analysis of pulps from sample #1053534 is recommended.

### 11.2 Quality Assurance and Quality Control Programs

Nouveau-Monde did not implement specific analytical quality control measures to monitor assay results for the grab samples collected in 2012. Nouveau-Monde relied upon Mr. Cloutier and ALS Chemex's internal analytical quality control measures to monitor the reliability of the assay results.

It is the opinion of the authors that the sampling preparation, security, and analytical procedures used are consistent with industry best practices and are therefore adequate at this stage of the exploration program on the Rivière au Castor property.

With a more substantial sampling program, it is recommended that analytical quality control measures be implemented; they should include the use of certified reference material (or "CRM's"), blanks, and duplicates, along with check assaying at a secondary laboratory.

## 12. DATA VERIFICATION

### 12.1 Historic Data Verification

Very little historical work has been performed on the Rivière au Castor property. Only a handful of anomalous, non-economic results are reported. Three significant historical field campaigns occurred on the property, including Pro-Or`s 12 day campaign in 1997 (Dugas, 1997; GM 56368), Dianor's 2 day campaign in 2002 (Canova, 2002; GM 59908) and Soquem`s 2 day campaign in 2003 (Lavoie, 2003; GM 61565).

A few of Soquem`s anomalous samples were re-sampled in 2012. Most of them, with the exception of #148894 (reported as having a content of 4.32% Cu), reproduced earlier results. It should be noted that since no exact coordinates were given by Soquem for the location of their samples, the author relied on the sample location map provided in report GM 61565 (Lavoie, 2003) which can have tens, if not hundreds of meters of error. In most cases, there were no obvious markers on the field to determine where samples were previously collected. In these

instances, the author relied on possible tooling marks on bedrock and the description of the sample to collect a similar specimen.

In regards to Pro-Or's anomalous samples, the author was not aware of these before performing research for this report; thus, they were not re-sampled on the field. Although GPS coordinates are given for the samples sites, there is no indication as to the geographical projection used by Pro-Or. Even so, when georeferencing the sample map provided in report GM 56368 (Dugas, 1997), and plotting the GPS coordinates in the three most common used UTM projections (NAD 27, NAD 83 and WGS 84), the author noted upwards of 400 m difference between the sample locations rendering the location information somewhat unreliable.

### 12.2 Recent Data Verification

All recent work on the property was performed in 2012.

Ground follow-up confirmed most of the 2012 airborne survey results. Areas where very high magnetic responses were detected were observed to coincide with banded iron formations and magnetic ultramafic intrusions observed on the field by the author. Most of the targeted airborne TDEM anomalies were confirmed using the portable PhiSpy ground TDEM system.

Duplicate samples inserted in the October 2012 sample stream returned similar values and certified blank samples returned predictable results. Sample #1053558 (returning 0.005 g/t Au), collected during the second site visit had gold values well below sample #1053534 (returning 0.399 g/t Au) which was collected at the same location during the first site visit. This has not been explained. If possible, a re-analysis of pulps from sample #1053534 is recommended. The difference could be due to a mineralized vein in sample #1053534 which was not present in sample #1053558.

The QA/QC procedures employed by Nouveau-Monde and Mr. Cloutier closely adhered to, and met industry standards for the current stage of development of the property. Duplicate samples, as well as blanks were submitted as part of a verification process. The duplicates indicated a very good correlation with the samples. On the whole, the geochemical assay results are broadly representative of the samples taken.

As part of any future program, the use of certified reference materials ("CRM's") should be included to determine the accuracy and precision of results across a range of values. The author is the opinion that sufficient data was verified for the scope of this report.

## 13. MINERAL PROCESSING AND METALLURGICAL TESTING

The Rivière au Castor project is at an early exploration stage and no metallurgical testing has been carried out.

## 14. MINERAL RESOURCE ESTIMATES

There has not been sufficient work on the Rivière au Castor property to undertake a resource calculation.

## 23. ADJACENT PROPERTIES

The Ménarik property, adjacent to the southern boundary of the Rivière au Castor property, is host to various significant mineralization. The Ménarik property is mostly known for its chromite and platinum group element (or "PGE") deposits which are located within the ultramafic complex of the same name. Many polymetallic showings have also been discovered on these grounds, including gold showings located within a few hundred meters from the Rivière au Castor property. According to report GM 56369 (Dugas, 1997b), the "Bonjoint" showing, located some 600 m south of the Rivière au Castor property and hosted in a N-S sheer zone parallel to the contact between a gabbro dyke and a tonalite unit, returned 2.578 g/t Au. Further documentation about this property is available on Ressources Minières Pro-Or`s web site http://pro-or.com/en and on http://www.sedar.com/ where a 43-101 compliant Technical Report on the Ménarik property is made available for download.

## 24. OTHER RELEVANT DATA AND INFORMATION

To the author's knowledge, there is no additional information or explanation necessary to make this technical report understandable and not misleading.

## 25. INTERPRETATION AND CONCLUSIONS

The Rivière au Castor property is an early stage gold exploration project with an added potential for base metals and Fe-Ti-V type deposits.

In 2012, Nouveau-Monde staked the property based on various attributes such as the proximity to the Ménarik ultramafic complex, host to Au, PGE, chromite and Ni-Cu mineralization. Other features such as the presence of an underexplored greenstone belt associated with a unit of BIF were also considered to be an important asset, as was the easy road access to the property. The Rivière au Castor property, as described in this report, was claimed between January and February of 2012. The property is 100 % owned by Nouveau-Monde and is composed of 94 contiguous map designated claims covering 4788.05 hectares. The property is bounded and partially intruded on the northeastern side by a broad zone where mineral exploration is permitted, but falls unto a zone reserved by the state. This zone is part of the La Grande 2 hydroelectric reservoir. The state reserves its right to apply conditions on future development as they can affect the hydroelectric complex. A total of 11 claims forming the property are in part, or completely, within this zone which could be subject to specific conditions.

The property is located about 40 km southeast of the community of Radisson in the James Bay Municipality, Province of Québec, Canada. It rests in the Superior geological Province, more precisely over the La Grande geological Subprovince which is composed of volcano-plutonic sequences. The Rivière au Castor property lies over a volcano-sedimentary sequence belonging to the Yasinski Group. It also contains felsic units of the Duncan intrusive suite and ultramafic units, such as the Chapus Bay pyroxenite. These older Archean units are cut by Proterozoic gabbro dykes of the Esprit Lake swarm.

The limited historical work on the property indicates good potential for economic gold and base metal mineralization. Anomalous Au, Ag, Cu, Ni, Fe, Ti and V grab sample results from limited

exploration and mapping programs are reported in historical work. Among the better results, Soquem reportedly collected a sample returning 4.32% Cu and 61 g/t Ag from the central part of the property. Resources Minières Pro-Or collected a sample returning 0.17 g/t Au and 0.59% Cu from a fracture zone within the Chapus Bay pyroxenite. The MRNF collected a sample returning 45.81% Fe, 5.44% Ti, 0.33% V and 0.24% Cu, indicative of Fe-Ti-V-type deposits.

During the summer and autumn of 2012, Nouveau-Monde conducted a total of four days of field work designed to assess the property and follow-up on historical and airborne geophysical targets. Ground prospecting was performed by a limited crew resulting in the collection of 35 grab samples, including 9 samples returning significant results. These samples were collected in various areas of the property and demonstrate the presence of several different types of mineralization including Au, Cu, Fe, Ni, Ti and V. The best gold value obtained was 0.399 g/t Au from a foliated mafic volcanic unit located in the central part of the property. Three other grab samples returned Au values over 0.1 g/t. Anomalous Fe content (>30%) from a few samples, as well as visual observation confirmed the presence of a BIF on the property. This unit is clearly visible from the 2012 airborne Mag survey as it crosses the property from the northeast to the southwest. Two samples returning significant gold values were taken in proximity to this unit, suggesting the possibility for BIF-hosted gold mineralization. Three samples collected over the Chapus Bay pyroxenite also returned significant values. Sample #1053542 returned 0.12% Ni, which confirms Soquem's 2003 results in the area. Samples #1053565 and #1053576 returned >50% Fe, 6.61% Ti, 0.471% V and 32.4% Fe, 3.94% Ti, 0.17% V, 0.117% Cu suggesting the possibility for Fe-Ti-V magmatic-type mineralization. These results also confirm earlier results obtained by the MRNF over this ultramafic body. During the field visits, the author also noted the potential for polymetallic vein-type mineralization, as well as VMS-type mineralisation based on the geology of the area. Additional work is recommended to determine the extent of the known mineralization, as well as to continue mineral exploration on the property.

The 2012 helicopter-borne TDEM and Mag surveys were instrumental in the planning of the 2012 ground prospecting campaign. They provided targets and insights about the geology and structures encountered on the property. A ground TDEM survey performed with the PhiSpy confirmed the validity of some of the targets picked from the airborne surveys. In the light of the significant rock sample results, further interpretation of these surveys and follow-up work is highly recommended.

Nouveau-Monde has reported significant initial results from its first phase of prospecting conducted in 2012. Results from the recent work programs are considered encouraging by the author and indicate the mineral potential of the property. The author is not aware of any significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration information contained within this report.

## 26. RECOMMENDATIONS

Subsequent to the research conducted for this report, and taking into consideration information provided by Nouveau-Monde, the author recommends a two phase exploration program with the second phase contingent on favorable results of the first phase:

Phase 1:

1- Creation of a GIS database, including all geological, geophysical and historical information available (such as location of the main showings as verified on the field, georeferencing of all historical sample sites, etc…). A compilation and further interpretation of the 2012 helicopter-borne geophysical surveys is also recommended. This will help to better target the most prospective areas.

2- Ground-truthing and prospecting of the remaining conductors identified by the airborne survey is highly recommended. The continuing use of a Beep Mat is suggested for ground exploration as this method has proven to be reliable during the 2012 exploration campaign.

3- A systematic geology mapping program and sampling campaign is recommended, with an emphasis on checking for mineralized quartz veins, sheer zones and investigating the main iron formation crossing the property. Emphasis should also be given to highly magnetic zones on ultramafic intrusive bodies, as well as on areas where sulfide mineralization is observed.

4- A ground induced polarization (IP) geophysical survey should be performed on the ultramafic bodies, namely the Chapus Bay pyroxenite, to determine the presence of disseminated sulfides. A detailed magnetic survey should also be performed as this would help in determining the potential size of Fe-Ti-V mineralization.

5- Ongoing effort to inform the local population and communities of the work being planned by Nouveau–Monde is a first order priority.

Phase 2:

1- A 1,000 m exploratory drilling program is recommended to test potential targets identified during the Phase 1 exploration program.

2- A 200 m spacing gradient IP survey could be performed in areas over known anomalous Au and polymetallic sample site areas. This could help in the identification of potential vein-type or VMS-type deposits.

Tables 9 and 10 summarize the budget and recommendations of a two phase exploration program for the Rivière au Castor property. The reader should note that phase two is contingent upon success of phase one.

**Table 9. Phase 1 Budget.**

| Personnel costs (prospecting/trenching/drilling) | Unit | Unit cost | Sub-Total |
|---|---|---|---|
| Project Manager | 45 days | $ 650/day | $ 29,250.00 |
| Exploration Geologist | 35 days | $ 450/day | $ 15,750.00 |
| Prospector/Technician (3) | 30 days | $ 250/day | $ 7,500.00 |
| | | | |
| **Fixed contract costs** | **Unit** | **Unit cost** | **Sub-Total** |
| Ground IP/Mag geophysical survey & line cutting | 20 km | $ 2000/km | $ 40,000.00 |
| | | | |
| **Other costs** | **Unit** | **Unit cost** | **Sub-Total** |
| Truck Rental (1) | 1 Month | $ 1500/Month | $ 1,500.00 |
| ATV + Trailer Rental (1) | 1 Months | $ 2000/Month | $ 2,000.00 |
| Helicopter Charter | 10 days | $ 4500/day | $ 45,000.00 |
| Equipment, material and disposables | | | $ 15,000.00 |
| Meals and accommodation | | | $ 25,000.00 |
| Rock Analysis | 600 Samples | $ 60/Sample | $ 36,000.00 |
| 10% Contingency | | | $ 21,700.00 |
| | | **Grand Total** | **$238,700.00** |

**Table 10. Phase 2 Budget.**

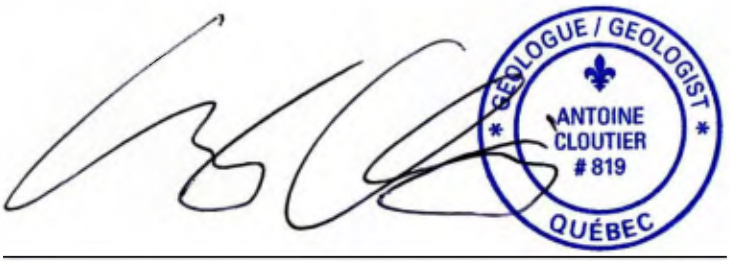
| Personnel costs (diamond drilling) | Unit | Unit cost | Sub-Total |
|---|---|---|---|
| Project Manager | 25 days | $ 650/day | $ 16,250.00 |
| Technician | 15 days | $ 250/day | $ 3,750.00 |
| | | | |
| **Fixed contract costs** | **Unit** | **Unit cost** | **Sub-Total** |
| Core Drilling | 1000 m | $ 125/m | $125,000.00 |
| Regional Gradient IP Survey | 100 km | 1500/km | $150,000.00 |
| | | | |
| **Other costs** | **Unit** | **Unit cost** | **Sub-Total** |
| Truck Rental (1) | 1 Months | $ 1500/Month | $ 1,500.00 |
| ATV + Trailer Rental (1) | 1 Months | $ 2000/Month | $ 2,000.00 |
| Equipment, material and disposables | | | $ 10,000.00 |
| Meals and accommodation | | | $ 15,000.00 |
| Rock Analysis | 300 Samples | $ 60/Sample | $ 18,000.00 |
| 10% Contingency | | | $ 34,150.00 |
| | | **Grand Total** | **$375,650.00** |

## 27. DATE AND SIGNATURE PAGE

This report titled "NI 43-101 Technical Report on the Rivière Au Castor Property, Quebec" for Entreprises Minières du Nouveau-Monde Inc. dated February 24th, 2013 was prepared and signed by the following author:

Date effective as February 24th, 2013.

Signed by:




Antoine Cloutier, géo.

## CERTIFICATE OF AUTHOR

I, Antoine Cloutier, of 153 Ch. Vanier, Gatineau, Québec do hereby certify that:

1. I am a Consulting Geologist offering geological exploration services to the mining industry.

2. I hold the following academic qualifications: B.Sc. Geology (2003) Ottawa University.

3. I am a member in good standing of the *Ordre des géologues du Québec* (Member #819).

4. I have worked as a geologist for over 11 years on a variety of exploration properties targeting uranium, base metals, gold and diamonds.

5. At the effective date of the technical report, to the best of the qualified person's knowledge, information, and belief, the technical report, or part that the qualified person is responsible for, contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

6. In accordance with section 1.5 of NI 43-101, I am independent of Entreprises Minières du Nouveau-Monde Inc., any and all transactions regarding claims forming the property, other than providing consulting services.

7. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

8. I am responsible for all sections of the Technical Report titled "NI 43-101 Technical Report on the Rivière au Castor Property, Québec", dated February 24th, 2013 and prepared for Entreprises Minières du Nouveau-Monde Inc.

9. I fulfill the requirements to be a "qualified person" as defined in the National Policy 43-101.

10. I have last visited the Rivière au Castor property on October 12th, 2012 including the most recent work for a period of 8 hours. I have had no prior involvement in the work conducted on the Rivière Au Castor property other than that described in this report.

Dated this 24th Day of February, 2013

GÉOLOGUE / GEOLOGIST
ANTOINE CLOUTIER
# 819
QUÉBEC

Antoine Cloutier, géo., B.Sc.





1354154

## 28. REFERENCES

For ease of use, all "GM" reports and other Quebec government publications are available for viewing, free of charge, on Québec's *Ministère Des Ressources Naturelles et de la Faune* E-SIGEOM system which is accessible on the world wide web (http://sigeom.mrnf.gouv.qc.ca/signet/classes/I1102_indexAccueil?l=a).

The "Examine" documents (and surveys) constitute the gateway to the *Géologie Québec* record holdings. They represent the overall available information describing the content of the report, in addition to locating the work perimeter. To facilitate document research, references in this report appearing on the E-SIGEOM system are listed first in GM numerical order and in other codes used by the Québec Government.

### 28.1 References available on the E-SIGEOM System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# Appendix 1:

Laboratory certificates from the site visit samples

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À: ED EXPLORATION INC.
6 CHEMIN DES BOULEAUX
L ANGE- GARDIEN QC J8L 0G2


Finalisée date:
31- AOUT- 2012
Cette copie a fait un rapport sur
16- OCT- 2012
Compte: EDEXPL

# CERTIFICAT VO12191795

Projet: RIVIERE AU CASTOR
Bon de commande #:
Ce rapport s'applique aux 9 échantillons de roche soumis à notre laboratoire de Val d'Or, QC, Canada le 17- AOUT- 2012.
Les résultats sont transmis à:

| | | |
|---|---|---|
| ANTOINE CLOUTIER | ERIC DESAULNIERS | |

## PRÉPARATION ÉCHANTILLONS

| CODE ALS | DESCRIPTION |
|---|---|
| WEI- 21 | Poids échantillon reçu |
| LOG- 22 | Entrée échantillon - Reçu sans code barre |
| CRU- QC | Test concassage QC |
| PUL- QC | Test concassage QC |
| CRU- 31 | Granulation - 70 % < 2 mm |
| SPL- 21 | Échant. fractionné - div. riffles |
| PUL- 31 | Pulvérisé à 85 % < 75 um |

## PROCÉDURES ANALYTIQUES

| CODE ALS | DESCRIPTION | INSTRUMENT |
|---|---|---|
| ME- ICP61a | Teneur élevée quatre acides ICP- AES | ICP- AES |
| PGM- ICP23 | Pt, Pd et Au 30 g FA ICP | ICP- AES |

À: ED EXPLORATION INC.
ATTN: ANTOINE CLOUTIER
6 CHEMIN DES BOULEAUX
L ANGE- GARDIEN QC J8L 0G2

Ce rapport est final et remplace tout autre rapport préliminaire portant ce numéro de certificat. Les résultats s'appliquent aux échantillons soumis. Toutes les pages de ce rapport ont été vérifiées et approuvées avant publication.

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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6 CHEMIN DES BOULEAUX
L ANGE- GARDIEN QC J8L 0G2


Finalisée date:
31- AOUT- 2012
Compte: EDEXPL

Projet: RIVIERE AU CASTOR

# CERTIFICAT D'ANALYSE VO12191795

| Description échantillon | Méthode / élément / unités / L.D. | WEI- 21 Poids reçu kg 0.02 | PGM- ICP23 Au ppm 0.001 | PGM- ICP23 Pt ppm 0.005 | PGM- ICP23 Pd ppm 0.001 | ME- ICP61a Ag ppm 1 | ME- ICP61a Al % 0.05 | ME- ICP61a As ppm 50 | ME- ICP61a Ba ppm 50 | ME- ICP61a Be ppm 10 | ME- ICP61a Bi ppm 20 | ME- ICP61a Ca % 0.05 | ME- ICP61a Cd ppm 10 | ME- ICP61a Co ppm 10 | ME- ICP61a Cr ppm 10 | ME- ICP61a Cu ppm 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1053534 | | 2.14 | 0.399 | <0.005 | 0.002 | <1 | 3.66 | <50 | 1000 | <10 | <20 | 0.34 | <10 | 20 | 140 | 60 |
| 1053535 | | 2.74 | 0.235 | <0.005 | 0.001 | 3 | 5.10 | 160 | 60 | <10 | <20 | 0.35 | <10 | 50 | 30 | 330 |
| 1053536 | | 2.48 | 0.098 | <0.005 | <0.001 | 5 | 3.90 | <50 | 330 | <10 | <20 | 0.24 | <10 | 10 | 20 | 190 |
| 1053537 | | 1.83 | 0.010 | <0.005 | 0.005 | <1 | 5.41 | <50 | 120 | <10 | <20 | 6.93 | <10 | 60 | 400 | 40 |
| 1053538 | | 2.09 | 0.379 | <0.005 | 0.001 | 1 | 4.74 | <50 | <50 | <10 | <20 | 3.38 | <10 | 10 | 30 | 130 |
| 1053539 | | 1.58 | 0.004 | <0.005 | <0.001 | 1 | 5.34 | <50 | 70 | <10 | <20 | 6.52 | <10 | 40 | 90 | 120 |
| 1053540 | | 1.98 | 0.014 | <0.005 | <0.001 | 1 | 5.71 | <50 | <50 | <10 | <20 | 5.92 | <10 | 40 | <10 | 890 |
| 1053541 | | 2.26 | 0.010 | <0.005 | <0.001 | <1 | 5.62 | <50 | <50 | <10 | <20 | 3.30 | <10 | 50 | 100 | 110 |
| 1053542 | | 1.35 | 0.002 | 0.021 | 0.088 | <1 | 0.26 | <50 | <50 | <10 | <20 | 0.32 | <10 | 190 | 40 | 20 |

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Finalisée date:
31- AOUT- 2012
Compte: EDEXPL

Projet: RIVIERE AU CASTOR

# CERTIFICAT D'ANALYSE VO12191795

| Description échantillon | Méthode / élément / unités / L.D. | ME- ICP61a Fe % 0.05 | ME- ICP61a Ga ppm 50 | ME- ICP61a K % 0.1 | ME- ICP61a La ppm 50 | ME- ICP61a Mg % 0.05 | ME- ICP61a Mn ppm 10 | ME- ICP61a Mo ppm 10 | ME- ICP61a Na % 0.05 | ME- ICP61a Ni ppm 10 | ME- ICP61a P ppm 50 | ME- ICP61a Pb ppm 20 | ME- ICP61a S % 0.05 | ME- ICP61a Sb ppm 50 | ME- ICP61a Sc ppm 10 | ME- ICP61a Sr ppm 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1053534 | | 5.13 | <50 | 3.0 | <50 | 1.41 | 440 | <10 | 1.65 | 80 | 730 | 30 | 0.30 | <50 | 10 | 170 |
| 1053535 | | 13.05 | <50 | 0.2 | <50 | 1.87 | 1250 | <10 | 0.35 | 70 | 440 | 20 | 2.62 | <50 | 10 | 20 |
| 1053536 | | 6.33 | <50 | 1.2 | <50 | 0.69 | 500 | <10 | 0.76 | 20 | 550 | 40 | 1.36 | <50 | <10 | 30 |
| 1053537 | | 8.60 | <50 | 0.4 | <50 | 6.16 | 1560 | <10 | 1.45 | 240 | 210 | <20 | <0.05 | <50 | 20 | 160 |
| 1053538 | | 7.69 | <50 | 0.2 | <50 | 1.52 | 750 | <10 | 1.10 | 10 | 330 | <20 | 0.80 | <50 | <10 | 230 |
| 1053539 | | 7.27 | <50 | 0.2 | <50 | 3.59 | 1480 | <10 | 1.54 | 60 | 170 | <20 | <0.05 | <50 | 30 | 110 |
| 1053540 | | 14.50 | <50 | 0.1 | <50 | 2.60 | 2110 | <10 | 0.81 | 10 | 750 | <20 | 1.58 | <50 | 50 | 130 |
| 1053541 | | 9.70 | <50 | 0.4 | <50 | 3.71 | 1340 | <10 | 0.94 | 60 | 380 | <20 | 0.17 | <50 | 40 | 90 |
| 1053542 | | 10.10 | <50 | <0.1 | <50 | 22.4 | 1330 | <10 | <0.05 | 1960 | <50 | <20 | <0.05 | <50 | 10 | 10 |

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Finalisée date:
31- AOUT- 2012
Compte: EDEXPL

Projet: RIVIERE AU CASTOR

# CERTIFICAT D'ANALYSE VO12191795

| Description échantillon | Méthode<br>élément<br>unités<br>L.D. | ME- ICP61a<br>Th<br>ppm<br>50 | ME- ICP61a<br>Ti<br>%<br>0.05 | ME- ICP61a<br>Tl<br>ppm<br>50 | ME- ICP61a<br>U<br>ppm<br>50 | ME- ICP61a<br>V<br>ppm<br>10 | ME- ICP61a<br>W<br>ppm<br>50 | ME- ICP61a<br>Zn<br>ppm<br>20 |
|---|---|---|---|---|---|---|---|---|
| 1053534 | | <50 | 0.29 | <50 | <50 | 100 | <50 | 70 |
| 1053535 | | <50 | 0.16 | <50 | <50 | 50 | <50 | 890 |
| 1053536 | | <50 | 0.20 | <50 | <50 | 60 | <50 | 80 |
| 1053537 | | <50 | 0.41 | <50 | <50 | 210 | <50 | 170 |
| 1053538 | | <50 | 0.17 | <50 | <50 | 50 | <50 | 60 |
| 1053539 | | <50 | 0.40 | <50 | <50 | 240 | <50 | 90 |
| 1053540 | | <50 | 1.28 | <50 | <50 | 340 | <50 | 120 |
| 1053541 | | <50 | 0.70 | <50 | <50 | 340 | <50 | 120 |
| 1053542 | | <50 | <0.05 | <50 | <50 | 20 | <50 | 120 |

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Finalisée date: 1- NOV- 2012
Compte: EDEXPL

# CERTIFICAT VO12246729

Projet: RIVIERE AU CASTOR
Bon de commande #:
Ce rapport s'applique aux 31 échantillons de roche soumis à notre laboratoire de Val d'Or, QC, Canada le 17- OCT- 2012.
Les résultats sont transmis à:

| | | |
|---|---|---|
| ANTOINE CLOUTIER | ERIC DESAULNIERS | |

## PRÉPARATION ÉCHANTILLONS

| CODE ALS | DESCRIPTION |
|---|---|
| WEI- 21 | Poids échantillon reçu |
| LOG- 22 | Entrée échantillon - Reçu sans code barre |
| CRU- QC | Test concassage QC |
| CRU- 31 | Granulation - 70 % <2 mm |
| SPL- 21 | Échant. fractionné - div. riffles |
| PUL- 31 | Pulvérisé à 85 % <75 um |
| LOG- 24 | Entrée pulpe - Reçu sans code barre |

## PROCÉDURES ANALYTIQUES

| CODE ALS | DESCRIPTION | INSTRUMENT |
|---|---|---|
| ME- ICP61a | Teneur élevée quatre acides ICP- AES | ICP- AES |
| PGM- ICP23 | Pt, Pd et Au 30 g FA ICP | ICP- AES |

À: ED EXPLORATION INC.
ATTN: ERIC DESAULNIERS
6 CHEMIN DES BOULEAUX
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Ce rapport est final et remplace tout autre rapport préliminaire portant ce numéro de certificat. Les résultats s'appliquent aux échantillons soumis. Toutes les pages de ce rapport ont été vérifiées et approuvées avant publication.

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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Finalisée date: 1- NOV- 2012
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Projet: RIVIERE AU CASTOR

# CERTIFICAT D'ANALYSE VO12246729

| Description échantillon / Méthode élément unités L.D. | WEI- 21 Poids reçu kg 0.02 | PGM- ICP23 Au ppm 0.001 | PGM- ICP23 Pt ppm 0.005 | PGM- ICP23 Pd ppm 0.001 | ME- ICP61a Ag ppm 1 | ME- ICP61a Al % 0.05 | ME- ICP61a As ppm 50 | ME- ICP61a Ba ppm 50 | ME- ICP61a Be ppm 10 | ME- ICP61a Bi ppm 20 | ME- ICP61a Ca % 0.05 | ME- ICP61a Cd ppm 10 | ME- ICP61a Co ppm 10 | ME- ICP61a Cr ppm 10 | ME- ICP61a Cu ppm 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1053546 | 1.17 | 0.004 | <0.005 | <0.001 | <1 | 3.52 | <50 | 80 | <10 | <20 | 2.75 | <10 | <10 | 50 | 80 |
| 1053547 | 1.91 | 0.004 | <0.005 | <0.001 | 3 | 1.01 | <50 | <50 | <10 | <20 | 0.58 | <10 | 10 | 30 | 40 |
| 1053548 | 1.74 | 0.001 | <0.005 | 0.001 | <1 | 5.91 | <50 | 60 | <10 | <20 | 6.08 | <10 | 50 | 30 | 60 |
| 1053549 | 1.31 | 0.033 | <0.005 | 0.002 | <1 | 3.97 | <50 | 220 | <10 | <20 | 2.46 | <10 | 40 | 30 | 20 |
| 1053550 | 1.94 | 0.026 | <0.005 | 0.001 | <1 | 0.06 | <50 | <50 | <10 | <20 | 0.11 | <10 | <10 | 10 | <10 |
| 1053551 | 1.66 | 0.083 | <0.005 | <0.001 | <1 | 3.78 | <50 | 1350 | <10 | <20 | <0.05 | <10 | <10 | 20 | <10 |
| 1053552 | 3.68 | 0.319 | <0.005 | 0.001 | <1 | 0.08 | <50 | <50 | <10 | <20 | 0.11 | <10 | <10 | 20 | <10 |
| 1053553 | 1.90 | 0.005 | <0.005 | <0.001 | <1 | 2.23 | <50 | 340 | <10 | <20 | 0.92 | <10 | <10 | 20 | <10 |
| 1053554 | 1.82 | 0.004 | 0.006 | 0.006 | <1 | 6.44 | <50 | 80 | <10 | <20 | 5.83 | <10 | 40 | 20 | 170 |
| 1053555 | 2.60 | 0.007 | <0.005 | <0.001 | <1 | 2.25 | <50 | 260 | <10 | <20 | 1.49 | <10 | <10 | 30 | 10 |
| 1053556 | 1.88 | 0.005 | <0.005 | <0.001 | <1 | 4.64 | <50 | 370 | <10 | <20 | 1.55 | <10 | 30 | 110 | 100 |
| 1053557 | 2.02 | 0.004 | <0.005 | 0.002 | <1 | 3.98 | <50 | 420 | <10 | <20 | 1.72 | <10 | 50 | 110 | 150 |
| 1053558 | 2.51 | 0.005 | <0.005 | 0.002 | <1 | 2.96 | <50 | 750 | <10 | <20 | 0.34 | <10 | 20 | 180 | 60 |
| 1053559 | 1.28 | 0.011 | <0.005 | 0.002 | <1 | 4.51 | <50 | 790 | <10 | <20 | 0.65 | <10 | 20 | 150 | 50 |
| 1053560 | 0.07 | 0.003 | <0.005 | 0.002 | <1 | 3.21 | <50 | 730 | <10 | <20 | 1.69 | <10 | 10 | 50 | 40 |
| 1053561 | 0.98 | 0.002 | <0.005 | <0.001 | <1 | 3.49 | <50 | 270 | <10 | <20 | 0.83 | <10 | <10 | 10 | 10 |
| 1053562 | 2.08 | 0.002 | <0.005 | 0.002 | <1 | 0.15 | <50 | <50 | <10 | <20 | 0.14 | <10 | <10 | 20 | <10 |
| 1053563 | 1.67 | 0.004 | 0.008 | 0.006 | <1 | 1.05 | <50 | <50 | <10 | <20 | 9.61 | <10 | 110 | 840 | 430 |
| 1053565 | 2.22 | 0.010 | <0.005 | 0.001 | <1 | 1.92 | 130 | <50 | <10 | <20 | <0.05 | <10 | 100 | 20 | 420 |
| 1053566 | 0.09 | 0.002 | <0.005 | 0.002 | <1 | 3.16 | <50 | 750 | <10 | <20 | 1.67 | <10 | 10 | 50 | 40 |
| 1053567 | 2.40 | 0.015 | <0.005 | 0.001 | 1 | 0.26 | <50 | <50 | <10 | <20 | <0.05 | <10 | <10 | 20 | 560 |
| 1053568 | 1.38 | 0.003 | <0.005 | <0.001 | <1 | 5.52 | <50 | 50 | <10 | <20 | 4.34 | <10 | 40 | 110 | 100 |
| 1053569 | 0.66 | 0.005 | <0.005 | <0.001 | <1 | 0.59 | <50 | 70 | <10 | <20 | <0.05 | <10 | <10 | 20 | <10 |
| 1053570 | 1.61 | <0.001 | <0.005 | <0.001 | <1 | 1.49 | <50 | 50 | <10 | <20 | 0.62 | <10 | <10 | 20 | <10 |
| 1053571 | 1.76 | 0.002 | <0.005 | 0.001 | <1 | 5.09 | <50 | 300 | <10 | <20 | 1.41 | <10 | 20 | 130 | 30 |
| 1053572 | 4.32 | 0.001 | <0.005 | <0.001 | <1 | 5.13 | <50 | 340 | <10 | <20 | 2.54 | <10 | 30 | 210 | <10 |
| 1053573 | 0.99 | 0.005 | <0.005 | 0.001 | <1 | 4.31 | <50 | 390 | <10 | <20 | 2.54 | <10 | 50 | 110 | 160 |
| 1053574 | 1.57 | 0.006 | 0.005 | 0.001 | <1 | 1.79 | 110 | <50 | <10 | <20 | <0.05 | <10 | 100 | 20 | 360 |
| 1053575 | 2.27 | 0.007 | <0.005 | 0.001 | <1 | 1.95 | <50 | 220 | <10 | <20 | 0.23 | <10 | <10 | 20 | 20 |
| 1053576 | 2.27 | 0.038 | <0.005 | <0.001 | 1 | 2.49 | 170 | 210 | <10 | <20 | 1.11 | <10 | 240 | 10 | 1170 |

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À: ED EXPLORATION INC.
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L ANGE- GARDIEN QC J8L 0G2


Finalisée date: 1- NOV- 2012
Compte: EDEXPL

Projet: RIVIERE AU CASTOR

# CERTIFICAT D'ANALYSE VO12246729

| Description échantillon / Méthode élément unités L.D. | ME- ICP61a Fe % 0.05 | ME- ICP61a Ga ppm 50 | ME- ICP61a K % 0.1 | ME- ICP61a La ppm 50 | ME- ICP61a Mg % 0.05 | ME- ICP61a Mn ppm 10 | ME- ICP61a Mo ppm 10 | ME- ICP61a Na % 0.05 | ME- ICP61a Ni ppm 10 | ME- ICP61a P ppm 50 | ME- ICP61a Pb ppm 20 | ME- ICP61a S % 0.05 | ME- ICP61a Sb ppm 50 | ME- ICP61a Sc ppm 10 | ME- ICP61a Sr ppm 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1053546 | 3.99 | <50 | 0.2 | <50 | 1.07 | 390 | 10 | 4.17 | 40 | 530 | 30 | 1.51 | <50 | 10 | 220 |
| 1053547 | 1.43 | <50 | <0.1 | <50 | 0.26 | 90 | 40 | 0.83 | 10 | 70 | 250 | 0.91 | <50 | <10 | 40 |
| 1053548 | 10.60 | <50 | 0.2 | <50 | 2.74 | 1150 | <10 | 2.74 | 30 | 410 | <20 | 0.20 | <50 | 40 | 150 |
| 1053549 | 6.76 | <50 | 1.7 | <50 | 3.30 | 590 | <10 | <0.05 | 100 | 220 | <20 | 1.98 | <50 | 20 | 100 |
| 1053550 | 36.2 | <50 | <0.1 | <50 | <0.05 | 10 | <10 | <0.05 | <10 | 770 | <20 | 0.19 | <50 | <10 | <10 |
| 1053551 | 6.12 | <50 | 6.0 | <50 | 0.27 | 210 | <10 | 0.06 | <10 | 150 | <20 | 0.29 | <50 | <10 | 20 |
| 1053552 | 38.0 | <50 | 0.1 | <50 | <0.05 | 80 | <10 | <0.05 | <10 | 790 | <20 | 1.46 | <50 | <10 | <10 |
| 1053553 | 1.23 | <50 | 1.5 | <50 | 0.18 | 140 | <10 | 3.24 | <10 | 150 | <20 | <0.05 | <50 | <10 | 200 |
| 1053554 | 11.00 | <50 | 0.1 | <50 | 2.92 | 1760 | <10 | 2.58 | 50 | 570 | <20 | 0.08 | <50 | 30 | 310 |
| 1053555 | 1.92 | <50 | 1.1 | <50 | 0.59 | 680 | <10 | 2.86 | 10 | 210 | <20 | 0.07 | <50 | <10 | 120 |
| 1053556 | 5.36 | <50 | 2.3 | <50 | 0.83 | 1580 | <10 | 2.19 | 40 | 480 | <20 | 0.82 | <50 | 20 | 150 |
| 1053557 | 4.63 | <50 | 2.4 | <50 | 0.67 | 1330 | <10 | 1.86 | 70 | 510 | <20 | 2.38 | <50 | 20 | 170 |
| 1053558 | 5.38 | <50 | 2.7 | <50 | 1.37 | 500 | <10 | 2.15 | 80 | 940 | <20 | 0.25 | <50 | <10 | 160 |
| 1053559 | 6.74 | <50 | 2.5 | <50 | 1.62 | 360 | <10 | 1.82 | 80 | 760 | <20 | 0.22 | <50 | 10 | 190 |
| 1053560 | 3.82 | <50 | 1.1 | <50 | 0.79 | 790 | <10 | 2.34 | 30 | 660 | 30 | <0.05 | <50 | 10 | 230 |
| 1053561 | 1.63 | <50 | 2.7 | <50 | 0.79 | 480 | <10 | 0.58 | <10 | 80 | 20 | <0.05 | <50 | <10 | 20 |
| 1053562 | 37.7 | <50 | <0.1 | <50 | 0.07 | 10 | <10 | <0.05 | <10 | 770 | <20 | 0.12 | <50 | <10 | 10 |
| 1053563 | 11.20 | <50 | 0.1 | <50 | 9.60 | 1720 | <10 | 0.22 | 570 | 70 | <20 | 0.05 | <50 | 40 | 30 |
| 1053565 | >50 | <50 | <0.1 | <50 | 2.08 | 2820 | <10 | 0.07 | 700 | <50 | <20 | 0.06 | <50 | 20 | 20 |
| 1053566 | 3.95 | <50 | 1.0 | <50 | 0.81 | 810 | <10 | 2.41 | 20 | 720 | 30 | <0.05 | <50 | 10 | 230 |
| 1053567 | 0.89 | <50 | <0.1 | <50 | 0.08 | 60 | <10 | 0.10 | 10 | <50 | <20 | 0.06 | <50 | <10 | 10 |
| 1053568 | 10.05 | <50 | 0.8 | <50 | 3.75 | 1640 | <10 | 1.02 | 50 | 360 | <20 | 0.11 | <50 | 40 | 60 |
| 1053569 | 1.15 | <50 | 0.2 | <50 | 0.05 | 40 | <10 | 0.20 | <10 | <50 | <20 | <0.05 | <50 | <10 | <10 |
| 1053570 | 1.22 | <50 | 0.3 | <50 | 0.23 | 310 | <10 | 1.33 | 10 | 390 | <20 | <0.05 | <50 | <10 | 30 |
| 1053571 | 4.65 | <50 | 1.6 | <50 | 2.44 | 470 | <10 | 3.69 | 40 | 620 | <20 | 0.05 | <50 | 10 | 180 |
| 1053572 | 5.11 | <50 | 0.8 | <50 | 3.28 | 890 | <10 | 2.13 | 140 | 560 | 20 | <0.05 | <50 | 10 | 160 |
| 1053573 | 5.25 | <50 | 2.3 | <50 | 0.77 | 1790 | <10 | 2.07 | 70 | 520 | <20 | 2.03 | <50 | 20 | 250 |
| 1053574 | >50 | <50 | <0.1 | <50 | 1.98 | 2910 | <10 | 0.05 | 690 | <50 | <20 | 0.05 | <50 | 10 | 10 |
| 1053575 | 0.84 | <50 | 0.6 | <50 | 0.24 | 230 | <10 | 4.73 | 10 | 190 | <20 | 0.17 | <50 | <10 | 80 |
| 1053576 | 32.4 | <50 | 0.6 | <50 | 3.61 | 2800 | <10 | 0.13 | 230 | 70 | <20 | 1.10 | <50 | 10 | 70 |

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Finalisée date: 1- NOV- 2012
Compte: EDEXPL

Projet: RIVIERE AU CASTOR

# CERTIFICAT D'ANALYSE VO12246729

| Description échantillon | Méthode / élément / unités / L.D. | ME- ICP61a Th ppm 50 | ME- ICP61a Ti % 0.05 | ME- ICP61a Tl ppm 50 | ME- ICP61a U ppm 50 | ME- ICP61a V ppm 10 | ME- ICP61a W ppm 50 | ME- ICP61a Zn ppm 20 |
|---|---|---|---|---|---|---|---|---|
| 1053546 | | <50 | 0.17 | <50 | <50 | 60 | <50 | 30 |
| 1053547 | | <50 | <0.05 | <50 | <50 | 10 | <50 | <20 |
| 1053548 | | <50 | 0.58 | <50 | <50 | 310 | <50 | 60 |
| 1053549 | | <50 | 0.21 | <50 | <50 | 170 | <50 | 60 |
| 1053550 | | <50 | <0.05 | <50 | <50 | 20 | <50 | <20 |
| 1053551 | | <50 | <0.05 | <50 | <50 | 10 | <50 | <20 |
| 1053552 | | <50 | <0.05 | <50 | <50 | 30 | <50 | <20 |
| 1053553 | | <50 | 0.09 | <50 | <50 | 20 | <50 | 30 |
| 1053554 | | <50 | 0.81 | <50 | <50 | 340 | <50 | 110 |
| 1053555 | | <50 | 0.12 | <50 | <50 | 30 | <50 | 50 |
| 1053556 | | <50 | 0.87 | <50 | <50 | 390 | <50 | 200 |
| 1053557 | | <50 | 0.80 | <50 | <50 | 370 | <50 | 350 |
| 1053558 | | <50 | 0.30 | <50 | <50 | 120 | <50 | 90 |
| 1053559 | | <50 | 0.20 | <50 | <50 | 100 | <50 | 70 |
| 1053560 | | <50 | 0.35 | <50 | <50 | 120 | <50 | 90 |
| 1053561 | | <50 | 0.05 | <50 | <50 | 10 | <50 | 20 |
| 1053562 | | <50 | <0.05 | <50 | <50 | 10 | <50 | <20 |
| 1053563 | | <50 | 0.56 | <50 | <50 | 260 | <50 | 120 |
| 1053565 | | <50 | 6.61 | <50 | <50 | 4710 | <50 | 480 |
| 1053566 | | <50 | 0.36 | <50 | <50 | 130 | <50 | 90 |
| 1053567 | | <50 | <0.05 | <50 | <50 | 60 | <50 | <20 |
| 1053568 | | <50 | 0.74 | <50 | <50 | 340 | <50 | 140 |
| 1053569 | | <50 | <0.05 | <50 | <50 | 20 | <50 | <20 |
| 1053570 | | <50 | 0.15 | <50 | <50 | 30 | <50 | 20 |
| 1053571 | | <50 | 0.10 | <50 | <50 | 110 | <50 | 70 |
| 1053572 | | <50 | 0.28 | <50 | <50 | 120 | <50 | 110 |
| 1053573 | | <50 | 0.87 | <50 | <50 | 380 | <50 | 300 |
| 1053574 | | <50 | 6.58 | <50 | <50 | 4630 | <50 | 550 |
| 1053575 | | <50 | 0.15 | <50 | <50 | 30 | <50 | <20 |
| 1053576 | | <50 | 3.94 | <50 | <50 | 1700 | <50 | 140 |