

***NI 43-101 TECHNICAL REPORT, PERTAINING TO:***

**THE LAC ARQUES PROPERTY**

**James Bay area**

**NTS sheets 32O/11, 32O/12, 32O/13, 32O/14 and 32O/15**

*November 8, 2010*

***Prepared For: Nemaska Exploration Inc.***

Prepared by: Yvan Bussi eres, Eng.,  
Donald Th eberge, Eng., M.B.A

## **2.0) SUMMARY**

The Lac Arques property covers a huge area of 385 km<sup>2</sup> made up of 763 map designated cells. All the claims are registered in the name of Nemaska Exploration Inc. Their expiry dates range from October 14, 2010, to November 3, 2012. A minimum of \$887,600 in exploration expenditures will be required for next claim renewal, along with mining duties of \$39,728. At present, \$98,589 in excess credits is accumulated on the claims. Only 22 claims need to be renewed in 2010; the claims renewal application has been submitted and is being processed by the MRNFQ.

The original property claims were acquired between May and November 2008. The initial acquisition conditions have been met. Payments based on exploration expenditures remain due. They will total up to \$1M if an independent feasibility study confirms that the property can sustain commercial production. A 3% NSR, of which 1% may be bought back for \$1M, is payable on the original property. Claims acquired after November 12, 2008, are free of any royalty.

To the knowledge of the author, there are no environmental liabilities pertaining to the Lac Arques property. The only permit required to explore the property is the usual forestry management permit. Nemaska should also respect all the environmental laws applicable to the type of work done.

The property is located approximately 280 km NNW of the town of Chibougamau, using the "Route du Nord", which crosses the west part of the property. The property is also traversed in a NE direction by a Hydro-Québec powerline and a road that leads north to the La Grande area. Because of its size, a helicopter must be used to access certain parts of the property. Nemaska personnel stay at Relais Routier Nemiscau, located 17 km west of the property. The Nemiscau airport, situated 25 km west, is serviced by Air Creebec and chartered flights.

The first exploration work in the area dates back to 1962, with four holes drilled by Noranda south of the property. From 1963 to 1969, Inco and its subsidiary Nemiscau Mines discovered the Nisk-1 Ni-Cu deposit, now held by Nemaska. In 1973, Canex Placer explored the Lac des Plages area, located just south of the property. From 1975 to 1982, SDBJ initiated several regional exploration programs aimed at the discovery of nickel, asbestos, lithium and uranium mineralization, which covered parts of the current Lac Arques property. From 1985 to 1988, Westmin Resources completed several exploration programs in the Lac Sillimanite, Lac Crochet, Lac de La Hutte and Lacs Noirs areas, located in part on the Lac Arques property. A gold / arsenic occurrence was discovered, with 1.2 g/t Au and 12.5% As in a grab sample. During the same years, Muscocho Explorations drilled 16 holes on the Nisk-1 deposit.

From 1996 to 2003, Noranda, Sirios, and Soquem worked in the region. In the Lac Lemarre area, Sirios reported a grab sample with 6.1% Cu and 518 g/t Ag. In 2007, Eloro Resources drilled 19 holes for a total of 2,200.7 m to test the lateral and depth extension of the Sirios showing, which returned 6.1% Cu. The best result was 19.6 g/t Ag and 1.79% Cu over 0.3 m in a quartz vein with chalcopyrite, obtained in Hole RS-07-05. From 2006 to 2008, Golden Goose Resources, previously known as Muscocho Explorations, worked mainly on the Nisk-1 deposit, for which it completed a NI 43 101 resource estimate in 2008.

The property is underlain by the Lac des Montagnes formation, a volcano-sedimentary belt metamorphosed to the amphibolite facies. The surrounding gneissic formations are made up of paragneiss or metamorphosed sediments to the south and orthogneiss or metamorphosed granite to the north.

The potential of the property lies in this complex geology, which can be favourable to several different types of deposits. This is exemplified by Nemaska's Lac Levac (Nisk-1) Ni-Cu deposit, which is associated with ultramafic intrusions, as well as by other mineralized occurrences in the immediate vicinity of the property, such as uranium and its associated elements at the Lac Arques SW showing, lithium-bearing pegmatites in the Lac des Montagnes area, gold and gold arsenic occurrences like the Lac Sillimanite showing, and copper and silver in impure quartzite like at the Lac Lemare West showing.<sup>1</sup> It should also be noted that chromite has been reported on the Lac Levac property and to the west in the Lac des Montagnes area. Furthermore, within the volcano-sedimentary belt encompassing the property, volcanogenic massive sulphide (VMS) deposits and exhalative massive sulphides (Sedex) may be present. As such, the quartz-sericite schist observed may represent metamorphosed and altered rhyolite equivalent and a possible VMS-fertile environment.

The following are the eight deposit types that could occur on the property, in order of priority:

- Magmatic nickel sulphide deposits associated with an ultramafic intrusion;
- Magmatic nickel sulphide deposits associated with ultramafic flows;
- Exhalative massive sulphides in quartzite (Sedex) deposits
- Volcanogenic massive sulphide (VMS) deposits;
- Lithium (spodumene) bearing pegmatites;
- Gold and gold arsenic occurrences;
- Uranium and associated elements in pegmatites;
- Banded Iron Formation (BIF) deposits.

Until now, the main focus has been on Ni-Cu-PGE<sup>2</sup> deposits associated with ultramafic intrusions, like the Nisk-1 deposit, located approximately one km from the property boundary. Since acquiring the claims in 2008, Nemaska has ordered a study by Marc Beaumier, geologist, who reviewed the lake bottom geochemical anomalies for different elements, mainly Cu, Ni and Cr. Based on these results, Aeroquest was mandated to fly a helicopter-borne EM and magnetic survey over part of the property. The Rupert Diversion Tunnel, located in an area withdrawn from staking, was also mapped and sampled in 2008, with a best result of 1.61 % Cu in a grab sample.

In 2009, Geophysics GPR completed the airborne EM and magnetic coverage of the Lac Arques property on behalf of Nemaska, and part of the property was covered with gamma ray spectrometry. Prospecting and sampling were then performed on selected EM anomalies identified from the Aeroquest and GPR surveys and on a few radiometric anomalies for verification. These areas were prospected using a Beep-Mat<sup>3</sup>, and generally revealed sulphides in the form of pyrite, pyrrhotite, arsenopyrite and chalcopyrite. The historical results obtained on the Sillimanite Lake showing were also confirmed, with 4.7 g/t Au and > 8,000 ppm As. However, uranium prospecting and sampling returned weakly anomalous results.

In July 2010, a TDEM<sup>4</sup> helicopter-borne survey totalling 496 line-km was flown. Six well defined anomalies were located. Prospecting and sampling were completed over selected targets. A total of 480 grab and channel samples were taken. The best gold and arsenic results were obtained in Sample #16182, with 0.376 g/t Au and 1% As. The best Cu and Ni values were both in the order of 0.26%. Pegmatite sample #16002 returned values as high as 278 ppm Be, 1.46% Li, 346 ppm Rb, and 83.5 ppm Ta in a boulder located at UTM coordinates 469334E/5739004N. Sample #16608 returned a strong anomalous value of 450 ppm Be in pegmatite with black garnets.

Also in 2010, a soil survey was completed over the east part of the property in the Bourier Lake area. This survey was initiated following the discovery of rhyolitic outcrops associated with an exhalative horizon, along an EM conductor that extends for several kilometres. This environment is usually favourable to VMS<sup>5</sup> type mineralization. The survey was completed on lines 100 m apart, with samples taken every 25 m insofar as possible. A total of 324 samples were analyzed. Four anomalous areas were located. The first one is strong, and located in the west part of the property, from UTM coordinates 481 500E to 482 200E. The second one is moderate and extends from

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<sup>1</sup> The locations of the mineral occurrences are shown on the accompanying maps.

<sup>2</sup> PGE: Platinum Group Element

<sup>3</sup> Beep-Mat: Portable EM instrument with a maximum depth of penetration of 1.5 m.

<sup>4</sup> TDEM: Time domain electromagnetic survey.

<sup>5</sup> VMS: Volcanogenic massive sulphide

482 500E to 483 400E. The third one is strong and located in the east part of the survey; it begins at 487 200E and remains open to the east. The fourth one is moderate and appears from 485 500E to 486 500E. Finally in September 2010, a helicopter-borne TDEM and magnetic survey totalling 968 km was flown on the east part of the property to investigate the eastern continuity of the long EM conductor discovered by the previous survey and partly sampled. Numerous EM anomalies associated with magnetic features were located. An in-depth interpretation will be performed in the coming weeks.

Sampling and analyses were conducted according to industry standards. No breach of security was reported by the preparation and analytical laboratories. QA/QC<sup>6</sup> for the rock and soil samples will be completed soon.

Historical showings were confirmed, namely Lake Sillimanite with 4.7 g/t Au and > 0.8% As in a grab sample, Lac Lemarre West with 6.02% Cu, 3.24% Cu and 589 g/t Ag in grab samples<sup>7</sup> and, finally, Lac Arques SW with 1,189 ppm ThO<sub>2</sub> and 565 ppm U<sub>3</sub>O<sub>8</sub> also in grab samples. In addition, recent work by Nemaska has revealed a new, favourable geological environment for VMS-type mineralization in the Bourier Lake area, with the discovery of an exhalative horizon associated with rhyolitic outcrops. The soil survey identified four zones anomalous in base metals along this exhalative horizon.

The nature of the Rupert Complex remains unknown. Helicopter-borne magnetic and electromagnetic surveys show that it is a multi-phase or multi-layered intrusion, but unfortunately it does not outcrop. Six well-defined EM anomalies discovered by the EM airborne survey remain unexplained.

Although rock sampling did not return spectacular values, anomalous Au, As, Cu and Ni values were observed. A pegmatite boulder returned strong anomalous values, with 278 ppm Be, 1.46% Li, 346 ppm Rb and 83.5 ppm Ta. This boulder<sup>8</sup> is located up-ice from the Whabouchi deposit and its source should be determined.

In conclusion, recent exploration work has extended the potential of the property eastward, and defined high quality targets. To continue exploring the property, a two-phase exploration program is suggested. Phase I would include diamond drilling on the Rupert Complex and Bourier Lake area, for a total of 3,200 m.

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<sup>6</sup> QA/QC: Quality assurance Quality control

<sup>7</sup> Sirios 1997, GM 55737

<sup>8</sup> Sample #16002, located at UTM coordinates 469334<sup>E</sup>/5739004N

If warranted by the results of Phase I, a Phase II exploration program should be undertaken, consisting of prospecting NE of Bourier Lake on the east extension of the EM conductor, followed by 5,200 m of drilling on the Rupert Complex, in the Bourier Lake area and on the Bourier East extension.

The estimated budget for both phases of the proposed program is as follows:

<b>Phase I</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Total</b>	
Drilling Rupert Complex	2,000	m	\$200	\$400,000	
Drilling Bourier Lake area	1,200	m	\$200	\$240,000	
Geology, assays, etc all included	3,200	m	\$25	\$80,000	
Report end of Phase 1 (for NI 43-101 and assessment purposes)				\$20,000	
Contingency 15%				\$111 000	
<b>Total Phase I</b>					<b>\$851,500</b>
<b>Phase II</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Total</b>	
Prospecting new claims NE of Bourier Lake	100	d	\$3,000	\$300,000	
Helico for prospecting camps	50	h	\$1,500	\$75,000	
Prospecting west of Rupert Complex	10	d	\$1,500	\$15,000	
Helico for prospecting west of Rupert Complex	20	h	\$1,500	\$30,000	
Drilling Rupert complex	2,000	m	\$200	\$400,000	
Drilling Bourier Lake area	2,000	m	\$200	\$400,000	
Drilling claims acquired in 2010 (Bourier Lake extension)	1,200	m	\$200	\$240,000	
Geology, assays, etc. all included	5,200	m	\$25	\$130,000	
Report end of Phase II (for NI 43-101 and assessment purposes)				\$20,000	
Contingency 15%				\$178,500	
<b>Total Phase II</b>					<b>\$1,788,500</b>
			<b>Total Phases I and II</b>		<b>\$2,639,500</b>

1.0) Title Page

2.0) Summary

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## **4.0) INTRODUCTION**

### ***4.a) Recipient***

This NI 43-101 technical report on the Lac Arques property has been prepared at the request of Nemaska Exploration Inc. ("Nemaska").

### ***4.b) Objectives***

This report provides an update to the technical report entitled "NI 43-101 Qualifying Report, Pertaining to the Lac Arques Property, James Bay Area, NTS Sheets 32O/11, 32O/12, 32O/13 and 32O/14, prepared for Nemaska Exploration Inc., dated October 5, 2009 and updated on December 14, 2009." Nemaska may use this report for the purpose of raising exploration funds, as requested by the regulatory authorities.

### ***4.c) Source of Data and Information***

This report is based on the statutory work filed with the MRNFQ<sup>9</sup>, documents obtained from Nemaska and the exploration completed by Nemaska since October 2008.

### ***4.d) The Scope of the Personal Inspection by the Qualified Persons***

Yvan Bussi eres, Eng. and Donald Th eberge, Eng., M.B.A. are responsible for all the sections of this technical report. Donald Th eberge visited the property on June 17, 2008, accompanied by Guy Bourassa, president of Nemaska Exploration. After a two-hour flight by charter plane from Quebec City to Nemaska, a helicopter was used to access the property. A total of 2.4 hours of flying time were required to fly into and over the property. When possible, the helicopter landed where outcrops were seen.

The author visited the property on September 20, 2009. He was accompanied by Michel Baril, chairman of Nemaska, and Guy Gasse. One hour of helicopter flight time was needed to fly over the property. From the sites sampled by D. Raymond team during 2009 summer, site #753635, located in the Bourier Lake area, was checked and confirmed.

Another visit took place on August 9, 2010. The author was accompanied by Guy Bourassa, Wanda Cutler, public relations, Guy Gasse and Yvan Bussi eres, Eng., responsible for the exploration

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<sup>9</sup> MRNFQ: Minist ere des Ressources Naturelles et de la Faune du Qu ebec

program. Showings in the Lac Bourier area were visited, along with the camp set up by Nemaska. About four hours were required for this visit. Entrance and exit were by helicopter.

The last visit occurred on August 10, 2010. The author was accompanied by Yvan Bussières, Eng. Four hours were needed to visit the projected extension of an EM conductor, on recently designated claims located in the Lac Bourier area. Entrance, visit and exit were by helicopter.

Yvan Bussières, Eng., was in charge of the exploration work for Nemaska. He supervised the exploration crews working on the Lac Arques property and spent many days in the field from May 2010 until the production of this report.

### **5.0) RELIANCE ON OTHER EXPERTS**

The authors relied on Réjean Paul, Eng., geophysicist, Olivier Letourneau, B.Sc., and Marc Boivin geophysicist, for the interpretation of the TDEM and magnetic airborne survey performed by GPR International. In this report, all amounts are in Canadian dollars, data is in the metric system and coordinates are in UTM, Zone 18, NAD 83 unless otherwise indicated.

### **6.0) PROPERTY DESCRIPTION AND LOCATION**

#### **6.a) Area**

The Lac Arques property is made up of one block totalling 763 map-designated cells covering an area of 38,546.96 ha or 385 km<sup>2</sup>.

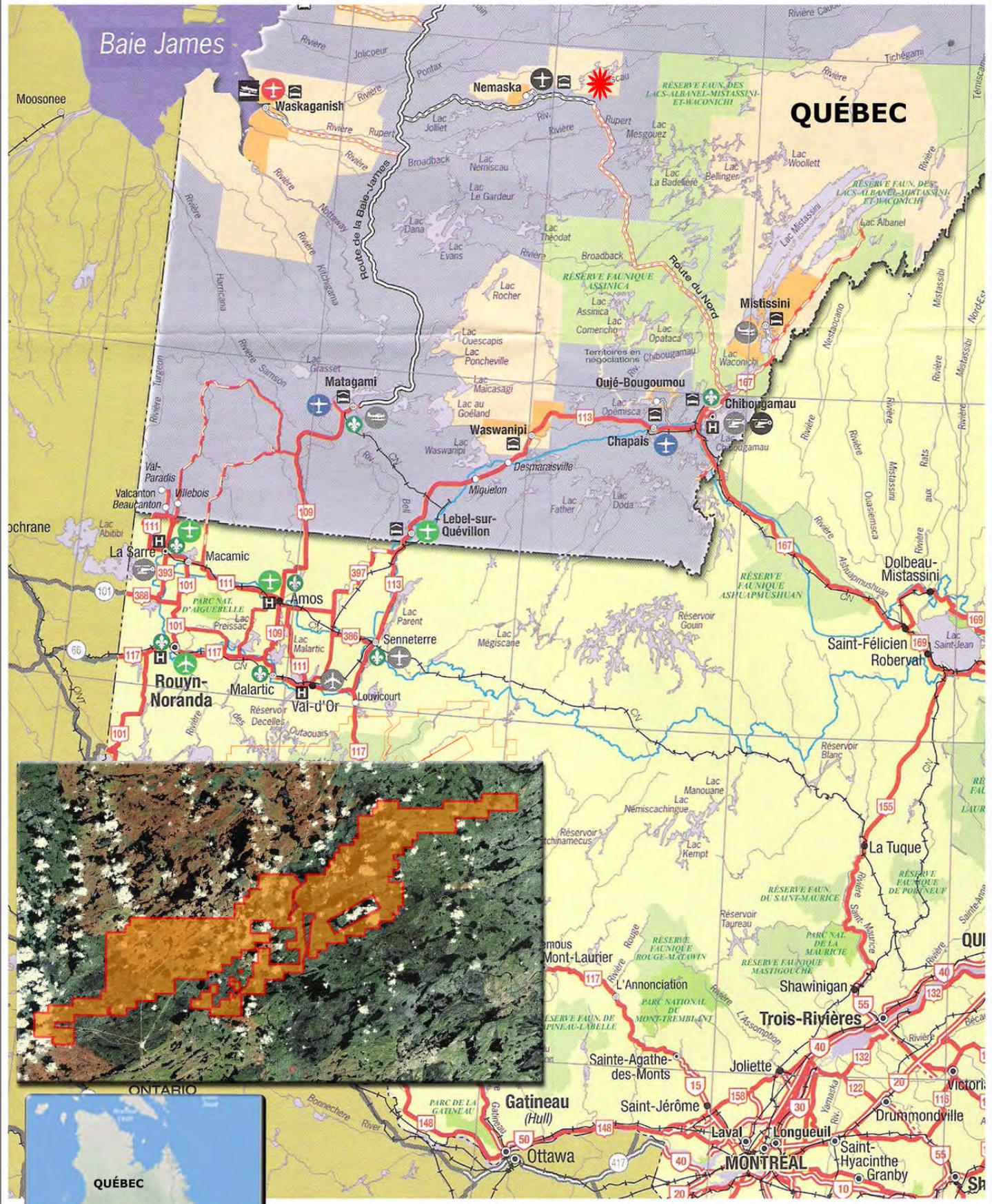
#### **6.b) Location**

The Lac Arques property is located in NTS sheets 32O11, 32O12, 32O13, 32O14 and 32O15. It is centered approximately 44 km ENE of the Nemiscau airport, and 16 km N of Poste Albanel. Table 1, “Property Limits”, shows the boundaries of the property in UTM coordinates.

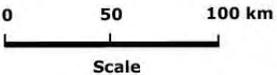
*Table 1: Property Limits*

Property Limit	UTM E	UTM N
North		5,754,500
South		5,724,500
East	504,000	
West	445,500	

The property location is shown in Figure 1, “Location Map”.



LAC ARQUES PROPERTY



**Nemaska Exploration Inc.**  
**Location Map**  
**LAC ARQUES PROPERTY**

PREPARED BY: SOLUMINES  
 DATE: 2010/19/08

**FIGURE 1**

**6.c) Type of Mineral Tenure**

Expiry dates of the claims range from October 14, 2010 to November 3, 2012. A minimum of \$887,600 in exploration expenditures will be required for next claim renewal, along with mining duties of \$39,728. Presently, \$98,589.76 in excess credits is accumulated on the claims. Only 22 claims need to be renewed in 2010, and they will require \$25,000 in exploration expenditures. The renewal application for claims 2172917 and 2174089 to 2174114, which expire from October 14 to November 3, 2010, has been submitted and is presently being processed by the MRNFQ.

All the claims are currently registered to the name of Nemaska Exploration Inc. The claims are described in Schedule 1 of this report and are shown in Figure 2, "Claims Map".

**6.d) Nature and Extent of Issuer's Titles**

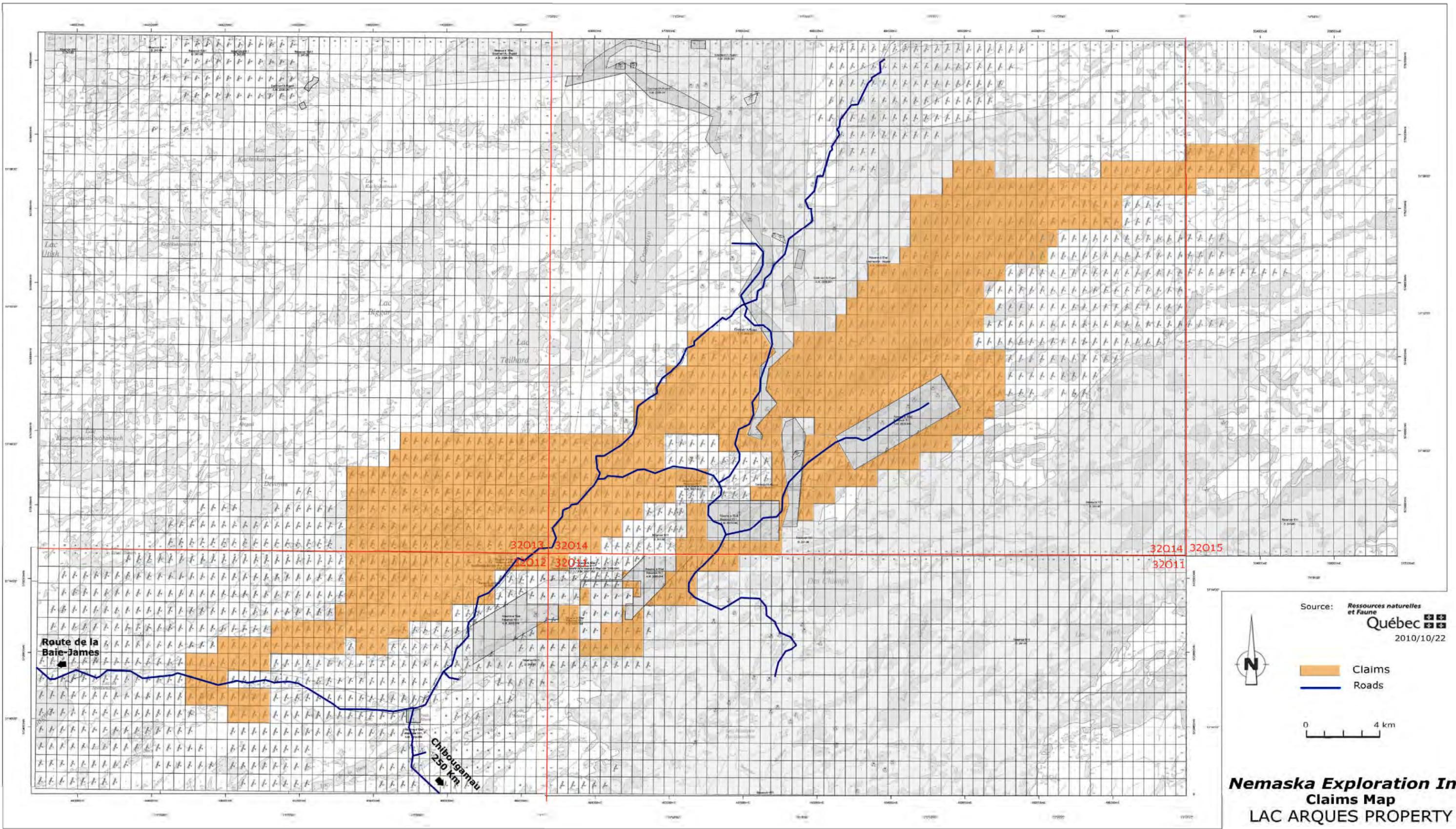
Nemaska acquired a 100% interest in the claims between May 2008 and November 2008 for the following consideration:

Nemaska issued 6,500,000 common shares of Nemaska and made cash payments totalling \$270,000. A maximum of \$1,000,000 is payable based on the property expenditures, as follows: \$50,000 once, and only if a minimum of \$2,500,000 in expenditures is incurred on the property; \$150,000 once, and only if a minimum of \$5,000,000 in expenditures is incurred on the property; \$300,000 if and when a pre-feasibility study is received; and \$500,000 on receipt of an independent feasibility study confirming that the property can support commercial production.

A 3% net smelter return (NSR), of which 1% may be bought back for \$1,000,000, is payable in the event of commercial production. Claims designated or acquired after November 12, 2008, are free of any royalty and are not subject to the preceding considerations.

**6.e) Property Boundaries**

The property boundaries have not been surveyed. When a claim is acquired by map designation, there is no need to survey the cells boundaries, as they are already defined by the NTS geographical coordinate system.



**Nemaska Exploration Inc.**  
**Claims Map**  
**LAC ARQUES PROPERTY**

PREPARED BY: SOLUMINES  
 DATE: 2010/10/22  
 MAP: 32011,  
 32012, 32013,  
 32014, 32015

**FIGURE:2**

File: Nemaska\_claim map\_Lac Arques\_20101022

**6.f) Location of Mineralized Zones**

No mineralized zones with identified resources have been reported on the property.

**6.g) Royalties**

As described in Item 6.d, the claims acquired before November 2008 are subject to a 3% NSR royalty, of which 1% can be bought back for \$1M. Claims acquired after November 2008 are not subject to any royalty.

**6.h) Environmental Liabilities**

To the knowledge of the author, there are no environmental liabilities pertaining to the Lac Arques property.

**6.i) Required Permits**

The only permit required to explore the property is the usual forestry management permit. The company should also respect all the environmental laws applicable to the type of work done.

**7.0) PHYSIOGRAPHY, ACCESSIBILITY, INFRASTRUCTURES AND CLIMATE****7.a) Topography, Elevation, Vegetation and Drainage**

The property shows a relatively flat topography, with maximum differences of 55 m between the highest and lowest point. The average elevation is approximately 310 m above sea level. Approximately 30% of the property is covered by lakes and rivers. Like much of this area, the property is covered by a mix of swamp and forest, the latter consisting of black spruce. Part of the property was devastated by a forest fire several years ago. As observed in the holes drilled in the vicinity of the property, the overburden thickness varies from 0 to 15 m. Finally, at this latitude, there is no permafrost.

### **7.b) Accessibility**

The west part of the property is traversed by the “Route du Nord”. This permanent gravel road originates from the town of Chibougamau, approximately 280 km to the SSE, and leads to the village of Nemaska and the Route de la Baie-James. Because of the size of the property, which extends approximately 53 km in an SW-NE direction and up to 12 km in a NW-SE direction, a helicopter must be used to access certain parts of the property.

The property is traversed in a northeast direction by a Hydro-Québec power line and a road that leads north to the La Grande area. Secondary roads provide access to dams and can be used to access parts of the property. Figure 3 shows the location of the property relative to the Hydro-Québec facilities.

### **7.c) Infrastructure**

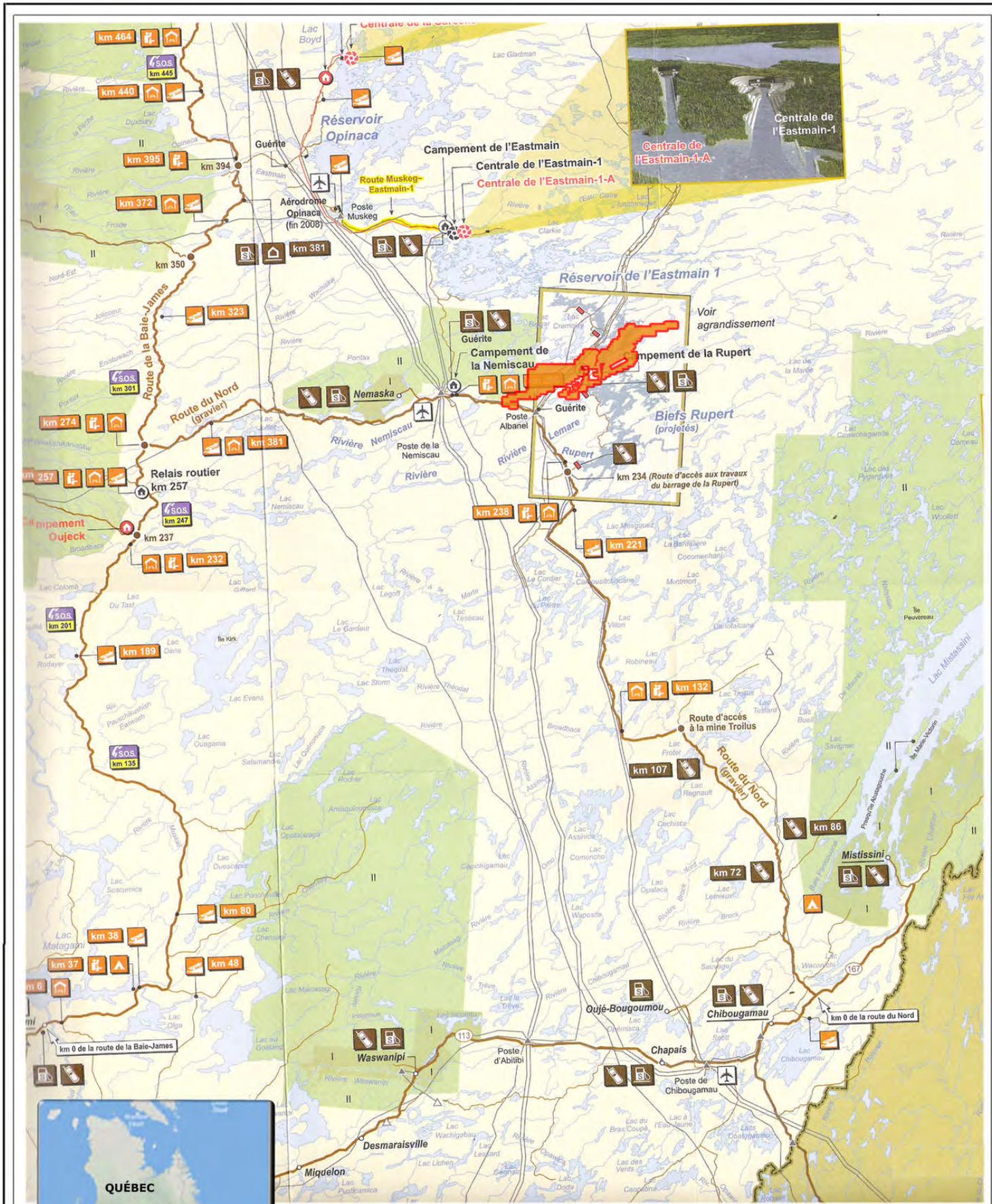
There is no mining infrastructure on the property. However, Hydro-Québec has several facilities in the area of the property, including the Poste Albanel electrical station and Nemiscau sub-station. The village of Nemaska and the CCDC<sup>10</sup> Relais Routier Nemiscau, located respectively 35 km and 17 km to the west, can be used to house workers and service the property. The Nemiscau airport, located 25 km west, is serviced by Air Creebec and chartered flights.

### **7.d) Climate**

The climate of the area is sub-arctic. This climatic zone is characterized by long, cold winters and short, cool summers. Daily average temperatures range from -20°C in January to +17°C in July. Break-up usually occurs early in June, and freeze-up in early November.

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<sup>10</sup> CCDC: Cree Construction and Development Corporation.



**Nemaska Exploration Inc.**  
**Facilities**  
**in the Lac Arques area**  
**LAC ARQUES PROPERTY**

PREPARED BY: SOLUMINES  
 DATE: 2010/07/09

**FIGURE 3**

## **8.0) HISTORY**

### ***8.1) Work Done by the Quebec Government***

Over the years, the Quebec Government has conducted numerous geological surveys and studies in the James Bay area. Geological surveys by Valiquette in the 1960s, reported under RP 518 and 534 and later integrated in RP 158, are helpful as they cover the entire area of the Lac Arques property. Figure 6 of this report, entitled "Property Geology", downloaded from the Sigeom<sup>11</sup> files, is based on the Valiquette maps, still widely used by the industry. In 1998, the same ministry released the results of regional bottom lake sediment sampling done in 1997.

### ***8.2) Work Done by Mining Corporations***

The first exploration reported in the area dates back to 1962, with work by Noranda on the property, in the Lac Lemare area. Four holes were drilled, but unfortunately no assay data is provided. From 1963 to 1996, Noranda did not report any exploration. In 1996, exploration resumed with an airborne magnetic and electromagnetic survey in the Lac Voirdye area. Sirios optioned the Noranda property, and in 1997, a prospecting and sampling program produced a grab sample that returned 6.1% Cu and 598 g/t Ag from the Lac Lemare West showing.

In 1963, Inco reported nine drill holes, also in the Lac Lemare area. Once again, no assays are reported. In 1964, after drilling 22 holes on what is now the Lac Levac property, Inco discovered the Lac Levac (Nisk-1) deposit. In 1969, Nemiscau Mines Ltd., a subsidiary of Inco, drilled four more holes on the deposit. Later, Muscocho Explorations Ltd. acquired the property and drilled 16 holes in 1987-88 after completing a ground EM and Mag survey. Peak values of 1.58% Ni and 31.3% Cr were obtained. In 1996, Muscocho became Golden Goose Resources Inc.

Ten years later, in 2006, Aeroquest completed an airborne Mag and EM survey for Golden Goose on the Lac Levac property. In 2007, Golden Goose completed an InfiniTEM survey over three small grids in the NE extension of the deposit. That same year, 10 holes were drilled on the deposit and a new resources estimate was calculated. At the same time, three holes were drilled on InfiniTEM anomalies. Background values were obtained, except for Hole TF-02-07, which was slightly anomalous in Ni and Pd. Finally, in 2007-2008, 53 more holes were drilled on the deposit and a new NI 43-101 resource calculation was done by RSW. Resources now stand at:

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<sup>11</sup> Sigeom: Quebec Ministry of Natural Resources Database.

	Tonnes	% Ni	% Cu	% Co	g/t Pd	g/t Pt
Measured	1,255,000	1.09	0.56	0.07	1.11	0.20
Indicated	783,000	1.0	0.53	0.06	0.91	0.29
Inferred	1,053,000	0.81	0.32	0.06	1.06	0.50

In 1973, Canex Placer Ventures carried out geological reconnaissance, ultramafic sampling and soil and silt sampling in the Lac Valiquette and Lac des Plages area. Ultramafic sampling from the Lac des Plages area (immediately south of the property) returned 0.38% Ni.

From 1975 to 1982, James Bay Development Corporation (SDBJ) conducted a regional, large-scale geochemical survey (lake bottom sediments sampling) over the entire area, followed by an airborne EM and Mag survey (Input by Questor). Their ground work was concentrated in the Lac Valiquette and Lac des Montagnes area, to the west of the property. Finally, in 1981-82, SDBJ initiated the UQAT project, after a radioactive water source (up to 1% U) was discovered in the 32O11 area, about 10-15 km south of the property. Ground work followed, but failed to identify the source of radioactive water. In 2007, International Kirkland Minerals flew an airborne VLF Mag and radiometric survey over the area explored for uranium in 1981-82 by SDBJ.

From 1985 to 1988, Westmin Resources was active in the Lac Sillimanite and Lac de la Hutte area. The company conducted airborne and ground Mag and EM surveys over five properties, followed by soil sampling and prospecting. A gold-arsenic occurrence was discovered in the Lac Sillimanite area of the property, and returned 1.2 g/t Au and 12.5% As.

In 2003, SOQUEM did ground geophysics, soil sampling and geology on two grids located to the SW of the property, followed by diamond drilling. Slightly anomalous Zn and Cu values hosted in an amphibolite were obtained. The exploration history is summarized in Table 2 below. The mineral occurrences described are shown in the figures entitled “Diamond Drill Hole Compilation Map” and “Property Geology”, later in this report.

In 2007, Eloro Resources (GM 63150, 64582) completed a 19-hole drilling program totalling 2,200.7 m on their Rupert Sud property, located in the immediate vicinity of the southern part of the property. The purpose of this program was to test the lateral and depth extensions and characterize the geological context of the Lac Lemare West showing, which returned historical values of 6.1% Cu, 3.24% Cu and 589 g/t Ag in grabs samples. The best values were obtained in Hole RS-07-05, drilled under the showing, with 19.9 g/t Ag 1.59% Cu over 0.3 m, 19.6 g/t Ag and 1.79% Cu over 0.3 m and 18.2 g/t Ag and 1.6% Cu over 0.05 m. All these values are associated with quartz veins with chalcopyrite. Other holes returned anomalous Cu values and, in the case of Hole RS-07-15, a sericite alteration zone over 15 m.

Table 2: History

Year	Company	Exploration	Results
1962	Noranda Exploration GM 12635	4 DDH totalling 1,507', south of the property	Imprecise location in the Pike Lake and Lac Lemare area. No assay results indicated. Intersected amphibolites, pegmatites, gneiss and metasedimentary rocks.
1963	Inco GM 13414	9 DDH, totalling 453'. 4 were lost in overburden. Drilled on the same property as reported in GM 12635 by Noranda	Imprecise location, no assay results indicated. Same geology as GM 12635 by Noranda.
1964	Inco GM 16857	22 drill holes totalling 3,452 m on the Nemiscau property, now the Lac Levac property	Discovery of the Lac Levac (Nisk-1) nickel deposit.
1969	Nemiscau Mines Ltd. (Inco) GM 25001	4 drill holes totalling 904 m drilled on the Lac Levac property.	Drilling of the deposit.
1973	Canex Placer Ventures GM 34021	Geological reconnaissance, ultramafic sampling, soil and silt sampling.	Lac des Plages ultramafic (just south of the property) returned 0.38% Ni in grab samples.
1975	SDBJ GM 34034	Regional lake bottom sediment sampling	Large-scale survey, 1 sample/2 km <sup>2</sup> . Field report, no assays results reported.
1979	SDBJ GM 38184	Regional exploration program for Ni and asbestos.	Geology and sampling on Lac Valiquette showing west of the property returned 1.59% Ni and 0.56% Cu over 3 m in chip samples. On a high magnetic anomaly W of the property, only blocks of magnetite-bearing gneiss were discovered. The Lac des Plages showing south of the property was also visited.
1980	SDBJ GM 37998	Lien project. Regional lithium exploration.	Survey covered the western part of the property and an area 4 km to the west. Anomalies located in the Lac des Montagnes area.
1981	SDBJ GM 38445	Regional magnetic and airborne Input survey.	Sheets 7 and 8 cover a portion of the Lac Arques property. Input associated with a high mag in the NE part of the property
1981	SDBJ GM 38446	Geology and geophysics (Mag + MaxMin) targeted on Input anomalies.	Three grids surveyed to the SW of the property. All the Input data was confirmed; ultramafic rocks were observed north of Lac de la Hutte
1982	SDBJ GM 9991	Geology and geophysics (Mag + MaxMin) targeted on Input anomalies.	Three grids surveyed: Grid 6 south of Lac du Spodumène, west of the property, Grid 7 just outside the western limit of the property, and Grid 8 on the western part of the property, which revealed two short EM anomalies.
1981 1982	SDBJ GM 38447+38449	UQAT Project. Uranium exploration, based on the results of the lake bottom sampling.	Two water sources located south of the property, with U values of up to 1%. Bedrock source not located. Indicates that several swamps have a high enough U grade but not the tonnage needed to be economically mined.
1985	Westmin Resources GM 42344	Exploration in the Lac Sillimanite area.	Discovery of a gold-arsenic occurrence on the property, with 1.2 g/t Au and 12.5% As in grab samples.
1987	Westmin Resources GM 42340	Dighem survey in the Lac Crochet area	Anomalies located in the Lac Crochet area, respectively south and east of the property.
1987	Westmin Resources GM 45242	Dighem survey over several areas: Lac Crochet, Lacs Noirs, Lac de la Hutte and Lac Sillimanite	Lac Sillimanite survey in part on the property.
1987	Westmin Resources GM 46064	Geophysical review and recommendations, Lacs Noirs area	Mag and EM surveys recommended following the Dighem survey, area located west of the

			property.
1988	Westmin Resources GM 46106	Ground geophysics, soil sampling and prospecting over five properties	14 targets with coincident soil anomalies recommended for drilling, with four of them on the Lac Sillimanite grid.
1987	Muscocho Explorations Ltd. GM 45584	Ground Mag and VLF on the Lac Levac property, just south of the property	Mag and EM anomalies located.
1988	Muscocho Explorations Ltd. GM 47653	16 holes drilled on the Lac Levac property	Peak values of 31.3% Cr and 1.58% Ni obtained (not in the same sample).
1996	Noranda Mining and Exploration Inc. GM 54501	Airborne magnetic and EM survey in the Lac Voirdye and Lac des Plages areas	Covering the seven claims of the property located on the NE part of Lac Voirdye.
1997	Sirios GM 55737	Geological mapping and prospecting in the Lac Voirdye and Lac des Plages areas optioned from Noranda.	Sampling of the Lac Lemare West showing with a peak of 6.1% Cu, 598 g/t Ag in a grab sample.
2003	Soquem GM 60504	Ground geophysics, soil sampling and geology on several grids, including two (276 centre and south) located just south of the property	Drilling recommended on both grids.
2003	Soquem GM 61565	Diamond drilling on grids 276 centre and south Hole location shown on DDH map	Hole 2003-03 returned 0.45% Cu/0.6 m Hole 2003-04 returned 0.23% Zn/1.0 m Hole 2003-05 returned 0.33% Zn/1.0 m All values obtained in amphibolites, Zn values in holes 04 and 05 associated with slightly anomalous Pt values.
2006	Golden Goose Resources Inc. GM 62680	Aeroquest, magnetic and electromagnetic airborne survey, over the Lac Levac property	861 line-km flown immediately south of the property
2007	International Kirkland Minerals GM 62785	Airborne VLF, Mag and radiometric survey	Survey located south of the property
2007	Eloro Resources GM 63150+64582	Diamond drilling program. 19 holes totalling 2,200.7 m in the immediate vicinity of the southern part of the Lac Arques property	Hole RS-07-05 returned up to 19.6 g/t Ag and 1.79% Cu over 0.30 m associated with quartz veining with chalcopyrite. Other holes returned anomalous Cu values.
2007	Golden Goose Resources Inc. GM 62939	InfiniTEM survey over three small grids in the Lac Senay, Lac de l'Andalousite and Lac de la Chlorite areas, immediately south of the property	9 EM conductors located.
2007	Golden Goose Resources Inc. GM 63212	NI 43-101 report: 13 holes drilled: 10 on the Lac Levac (Nisk-1) deposit and three on the InfiniTEM anomalies in the Lac de l'Andalousite area.	Lac Levac (Nisk-1) deposit resource update: Indicated: 516,000t @ 0.89% Ni, 0.39% Cu, 0.058% Co, 0.14 g/t Pt, 0.79 g/t Pd. Inferred: 734,000t @ 0.89% Ni, 0.34% Cu, 0.06% Co, 0.14g/t Pt, 0.79 g/t Pd.
2008	Golden Goose Resources Inc GM 63939	Geology visit of ultramafic outcropping, Lac Levac property.	Outcrops sampling in the Lac des Plages area.
2008	Golden Goose Resources Inc. <a href="http://www.goldengooseres.com">www.goldengooseres.com</a>	NI 43-101 report: 53 holes totalling 11,156 m. Nisk-1 resource update	Nisk-1 resource update: Measured: 1,255,000 t @ 1.09% Ni, 0.56% Cu, 0.07% Co, 1.11 g/t Pd, 0.20 g/t Pt. Indicated: 783,000 t @ 1.0% Ni, 0.53% Cu, 0.06% Co, 0.91g/t Pd, 0.29 g/t Pt. Inferred: 1,053,000 t @ 0.81% Ni, 0.32% Cu, 0.06% Co, 1.06 g/t Pd, 0.50 g/t Pt.

## **9.0) GEOLOGICAL SETTING**

### ***9.1) Regional Geology***

The Lac Arques property is located in the northeastern part of the Superior province, which itself lies in the heart of the Canadian Shield. The Superior province extends from Manitoba to Quebec, and is mainly made up of Archean rocks. The general metamorphism is at the greenschist facies, except in the vicinity of intrusive bodies, where it can go to the amphibolite-to-granulite facies. In Quebec, the eastern extremity of the Superior province has been classified into the following sub-provinces, from south to north: Pontiac, Abitibi, Opatoca, Nemiscau, Opinaca, La Grande, Ashuanipi, Bienville and Minto.<sup>12</sup> According to Card and Ciesielski (1986), the area covered by the property is located in the Opinaca or Nemiscau sub-province. Figure 4, “Regional Geology”, shows the position of the property at the eastern edge of the Superior province

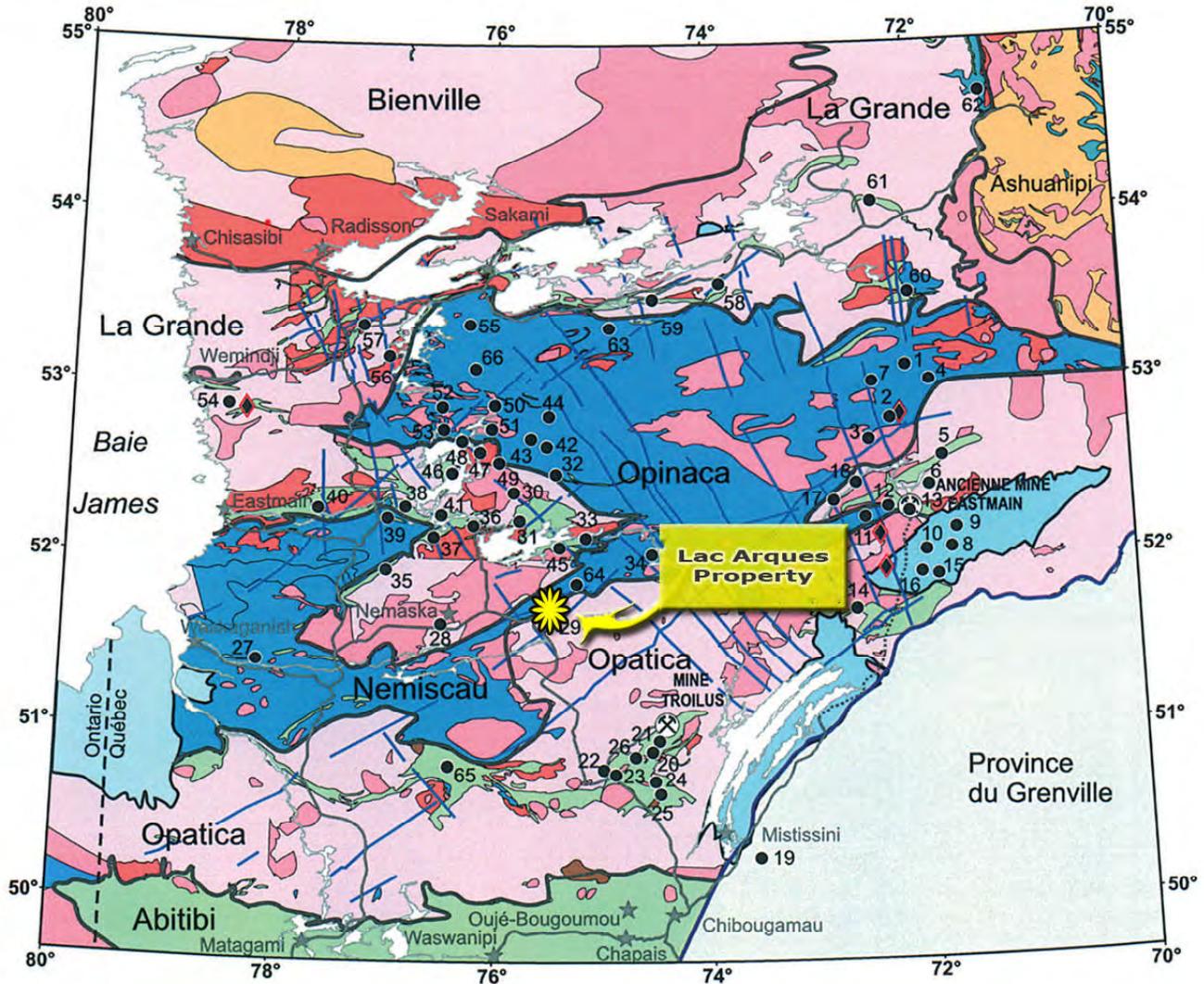
### ***9.2) Local Geology***

The Lac Arques property is located in the Lac des Montagnes volcano-sedimentary formation, between the Champion Lake granitoids and orthogneiss and the Opatoca NE, which is made of orthogneiss and undifferentiated granitoids. The Lac des Montagnes belt is several kilometres wide and oriented northeast, and is made up of a sequence of aluminous paragneiss and amphibolites (basaltic lavas, ultramafic sills and flows). These rocks are strongly deformed and cut around 20% of late granitoids (leucogranites and biotite-bearing white pegmatites). The position of the property relative to the Lac des Montagnes belt and the Champion Lake and Opatoca NE terranes is shown in Figure 5, “Local Geology”.

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<sup>12</sup> Classification by Hocq, M., in Géologie du Québec, MM 94-01

# QUÉBEC



### Paléozoïque

Roches sédimentaires

### Protérozoïque

Roches sédimentaires clastiques et dolomitiques

Dykes de diabase

### Archéen

Granite et paragneiss

Paragneiss

Tonalite, monzodiorite et monzonite

Gabbro et diorite

Séquence volcano-sédimentaire

Granulite

Socle tonalitique (gneiss et tonalite)

Route

Roches kimberlitiques

Route d'hiver

Mines



LAC ARQUES PROPERTY

0 50 100 km

Excerpt from DV 2006-01, MRNFQ 2005

*Nemaska Exploration Inc.*  
**Regional Geology**  
**LAC ARQUES PROPERTY**

PREPARED BY: SOLUMINES  
 DATE: 2010/20/10

**FIGURE 4**

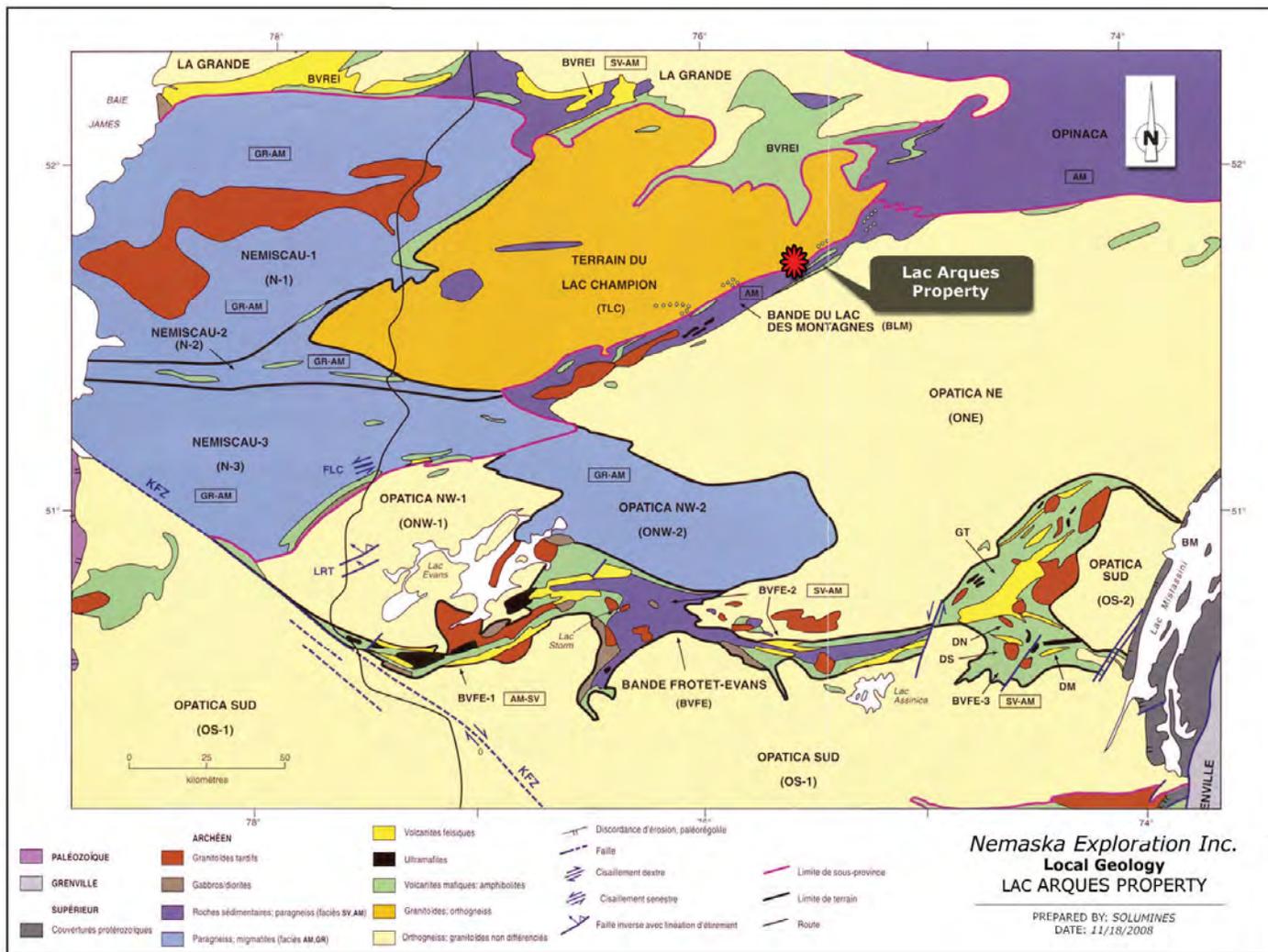


Figure 5: Local Geology

### 9.3) Property Geology

The property is located in the northeastern part of the Lac des Montagnes formation, which is approximately 3 km wide in the area covered by the property.

The property covers a large area totalling 38,334.38 ha. The Lac des Montagnes volcano-sedimentary formation crosses the property in a northeast direction. In the area covered by the property, it is composed of paragneiss<sup>13</sup>, amphibolites and granitic intrusives. Geophysical surveys show the signature and extent of ultramafic intrusions, with some of them confirmed by Golden Goose drilling. To the north of the Lac des Montagnes formation, mainly orthogneiss<sup>14</sup> intruded by granite has been observed, while the area south of this formation is composed mainly of paragneiss, also intruded by granite. The relative age of the formations is indicated in Table 3 below. The property geology is illustrated in Figure 6.

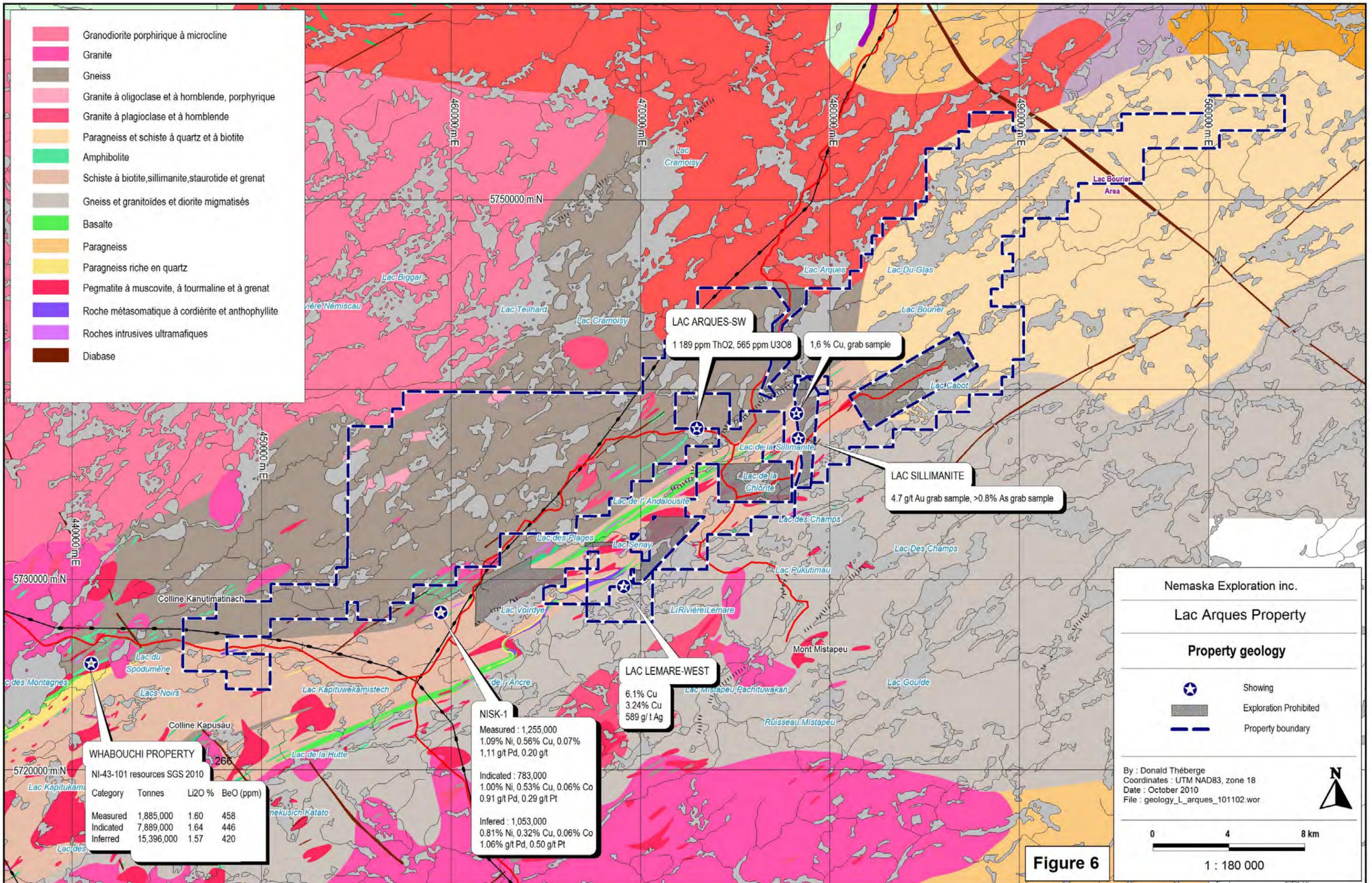
*Table 3: Table of Formations*<sup>15</sup>

Pleistocene and Holocene	Moraines, eskers, alluvial deposits, reticulated peat bogs, morainic belts
PRECAMBRIAN	11: Diabase
	10: Pegmatites a) White with muscovite, tourmaline, garnet and magnetite b) Pink, with microcline
	9: White and pink granite
	8: Grey hornblende-oligoclase granite with phenocryst of pink microcline
	7: Ultramafic rocks: Serpentinites, tremolite rocks
	6: Hornblende-plagioclase gneiss
	5: Metasomatic anthophyllite-cordierite rocks (mineralization susceptible)
	4: Paragneiss or biotite schists; garnet-biotite schists; porphyroblastic schist: Garnet, sillimanite, biotite Garnet, cordierite, biotite Garnet, andalousite, biotite Staurotide, sillimanite, andalousite, biotite Sillimanite, cordierite, andalousite, biotite Amphibole paragneiss
	3: Quartz-rich paragneiss; sillimanite, sericite and quartz schist; impure quartzite
	2: Pillowed metavolcanic amphibolites
1: Oligoclase gneiss	

<sup>13</sup> Paragneiss: Gneiss formed from a metamorphosed sediment.

<sup>14</sup> Formed from a metamorphosed granite.

<sup>15</sup> From RP 158, Valiquette, G., 1975: Région de la rivière Nemiscau. Ministère des Richesses Naturelles du Québec



Nemaska Exploration inc.  
 Lac Arques Property  
 Property geology

- Showing
- Exploration Prohibited
- Property boundary

By : Donald Théberge  
 Coordinates : UTM NAD83, zone 18  
 Date : October 2010  
 File : geology\_L\_arques\_101102.wor

0 4 8 km  
 1 : 180 000

## 10.0) DEPOSIT TYPES

The geology of the property is complex and still partly unexplored. At this point, eight types of deposit may occur on the property. They are described below in order of priority.

- Magmatic nickel-copper sulphide deposits associated with an ultramafic intrusion

With the production in 2008 by Golden Goose of an updated resource estimate for the Nisk-1 deposit (Lac Levac property), located less than 1 km south of the Main Block of the Lac Arques property, it is now obvious that the main type of deposit searched for will be of the Nisk-1 type. Nisk-1 was described by Pierre Trudel, Eng, Ph.D.<sup>16</sup> as a magmatic nickel sulphide deposit associated with an ultramafic intrusion. Known orebodies of this type are Voisey's Bay (Labrador) and Lynn Lake (Manitoba). A 2008 NI 43-101 resources estimate by RSW Inc. returned the following results:

*Table 4: Nisk-1 deposit, NI 43-101 resource estimate*

Category	Tonnes	% Ni	% Cu	% Co	g/t Pd	g/t Pt
Measured	1,255,000	1.09	0.56	0.07	1.1	0.20
Indicated	783,000	1.0	0.53	0.06	0.91	0.29
Inferred	1,053,000	0.81	0.32	0.06	1.06	0.50

- Magmatic nickel-copper sulphide deposits associated with ultramafic flows

Volcanic ultramafic flows have been observed on the property in close association with mafic volcanics and sulphide-bearing gneiss. Known orebodies of this type are Raglan in northern Quebec and Marbridge in the Malartic area.

- Volcanogenic massive sulphide (VMS) deposits

As the property covers part of the Lac des Montagnes volcano-sedimentary formation, volcanogenic massive sulphide (VMS) type deposits associated with metamorphosed intermediate to felsic volcanics should be considered. Known examples of this type of deposit, albeit in less metamorphosed formations, are the Horne Mine in Rouyn-Noranda and the Matagami Lake Mine in Matagami. What is believed to be an exhalative horizon was discovered during summer work in the Lac Bourrier area. This kind of geological formation may be associated with the capping of a VMS deposit.

<sup>16</sup> In Trudel, P., 2008: Calcul des ressources du gisement NISK-1, propriété du lac Levac, Nemiscau, Québec. Rapport technique NI 43-101, Golden Goose Resources Inc., source: [www.nemaskaexploration.com](http://www.nemaskaexploration.com)

- Lithium (spodumene) bearing pegmatites

The Whabouchi lithium / beryl deposit owned by Nemaska Exploration is located less than 4 km west of the western boundary of the Lac Arques property. NI 43-101 resources were evaluated by SGS in 2010 and stand as follow:

*Table 5: Whabouchi, NI 43-101 resource estimate*

Category	Tonnes	Li <sub>2</sub> O %	BeO (ppm)
Measured	1,885,000	1.60	458
Indicated	7,889,000	1.64	446
Inferred	15,396,000	1.57	420

- Exhalative massive sulphides in quartzite (Sedex) deposits

During the geological survey done in the summer of 2010, exhalative massive sulphides in quartzite (Sedex) was observed in the Lac Bourier and Lac Voirdye area. This type of mineralization was observed also in the area of the Caumont West and Caumont East blocks of the Lac des Montagnes property (50 km to the southwest). Given the 2010 summer geology work, it appears that the Lac des Montagnes volcano-sedimentary formation contains a disrupted horizon of exhalative massive sulphides traced over 90 km along the formation and still open at both ends. There are no known examples of this type of deposit in Archean rocks.

- Gold and gold-arsenic occurrences

A gold occurrence associated with arsenic (1.2g/t Au 12.5% As) was discovered by Westmin in 1985 in the Lac Sillimanite area in an impure quartzite (GM 42344) and re-assayed by Nemaska Exploration in November 2008, returning 4.7 g/t Au, and >8,000 ppm As in a grab sample.

- Uranium and associated elements in pegmatites

Samples taken during a site visit were slightly anomalous in U and its associated elements (thorium, yttrium, lanthanum, hafnium, etc). Also, a uranium–thorium occurrence was discovered around 1978 in a pegmatite with 1,189 ppm ThO<sub>2</sub> and 565 ppm U<sub>3</sub>O<sub>8</sub>, close to the edge of the property. It is identified on the maps as the Lac Arques SW occurrence. In 1982, the SDBJ (GM 38447) reported the discovery of radioactive boulders in the Lac Lacroix area, about 15-20 km S of the southern property boundary. In the same area, SDBJ discovered two water sources named Zita and Maria. The first one returned a grade of 0.8% uranium. SDBJ speculates that the uranium enrichment is probably due to uranium-bearing pegmatites and/or pink granites.

- Banded Iron Formation (BIF) deposits

During the geological survey done in 2008 and 2009, a banded iron formation (BIF) was observed on all along the sedimentary belt. These iron beds were included within amphibolite quartz-rich paragneiss<sup>17</sup>, biotite and sillimanite-bearing biotite schist. Known examples of this type of deposit are the Wabush and Fermont mines in the Labrador Trough.

## 11.0) MINERALIZATION

No mineralization with estimated resources has been discovered on the property.

## 12.0) EXPLORATION

Nemaska has carried out the following exploration since acquiring the property:

*Table 6: Exploration Work Completed by Nemaska*

Date	Work
<b>2008</b>	
March 2008	Geochemical report entitled "Nickel Copper Exploration, Arques Lake Property", by Marc Beaumier, geologist
June 2008	Helicopter-borne survey using an AeroTEM IV time-domain helicopter electromagnetic system employed in conjunction with a high-sensitivity caesium vapour magnetometer. Total coverage of 1,370.6 km, of which 1,324.7 line-km fall within the project area. Survey done by Aeroquest.
September 2008	Interpretation report of the AeroTEM IV survey, and recommendations for ground follow-up and drilling by Geophysics GPR International Inc.
November 2008	Geological mapping of the Rupert Diversion Tunnel, by Denis Raymond, Eng., M.Sc.
<b>2009</b>	
June 2009	Helicopter-borne magnetic and gamma-ray spectrometry, by Geophysics GPR International Inc. Magnetic and time-domain survey covering a total of 3,295 line-km. The magnetic and spectrometric survey totalled 3,115.4 km.
July 2009	Geological mapping and prospecting over the most prospective areas as defined by the preceding surveys, by Denis Raymond, Eng., M.Sc.
2009	Compilation of airborne surveys, and Ni-Cu targets interpreted by airborne geophysics.
<b>2010</b>	
June-August 2010	Prospecting and sampling over selected geophysical targets, and soil survey, Bourier Lake area.
July 2010	Helicopter-borne time domain EM survey, 496 line-km flown over the Rupert complex in the central part of the property. Six (6) well-defined EM anomalies discovered.
September 2010	Helicopter-borne time domain EM and magnetic survey totalling 968 km covering the eastern part of the property (east of Bourier Lake) and called the Bourier survey. Numerous EM anomalies were located, closely associated with magnetic anomalies.

A complete description of previous exploration work by Nemaska can be consulted in a report entitled "NI 43-101 Qualifying Report pertaining to the Lac Arques Property, James Bay Area, NTS

<sup>17</sup> Paragneiss: Gneiss formed from metamorphosed sediment.

Sheet 32O/11, 32O/12, 32O/13 and 32O/14, prepared for Nemaska Exploration Inc.," dated October 5, 2009, and updated on December 14, 2009.

### **12.1) Exploration completed by Nemaska prior to 2010**

#### **2008:**

Marc Beaumier geochemical report: Marc Beaumier, a consulting geologist for Nemaska, wrote a report entitled "*Nickel Copper Exploration, Arques Lake Property*". This report was based on lake bottom sediment sampling done by the MRNFQ in 1998 and filed under DP 98-01, entitled "*Résultats d'analyse de sédiments de fond de lacs, grand nord du Québec*".

From the observations of Ni anomalies in lake bottom sediment sampling and their association with magnetic anomalies, he concludes that: "*The type of mineralization that may be present is magmatic, associated with the presence of ultramafic rocks. The presence of 1 million tons of nickel ore at Golden Goose's Lac Levac property is a clear indication of the fertility of the magma source in the general area.*"

Helicopter-borne survey by Aeroquest: In September 2008, Marc Boivin and Réjean Paul, both geophysicists, prepared a geophysical interpretation report for the Aeroquest AeroTEM IV survey, which included anomaly classification, exploration target identification and diamond drilling proposal for the Lac de la Chlorite area.

Rupert Diversion Tunnel, mapping: In November 2008, Denis Raymond, Eng., M.Sc., was mandated by Nemaska to complete the geological mapping and sampling of the Rupert Diversion Tunnel. The Rupert Diversion Tunnel is surrounded by Nemaska's claims, and while located in an area where exploration is prohibited, mapping and sampling can provide information on the geological setting in this part of the Lac Arques property. The tunnel has since been completed and is now flooded.

The tunnel is more than 3.24 km long, including the loading basin and the return channel. Mapping and sampling were completed over the 2.9 km between the south and north portals. The tunnel is 12.7 m wide by 18.6 m high. Floor elevation varies from 293 to 249 m. The tunnel goes under Sillimanite Lake. Between the lake and the tunnel roof, the rock thickness varies from 34 to 40 m. Geological mapping and sampling were done on the east wall, at a height of approximately 1.5 m.

During geological mapping, 103 samples were taken for assaying, including 50 witness samples. The best results were as follows:

*Table 7: Tunnel Sampling, Best Assay Results*

Sample #	Station N	Au ppb	Cu ppm	Ni ppm	As ppm	Remarks
567009	1,475	300	77	65	<2	2% pyrite in a diorite
567054	2,857	28	1,887	59	<2	Sillimanite gneiss
567064	3,300.5	25	16,125	226	20	2% Py, 2% Po and 7% Cp in a vein located in the amphibolite
567065	3,303	10	2,401	380	<2	2% Py, 15% Po, and 2% Cp in a vein located in the amphibolite
567066	3,305	7	4,951	264	3	3% Py, 3% Po and 2% Cp in a vein located in the amphibolite
567076	3,546	8	2,883	173	15	4% Py in a grey gneiss
567079	3,617	<5	912	357	2,244	20% Py and 30% Po
567094	3,980	111	42	94	>8,000	3% disseminated arsenopyrite

The Sillimanite Lake showing was also visited. In 1985, Westmin Resources reported grades of 1.2%, 3.1% and 12.5% As. This showing is located on Nemaska's claims, close to the boundary with the prohibited exploration area covering the Rupert Diversion Tunnel. Three grab samples were taken. Sample #567104 revealed 4.7 g/t Au, 135 ppm Cu, 1,326 ppm Ni and >8,000 ppm As, associated with 7% Py and 15% arsenopyrite.

#### **2009:**

Geophysics GPR International Inc. helicopter-borne geophysical survey: In June 2009, Geophysics GPR International Inc. was mandated by Nemaska to survey the Lac Arques property. GPR flew a helicopter-borne magnetic, time-domain electromagnetic and gamma-ray spectrometry geophysical survey. The survey was composed of two partially superimposed blocks for a minimum coverage of 6,323 line-km. The magnetic and time-domain electromagnetic survey covered a total of 3,295 line-km. The magnetic and spectrometric survey totalled 3,115.4 line-km.

Geological mapping and prospecting: From July 8 to 30, 2009, a four-person team carried out a limited ground exploration program. Magnetic, electromagnetic and radiometric anomalies generated by the GPR's airborne survey were used to define the areas to be prospected. For this purpose, geophysicist Marc Boivin identified 271 anomalies of interest. To choose the EM anomalies to be prospected, a filter taking into account the following items was applied:

- The anomalies should be located on or in close proximity to the property;
- They must be located in an interesting geological setting;
- Anomalies should be accessible by road or boat or be within walking distance.

Finally, 52 EM targets on the property and 26 in its immediate vicinity were visited. Prospecting was conducted with the support of Beep-Mat instruments capable of detecting EM conductors at a depth of 0 to 1.5 m. When possible, conductors were exposed and sampled. Due to limited exposure, generally only the conductive zone was sampled. Uranium prospecting was limited to three days,

which is considered inadequate to establish the uranium potential of the property. For ease of location and with respect to the geologic domains, the prospected anomalies were divided into six areas from W to E, as follows:

- Voirdye Lake area;
- Andaloussite Lake area and Chlorite Lake;
- Sillimanite West Lake area;
- Sillimanite Lake area;
- Bourier Lake area and Cabot Lake, and finally
- The other non-classified anomalies in the preceding areas.

#### Voirdye Lake area:

The Voirdye Lake area is characterized by a string of EM anomalies oriented between 220° and 240°. They can be traced for more than 5 km, with 2.5 km located on the Lac Arques property.

Anomalies were explained by 30 to 50 cm wide layers of disseminated to massive sulphides. Pyrrhotite dominates, and pyrite and chalcopyrite are less abundant. In the SW part, the conductive zone is discontinuous and located north of a quartzite layer. In the center, many parallel EM conductors form a 25 to 40 m wide conductive envelope, which has been traced for 500 m. Where they are exposed, these conductors are located between a massive grey quartzite and sheared part of mafic to ultramafic rocks, usually magnetic and intercalated to the north with biotite, anthophyllite and garnet-bearing paragneiss. Twenty-three samples were taken from the sulphide zones and the surrounding rocks. Assaying revealed only background values.

#### Andaloussite Lake and Chlorite Lake area:

This area is characterized by a sequence of amphibolitic and ultramafic rocks already identified on the neighbouring Golden Goose property. This geology is continuous up to the northern part of the claims of this area. The southern part is characterized by paragneiss and pegmatitic intrusions. The area was visited twice in 2009 and appears favourable for magmatic nickel type deposit. Samples from mafic to ultramafic rocks returned nickel values of from 600 to 1,561 ppm. One sample, #753574, returned an anomalous arsenic value of 1,099 ppm.

#### Sillimanite West Lake Area:

The Sillimanite West Lake area contains EM anomalies located on the property and in an area where exploration is currently prohibited due to hydroelectric project constraints. Almost all the conductors are associated with thin layers of semi-massive sulphides composed of pyrrhotite, arsenopyrite or pyrrhotite and graphite. Sulphides are in the form of 5 to 30 cm layers several metres to several decimetres long and parallel to the regional schistosity. These small sulphide clusters are located at

the paragneiss/quartzite contact. Graphite occurs locally. Of the 22 samples taken, one boulder returned >8,000 ppm As, 1,193 ppm Co and 1,870 ppm Ni.

#### Sillimanite Lake Area:

The eleven anomalies located north of the lake are geologically associated with an assemblage of biotite-, sillimanite- and garnet-bearing paragneiss, locally containing pyrrhotite and/or arsenopyrite mineralization. The Sillimanite Lake showing (4.7 g/t Au, >8,000 ppm As) corresponds to an EM anomaly. Two new 20 m long EM conductors have been mapped close to this showing. They are oriented N-S. Many EM anomalies seem to have no near-surface exposure. One conductor made of massive pyrrhotite layers has been observed between a migmatized grey gneiss and white pegmatite, and was mapped over more than 100 m. Only a few of the seventeen samples taken returned slightly anomalous copper values.

#### Bourier Lake area and Cabot Lake:

This area contains more than 100 airborne EM anomalies. These anomalies form two conductive bands more than 8 km long, oriented at 240° and associated with a strong magnetic environment. Only 13 of them were visited during the summer of 2009, as they were easily accessible.

North of Cabot Lake, an outcrop of ultramafic rocks in contact with barren sulphides in biotite-bearing gneiss was found. This ultramafic is anomalous in arsenic (1,632 ppm As) and nickel (1,281 ppm Ni). Close to the NE boundary of Cabot Lake, an outcropping ridge shows an isolated, 50-m long conductor. It is located at the contact between a magnetic black ultramafic and a grey quartzite, and ends in strong folding and pegmatite. Sulphide-rich samples returned values of 1,236 and 1,016 ppm Ni and up to 2,261 ppm Cu, and the ultramafic assayed 970 ppm Ni.

Other Non-Classified Anomalies in the Preceding Areas: A small cluster of EM anomalies was visited close to the main access road and the power line. Only granodiorite outcrops were found.

### **12.2) Exploration work completed by Nemaska in 2010**

In 2010, the following exploration work was completed:

- Helicopter-borne time domain EM survey totalling 496 lines-km over the Rupert Complex;
- Helicopter-borne time domain EM and magnetic survey totalling 968 lines-km over the eastern part of the property;
- Prospecting and sampling, with a total of 480 samples taken;
- Geochemical soil survey.

It is described below:

12.2.1) TD EM helicopter survey over Rupert Complex

From July 10 to 12, 2010, a time domain EM helicopter-borne survey was flown over the Rupert Complex, located in the center of the property. The Rupert Complex is believed to be a multi-phase intrusion. It is roughly circular, and elongated along a NE/SW axis. Its dimensions are approximately 8x5 km. A total of 496 line-km were flown. They were oriented N/S and 100 m apart, with tie-line every 1,000 m. A total of six well-defined anomalies were identified. The survey location is shown in Figure 7, and survey results are illustrated on Schedule 2.

12.2.2) TDEM and magnetic survey over the eastern part of the property

From September 13 to 16, 2010, a time domain EM helicopter-borne and magnetic survey was flown over the east part of the property, east of Bourier Lake. Its purpose was to verify the east extension of the previously-discovered EM conductor. A total of 968 line-km were flown. They were oriented N/S and 100 m apart, with tie-line every 1,000 m. Numerous EM anomalies closely associated with magnetic features were located. A full survey interpretation will be available in the coming weeks. The survey location is shown in Figure 7, and survey results are illustrated in Schedule 3.

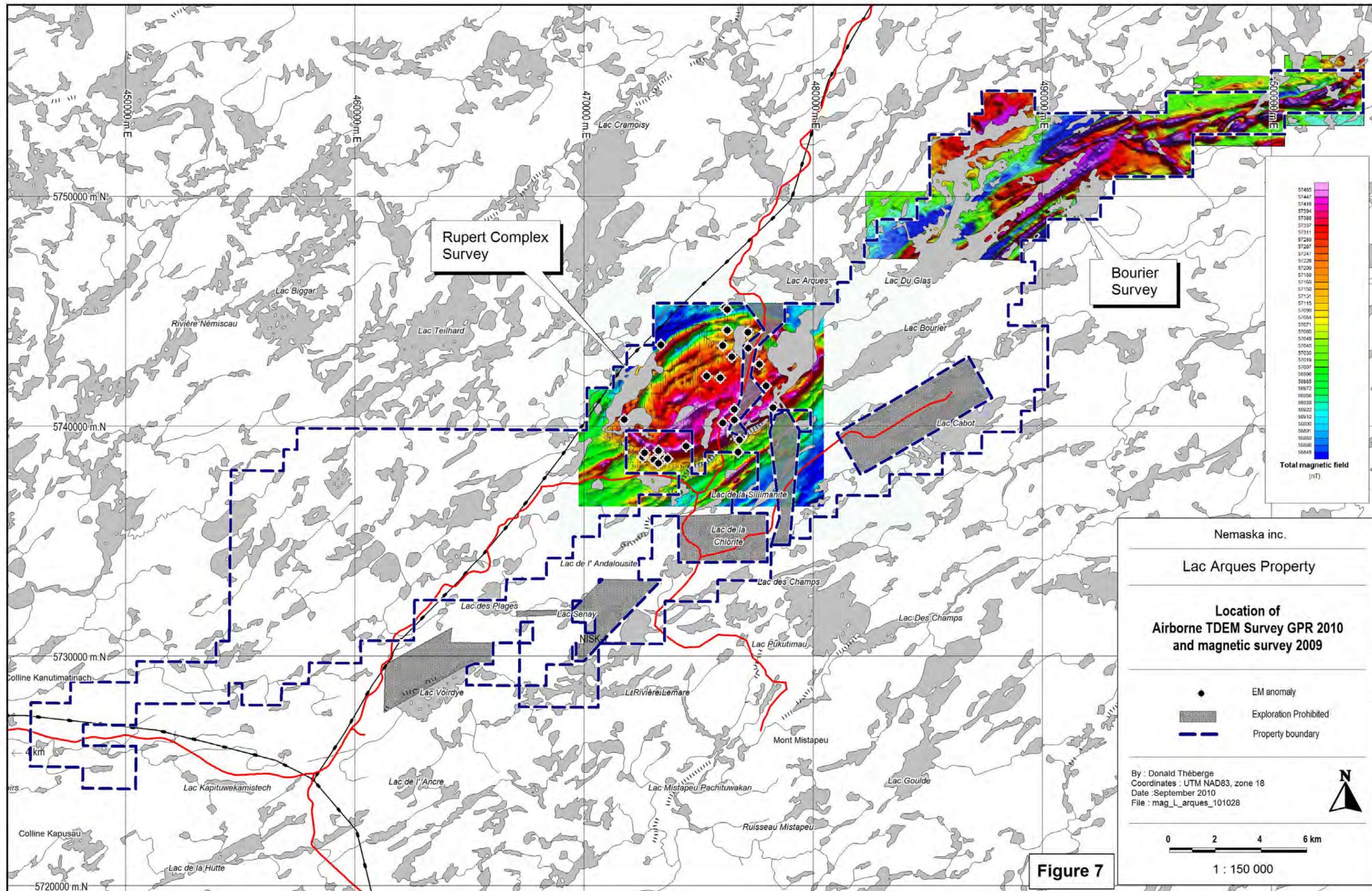
12.2.3) Prospecting and sampling

A total of 480 grab and channel samples were taken. 351 of these were analyzed by ALS Chemex of Val d'Or for 36 elements, namely: Au, Pt, Pd, Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, Zn. Table 8 summarizes the percentiles and the maximum values obtained for the main elements.

*Table 8: Lac Arques sample analyses by ALS Chemex*

		<b>Au</b>	<b>Pt</b>	<b>Pd</b>	<b>Ag</b>	<b>As</b>	<b>Cr</b>	<b>Cu</b>	<b>Fe</b>	<b>Mn</b>	<b>Ni</b>	<b>P</b>	<b>Pb</b>	<b>Zn</b>
		<b>ppm</b>	<b>%</b>	<b>ppm</b>	<b>ppm</b>	<b>ppm</b>	<b>ppm</b>	<b>ppm</b>						
<b>Percentile</b>	90	0.01	0.008	0.007	0.9	82	552	260	21.1	2248	268	1170	22	312
<b>Percentile</b>	95	0.017	0.013	0.012	1.4	490	892	382	26.5	3948	897	1486	30	534
<b>Percentile</b>	98	0.032	0.014	0.016	1.9	1487	1730	463	34	6164	1480	2256	45	918
<b>Max value</b>	Max	0.376	0.02	0.039	16	10000	2870	2660	40	50800	2600	6060	364	2250

With the exception of the maximum values, the most interesting values obtained are for the 98<sup>th</sup> percentile, with 1,487 ppm As and 1,480 Ni. Ni is more abundant than copper most of the samples. Maximum values were up to 0.376 ppm Au, 1% As, 0.26% Cu and 0.26% Ni. Zn values are in the



same order, at 0.22%. The case of Mn is particular, as it returned a maximum value of 5.08% from a grab sample made of massive pyrite. There is currently no explanation for this high Mn content, as only massive pyrite was reported. The sample location is shown in Figure 8.

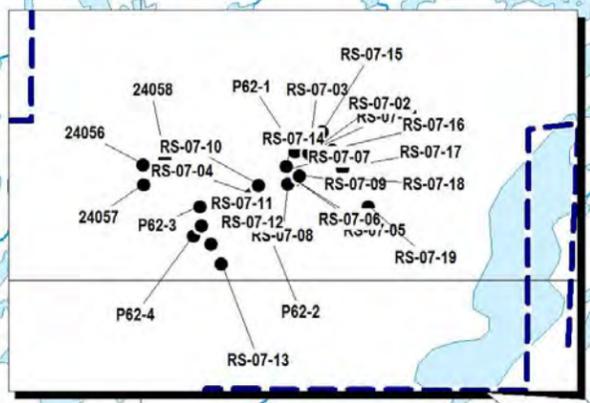
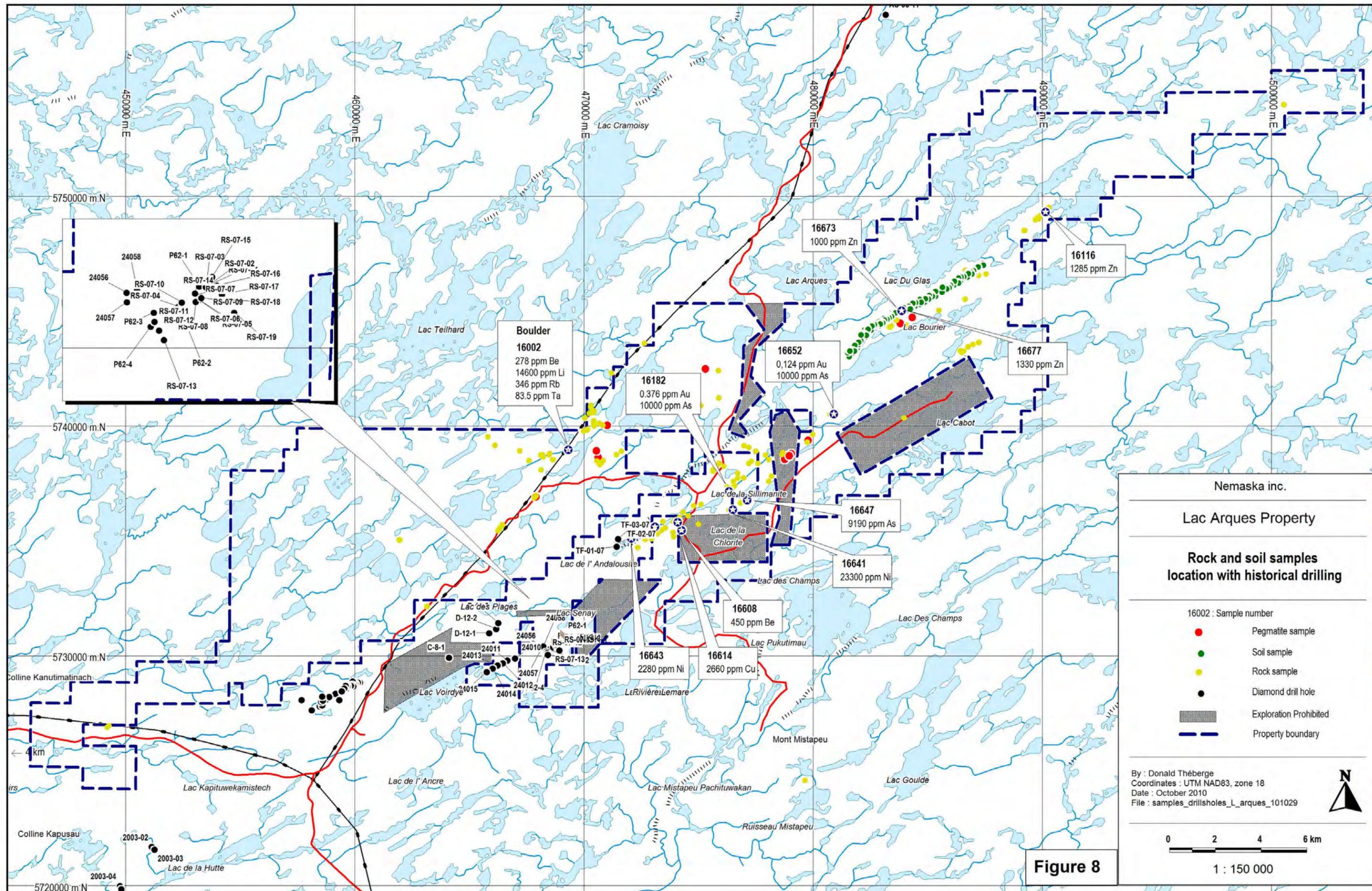
Seventeen pegmatites samples were analyzed by SGS of Toronto, mainly to check their Li and Be content. Seventeen (17) samples were analyzed for a package of 55 elements, including: Al, Ba, Be, Ca, Cr, Cu, Fe, K, Li, Mg, Mn, Ni, P, Sc, Sr, Ti, V, Zn, Ag, As, Bi, Cd, Ce, Co, Cs, Dy, Er, Eu, Ga, Gd, Ge, Hf, Ho, In, La, Lu, Mo, Nb, Nd, Pb, Pr, Rb, Sb, Sm, Sn, Ta, Tb, Th, Tl, Tm, U, W, Y, Yb, Zr.

A pegmatite boulder (Sample #16002) found at UTM coordinates 469334E / 5739004N revealed strong anomalous values, with 278 ppm Be, 1.4% Li, 346 ppm Rb and 83.5 ppm Ta. Two other pegmatite samples returned anomalous values of 105 ppm Be and 150 ppm Li for Sample #16057 and 450 ppm Be for Sample #16608. The results obtained are summarized in Table 9, “Lac Arques property, pegmatite samples”. Sample location is shown in Figure 8.

Finally, 112 whole rock analyses, where the major oxides are evaluated, were performed to characterize the rock. Oxides evaluated are: SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub>, CaO, MgO, Na<sub>2</sub>O, K<sub>2</sub>O, Cr<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, MnO, P<sub>2</sub>O<sub>5</sub>, SrO, BaO, LOI.

Table 9: Lac Arques property, pegmatite samples

Sample	Easting	Northing	Description	Be	Fe	Li	Mn	Rb	Ta
				ppm	%	ppm	ppm	ppm	ppm
16002	469334	5739004	Boulder : Pegmatite, Tr spodumène	278	0.74	14600	980	346	83.5
16010	471013	5740052	Pegmatite avec béryl(?) car roche bleu-métallique <2-4mm	-5	0.61	20	1190	293	12.7
16030	475299	5742517	Pegmatite, 70% Fp, 10-20% Qz, 10-20% Muscovite(2-30mm)	8	0.53	70	80	300	210
16035	467914	5736948	Pegmatite avec trace de Py et Biotite	-5	0.81	20	800	280	33.2
16036	467910	5736943	Pegmatite avec trace- 1% Py loc. Cubique	-5	0.69	10	680	776	10.8
16045	470618	5738670	Pegmatite blanche.	-5	0.62	20	1110	974	13.2
16046	470546	5738947	Pegmatite blanche.	-5	0.48	-10	140	325	1.4
16054	478880	5738731	Pegmatite blanche, Tr.Bo, Tourmaline	-5	0.31	10	50	274	1
16055	478861	5738715	Pegmatite blanche	-5	0.78	40	90	119	1
16056	478867	5738695	Pegmatite, grenat	-5	2.92	230	1090	173	7.9
16057	478769	5738583	Pegmatite blanche, 80% feldspath, 10% QTZ, 6% Bo, 1-2% Tourmaline, grenat	105	1.39	150	1170	102	11.7
16059	479055	5738820	Pegmatite blanche à grenat et tourmaline	-5	0.58	40	560	115	1.8
16060	478965	5738738	Pegmatite blanche à grenat et tourmaline	-5	0.38	40	110	27.9	0.5
16062	479784	5739403	Pegmatite blanche à muscovite et biotite.	-5	0.7	40	200	237	1
16564	484324	5744758	Pegmatite blanche avec des phénocristaux de Feldspath blanc de 30 cm et 2% minéral translucide en bâtonnet, Lépidoite ou texture Qz-Mica, petit affleurement ou gros bloc?	-5	0.77	40	160	202	3.1
16568	483807	5744498	Pegmatite blanche avec 1% Lépidoite?	-5	0.74	-10	180	208	4.9
16608	474106	5735854	Présence de GR noirs, pas de MI, FS noirs	450	0.53	20	580	105	4.6



**Boulder**  
 16002  
 278 ppm Be  
 14600 ppm Li  
 346 ppm Rb  
 83.5 ppm Ta

16182  
 0.376 ppm Au  
 10000 ppm As

16652  
 0.124 ppm Au  
 10000 ppm As

16673  
 1000 ppm Zn

16116  
 1285 ppm Zn

16677  
 1330 ppm Zn

16647  
 9190 ppm As

16641  
 23300 ppm Ni

16608  
 450 ppm Be

16643  
 2280 ppm Ni

16614  
 2660 ppm Cu

#### 12.2.4) Geochemical soil survey

From August 13 to 24, 2010, three hundred and twenty four (324) soil samples were taken in the eastern part of the Lac Arques property, and more precisely in the Bourier Lake area, defined by UTM coordinates 480 000E to 488 000E, or over 8 km. The purpose of this survey was to test whether geochemical anomalies were associated with a long EM conductor. The interest of this conductor lies in the discovery of an exhalative horizon with rhyolites outcropping along it. This geological environment can be favourable to the discovery of volcanogenic massive sulphide type orebodies (VMS).

The B soil horizon was sampled. Samples were generally taken every 25 m, on sampling lines 100 m apart. Because no lines were cut, sampling lines were located using a GPS.

Samples were analyzed by ALS Chemex in Val-d'Or. The ME ICP-41 method was used and 35 elements were analyzed. Results were interpreted using percentiles as follows: <90: not anomalous, 90-95: weakly anomalous, 95-98: anomalous, and >98: strongly anomalous. Table 10 below summarizes the percentiles used.

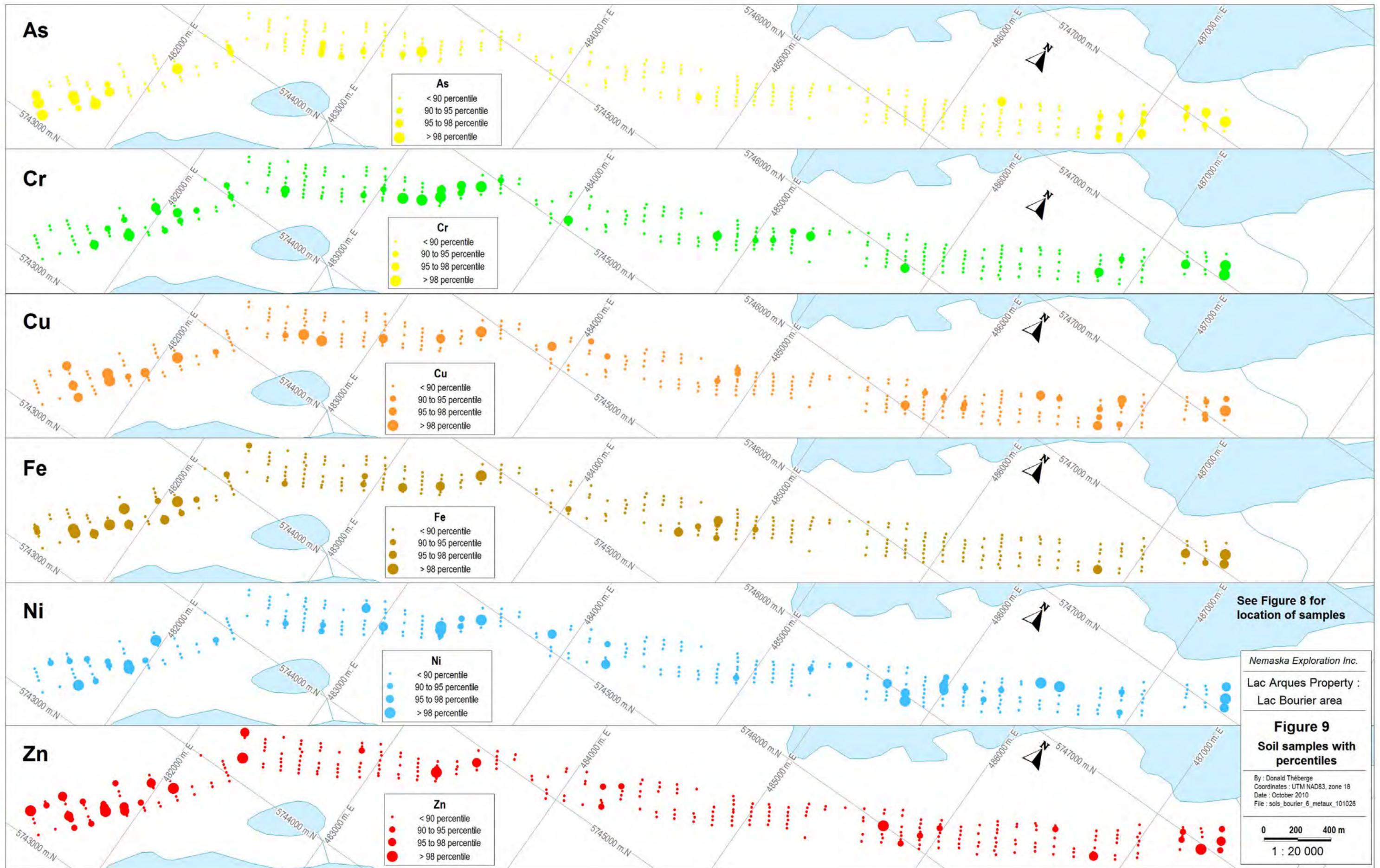
*Table 10: Percentiles used for soil result interpretation*

	As	Cr	Cu	Fe	Ni	Pb	Zn
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
90 percentile	3	35	7	2.19	4	10	9
95 percentile	3	39	9	2.42	6	11	11.9
98 percentile	4.54	48.5	13.6	3.08	8	14	18.6

As one of the main exploration target was the search for volcanogenic massive sulphides, As, Zn, Cu and Fe association was considered. Three anomalous areas were located. The first one is strong, and located in the western part of the property, from UTM coordinates 481 500E to 482 200E. The second is moderate and extends from 482 500E to 483 400E, and the third is strong and located in the eastern part of the survey, beginning at 487 200E and remaining open to the east.

The association of Cr, Ni and Fe was also used to verify whether mafic to ultramafic rocks underlie parts of the conductive horizon. This association shows almost the same pattern of anomalies as for As, Zn, Cu and Fe, except that another moderately anomalous zone appears from 485 500E to 486 500E.

Pb behaviour is different. While it shows a strong correlation with other anomalous zones, its highest values are directly associated with the anomaly located in the western part of the survey, from 481 500E to 482 200E. Composite results for As, Cr, Cu, Fe, Ni, Pb and Zn are illustrated in Figure 9 on the next page.



### **13.0) DRILLING**

No diamond drilling has been done by the present owner. With the exception of six holes drilled by Inco<sup>18</sup> in 1964 on the southern part of the property, no drilling has been reported on the property. Diamond drilling in the vicinity of the property filed with the MRNFQ is illustrated in Figure 7, “Rock and soil samples location, with historical drilling”.

### **14.0) SAMPLING METHOD AND APPROACH**

#### **14.1) Rocks**

Sampling method and approach, sample preparation, analysis and security were roughly similar for the 2009 and 2010 exploration programs. Differences are as follows:

- In 2010, Nemaska did not introduce any standards into the analytical chain;
- In 2009, analysis was performed by Accurassay Laboratory of Thunder Bay, Ontario. In 2010, analysis was performed by ALS Chemex of Val-d’Or and SGS Lakefield of Toronto.

For a complete description of the 2009 sampling and analytical procedures, we refer the reader to the report entitled "NI 43-101 Qualifying Report Pertaining to The Lac Arques Property, James Bay Area, NTS Sheets 32O/11, 32O/12, 32O/13 and 32O/14, for Nemaska Exploration Inc., dated October 5, 2009, and updated on December 14, 2009", which is available on [www.sedar.com](http://www.sedar.com).

During the summer of 2010, Nemaska Exploration had geological teams in the field for geological mapping and prospecting. Each party was lead by a geologist. These teams were supervised by Yvan Bussi eres, Eng., a qualified person and co-author of this report. The sampling method and approach are described below:

Sampling was done using a hammer and cold chisel. Samples are made up of representative rock, for an average weight of 1 kg. Samples were taken by a team member and put into a plastic bag. Another team member then identified the samples, sealed the sample bag, registered the sample position with a GPS (Garmin 60 Csx) and continuously updated the sample list. Every step in the sampling process was performed under the direct supervision of a geologist.

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<sup>18</sup> No assays reported.

For all the sites sampled, emphasis was put on conductive zones found using the Beep-Mat prospecting carpet. Conductor wall rocks were not systematically sampled. These samples should be considered as representative of the outcropping EM anomaly. The sealed samples were put into bags and sealed for transportation. The bags remained sealed until their delivery to the preparation laboratory managed by the Table Jamésienne de Concertation Minière (TJCM)<sup>19</sup> in Chibougamau. Samples were usually transported to Chibougamau by Nemaska personnel.

The author confirms that the samples were collected in accordance with industry standards for random, non-systematic sampling, and that they are representative of the outcrops sampled.

#### **14.2) Soil**

The B soil horizon was sampled using an auger. Samples were taken by a team member and put into plastic bags. Another team member then identified the sample, sealed the sample bag, registered the sample position with a GPS (Garmin 60 Csx) and continuously updated the sample list. Every step in the sampling process was performed under the direct supervision of a geologist.

### **15.0) SAMPLE PREPARATION, ANALYSIS AND SECURITY**

#### **15.1) Sample Preparation**

##### 15.1.1) Rocks

Samples were dried, crushed, weighed and pulverised by the TJCM laboratory. This non-profit organisation has set up a preparation laboratory to fulfill the needs of the exploration industry in the James Bay area. The author visited the preparation room in January 2010. He checked equipment compliance, preparation methods and expertise of the personnel and was satisfied with the existing quality control program.

On arrival at the preparation laboratory, the samples were placed in numerical order and a reception list was prepared. This list was then compared to the shipping list prepared by Nemaska. Any differences between the Nemaska list and the laboratory list or irregularities in sample condition or bag sealing were immediately reported to Nemaska.

All the prepared pulps (300 g/sample, 85% going through 200 mesh) were then sent to the laboratory via the secure service of Canada Post, if sent to SGS Lakefield, or by bus via the Expedibus service

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<sup>19</sup> Table Jamésienne de Concertation Minière is translated into English on their website <http://www.tjcm.ca/> as James Bay Joint Action Mining Committee.

if sent to ALS Chemex in Val-d'Or. The full preparation protocol is described in Schedule 4 to this report.

#### 15.1.2) Soils

Soil samples were sent directly to ALS Chemex in Val-d'Or. They were dried and screened to 180 microns, according to ALS Chemex internal methods DRY-22 and SCR-41.

### **15.2) Analysis**

#### 15.2.1) Rocks

Pegmatites samples were systematically sent to SGS Lakefield for multi-elements including Li and Be analysis. Other samples were sent to ALS Chemex in Val-d'Or for multi-element and/or whole rock analysis. Both laboratories are ISO/IEC 17025 accredited. All the pulps from the analysis are kept by SGS Lakefield and Als Chemex for a 90-day period, after which they are returned to Nemaska. All the preparation rejects are kept at the TJCM preparation laboratory in Chibougamau also for a 90-day period, then returned to Nemaska.

The analytical method and quality control used by each laboratory are described in schedules 5a and 5b of this report. For quality control, only three samples were cross checked between ALS Chemex and SGS. While the analytical methods were not identical, the results obtained were satisfactory. However, Nemaska has initiated a QA/QC process on these samples, which involves rechecking at least 5% of the samples.

#### 15.2.2) Soils

Analyses were performed by ALS Chemex of Val-d'Or in accordance with the ME-ICP 41 method. In this method, analyses are performed using ICP-AES.<sup>20</sup> The following elements were analyzed: Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Th, Ti, Tl, U, V, W, Zn. No QA/QC was done for this survey. Nemaska has now initiated a verification process that involves re-assaying at least 5% of the samples. The analytical protocol is described in Schedule 6 to this report.

### **15.3 Security**

Both the rock and soil samples were handled by Nemaska and laboratory personnel. In the field, samples were bagged and sealed under the supervision of a geologist. No broken sample bag seals were reported either by the TJCM preparation laboratory or ALS Chemex / SGS Lakefield. The

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<sup>20</sup> ICP-AES: Inductively coupled plasma – atomic emission spectroscopy.

authors do not believe that any breach of security occurred during the entire sampling and analysis process.

## **16.0) DATA VERIFICATION**

For the Lac Arques project, data verification involves sampling, analysis, geological description and GPS location. Sampling and analysis are described in detail in the preceding item. Data verification was done by the quality control process also described in the preceding item. Geological description and GPS location have been verified by the authors and correspond with the earlier data recorded on the property by previous owners and by Nemaska. The authors are of the opinion that the data collected on the property by Nemaska is accurate and reliable.

## **17.0) ADJACENT PROPERTIES**

Nemaska Exploration's Lac Levac property is adjacent to the Main Block of the Lac Arques property to the south. More precisely, the Nisk-1 deposit is located less than 1 km from the southern boundary of the Main Block. The position of the deposit is shown on the maps accompanying this report.

In an NI 43-101 report produced by RSW Inc. for Nemaska Exploration Inc. entitled *Calcul des Ressources du Gisement Nisk-1, Propriété du Lac Levac, Nemiscau, Québec*, Pierre Trudel, Ph.D., Ing., the deposit resource is estimated as follows:

	Tonnes	% Ni	% Cu	% Co	g/t Pd	g/t Pt
Measured	1,255,000	1.09	0.56	0.07	1.11	0.20
Indicated	783,000	1.0	0.53	0.06	0.91	0.29
Inferred	1,053,000	0.81	0.32	0.06	1.06	0.50

The description of the deposit geology in the same report is as follows:

*“The mineralized zone is located in an ultramafic sill within the paragneiss sequence. The sill strikes N65°E and dips sharply (75 to 80°) to the NW. The sill is a composite, consisting of at least two separate intrusive phases: a grey unmineralized serpentized peridotite, and a black serpentized peridotite mineralized in Ni-Cu-Co-Fe sulphides.*

*The sulphide layer lies within the black serpentinite body, near its base, on the NW side. Sulphide mineralization ranges from massive to disseminated. It consists primarily of pyrrhotite, with lesser quantities of pentlandite, chalcopyrite and pyrite. The deposit model selected is that of an accumulation of magmatic sulphides at the base of a sill of ultramafic composition.*

*The nickel and cobalt are essentially found in the pentlandite. This mineral contains an average of 34.6% Ni and 2.46% Co by weight. There is also a small amount of nickel in the pyrrhotite, which averages 0.34% Ni by weight. The copper is mainly in the chalcopyrite. The palladium occurs as an alloy with Bi, Te and Sb, and the platinum as an alloy with iron.”*

*Please note that the authors have examined and confirmed the above information; however, this information is not necessarily indicative of the mineralization present on Lac Arques property.*

#### **18.0) MINERAL PROCESSING AND METALLURGICAL TESTING**

As the property is still in an early exploration stage, mineral processing and metallurgical testing have never been done.

#### **19.0) MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES**

As the property is still in an early exploration stage, mineral resources and mineral reserves have never been estimated.

#### **20.0) OTHER RELEVANT DATA AND INFORMATION**

All the pertinent data and information are provided in the previous sections.

## **21.0) INTERPRETATION AND CONCLUSIONS**

Since it acquired the property in 2008, Nemaska has completed a geochemical study using the MRNFQ lake bottom sampling data. In 2008 and 2009, it completed full airborne EM and Mag coverage and partial gamma ray coverage of the property, followed in 2010 by an EM survey over the Rupert Complex. Ground work included mapping and sampling of the Rupert Diversion Tunnel in 2008 and geological prospecting and sampling over five target areas using the EM and Mag survey data in 2009. In 2010, prospecting and sampling were done, followed by a soil survey over the Bourier Lake area.

The exploration work confirmed historical showings, namely Lake Sillimanite with 4.7 g/t Au and >0.8% as in a grab sample, Lac Lemarre West with 6.02% Cu, 3.24% Cu and 589 g/t Ag in grab samples and, finally, Lac Arques SW with 1,189 ppm ThO<sub>2</sub> and 565 ppm U<sub>3</sub>O<sub>8</sub>, also in grab samples. Recent work by Nemaska has revealed a new, favourable geological environment for VMS-type mineralization in the Bourier Lake area, with the discovery of an exhalative horizon associated with rhyolitic outcrops. The soil survey identified four zones anomalous in base metals along this exhalative horizon.

The nature of the Rupert Complex remains unknown. Helicopter-borne magnetic and electromagnetic surveys show that it is a multi-phase or multi-layered intrusion, but unfortunately it does not outcrop. Six well-defined EM anomalies discovered by the EM airborne survey remain unexplained. The Bourier survey on the east part of the property revealed numerous EM anomalies associated with magnetic features; these also remain unexplained. They will be reviewed in light of the interpretation to be completed in the coming weeks.

Although rock sampling did not return spectacular values, anomalous Au, As, Cu and Ni values were observed. A pegmatite boulder (sample #16002) returned strong anomalous values, with 278 ppm Be, 1.46% Li, 346 ppm Rb and 83.5 ppm Ta. This boulder is located up-ice from the Whabouchi deposit and its source should be located.

In conclusion, the recent exploration work has extended the potential of the property eastward and identified high quality targets.

**22.0) RECOMMENDATIONS AND BUDGET**

To continue exploring the property and test the targets generated by 2010 exploration work, a two-phase exploration program is suggested, as described below.

**Phase I**

Phase I would include diamond drilling on the Rupert Complex and in the Bourier Lake area, for a total of 3,200 m.

**Phase II**

If warranted by the results of Phase I, a Phase II exploration program should be undertaken, consisting of prospecting NE of Bourier Lake on the eastern extension of the EM conductor, followed by 5,200 m of drilling on the Rupert Complex, in the Bourier Lake area and on the Bourier East extension.

The estimated budget for both phases of the proposed program is as follows:

<b>Phase I</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Total</b>	
Drilling Rupert Complex	2,000	m	\$200	\$400,000	
Drilling Bourier Lake area	1,200	m	\$200	\$240,000	
Geology, assays, etc all included	3,200	m	\$25	\$80,000	
Report end of Phase 1 (for NI 43-101 and assessment purposes)				\$20,000	
Contingency 15%				\$111 000	
<b>Total Phase I</b>					<b>\$851,500</b>
<b>Phase II</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Total</b>	
Prospecting new claims NE of Bourier Lake	100	d	\$3,000	\$300,000	
Helico for prospecting camps	50	h	\$1,500	\$75,000	
Prospecting west of Rupert Complex	10	d	\$1,500	\$15,000	
Helico for prospecting west of Rupert Complex	20	h	\$1,500	\$30,000	
Drilling Rupert complex	2,000	m	\$200	\$400,000	
Drilling Bourier Lake area	2,000	m	\$200	\$400,000	
Drilling claims acquired in 2010 (Bourier Lake extension)	1,200	m	\$200	\$240,000	
Geology, assays, etc. all included	5,200	m	\$25	\$130,000	
Report end of Phase II (for NI 43-101 and assessment purposes)				\$20,000	
Contingency 15%				\$178,500	
<b>Total Phase II</b>					<b>\$1,788,500</b>
			<b>Total Phases I and II</b>		<b>\$2,639,500</b>

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**24.0) DATE AND SIGNATURE PAGE**

This technical report is dated November 8, 2010, and is signed by the authors.

(Signed and Sealed)

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Yvan Bussi eres, Eng., Donald Th eberge, Eng., M.B.A November 8, 2010

**25.0) ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES**

This item does not apply to the Lac Arques property.

**26.0) ILLUSTRATIONS**



View of the stripped exhalite, Bourier Lake area



Closer view of the same exhalite



Detail of a channel, showing the exhalite in detail



Stripped outcrop in the same area. Yvan Bussi eres Eng., standing on outcrop



View of Bourier Lake camp, set-up by Nemaska for summer exploration work

**SCHEDULE 1**

**CLAIMS LIST**

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32011	2115686	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32011	2115687	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32011	2160090	Jun 8, 2012	53.37	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160091	Jun 8, 2012	53.37	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160092	Jun 8, 2012	53.37	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160093	Jun 8, 2012	53.37	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160094	Jun 8, 2012	53.37	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160095	Jun 8, 2012	53.37	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160097	Jun 8, 2012	53.36	\$1,126.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160098	Jun 8, 2012	53.36	\$7,090.90	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160099	Jun 8, 2012	53.36	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160100	Jun 8, 2012	53.36	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160101	Jun 8, 2012	53.36	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160102	Jun 8, 2012	53.36	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160103	Jun 8, 2012	53.36	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160104	Jun 8, 2012	53.35	\$8,412.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160105	Jun 8, 2012	53.35	\$432.30	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160106	Jun 8, 2012	21.51	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32011	2160107	Jun 8, 2012	32.56	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160108	Jun 8, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160109	Jun 8, 2012	18.82	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32011	2160110	Jun 8, 2012	13.87	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32011	2160111	Jun 8, 2012	45.73	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160112	Jun 8, 2012	53.34	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160113	Jun 8, 2012	53.34	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160114	Jun 8, 2012	53.34	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160120	Jun 8, 2012	7.84	\$0.00	\$500	\$26	
NTS 32011	2160121	Jun 8, 2012	22.05	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32011	2160122	Jun 8, 2012	15.53	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32011	2160123	Jun 8, 2012	1.82	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32011	2160124	Jun 8, 2012	28.94	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160125	Jun 8, 2012	52.68	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160126	Jun 8, 2012	53.33	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160600	Jun 10, 2012	1.06	\$0.00	\$500	\$26	
NTS 32011	2160601	Jun 10, 2012	11.49	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32011	2160602	Jun 10, 2012	44.51	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160603	Jun 10, 2012	53.32	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160604	Jun 10, 2012	53.32	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160605	Jun 10, 2012	53.32	\$1,466.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32011	2160606	Jun 10, 2012	53.32	\$1,466.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32012	2098856	Jul 3, 2011	53.34	\$412.66	\$1,200	\$52	
NTS 32012	2098862	Jul 3, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2098863	Jul 3, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2098864	Jul 3, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2098865	Jul 3, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2098866	Jul 3, 2011	53.32	\$45.66	\$1,200	\$52	
NTS 32012	2098867	Jul 3, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2098868	Jul 3, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2099355	Jul 3, 2011	53.34	\$408.66	\$1,200	\$52	
NTS 32012	2099356	Jul 3, 2011	53.34	\$408.66	\$1,200	\$52	
NTS 32012	2099358	Jul 3, 2011	53.33	\$787.00	\$1,200	\$52	
NTS 32012	2099359	Jul 3, 2011	53.33	\$787.00	\$1,200	\$52	
NTS 32012	2099360	Jul 3, 2011	53.33	\$0.00	\$1,200	\$52	
NTS 32012	2099361	Jul 3, 2011	53.33	\$0.00	\$1,200	\$52	
NTS 32012	2099365	Jul 3, 2011	53.32	\$729.66	\$1,200	\$52	
NTS 32012	2099366	Jul 3, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2099367	Jul 3, 2011	53.32	\$373.66	\$1,200	\$52	
NTS 32012	2099368	Jul 3, 2011	53.32	\$334.66	\$1,200	\$52	
NTS 32012	2099369	Jul 3, 2011	53.32	\$122.66	\$1,200	\$52	
NTS 32012	2115488	Aug 5, 2011	53.37	\$34.66	\$1,200	\$52	
NTS 32012	2115489	Aug 5, 2011	53.36	\$34.66	\$1,200	\$52	
NTS 32012	2115492	Aug 5, 2011	53.36	\$34.66	\$1,200	\$52	
NTS 32012	2115493	Aug 5, 2011	53.35	\$34.66	\$1,200	\$52	
NTS 32012	2115494	Aug 5, 2011	53.35	\$34.66	\$1,200	\$52	
NTS 32012	2115495	Aug 5, 2011	53.35	\$34.66	\$1,200	\$52	
NTS 32012	2115496	Aug 5, 2011	53.35	\$34.66	\$1,200	\$52	

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32012	2115497	Aug 5, 2011	53.34	\$34.66	\$1,200	\$52	
NTS 32012	2115499	Aug 5, 2011	53.34	\$34.66	\$1,200	\$52	
NTS 32012	2115500	Aug 5, 2011	53.34	\$34.66	\$1,200	\$52	
NTS 32012	2115501	Aug 5, 2011	53.34	\$34.66	\$1,200	\$52	
NTS 32012	2115502	Aug 5, 2011	53.34	\$34.66	\$1,200	\$52	
NTS 32012	2115503	Aug 5, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2115504	Aug 5, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2115506	Aug 5, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2115507	Aug 5, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2115508	Aug 5, 2011	53.33	\$34.66	\$1,200	\$52	
NTS 32012	2115688	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115689	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115690	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115691	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115692	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115693	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115694	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115695	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115696	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115697	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2115698	Aug 6, 2011	53.32	\$34.66	\$1,200	\$52	
NTS 32012	2158840	Jun 4, 2012	50.41	\$6,564.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32012	2192534	Oct 21, 2011	53.41	\$34.65	\$1,200	\$52	
NTS 32012	2192535	Oct 21, 2011	53.41	\$34.65	\$1,200	\$52	
NTS 32012	2192536	Oct 21, 2011	53.41	\$34.65	\$1,200	\$52	
NTS 32012	2192537	Oct 21, 2011	53.41	\$34.65	\$1,200	\$52	
NTS 32012	2192538	Oct 21, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192539	Oct 21, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192540	Oct 21, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192541	Oct 21, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192542	Oct 21, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32012	2192543	Oct 21, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32012	2192544	Oct 21, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32012	2192545	Oct 21, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32012	2192546	Oct 21, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32012	2192547	Oct 21, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32012	2192548	Oct 21, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32012	2192549	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192550	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192551	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192552	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192553	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192554	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192555	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192556	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192557	Oct 21, 2011	53.36	\$34.65	\$1,200	\$52	
NTS 32012	2192558	Oct 21, 2011	53.35	\$34.65	\$1,200	\$52	
NTS 32012	2192559	Oct 21, 2011	53.35	\$34.65	\$1,200	\$52	
NTS 32012	2192560	Oct 21, 2011	53.35	\$34.65	\$1,200	\$52	
NTS 32012	2192561	Oct 21, 2011	53.35	\$34.65	\$1,200	\$52	
NTS 32012	2192562	Oct 21, 2011	53.35	\$34.65	\$1,200	\$52	
NTS 32012	2192563	Oct 21, 2011	53.35	\$34.65	\$1,200	\$52	
NTS 32012	2192564	Oct 21, 2011	53.35	\$34.65	\$1,200	\$52	
NTS 32012	2192565	Oct 21, 2011	53.34	\$0.00	\$1,200	\$52	
NTS 32012	2192566	Oct 21, 2011	53.34	\$34.65	\$1,200	\$52	
NTS 32012	2192567	Oct 21, 2011	53.34	\$34.65	\$1,200	\$52	
NTS 32012	2192568	Oct 21, 2011	53.34	\$34.65	\$1,200	\$52	
NTS 32012	2192569	Oct 21, 2011	53.34	\$34.65	\$1,200	\$52	
NTS 32012	2192891	Oct 27, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192892	Oct 27, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192893	Oct 27, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192894	Oct 27, 2011	53.40	\$34.65	\$1,200	\$52	
NTS 32012	2192895	Oct 27, 2011	53.39	\$34.65	\$1,200	\$52	
NTS 32012	2192896	Oct 27, 2011	53.39	\$34.65	\$1,200	\$52	
NTS 32012	2192897	Oct 27, 2011	53.39	\$34.65	\$1,200	\$52	
NTS 32012	2192898	Oct 27, 2011	53.39	\$34.65	\$1,200	\$52	

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32O12	2192899	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192900	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192901	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192902	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192903	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192904	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192905	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192906	Oct 27, 2011	53.38	\$34.65	\$1,200	\$52	
NTS 32O12	2192907	Oct 27, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32O12	2192908	Oct 27, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32O12	2192909	Oct 27, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32O12	2192910	Oct 27, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32O12	2192911	Oct 27, 2011	53.37	\$34.65	\$1,200	\$52	
NTS 32O12	2227618	May 3, 2012	53.37	\$0.00	\$1,200	\$52	
NTS 32O12	2227619	May 3, 2012	53.37	\$0.00	\$1,200	\$52	
NTS 32O12	2227620	May 3, 2012	53.36	\$0.00	\$1,200	\$52	
NTS 32O12	2227621	May 3, 2012	53.36	\$0.00	\$1,200	\$52	
NTS 32O12	2227622	May 3, 2012	53.34	\$0.00	\$1,200	\$52	
NTS 32O12	2227623	May 3, 2012	53.33	\$0.00	\$1,200	\$52	
NTS 32O13	2099280	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099281	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2099373	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099374	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099375	Jul 3, 2011	53.31	\$98.66	\$1,200	\$52	
NTS 32O13	2099376	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099377	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099378	Jul 3, 2011	53.31	\$242.66	\$1,200	\$52	
NTS 32O13	2099379	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099381	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099383	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099385	Jul 3, 2011	53.31	\$93.66	\$1,200	\$52	
NTS 32O13	2099396	Jul 3, 2011	53.31	\$89.66	\$1,200	\$52	
NTS 32O13	2099397	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099405	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O13	2099407	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2099408	Jul 3, 2011	53.30	\$106.66	\$1,200	\$52	
NTS 32O13	2099409	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2099410	Jul 3, 2011	53.30	\$374.66	\$1,200	\$52	
NTS 32O13	2099411	Jul 3, 2011	53.30	\$194.66	\$1,200	\$52	
NTS 32O13	2099412	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2099413	Jul 3, 2011	53.30	\$38.66	\$1,200	\$52	
NTS 32O13	2099414	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2099415	Jul 3, 2011	53.30	\$63.66	\$1,200	\$52	
NTS 32O13	2099420	Jul 3, 2011	53.30	\$89.66	\$1,200	\$52	
NTS 32O13	2099421	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2099918	Jul 4, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2099919	Jul 4, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2099920	Jul 4, 2011	53.28	\$54.66	\$1,200	\$52	
NTS 32O13	2099921	Jul 4, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2099922	Jul 4, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2099923	Jul 4, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2099929	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099930	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099931	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099932	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099933	Jul 4, 2011	53.27	\$214.66	\$1,200	\$52	
NTS 32O13	2099934	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099935	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099936	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099937	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099938	Jul 4, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O13	2099942	Jul 4, 2011	53.26	\$34.66	\$1,200	\$52	
NTS 32O13	2099943	Jul 4, 2011	53.26	\$34.66	\$1,200	\$52	
NTS 32O13	2099944	Jul 4, 2011	53.26	\$162.66	\$1,200	\$52	
NTS 32O13	2099945	Jul 4, 2011	53.26	\$34.66	\$1,200	\$52	
NTS 32O13	2099946	Jul 4, 2011	53.26	\$34.66	\$1,200	\$52	

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32O13	2099947	Jul 4, 2011	53.26	\$34.66	\$1,200	\$52	
NTS 32O13	2099948	Jul 4, 2011	53.26	\$58.66	\$1,200	\$52	
NTS 32O13	2099949	Jul 4, 2011	53.26	\$34.66	\$1,200	\$52	
NTS 32O13	2118924	Aug 22, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2118925	Aug 22, 2011	53.30	\$79.66	\$1,200	\$52	
NTS 32O13	2118926	Aug 22, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2118927	Aug 22, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O13	2118928	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118929	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118930	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118931	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118932	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118933	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118934	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118935	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118936	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118937	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118938	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118940	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118941	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118942	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118943	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118944	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118945	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118946	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118947	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118948	Aug 22, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O13	2118949	Aug 22, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2118950	Aug 22, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2118951	Aug 22, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2118952	Aug 22, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2118953	Aug 22, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2118955	Aug 22, 2011	53.28	\$282.66	\$1,200	\$52	
NTS 32O13	2118956	Aug 22, 2011	53.28	\$282.66	\$1,200	\$52	
NTS 32O13	2118957	Aug 22, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2118958	Aug 22, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O13	2118959	Aug 22, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2118960	Aug 22, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2118961	Aug 22, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2118962	Aug 22, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2120942	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2120943	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2120944	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2120945	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2120946	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2120947	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2120948	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32O13	2120949	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32O13	2120950	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32O13	2120951	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32O13	2120952	Sep 11, 2011	53.26	\$137.65	\$1,200	\$52	
NTS 32O13	2120953	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32O13	2120954	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32O13	2121447	Sep 13, 2011	53.31	\$34.65	\$1,200	\$52	
NTS 32O13	2121448	Sep 13, 2011	53.31	\$34.65	\$1,200	\$52	
NTS 32O13	2121449	Sep 13, 2011	53.30	\$34.65	\$1,200	\$52	
NTS 32O13	2121450	Sep 13, 2011	53.30	\$34.65	\$1,200	\$52	
NTS 32O13	2121451	Sep 13, 2011	53.29	\$34.65	\$1,200	\$52	
NTS 32O13	2121452	Sep 13, 2011	53.29	\$34.65	\$1,200	\$52	
NTS 32O13	2121453	Sep 13, 2011	53.29	\$34.65	\$1,200	\$52	
NTS 32O13	2121454	Sep 13, 2011	53.29	\$34.65	\$1,200	\$52	
NTS 32O13	2121455	Sep 13, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2121456	Sep 13, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2121457	Sep 13, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2121458	Sep 13, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32O13	2121459	Sep 13, 2011	53.28	\$34.65	\$1,200	\$52	

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32O13	2121460	Sep 13, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2121461	Sep 13, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2121462	Sep 13, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32O13	2192570	Oct 21, 2011	53.31	\$34.65	\$1,200	\$52	
NTS 32O13	2192571	Oct 21, 2011	53.31	\$34.65	\$1,200	\$52	
NTS 32O13	2192572	Oct 21, 2011	53.31	\$34.65	\$1,200	\$52	
NTS 32O13	2192573	Oct 21, 2011	53.31	\$34.65	\$1,200	\$52	
NTS 32O13	2192574	Oct 21, 2011	53.30	\$34.65	\$1,200	\$52	
NTS 32O13	2192575	Oct 21, 2011	53.30	\$34.65	\$1,200	\$52	
NTS 32O13	2192576	Oct 21, 2011	53.30	\$34.65	\$1,200	\$52	
NTS 32O13	2192577	Oct 21, 2011	53.30	\$34.65	\$1,200	\$52	
NTS 32O14	2099282	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O14	2099283	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O14	2099284	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O14	2099285	Jul 3, 2011	53.31	\$34.66	\$1,200	\$52	
NTS 32O14	2099286	Jul 3, 2011	53.31	\$38.66	\$1,200	\$52	
NTS 32O14	2099287	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O14	2099288	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O14	2099289	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O14	2099290	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O14	2099291	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O14	2099292	Jul 3, 2011	53.30	\$34.66	\$1,200	\$52	
NTS 32O14	2099293	Jul 3, 2011	53.30	\$820.66	\$1,200	\$52	
NTS 32O14	2099294	Jul 3, 2011	53.29	\$38.66	\$1,200	\$52	
NTS 32O14	2099295	Jul 3, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O14	2099296	Jul 3, 2011	53.29	\$38.66	\$1,200	\$52	
NTS 32O14	2099297	Jul 3, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O14	2099298	Jul 3, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O14	2099299	Jul 3, 2011	53.29	\$34.66	\$1,200	\$52	
NTS 32O14	2099300	Jul 3, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O14	2099301	Jul 3, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O14	2099302	Jul 3, 2011	53.28	\$99.66	\$1,200	\$52	
NTS 32O14	2099303	Jul 3, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O14	2099304	Jul 3, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O14	2099305	Jul 3, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O14	2099306	Jul 3, 2011	53.28	\$34.66	\$1,200	\$52	
NTS 32O14	2099307	Jul 3, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O14	2099308	Jul 3, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O14	2099309	Jul 3, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O14	2099310	Jul 3, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O14	2099311	Jul 3, 2011	53.27	\$221.66	\$1,200	\$52	
NTS 32O14	2099312	Jul 3, 2011	53.27	\$78.66	\$1,200	\$52	
NTS 32O14	2099313	Jul 3, 2011	53.27	\$128.66	\$1,200	\$52	
NTS 32O14	2099314	Jul 3, 2011	53.27	\$34.66	\$1,200	\$52	
NTS 32O14	2117034	Aug 13, 2011	53.23	\$34.66	\$1,200	\$52	
NTS 32O14	2117035	Aug 13, 2011	53.23	\$34.66	\$1,200	\$52	
NTS 32O14	2117036	Aug 13, 2011	53.23	\$34.66	\$1,200	\$52	
NTS 32O14	2117037	Aug 13, 2011	53.23	\$34.66	\$1,200	\$52	
NTS 32O14	2117038	Aug 13, 2011	53.23	\$34.66	\$1,200	\$52	
NTS 32O14	2117070	Aug 13, 2011	35.09	\$34.66	\$1,200	\$52	
NTS 32O14	2117783	Aug 15, 2011	53.23	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117785	Aug 15, 2011	53.22	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117787	Aug 15, 2011	53.22	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117789	Aug 15, 2011	53.22	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117791	Aug 15, 2011	53.22	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117793	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117795	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117797	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117799	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117801	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117803	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117805	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117807	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117809	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117811	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2117813	Aug 15, 2011	53.20	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32014	2117815	Aug 15, 2011	53.20	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117817	Aug 15, 2011	53.20	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117819	Aug 15, 2011	53.20	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117821	Aug 15, 2011	53.20	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117823	Aug 15, 2011	53.20	\$0.00	\$1,200	\$52	
NTS 32014	2117825	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117827	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117829	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117830	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117831	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117832	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117833	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117834	Aug 15, 2011	53.19	\$34.66	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117835	Aug 15, 2011	53.19	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117836	Aug 15, 2011	53.19	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117837	Aug 15, 2011	53.19	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117838	Aug 15, 2011	53.19	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117839	Aug 15, 2011	53.19	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117840	Aug 15, 2011	53.19	\$23.91	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117841	Aug 15, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2117842	Aug 15, 2011	17.94	\$149.66	\$500	\$26	Limite Réserve à L'État A.M. 2006-041
NTS 32014	2117843	Aug 15, 2011	52.17	\$367.66	\$1,200	\$52	Limite Réserve à L'État A.M. 2006-041
NTS 32014	2117844	Aug 15, 2011	19.38	\$158.66	\$500	\$26	Limite Réserve à L'État A.M. 2006-041
NTS 32014	2117845	Aug 15, 2011	53.06	\$34.66	\$1,200	\$52	Limite Réserve à L'État A.M. 2006-041
NTS 32014	2118963	Aug 22, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2118964	Aug 22, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2118965	Aug 22, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2118966	Aug 22, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2118967	Aug 22, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2118968	Aug 22, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2118969	Aug 22, 2011	53.18	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2120982	Sep 11, 2011	53.29	\$34.65	\$1,200	\$52	
NTS 32014	2120983	Sep 11, 2011	53.29	\$34.65	\$1,200	\$52	
NTS 32014	2120984	Sep 11, 2011	53.29	\$34.65	\$1,200	\$52	
NTS 32014	2120985	Sep 11, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32014	2120986	Sep 11, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32014	2120987	Sep 11, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32014	2120988	Sep 11, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32014	2120989	Sep 11, 2011	53.28	\$34.65	\$1,200	\$52	
NTS 32014	2120990	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32014	2120991	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32014	2120992	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32014	2120993	Sep 11, 2011	53.27	\$34.65	\$1,200	\$52	
NTS 32014	2120994	Sep 11, 2011	53.27	\$146.65	\$1,200	\$52	
NTS 32014	2120995	Sep 11, 2011	53.27	\$282.65	\$1,200	\$52	
NTS 32014	2120996	Sep 11, 2011	53.27	\$282.65	\$1,200	\$52	
NTS 32014	2120997	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2120998	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2120999	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2121000	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2121001	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2121002	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32014	2121003	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32014	2121004	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32014	2121005	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32014	2121006	Sep 11, 2011	53.26	\$44.65	\$1,200	\$52	
NTS 32014	2121007	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32014	2121008	Sep 11, 2011	53.26	\$282.65	\$1,200	\$52	
NTS 32014	2121009	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2121010	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2121011	Sep 11, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2121012	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121013	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121014	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121015	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121016	Sep 11, 2011	53.25	\$281.65	\$1,200	\$52	

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32014	2121017	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121018	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121019	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121020	Sep 11, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121026	Sep 11, 2011	52.65	\$34.65	\$1,200	\$52	
NTS 32014	2121343	Sep 13, 2011	53.30	\$3,676.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121344	Sep 13, 2011	53.30	\$4,502.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121346	Sep 13, 2011	53.29	\$17,237.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121347	Sep 13, 2011	53.29	\$1,875.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121348	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121349	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121350	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121351	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121352	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121353	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121354	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121355	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121356	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121357	Sep 13, 2011	53.22	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121358	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121359	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121360	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121361	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121362	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121363	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121364	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121365	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121366	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121367	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121368	Sep 13, 2011	53.21	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121371	Sep 13, 2011	53.20	\$34.65	\$1,200	\$52	
NTS 32014	2121372	Sep 13, 2011	16.98	\$34.65	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2121373	Sep 13, 2011	4.43	\$34.65	\$500	\$26	
NTS 32014	2121374	Sep 13, 2011	45.91	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121375	Sep 13, 2011	32.78	\$34.65	\$1,200	\$52	
NTS 32014	2121463	Sep 13, 2011	53.26	\$34.65	\$1,200	\$52	
NTS 32014	2121472	Sep 13, 2011	53.25	\$34.65	\$1,200	\$52	
NTS 32014	2121473	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121474	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121475	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121476	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121477	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121478	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121479	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121480	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121481	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121490	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121491	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121492	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121493	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121494	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121495	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121496	Sep 13, 2011	53.24	\$34.65	\$1,200	\$52	
NTS 32014	2121497	Sep 13, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32014	2121498	Sep 13, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32014	2121499	Sep 13, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32014	2121500	Sep 13, 2011	43.65	\$34.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2121501	Sep 13, 2011	50.16	\$34.65	\$1,200	\$52	
NTS 32014	2121502	Sep 13, 2011	4.08	\$34.65	\$500	\$26	
NTS 32014	2121503	Sep 13, 2011	9.83	\$34.65	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2157162	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2157163	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2157164	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2157165	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2157166	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2157167	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32014	2157168	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2157169	Jun 1, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2157170	Jun 1, 2012	53.18	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158280	Jun 4, 2012	53.24	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158281	Jun 4, 2012	53.24	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158282	Jun 4, 2012	53.24	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158288	Jun 4, 2012	34.90	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158289	Jun 4, 2012	53.23	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158290	Jun 4, 2012	53.23	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158291	Jun 4, 2012	53.23	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158298	Jun 4, 2012	7.72	\$71.05	\$500	\$26	
NTS 32014	2158299	Jun 4, 2012	48.14	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158300	Jun 4, 2012	53.22	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158301	Jun 4, 2012	53.22	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158302	Jun 4, 2012	53.22	\$0.00	\$1,200	\$52	
NTS 32014	2158303	Jun 4, 2012	53.22	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158306	Jun 4, 2012	49.71	\$0.00	\$1,200	\$52	
NTS 32014	2158307	Jun 4, 2012	31.93	\$18.20	\$1,200	\$52	
NTS 32014	2158308	Jun 4, 2012	46.93	\$0.00	\$1,200	\$52	
NTS 32014	2158309	Jun 4, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2158310	Jun 4, 2012	53.21	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2158311	Jun 4, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2158312	Jun 4, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2158313	Jun 4, 2012	53.21	\$0.00	\$1,200	\$52	
NTS 32014	2159197	Jun 5, 2012	53.27	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159198	Jun 5, 2012	53.27	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159203	Jun 5, 2012	12.76	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2159204	Jun 5, 2012	32.17	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159205	Jun 5, 2012	49.92	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159206	Jun 5, 2012	53.26	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159207	Jun 5, 2012	53.26	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159208	Jun 5, 2012	53.26	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159212	Jun 5, 2012	1.65	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2159213	Jun 5, 2012	17.70	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2159214	Jun 5, 2012	37.08	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159215	Jun 5, 2012	52.17	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159216	Jun 5, 2012	53.25	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159217	Jun 5, 2012	53.25	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159218	Jun 5, 2012	53.25	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159219	Jun 5, 2012	4.28	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2159220	Jun 5, 2012	22.56	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2159221	Jun 5, 2012	41.92	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159222	Jun 5, 2012	53.17	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2159223	Jun 5, 2012	8.10	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2160050	Jun 8, 2012	44.33	\$0.00	\$1,200	\$52	
NTS 32014	2160051	Jun 8, 2012	44.24	\$160.50	\$1,200	\$52	
NTS 32014	2160052	Jun 8, 2012	46.67	\$0.00	\$1,200	\$52	
NTS 32014	2160053	Jun 8, 2012	30.08	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160054	Jun 8, 2012	17.52	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2160055	Jun 8, 2012	53.28	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160056	Jun 8, 2012	53.28	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160057	Jun 8, 2012	53.27	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160058	Jun 8, 2012	20.03	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2160059	Jun 8, 2012	10.21	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2160060	Jun 8, 2012	53.27	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160061	Jun 8, 2012	53.27	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160062	Jun 8, 2012	53.27	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160063	Jun 8, 2012	53.27	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160064	Jun 8, 2012	53.22	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160065	Jun 8, 2012	53.26	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160066	Jun 8, 2012	9.99	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2160067	Jun 8, 2012	2.92	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32014	2160068	Jun 8, 2012	53.22	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160069	Jun 8, 2012	53.26	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160070	Jun 8, 2012	53.26	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32014	2160071	Jun 8, 2012	52.55	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations

NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32O14	2160072	Jun 8, 2012	16.61	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160073	Jun 8, 2012	52.07	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160074	Jun 8, 2012	51.97	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160075	Jun 8, 2012	1.23	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160076	Jun 8, 2012	48.80	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160077	Jun 8, 2012	53.25	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160078	Jun 8, 2012	53.25	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160079	Jun 8, 2012	21.27	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160080	Jun 8, 2012	51.67	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160081	Jun 8, 2012	52.72	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160085	Jun 8, 2012	53.24	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160086	Jun 8, 2012	53.24	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160087	Jun 8, 2012	47.23	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160088	Jun 8, 2012	28.15	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160089	Jun 8, 2012	8.65	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160610	Jun 10, 2012	53.31	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160611	Jun 10, 2012	53.31	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160612	Jun 10, 2012	53.31	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160613	Jun 10, 2012	44.51	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160614	Jun 10, 2012	44.71	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160615	Jun 10, 2012	44.91	\$3,163.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160616	Jun 10, 2012	45.11	\$3,166.65	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160617	Jun 10, 2012	45.30	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160618	Jun 10, 2012	45.48	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160619	Jun 10, 2012	47.67	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160621	Jun 10, 2012	14.23	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160625	Jun 10, 2012	14.48	\$168.90	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160626	Jun 10, 2012	23.64	\$9,011.65	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160627	Jun 10, 2012	24.83	\$1,746.65	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2160628	Jun 10, 2012	53.29	\$161.80	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2160631	Jun 10, 2012	53.28	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2172917	Oct 14, 2010	1.56	\$0.00	\$500	\$52	Limited by : Hydroelectric installations
NTS 32O14	2174089	Nov 3, 2010	9.73	\$34.65	\$500	\$52	Affected by : Hydroelectric installations
NTS 32O14	2174090	Nov 3, 2010	45.89	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174091	Nov 3, 2010	53.23	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174092	Nov 3, 2010	53.23	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174093	Nov 3, 2010	53.23	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174094	Nov 3, 2010	53.23	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174095	Nov 3, 2010	53.23	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174096	Nov 3, 2010	53.23	\$85.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174097	Nov 3, 2010	53.23	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174098	Nov 3, 2010	53.20	\$77.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174099	Nov 3, 2010	42.33	\$472.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174100	Nov 3, 2012	22.81	\$0.00	\$500	\$26	Affected by : Hydroelectric installations
NTS 32O14	2174101	Nov 3, 2012	4.37	\$0.00	\$500	\$26	
NTS 32O14	2174102	Nov 3, 2010	53.22	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174103	Nov 3, 2010	53.22	\$37.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174104	Nov 3, 2010	53.22	\$34.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174105	Nov 3, 2010	53.22	\$0.00	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174106	Nov 3, 2010	53.22	\$36.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174107	Nov 3, 2012	52.16	\$0.00	\$1,200	\$52	
NTS 32O14	2174108	Nov 3, 2012	37.03	\$0.00	\$1,200	\$52	
NTS 32O14	2174109	Nov 3, 2012	17.54	\$0.00	\$500	\$26	
NTS 32O14	2174110	Nov 3, 2010	53.22	\$0.00	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174111	Nov 3, 2010	53.21	\$0.00	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174112	Nov 3, 2010	53.21	\$0.00	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174113	Nov 3, 2010	53.21	\$42.65	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2174114	Nov 3, 2010	53.21	\$0.00	\$1,200	\$104	Affected by : Hydroelectric installations
NTS 32O14	2198051	Dec 20, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32O14	2198052	Dec 20, 2011	31.88	\$34.65	\$1,200	\$52	
NTS 32O14	2198053	Dec 20, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32O14	2198054	Dec 20, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32O14	2198055	Dec 20, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32O14	2198056	Dec 20, 2011	53.23	\$34.65	\$1,200	\$52	
NTS 32O14	2198057	Dec 20, 2011	42.04	\$34.65	\$1,200	\$52	
NTS 32O14	2198058	Dec 20, 2011	53.22	\$0.00	\$1,200	\$52	



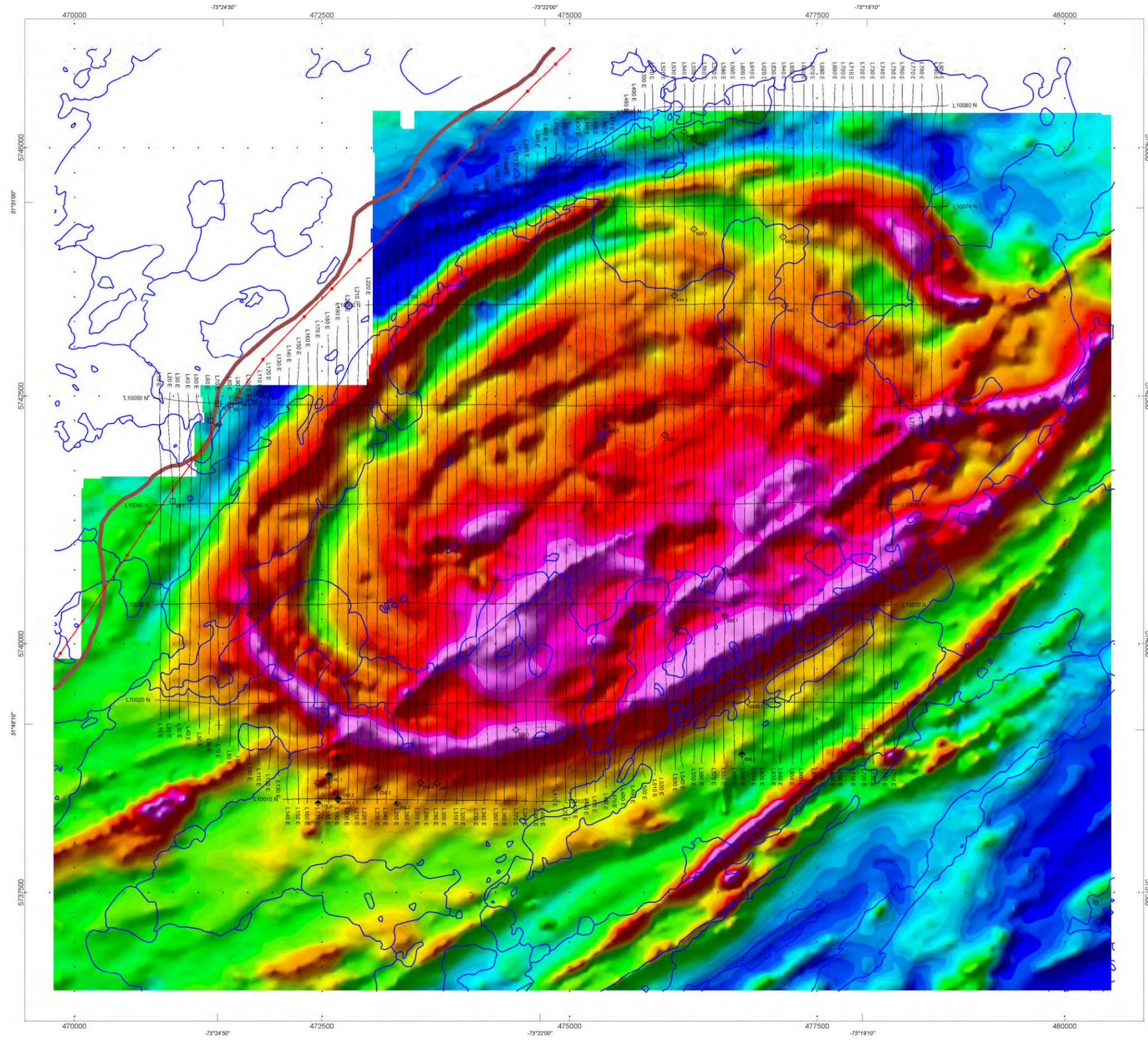


NTS Sheet	Title #	Expiry date	Area (Ha)	Excess credits	Work required	Mining duties	Constraint
NTS 32O14	2248158	Aug 30, 2012	53.14	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248159	Aug 30, 2012	53.14	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248160	Aug 30, 2012	53.14	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248161	Aug 30, 2012	53.14	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248162	Aug 30, 2012	53.14	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248163	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248164	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248165	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248166	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248167	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248168	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248169	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248170	Aug 30, 2012	53.13	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248171	Aug 30, 2012	53.12	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248172	Aug 30, 2012	53.12	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248173	Aug 30, 2012	53.12	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248174	Aug 30, 2012	53.12	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2248175	Aug 30, 2012	53.12	\$0.00	\$1,200	\$52	Affected by : Hydroelectric installations
NTS 32O14	2253887	Oct 13, 2012	53.15	\$0.00	\$1,200	\$52	
NTS 32O14	2253888	Oct 13, 2012	53.15	\$0.00	\$1,200	\$52	
NTS 32O14	2253889	Oct 13, 2012	53.14	\$0.00	\$1,200	\$52	
NTS 32O14	2253890	Oct 13, 2012	53.14	\$0.00	\$1,200	\$52	
NTS 32O15	2244583	Aug 3, 2012	53.11	\$0.00	\$1,200	\$52	
NTS 32O15	2244584	Aug 3, 2012	53.10	\$0.00	\$1,200	\$52	
NTS 32O15	2244585	Aug 3, 2012	53.10	\$0.00	\$1,200	\$52	
NTS 32O15	2244586	Aug 3, 2012	53.10	\$0.00	\$1,200	\$52	
NTS 32O15	2244587	Aug 3, 2012	53.10	\$0.00	\$1,200	\$52	
NTS 32O15	2244588	Aug 3, 2012	53.10	\$0.00	\$1,200	\$52	
NTS 32O15	2244589	Aug 3, 2012	53.10	\$0.00	\$1,200	\$52	
NTS 32O15	2244590	Aug 3, 2012	53.10	\$0.00	\$1,200	\$52	
NTS 32O15	2247329	Aug 23, 2012	53.09	\$0.00	\$1,200	\$52	
NTS 32O15	2247330	Aug 23, 2012	53.09	\$0.00	\$1,200	\$52	
NTS 32O15	2247331	Aug 23, 2012	53.09	\$0.00	\$1,200	\$52	
NTS 32O15	2247332	Aug 23, 2012	53.09	\$0.00	\$1,200	\$52	
NTS 32O15	2247333	Aug 23, 2012	53.09	\$0.00	\$1,200	\$52	
NTS 32O15	2247334	Aug 23, 2012	53.09	\$0.00	\$1,200	\$52	
NTS 32O15	2247335	Aug 23, 2012	53.09	\$0.00	\$1,200	\$52	
<b>Total</b>	<b>763 titles</b>		<b>38,546.96</b>	<b>\$98,589.76</b>	<b>\$887,600</b>	<b>\$39,728</b>	

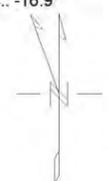
Renewal of titles 2172917 and 2174089 to 2174114 are presently processed by the MRNFQ

**SCHEDULE 2**

**HELICOPTER-BORNE SURVEY, RUPERT COMPLEX**



Inc.: 75.3°  
Dec.: -16.9°



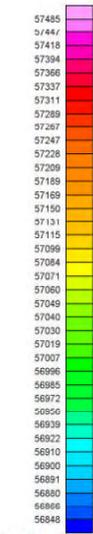
**SURVEY SPECIFICATIONS**  
 -Line spacing: 100 m  
 -Mean terrain clearance: 56.8 km  
 -Line direction: N-S  
 -Tie-line direction: E-W  
 -Survey date: July 10th to 12th, 2010  
 -Line kilometres: 496 km

**GEODETTIC SPECIFICATIONS**  
 -Map projection: UTM  
 -Datum: NAD-83 (Canada Mean)  
 -UTM zone: 18 north  
 -Central meridian: 75° west

**AIRCRAFT**  
 -Robinson R44 Helicopter, callign: C-GATM  
 -Aircraft elevation (MTC): 88.8 m (nominal)  
 -Average aircraft speed: 27.7 m/s  
 -GPS receiver: Omnistar differential GPS  
 -GPS sample rate: 1 s

**TDEM SPECIFICATIONS**  
 -Model: PROSPEC TEM  
 -4 kw generator in transmitter  
 -Alternating 2.75 ms half-sine pulses intervening off-time 13.916ms  
 -1000 samples of transmitter current and response per half cycle (60Hz)  
 -Out put rate: 10 Hz (10 on-time; 30 off-time)  
 -1024 on 2048 samples/ channel (4)/ half-cycle  
 -O.I. stacking integration  
 -Vertical component receiver in bird above transmitter

**RADAR SPECIFICATIONS**  
 -Model: TRA-3000 / TRI-40  
 -Radar installation: helicopter  
 -Radar accuracy: 1.5 m



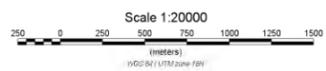
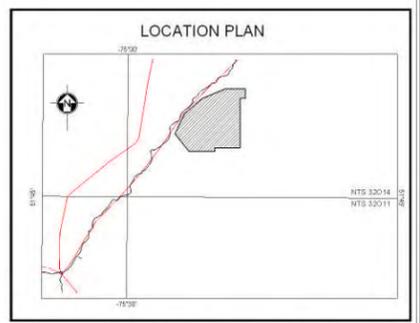
Total magnetic field (nT)

**EM legend**

symbol	response
	Cultural effect
	Possible anomaly
	Channels 5 - 9
	Channels 10 - 14
	Channels 15 - 19
	Channels 20 - 24
	Identification
	1020.1

**Legend**

	Line path
	Road
	Power line
	Lakes and river



**EXPLORATION NEMASKA INC.**

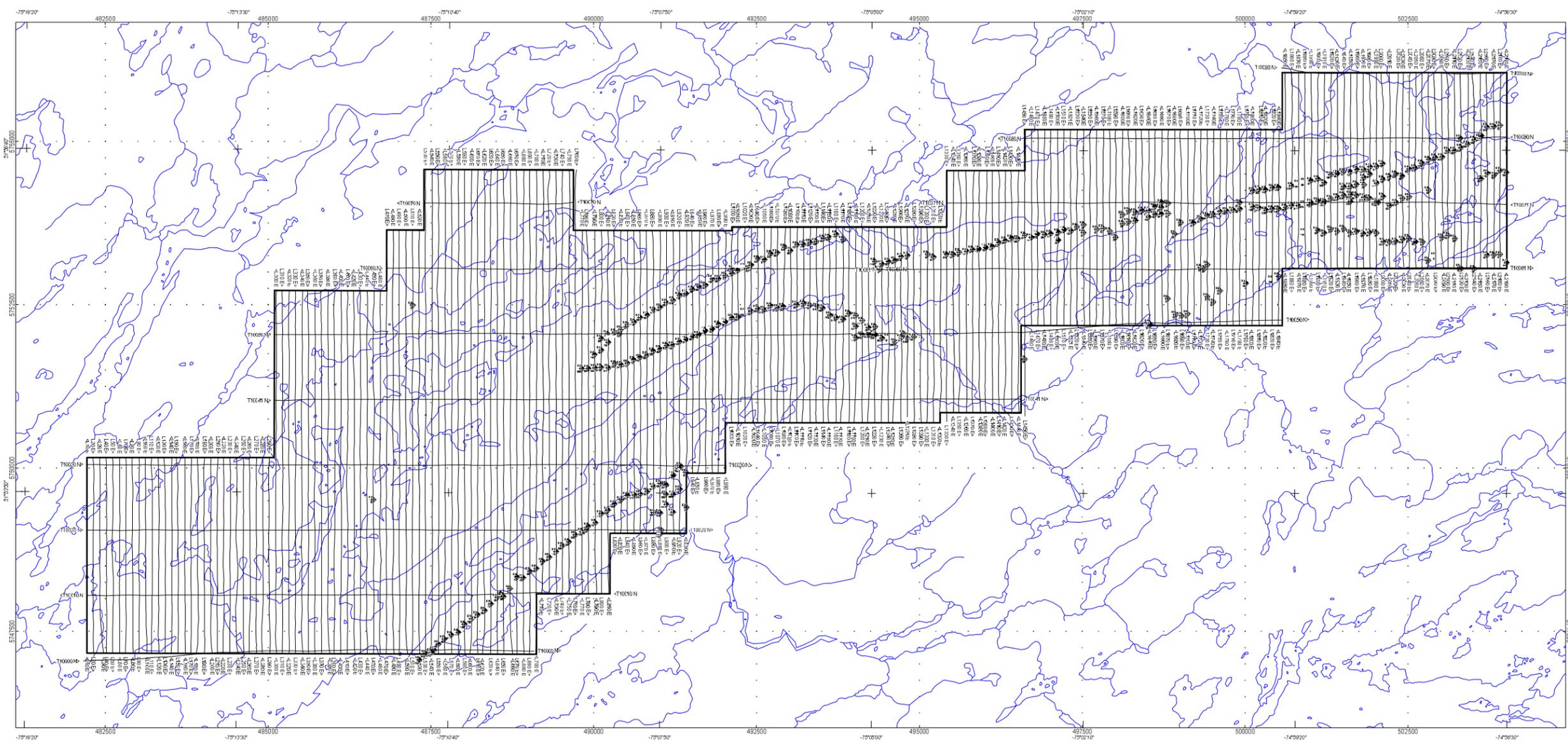
**LAC ARQUES PROJECT**  
**HELICOPTER BORNE GEOPHYSICAL SURVEY**  
**ELECTROMAGNETIC SURVEY INTERPRETATION MAP**

Contract: M-10931 Date: August 2010  
 Scale: 1: 20000 Drawing: 10-08-527-00  
 Drawing by: A. Beaudoin, tech Interpreted by: M. Boivin, P. Geo  
 Checked by: R. Paul, Eng. Approved by: R. Paul, Eng.

**GEOPHYSICS GPR INTERNATIONAL INC.**

**SCHEDULE 3**

**HELICOPTER-BORNE SURVEY, BOURIER**



Inc.: 75.3°  
Dec.: -17.1°

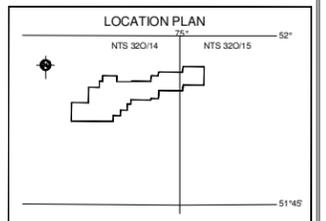
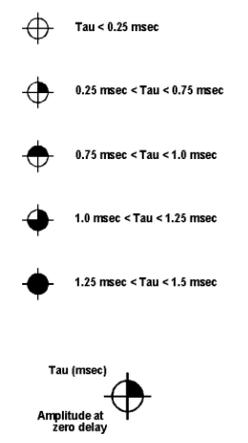
**SURVEY SPECIFICATIONS**  
 -Line spacing: 100 m  
 -Mean terrain clearance: 29.1 m  
 -Line direction: N-S  
 -Trackline direction: E-W  
 -Survey date: September 18th to 18th, 2009  
 -Line kilometers: 589.1 km

**GEODETTIC SPECIFICATIONS**  
 -Map projection: UTM  
 -Datum: NAD-83 (Canada Mean)  
 -UTM zone: 18 north  
 -Central meridian: 75° west

**AIRCRAFT**  
 -Robinson R44 Helicopter, callign: C-GATM  
 -Altitude (MTC): 84.1 m  
 -Average aircraft speed: 50.7 m/s  
 -GPS receiver: Trimble differential GPS  
 -GPS sample rate: 1 Hz

**ITEM SPECIFICATIONS**  
**Model: PROSPEC TEM**  
 -4 kw generator in transmitter  
 -Amplitude: 2.75 ms half-sine pulses (intervening off-time 13.916ms)  
 -1000 samples of transmitter current and response per half cycle (60Hz)  
 -DUI pul rate: 10 Hz (10 on-time, 20 off-time)  
 -Total on-time sample channel (UI) half-cycles  
 -O-1 stacking integration  
 -Vertical component receiver in bird above transmitter

**RADAR SPECIFICATIONS**  
**Model: TRX-3000 / TRI-40**  
 -Radar installation: Helicopter  
 -Radar accuracy: 1.5 m

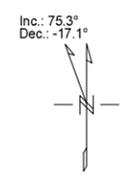
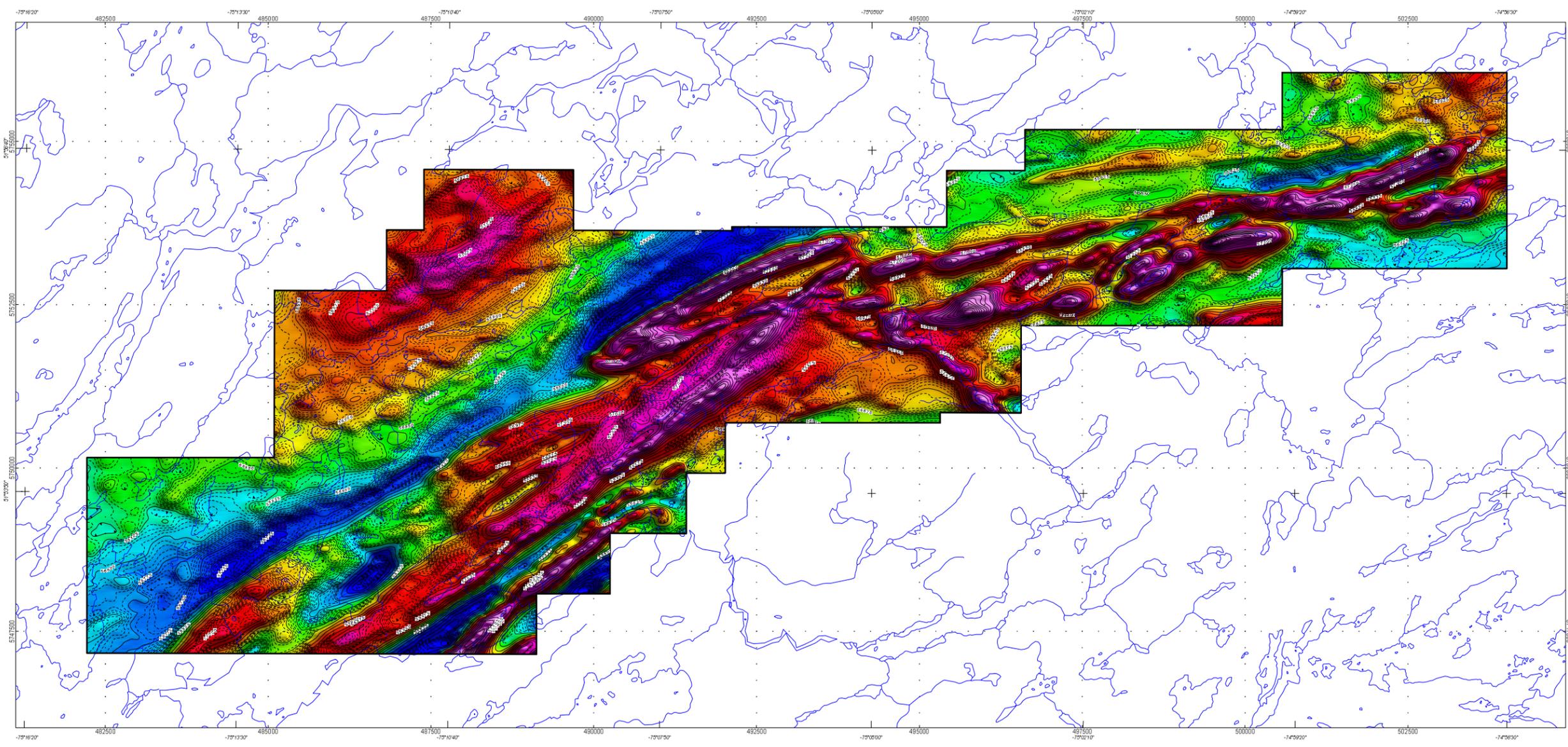


**EXPLORATION NEMASKA INC.**

**BOURIER PROJECT**  
**HELICOPTER BORNE GEOPHYSICAL SURVEY**  
**EM ANOMALIES MAP**

Contract: M-10085 Date: November 2010  
 Scale: 1:25000 Drawing: 10-10-539-00  
 Drawn by: A. Gaudin, Tech. Processed by: M. Gaudin, Tech.  
 Checked by: R. Paul, Eng. Approved by: R. Paul, Eng.

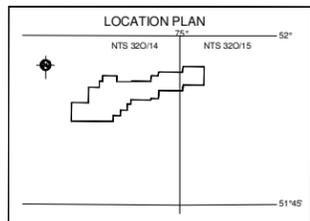
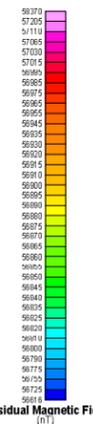
**GEOPHYSICS GPR INTERNATIONAL INC.**



**Legend**

- Isocontour 5 nT
- Isocontour 25 nT
- Isocontour 100 nT
- Lakes and river
- Survey limit

- SURVEY SPECIFICATIONS**
- Line spacing: 100 m
  - Mean terrain clearance: 29.1 m
  - Line direction: N-S
  - Tie-line direction: E-W
  - Survey date: September 13th to 16th, 2009
  - Line kilometers: 988.1 km
- GEODETTIC SPECIFICATIONS**
- Map projection: UTM
  - Datum: NAD-83
  - UTM zone: 18 North
  - Central meridian: 75° West
- AIRCRAFT**
- Robinson R44 Helicopter, cabin: C-GATM
  - Aircraft elevation (MFC): 84.1 m
  - Average aircraft speed: 30.7 m/s
  - GPS receiver: Trimble differential GPS
  - GPS sample rate: 1 s
- MAGNETOMETER SPECIFICATIONS**
- Model: Geometrics G-822 caesium vapour
  - Mounting: Tower/born, 1 sensor
  - Cable length: 25 m
  - Sampling rate: 10 Hz
  - Sensitivity: 0.001 nT (sqrt (Hz))
- PROCESSING SPECIFICATIONS**
- Lag correction
  - Diurnal correction
  - Altitude correction
  - Tie-leveling
  - Microleveling



**EXPLORATION NEMASKA INC.**

**BOURIER PROJECT**  
HELICOPTER BORNE GEOPHYSICAL SURVEY

**RESIDUAL MAGNETIC FIELD (nT)**

Contract No. 10910 Date: October 2010  
 Scale: 1:25000 Drawing: 10-10-537-00  
 Drawing by: A. Savard, Tech. Processed by: O. Lefebvre, Phys.  
 Checked by: R. Paul, Eng. Approved by: R. Paul, Eng.

**GEOPHYSICS GPR INTERNATIONAL INC.**

**SCHEDULE 4**

**PREPARATION PROTOCOL TJCM**



# **Procédures d'opération en salle de préparation des roches**

## Préparation des échantillons

### Concassage

- 1- Réception des échantillons : dans un premier temps inscrire les informations de base sur la feuille de travail intitulée "**Préparation des roches**". Placer les sacs d'échantillon sur la table en ordre numérique. Inscrire le poids respectif de chaque échantillon sur la feuille intitulée "**Rapport client**".
  - a. Noter les échantillons manquants ou les échantillons en surplus sur la feuille de travail et le rapporter au responsable du laboratoire. Noter également les instructions concernant les métaux à analyser ainsi que la méthode d'analyse demandée par le client. Si l'information ne figure pas sur le bon de commande du client ou s'il n'y a pas de bon de commande qui accompagne les échantillons, communiquer avec le client afin d'avoir des consignes claires.
  - b. Vider chaque échantillon dans un moule métallique en faisant suivre son étiquette d'identification numérotée. Les sacs non percés et sans humidité peuvent être réutilisés pour le même échantillon. Inscrire le numéro de l'échantillon sur le sac.
  - c. Placer les échantillons humides dans le séchoir toujours en ordre numérique.
- 2- Vérifier l'équipement avant chaque quart de travail et rapporter immédiatement au responsable du laboratoire tout équipement nécessitant de l'entretien ou des réparations. Étant donné que le concasseur possède un système de lubrification automatique, s'assurer visuellement du bon fonctionnement de celui-ci avant de débiter le travail.
- 3- S'assurer que le concasseur, la station de séparation et les moules sont propres avant de commencer. S'ils ne le sont pas, procéder au nettoyage avec l'air comprimé.
- 4- Démarrer la ventilation.
- 5- Démarrer le concasseur. **NE JAMAIS LAISSER LE CONCASSEUR EN MARCHE SANS SURVEILLANCE.**
- 6- S'assurer que le tiroir est bien placé sous la chute avant de mettre l'échantillon dans le réceptacle du concasseur. Si deux échantillons sont versés en même temps dans le concasseur par erreur, le noter sur la feuille de travail et aviser le responsable du laboratoire avant de procéder. Au besoin, utiliser le bâton destiné à cet effet pour pousser le matériel dans le concasseur.
- 7- Attendre que l'échantillon soit complètement broyé puis arrêter le concasseur
- 8- Nettoyer le concasseur par le haut à l'air comprimé avant de procéder avec le prochain échantillon.

## Séparation

- 9- S'assurer que les récipients soient bien placés sous les chutes du séparateur. Placer le tiroir contenant la roche concassée contre le réceptacle du séparateur de manière à ce qu'il soit bien ajusté. Verser l'échantillon broyé dans le séparateur. Lors de la séparation de l'échantillon, le matériel concassé doit être réparti uniformément dans le séparateur pour assurer l'homogénéité du sous-échantillon.
- 10- Répéter l'opération en renversant le récipient de gauche dans le séparateur jusqu'à l'obtention d'un sous-échantillon de 250 à 400 grammes. Utiliser le récipient étalon qui est marqué de façon à contenir le poids spécifique du sous-échantillon. Ce contenant doit être soigneusement nettoyé à l'air comprimé entre chaque échantillon.

Ne jamais ajuster la taille du sous-échantillon en ajoutant ou en enlevant du matériel manuellement sans passer par le séparateur pour obtenir la bonne quantité. La séparation des échantillons à l'aide du séparateur assure que le sous-échantillon est représentatif de l'échantillon complet.

- 11- Placer le sous-échantillon de 250-400 grammes dans son moule métallique et l'étiquette numérotée correspondante dans le sac numéroté qui recevra la pulpe.
- 12- Placer le reste de l'échantillon inutilisé (le rejet) dans le sac plastique d'origine numéroté et le sceller avec une attache (type *Tie Rap*). Placer le sac de rejet dans le sac d'entreposage (type poche blanche en *fabrene*) préalablement identifié au nom de la compagnie du client. Une fois rempli, ce sac sera déposé dans une boîte d'entreposage identifiée par un numéro afin d'assurer la confidentialité des clients.

### OU

Quand le bon de commande d'un client le précise, préparer un duplicata de l'échantillon. Procéder alors au concassage et à la séparation tel que décrit précédemment. Placer le premier sous-échantillon de 250-400 grammes dans un moule métallique. Séparer à nouveau le rejet pour produire un second sous-échantillon de 250-400 grammes et le mettre dans un second moule accompagné de son propre sac et de son étiquette d'identification numérotée. Puis, faire tel que dans le paragraphe ci-haut.

- 13- Nettoyer le séparateur, les moules métalliques et la station de rejet à l'air comprimé.
- 14- Répéter la procédure pour le prochain échantillon. À noter que les échantillons sont broyés à un minimum de 75 % passant 2 millimètres (9 mesh) à moins d'indication contraire du client. Si il y a des questions concernant un échantillon, ne pas hésiter à demander au responsable du laboratoire.

## **Pulvérisation au palet et anneau**

15- Vérification de l'appareil.

16- S'assurer que le pulvérisateur, la station de travail, le bol, le palet et l'anneau sont propres avant l'utilisation. S'ils ne le sont pas, procéder au nettoyage tel que décrit à l'étape 27.

17- Démarrer la ventilation.

18- Placer l'anneau et le palet dans le bol du pulvérisateur. Placer ensuite le sous-échantillon concassé dans le bol du pulvérisateur.

Il arrive que certains échantillons collent aux parois des bols, au palet et à l'anneau. Il faut apprendre à les reconnaître. Ajouter alors environ 2 ml d'éthanol pour empêcher la poudre de coller.

19- Mettre le couvercle sur le bol, placer le bol dans le pulvérisateur et fermer le couvercle de l'habitacle du pulvérisateur.

20- Démarrer le pulvérisateur et s'assurer que le minuteur est réglé.

Étant donné que le temps de pulvérisation varie en fonction du type de roche :

### **En début de contrat :**

- a. Le premier échantillon est systématiquement pulvérisé pendant 3 minutes.
- b. Une vérification granulométrique de la pulpe est ensuite effectuée à l'aide d'une tamisette (Spartan de Fritsch 8 ") et du tamis adéquat pour la granulométrie de matériel recherchée. Cette granulométrie varie d'un laboratoire d'analyse à l'autre. Il faut donc s'assurer que le matériel est pulvérisé suivant les normes du laboratoire d'analyse choisi par le client auquel seront acheminées les pulpes.
- c. Le temps de pulvérisation devra être augmenté ou diminué selon le résultat granulométrique afin d'obtenir la grosseur de particules voulue. La grosseur des particules est régie en termes de % de mesh et/ou micron selon la demande du client.

### **En cours de contrat :**

- d. Lorsque les échantillons traités sont similaires, une vérification de la granulométrie de la pulpe est effectuée à tous les 10 échantillons. Une vérification plus serrée est effectuée lorsque le type de matériel change. Tous les résultats de ces vérifications sont enregistrés sur une feuille de bord qui peut être consultée en tout temps par le client qui en fait la demande.

- 21-** Quand le temps de pulvérisation est terminé, retirer le bol du pulvérisateur et le placer sur la station de finition (homogénéisation et nettoyage).
- 22-** Retirer le couvercle, le palet et l'anneau du bol de pulvérisation et verser l'échantillon sur une feuille de papier (type Kraft 18"). Brosser doucement le bol de pulvérisation, le palet et l'anneau à l'aide d'un pinceau afin de récupérer le maximum de particules pulvérisées.
- 23-** Rouler l'échantillon 40 fois sur lui-même pour fin d'homogénéisation et le déposer ensuite dans son sac numéroté. La feuille de papier utilisée pour l'homogénéisation est alors jetée et une nouvelle feuille sera utilisée pour chaque échantillon. Le pinceau sera également bien secoué et nettoyé entre chaque échantillon.
- 24-** Placer le sac contenant la pulpe dans un bac propre en suivant l'ordre numérique des échantillons.
- 25-** Remettre l'anneau et le palet dans le bol et ajouter environ 100 grammes d'agent de nettoyage (silice). Remettre le couvercle et replacer le bol dans le pulvérisateur. Démarrer le pulvérisateur et le faire tourner pendant 10 à 15 secondes ou jusqu'à ce qu'il soit propre.
- 26-** Retirer le bol du pulvérisateur, retirer le couvercle, et jeter l'agent nettoyant dans la poubelle destinée à cette fin.
- 27-** Nettoyer le bol, le couvercle, l'anneau et le palet avec la balayeuse puis avec l'air comprimé pour nettoyer à fond le bol, le couvercle, l'anneau et le palet.
- 28-** Lorsque les bacs contenant les sacs de pulpe sont pleins ils sont alors dirigés dans l'autre pièce pour la mise en boîte et l'expédition.

À la fin du quart de travail, nettoyer à fond la station de travail et ranger les outils et les récipients à leur place attitrée.

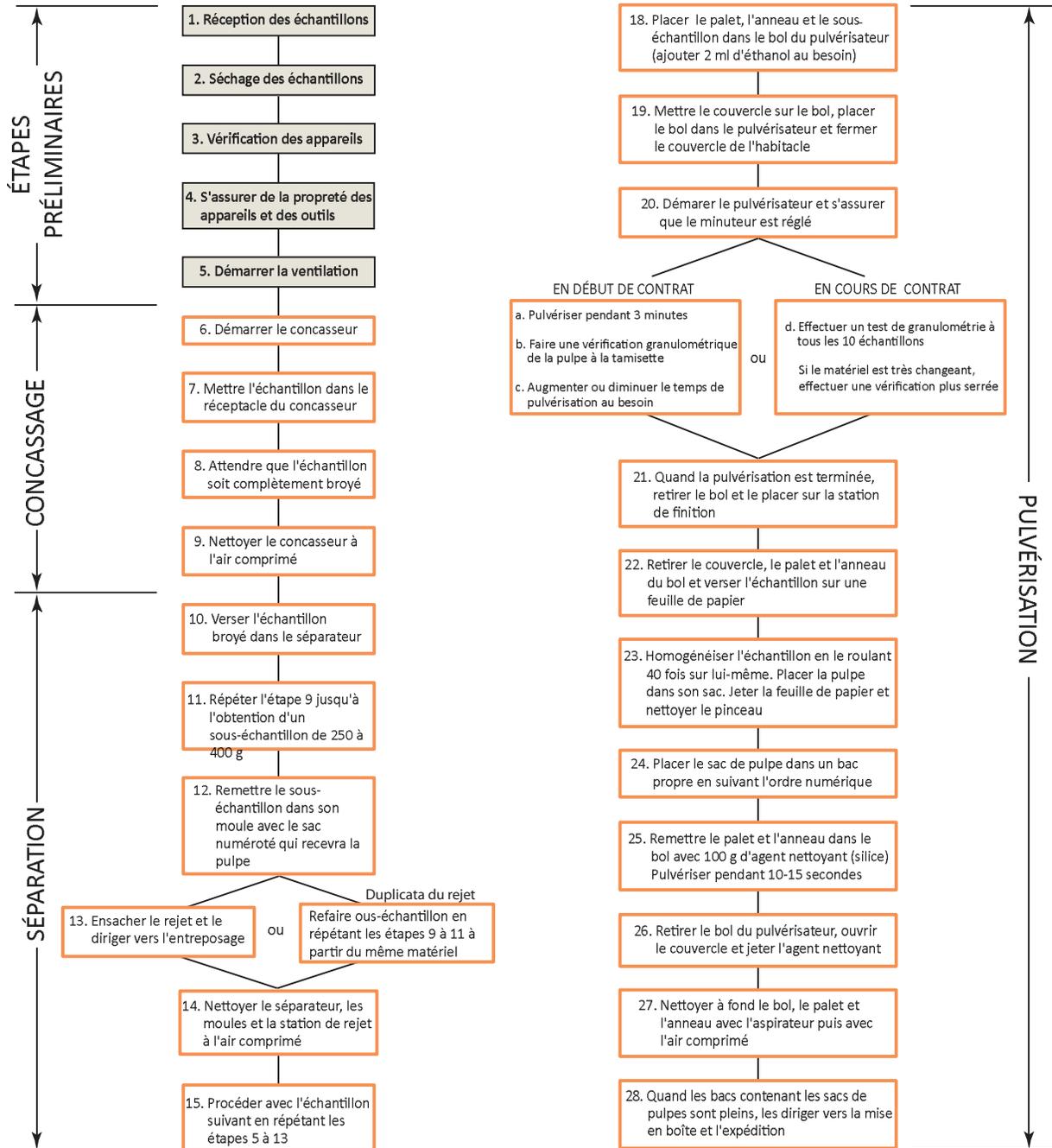
## **Mise en boîte et expédition**

- 1- Pour la mise en boîte, chacun des sacs est scellé puis replié sur lui-même à l'endroit où se situe le rabat. Ils sont ensuite soigneusement placés en ordre numérique dans une boîte d'expédition et accompagnés d'une feuille de réquisition du laboratoire choisi par le client, spécifiant les métaux à être analysés et s'il y a lieu, la méthode d'analyse à utiliser.
- 2- Sur chaque boîte la personne responsable doit inscrire le numéro des échantillons.
- 3- La boîte ou les boîtes sont ensuite emballées convenablement.
  - a. Chacune d'elle doit d'abord être scellée avec du ruban adhésif.
  - b. Elles sont ensuite enveloppées d'une solide pellicule plastique élastique afin d'être étanche.
  - c. Elles sont à nouveau scellées avec du ruban adhésif.
- 4- Une fois bien emballé, le colis est pesé et mesuré.
- 5- Sauf indication contraire de la part du client, un bon d'expédition est produit via le service d'outil en ligne sécurisé de Poste Canada sous notre compte client. Nous obtenons ainsi un numéro de repérage qui nous permet de suivre le colis en tout temps durant son expédition.

Le colis peut également être envoyé par autobus via le service Expédibus. Le colis est alors apporté par le technicien au terminus de Chibougamau.

N. B. : Le présent protocole peut être adapté à la demande d'un client à la condition que cette modification n'entraîne aucun temps de traitement, manipulation ou coût supplémentaire. Dans le cas contraire, le tarif par échantillon sera révisé à la hausse.

## ORGANIGRAMME DU PROTOCOLE DE PRÉPARATION D'ÉCHANTILLONS AU CENTRE D'ÉTUDE APPLIQUÉE DU QUATERNAIRE



Fin du quart de travail

Nettoyer à fond les stations de travail, les appareillages et les outils

**SCHEDULE 5A**  
**ANALYTICAL PROTOCOL SGS**

ICM90A: Determination of Fifty-five (55) Elements in Geological Samples using Sodium Peroxide Fusion and a Combination of Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

**1. Parameter(s) measured, unit(s):**

Silver (Ag); Aluminum (Al); Arsenic (As); Boron (B); Barium (Ba); Beryllium (Be); Bismuth (Bi); Calcium (Ca); Cadmium (Cd); Cerium (Ce); Chromium (Cr); Cobalt (Co); Cesium (Cs); Copper (Cu); Dysprosium (Dy); Erbium (Er); Europium (Eu); Iron (Fe); Gallium (Ga); Gadolinium (Gd); Germanium (Ge); Hafnium (Hf); Holmium (Ho); Indium (In); Potassium (K); Lanthanum (La); Lithium (Li); Lutetium (Lu); Magnesium (Mg); Manganese (Mn); Molybdenum (Mo); Niobium (Nb); Neodymium (Nd); Nickel (Ni); Phosphorus (P); Lead (Pb); Praseodymium (Pr); Rubidium (Rb); Scandium (Sc); Samarium (Sm); Tin(Sn); Strontium (Sr); Tantalum (Ta); Terbium (Tb); Thallium (Tl); Thorium (Th); Titanium (Ti); Thulium (Tm); Uranium (U); Vanadium(V); Tungsten(W); Yttrium (Y); Ytterbium (Yb); Zinc (Zn); Zirconium (Zr) : ppm and %

**2. Typical sample size:**

0.10 g

**3. Type of sample applicable (media):**

Crushed and Pulverized rocks, soils and sediments

**4. Sample preparation technique used:**

Crushed and pulverized rock, soil and /or sediment samples are fused by Sodium peroxide in graphite crucibles and dissolved using dilute HNO<sub>3</sub>.

During digestion the sample is split into 2 and half is given to ICP-OES and the other half is given to ICP-MS.

**5. Method of analysis used:**

The digested sample solution is analyzed by inductively coupled plasma Optical Emission Spectrometer (ICP-OES) and inductively coupled plasma Mass Spectrometer (ICP-MS). Samples are analyzed against known calibration materials to provide quantitative analysis of the original sample.

**6. Data reduction by:**

The results are exported via computer, on line, data fed to the SGS Laboratory Information Management System (SLIM) with secure audit trail.

**7. Figures of Merit:**

This method has been fully validated for the range of samples typically analyzed. Method validation includes the use of certified reference materials, replicates and blanks to calculate accuracy, precision, linearity, range, limit of detection, limit of quantification, specificity and measurement uncertainty.

Element	Reporting Limit (ppm)						
Ag	1.00	Er	0.05	Mn	10	Tb	0.05
Al	0.01(%)	Eu	0.05	Mo	2.00	Th	0.10
As	30	Fe	0.01(%)	Nb	1.00	Ti	0.01(%)
Ba	0.50	Ga	1.00	Nd	0.10	Tl	0.50
Be	5.00	Gd	0.05	Ni	5.00	Tm	0.05

Element	Reporting Limit (ppm)						
Bi	0.10	Ge	1.00	P	0.01(%)	U	0.05
Ca	0.01(%)	Hf	1.00	Pb	5.00	V	5.00
Cd	0.20	Ho	0.05	Pr	0.05	W	1.00
Ce	0.10	In	0.20	Rb	0.20	Y	0.50
Co	0.50	K	0.01(%)	Sc	5.00	Yb	0.10
Cr	10	La	0.10	Sm	0.10	Zn	5.00
Cs	0.10	Li	10	Sn	1.00	Zr	0.50
Cu	5.00	Lu	0.05	Sr	0.10		
Dy	0.05	Mg	0.01(%)	Ta	0.50		

The estimated Measurement Uncertainty (MU) has been established for the following base metal parameters of this method at the following concentration ranges and is based on laboratory replicate data (comprising of different samples, analysts, laboratory conditions, equipment, etc.,)

**Estimated Measurement Uncertainty (MU) +/- (ppm)**

Concentration Range (ppm)	Element	Concentration (ppm)	Element	Concentration (ppm)	Element	Concentration (ppm)			
0.05 - 0.25ppm	<b>Ag</b>		<b>As</b>		<b>Ba</b>				
0.25 - 0.50 ppm									
0.5 – 2.5 ppm							0.6931		0.731946
2.5 – 5.0 ppm							0.9944		1.125989
5.0 – 25 ppm								2.2704	1.377073
25 - 50 ppm								3.7062	1.917075
50 -250 ppm								16.5297	6.39321
250 – 500 ppm									12.84899
500 – 2500 ppm									32.72326
2500 – 5000 ppm									97.18658
0.05 - 0.25ppm	<b>Be</b>		<b>Bi</b>		<b>Cd</b>				
0.25 - 0.50 ppm									
0.5 – 2.5 ppm								0.032878	0.11453
2.5 – 5.0 ppm								0.0615	0.21918
5.0 – 25 ppm							0.669509	0.169924	0.37862
25 – 50 ppm							4.483023	0.4480	1.099363
50 -250 ppm							9.848143	1.318571	
250 – 500 ppm								1.318571	
500 – 2500 ppm								3.029663	
2500 – 5000 ppm								7.855977	
0.05 - 0.25ppm	<b>Ce</b>		<b>Co</b>		<b>Cr</b>				
0.25 - 0.50 ppm									
0.5 – 2.5 ppm							0.211115	0.08131	
2.5 – 5.0 ppm							0.715622	0.159567	
5.0 – 25 ppm							0.890837	0.32661	4.366711
25 - 50 ppm							1.638983	0.436596	6.280422
50 -250 ppm							4.484443	2.454314	10.90949
250 – 500 ppm								4.606485	30.42994
500 – 2500 ppm									60.49221
2500 – 5000 ppm									



Minerals Services METHOD SUMMARY

0.05 - 0.25ppm	<b>Cs</b>	0.057182	<b>Cu</b>		<b>Dy</b>	0.047289
0.25 - 0.50 ppm		0.086314				0.05236
0.5 – 2.5 ppm		0.142073				0.113318
2.5 – 5.0 ppm		0.322706				
5.0 – 25 ppm		0.44628		1.046988		0.392534
25 - 50 ppm		1.959416		3.195025		
50 -250 ppm		4.995059		7.385633		
250 – 500 ppm		11.47666				
500 – 2500 ppm						
2500 – 5000 ppm						
0.05 - 0.25ppm	<b>Er</b>	0.025473	<b>Eu</b>	0.020645	<b>Ga</b>	
0.25 - 0.50 ppm		0.051552		0.050865		
0.5 – 2.5 ppm		0.176311		0.089462		0.367444
2.5 – 5.0 ppm		0.215674				0.529379
5.0 – 25 ppm		0.7981		0.771359		0.888822
25 – 50 ppm						1.659712
50 -250 ppm		8.853189				4.085391
250 – 500 ppm						
500 – 2500 ppm						
2500 – 5000 ppm						
0.05 - 0.25ppm	<b>Gd</b>	0.044682	<b>Ge</b>		<b>Hf</b>	
0.25 - 0.50 ppm		0.056546				0.346687
0.5 – 2.5 ppm		0.113922		0.185841		0.261564
2.5 – 5.0 ppm		0.315314		0.230459		1.606503
5.0 – 25 ppm		0.893597		0.921092		
25 – 50 ppm		TBD				
50 -250 ppm		9.689842				
250 – 500 ppm						
500 – 2500 ppm						
2500 – 5000 ppm						
0.05 - 0.25ppm	<b>Ho</b>	0.013376	<b>In</b>		<b>La</b>	0.056709
0.25 - 0.50 ppm		0.044264				0.063105
0.5 – 2.5 ppm		0.04961		0.221676		0.187084
2.5 – 5.0 ppm						0.189511
5.0 – 25 ppm						0.666292
25 – 50 ppm						1.426959
50 -250 ppm		3.908226				
250 – 500 ppm						10.45104
500 – 2500 ppm						77.43765
2500 – 5000 ppm						
0.05 - 0.25ppm	<b>Li</b>		<b>Lu</b>	0.018346	<b>Mn</b>	
0.25 - 0.50 ppm				0.035913		
0.5 – 2.5 ppm				0.132876		
2.5 – 5.0 ppm						
5.0 – 25 ppm		1.672568				3.407691
25 – 50 ppm		3.535235				7.282542
50 -250 ppm		6.599281				16.02434
250 – 500 ppm		14.56647				38.65566
500 – 2500 ppm		41.88392				108.519
2500 – 5000 ppm		190.3097				
5000 - 25000 ppm	453.7326					



Minerals Services METHOD SUMMARY

0.05 - 0.25 ppm	<b>Mo</b>		<b>Nb</b>		<b>Nd</b>	
0.25 - 0.50 ppm						
0.5 - 2.5 ppm		0.217599		0.32418		0.092466
2.5 - 5.0 ppm		0.510872		0.191314		0.173652
5.0 - 25 ppm		0.940644		0.698331		0.413716
25 - 50 ppm		2.03401		3.012882		1.53025
50 -250 ppm		5.443961		12.14397		4.38649
250 - 500 ppm						
500 - 2500 ppm				106.743		58.06495
2500 - 5000 ppm						
0.05 - 0.25 ppm		<b>Ni</b>				<b>Pb</b>
0.25 - 0.50 ppm				0.054043		
0.5 - 2.5 ppm				0.105083		
2.5 - 5.0 ppm				0.231189		
5.0 - 25 ppm	2.87038		1.683587	0.768758		
25 - 50 ppm	3.745684		4.985428			
50 -250 ppm	8.810247		7.791781			
250 - 500 ppm	24.90757		23.56788			
500 - 2500 ppm						
2500 - 5000 ppm						
0.05 - 0.25 ppm	<b>Rb</b>			<b>Sb</b>		
0.25 - 0.50 ppm						
0.5 - 2.5 ppm		0.287604	0.140455			
2.5 - 5.0 ppm		0.538006	0.27757		0.599676	
5.0 - 25 ppm		0.653149	0.942717		2.27187	
25 - 50 ppm		1.398444				
50 -250 ppm		6.61988				
250 - 500 ppm		16.16728				
500 - 2500 ppm		57.98209				
2500 - 5000 ppm		184.5826				
0.05 - 0.25 ppm		<b>Sm</b>	0.038091		<b>Sn</b>	
0.25 - 0.50 ppm	0.081065					
0.5 - 2.5 ppm	0.186861		0.723596			
2.5 - 5.0 ppm	0.23763		0.851477			
5.0 - 25 ppm	0.792076		0.851653	1.189068		
25 - 50 ppm			3.28263	2.136811		
50 -250 ppm	9.772889		9.549912	4.976979		
250 - 500 ppm			26.87868	18.7175		
500 - 2500 ppm				41.56371		
2500 - 5000 ppm						
0.05 - 0.25 ppm	<b>Ta</b>			<b>Tb</b>		0.017546
0.25 - 0.50 ppm			0.038088		0.062868	
0.5 - 2.5 ppm		0.102164	0.119618		0.164533	
2.5 - 5.0 ppm		0.414192			0.185561	
5.0 - 25 ppm		1.896906			0.737212	
25 - 50 ppm		3.058458	1.632933		2.196419	
50 -250 ppm		8.954532			8.453535	
250 - 500 ppm						
500 - 2500 ppm						
2500 - 5000 ppm						

0.05 - 0.25 ppm	Ti		Tm	0.024218	U	0.030155
0.25 - 0.50 ppm				0.040276		0.064108
0.5 - 2.5 ppm		0.118819		0.112212		0.124005
2.5 - 5.0 ppm		0.207044				0.219119
5.0 - 25 ppm		0.838068				0.849722
25 - 50 ppm		2.834461		1.603656		1.854839
50 -250 ppm						9.798346
250 - 500 ppm						
500 - 2500 ppm						
2500 - 5000 ppm						
0.05 - 0.25 ppm	V		W		Y	
0.25 - 0.50 ppm						
0.5 - 2.5 ppm				0.084581		0.265339
2.5 - 5.0 ppm				0.20112		0.302959
5.0 - 25 ppm		1.687312		0.706248		1.192084
25 - 50 ppm		1.954198		1.664823		2.430986
50 -250 ppm		5.906929		5.63884		4.700853
250 - 500 ppm		19.81376				
500 - 2500 ppm		46.69583				
2500 - 5000 ppm						
0.05 - 0.25 ppm	Yb	0.029101	Zn		Zr	
0.25 - 0.50 ppm		0.05748				0.555347
0.5 - 2.5 ppm		0.179688				0.853473
2.5 - 5.0 ppm		0.233002				1.875124
5.0 - 25 ppm		0.643671		3.673607		3.021955
25 - 50 ppm				6.69398		6.832223
50 -250 ppm		6.516897		9.973578		22.90411
250 - 500 ppm				20.6148		
500 - 2500 ppm				57.67477		
2500 - 5000 ppm						

### 8. Quality control:

Instrument calibration is performed for each batch or work order and calibration checks are analyzed within each analytical run. Quality control materials include method blanks, replicates and reference materials and are randomly inserted with the frequency set according to method protocols at ~14%. Quality assurance measures of precision and accuracy are verified statistically using SLIM control charts with set criteria for data acceptance. Data that fails is subject to investigation and repeated as necessary.

### 9. Accreditation:

The Standards Council of Canada has accredited this test in conformance with the requirements of ISO/IEC 17025. See [www.scc.ca](http://www.scc.ca) for scope of accreditation

**SCHEDULE 5B**

**ANALYTICAL PROTOCOL ALS CHEMEX**



## **Sample Preparation - Logging Samples Received as Pulps**

All pulp samples received at ALS Chemex are furnished with a bar code label attached to the original sample bag. The system will also accept client supplied bar coded labels that are attached to sampling bags in the field. The label is scanned and the weight of the sample is recorded together with additional information such as date, time, equipment used and operator name. The scanning procedure is used for each subsequent activity involving the sample from preparation to analysis, through to storage or disposal of the pulp.

At least one out of every 50 samples is selected at random for routine pulp QC tests (LOG-QC). For routine pulps, the specification is 85 % passing a 75 micron screen. Other specifications may be checked as per client requirements.

<b>Method Code</b>	<b>Specifications</b>	<b>Description</b>
LOG-23	85 % < 75 $\mu\text{m}$	Log received sample pulp in tracking system (Sample pulps received with bar code labels attached).
LOG-24	85 % < 75 $\mu\text{m}$	Log received sample pulp in tracking system (Sample pulps received without bar code labels attached).
LOG-25	95 % < 106 $\mu\text{m}$	Log received sample pulp in tracking system (Sample pulps received with bar code labels attached).
LOG-26	95 % < 106 $\mu\text{m}$	Log received sample pulp in tracking system (Sample pulps received without bar code labels attached).
LOG-QC	See method specifications	Testing Procedure for samples received as pulp.



**Fire Assay Procedure – Ag-GRA21, Ag-GRA22, Au-GRA21 and  
Au-GRA22  
Precious Metals Gravimetric Analysis Methods**

**Sample Decomposition:** Fire Assay Fusion (FA-FUSAG1, FA-FUSAG2, FA-FUSGV1 and FA-FUSGV2)  
**Analytical Method:** Gravimetric

A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents in order to produce a lead button. The lead button containing the precious metals is cupelled to remove the lead. The remaining gold and silver bead is parted in dilute nitric acid, annealed and weighed as gold. Silver, if requested, is then determined by the difference in weights.

<b>Method Code</b>	<b>Element</b>	<b>Symbol</b>	<b>Units</b>	<b>Sample Weight (g)</b>	<b>Detection Limit</b>	<b>Upper Limit</b>
Ag-GRA21	Silver	Ag	ppm	30	5	10,000
Ag-GRA22	Silver	Ag	ppm	50	5	10,000
Au-GRA21	Gold	Au	ppm	30	0.05	1000
Au-GRA22	Gold	Au	ppm	50	0.05	1000



**Fire Assay Procedure – Au-AA23 & Au-AA24  
Fire Assay Fusion, AAS Finish**

**Sample Decomposition:** Fire Assay Fusion (FA-FUS01 & FA-FUS02)

**Analytical Method:** Atomic Absorption Spectroscopy (AAS)

A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required, inquarted with 6 mg of gold-free silver and then cupelled to yield a precious metal bead.

The bead is digested in 0.5 mL dilute nitric acid in the microwave oven, 0.5 mL concentrated hydrochloric acid is then added and the bead is further digested in the microwave at a lower power setting. The digested solution is cooled, diluted to a total volume of 4 mL with de-mineralized water, and analyzed by atomic absorption spectroscopy against matrix-matched standards.

Method Code	Element	Symbol	Units	Sample Weight (g)	Lower Limit	Upper Limit	Default Overlimit Method
Au-AA23	Gold	Au	ppm	30	0.005	10.0	Au- GRA21
Au-AA24	Gold	Au	ppm	50	0.005	10.0	Au- GRA22



**Geochemical Procedure – ME-AA45**  
**Atomic Absorption Spectroscopy – Aqua Regia Digestion**

**Sample Decomposition:** HNO<sub>3</sub> – HCl Aqua Regia Digestion (GEO-AR01)  
**Analytical Method:** Atomic Absorption Spectroscopy (AAS)

A prepared sample (0.50 g) is digested with aqua regia for 45 minutes in a graphite heating block. After cooling, the resulting solution is diluted to 12.5 mL with demineralized water, mixed and analysed by atomic absorption spectrometry.

**Note:** Although some base metals may dissolve quantitatively in the majority of geological matrices, data reported from an aqua regia digestion should be considered as representing only the leachable portion of a particular analyte. The recovery percentage of many analytes from more resistive minerals can be very low, but the acid leachable portion can be an excellent exploration too.

Element	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Silver	Ag	ppm	0.2	100	Ag-AA46
Arsenic	As	ppm	5	10000	As-AA46
Cobalt	Co	ppm	1	10000	Co-AA62
Copper	Cu	ppm	1	10000	Cu-AA46
Molybdenum	Mo	ppm	1	10000	Mo-AA46
Nickel	Ni	ppm	1	10000	Ni-AA62
Lead	Pb	ppm	1	10000	Pb-AA46
Zinc	Zn	ppm	1	10000	Zn-AA46



**Whole Rock Geochemistry – ME-ICP06 and OA-GRA05**  
**Analysis of major oxides by ICP-AES**

**ME-ICP06**

**Sample Decomposition:** Lithium Metaborate/Lithium Tetraborate  
 (LiBO<sub>2</sub>/Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>) Fusion\* (FUS-LI01)  
**Analytical Method:** Inductively Coupled Plasma - Atomic  
 Emission Spectroscopy (ICP-AES)

A prepared sample (0.200 g) is added to lithium metaborate/lithium tetraborate flux (0.90 g), mixed well and fused in a furnace at 1000°C. The resulting melt is then cooled and dissolved in 100 mL of 4% nitric acid/2% hydrochloric acid. This solution is then analyzed by ICP-AES and the results are corrected for spectral inter-element interferences. Oxide concentration is calculated from the determined elemental concentration and the result is reported in that format.

Element	Symbol	Units	Lower Limit	Upper Limit
Aluminum	Al <sub>2</sub> O <sub>3</sub>	%	0.01	100
Barium	BaO	%	0.01	100
Calcium	CaO	%	0.01	100
Chromium	Cr <sub>2</sub> O <sub>3</sub>	%	0.01	100
Iron	Fe <sub>2</sub> O <sub>3</sub>	%	0.01	100
Magnesium	MgO	%	0.01	100
Manganese	MnO	%	0.01	100
Phosphorus	P <sub>2</sub> O <sub>5</sub>	%	0.01	100
Potassium	K <sub>2</sub> O	%	0.01	100
Silicon	SiO <sub>2</sub>	%	0.01	100
Sodium	Na <sub>2</sub> O	%	0.01	100
Strontium	SrO	%	0.01	100
Titanium	TiO <sub>2</sub>	%	0.01	100



**\*Note:** For samples that are high in sulphides, we may substitute a peroxide fusion in order to obtain better results.

**OA-GRA05, ME-GRA05**

**Sample Decomposition:** Thermal decomposition Furnace or TGA  
(OA-GRA05 or ME-GRA05)  
**Analytical Method:** Gravimetric

If required, the total oxide content is determined from the ICP analyte concentrations and loss on Ignition (L.O.I.) values. A prepared sample (1.0 g) is placed in an oven at 1000°C for one hour, cooled and then weighed. The percent loss on ignition is calculated from the difference in weight.

Method Code	Parameter	Symbol	Units	Lower Limit	Upper Limit
OA-GRA05	Loss on Ignition (Furnace)	LOI	%	0.01	100
ME-GRA05	Loss on Ignition (TGA)	Moisture	%	0.01	100
		LOI	%	0.01	100



**Geochemical Procedure - ME-ICP41  
Trace Level Methods Using Conventional ICP-AES Analysis**

**Sample Decomposition:** Nitric Aqua Regia Digestion (GEO-AR01)  
**Analytical Method:** Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)

A prepared sample is digested with aqua regia in a graphite heating block. After cooling, the resulting solution is diluted to 12.5 mL with deionized water, mixed and analyzed by inductively coupled plasma-atomic emission spectrometry. The analytical results are corrected for inter-element spectral interferences.

**NOTE:** In the majority of geological matrices, data reported from an aqua regia leach should be considered as representing only the leachable portion of the particular analyte.

Element	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Silver	Ag	ppm	0.2	100	Ag-OG46
Aluminum	Al	%	0.01	25	
Arsenic	As	ppm	2	10000	
Boron	B	ppm	10	10000	
Barium	Ba	ppm	10	10000	
Beryllium	Be	ppm	0.5	1000	
Bismuth	Bi	ppm	2	10000	
Calcium	Ca	%	0.01	25	
Cadmium	Cd	ppm	0.5	1000	
Cobalt	Co	ppm	1	10000	
Chromium	Cr	ppm	1	10000	
Copper	Cu	ppm	1	10000	Cu-OG46
Iron	Fe	%	0.01	50	



Element	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Gallium	Ga	ppm	10	10000	
Mercury	Hg	ppm	1	10000	
Potassium	K	%	0.01	10	
Lanthanum	La	ppm	10	10000	
Magnesium	Mg	%	0.01	25	
Manganese	Mn	ppm	5	50000	
Molybdenum	Mo	ppm	1	10000	
Sodium	Na	%	0.01	10	
Nickel	Ni	ppm	1	10000	
Phosphorus	P	ppm	10	10000	
Lead	Pb	ppm	2	10000	Pb-OG46
Sulfur	S	%	0.01	10	
Antimony	Sb	ppm	2	10000	
Scandium	Sc	ppm	1	10000	
Strontium	Sr	ppm	1	10000	
Thorium	Th	ppm	20	10000	
Titanium	Ti	%	0.01	10	
Thallium	Tl	ppm	10	10000	
Uranium	U	ppm	10	10000	
Vanadium	V	ppm	1	10000	
Tungsten	W	ppm	10	10000	
Zinc	Zn	ppm	2	10000	Zn-OG46



Elements listed below are available upon request

<b>Element</b>	<b>Symbol</b>	<b>Units</b>	<b>Lower Limit</b>	<b>Upper Limit</b>	<b>Default Overlimit Method</b>
Cerium	Ce	ppm	10	10000	
Hafnium	Hf	ppm	10	10000	
Indium	In	ppm	10	10000	
Lithium	Li	ppm	10	10000	
Niobium	Nb	ppm	10	10000	
Rubidium	Rb	ppm	10	10000	
Selenium	Se	ppm	10	10000	
Silicon	Si	ppm	10	10000	
Tin	Sn	ppm	10	10000	
Tantalum	Ta	ppm	10	10000	
Tellurium	Te	ppm	10	10000	
Yttrium	Y	ppm	10	10000	
Zirconium	Zr	ppm	5	10000	



**Geochemical Procedure – ME-ICP61**  
**Trace Level Methods Using Conventional ICP-AES Analysis**

**Sample Decomposition:** HNO<sub>3</sub>-HClO<sub>4</sub>-HF-HCl digestion, HCl Leach (GEO-4ACID)  
**Analytical Method:** Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)

A prepared sample (0.25 g) is digested with perchloric, nitric, hydrofluoric and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and the resulting solution is analyzed by inductively coupled plasma-atomic emission spectrometry. Results are corrected for spectral interelement interferences.

**NOTE:** Four acid digestions are able to dissolve most minerals; however, although the term “*near-total*” is used, depending on the sample matrix, not all elements are quantitatively extracted.

Element	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Silver	Ag	ppm	0.5	100	Ag-OG62
Aluminum	Al	%	0.01	50	
Arsenic	As	ppm	5	10000	
Barium	Ba	ppm	10	10000	
Beryllium	Be	ppm	0.5	1000	
Bismuth	Bi	ppm	2	10000	
Calcium	Ca	%	0.01	50	
Cadmium	Cd	ppm	0.5	500	
Cobalt	Co	ppm	1	10000	Co-OG62
Chromium	Cr	ppm	1	10000	
Copper	Cu	ppm	1	10000	Cu-OG62



Element	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Iron	Fe	%	0.01	50	
Gallium	Ga	ppm	10	10000	
Potassium	K	%	0.01	10	
Lanthanum	La	ppm	10	10000	
Magnesium	Mg	%	0.01	50	
Manganese	Mn	ppm	5	100000	
Molybdenum	Mo	ppm	1	10000	Mo-OG62
Sodium	Na	%	0.01	10	
Nickel	Ni	ppm	1	10000	Ni-OG62
Phosphorus	P	ppm	10	10000	
Lead	Pb	ppm	2	10000	Pb-OG62
Sulphur	S	%	0.01	10	
Antimony	Sb	ppm	5	10000	
Scandium	Sc	ppm	1	10000	
Strontium	Sr	ppm	1	10000	
Thorium	Th	ppm	20	10000	
Titanium	Ti	%	0.01	10	
Thallium	Tl	ppm	10	10000	
Uranium	U	ppm	10	10000	
Vanadium	V	ppm	1	10000	
Tungsten	W	ppm	10	10000	
Zinc	Zn	ppm	2	10000	Zn-OG62



Elements listed below are available upon request

<b>Element</b>	<b>Symbol</b>	<b>Units</b>	<b>Lower Limit</b>	<b>Upper Limit</b>	<b>Default Overlimit Method</b>
Lithium	Li	ppm	10	10000	
Niobium	Nb	ppm	5	2000	
Rubidium	Rb	ppm	10	10000	
Selenium	Se	ppm	10	1000	
Tin	Sn	ppm	10	10000	
Tantalum	Ta	ppm	10	10000	
Tellurium	Te	ppm	10	10000	
Yttrium	Y	ppm	10	10000	
Zirconium	Zr	ppm	5	500	



**Geochemical Procedure - ME-MS81**  
**Ultra-Trace Level Methods**

**Sample Decomposition:** Lithium Metaborate Fusion (FUS-LI01)  
**Analytical Method:** Inductively Coupled Plasma - Mass Spectroscopy (ICP - MS)

A prepared sample (0.200 g) is added to lithium metaborate flux (0.90 g), mixed well and fused in a furnace at 1000°C. The resulting melt is then cooled and dissolved in 100 mL of 4% HNO<sub>3</sub> / 2% HCl solution. This solution is then analyzed by inductively coupled plasma - mass spectrometry.

Element	Symbol	Units	Lower Limit	Upper Limit
Silver*	Ag	ppm	1	1000
Barium	Ba	ppm	0.5	10000
Cerium	Ce	ppm	0.5	10000
Cobalt*	Co	ppm	0.5	10000
Chromium	Cr	ppm	10	10000
Cesium	Cs	ppm	0.01	10000
Copper*	Cu	ppm	5	10000
Dysprosium	Dy	ppm	0.05	1000
Erbium	Er	ppm	0.03	1000
Europium	Eu	ppm	0.03	1000
Gallium	Ga	ppm	0.1	1000
Gadolinium	Gd	ppm	0.05	1000
Hafnium	Hf	ppm	0.2	10000
Holmium	Ho	ppm	0.01	1000
Lanthanum	La	ppm	0.5	10000
Lutetium	Lu	ppm	0.01	1000



Element	Symbol	Units	Lower Limit	Upper Limit
Molybdenum*	Mo	ppm	2	10000
Niobium	Nb	ppm	0.2	10000
Neodymium	Nd	ppm	0.1	10000
Nickel*	Ni	ppm	5	10000
Lead*	Pb	ppm	5	10000
Praseodymium	Pr	ppm	0.03	1000
Rubidium	Rb	ppm	0.2	10000
Samarium	Sm	ppm	0.03	1000
Tin	Sn	ppm	1	10000
Strontium	Sr	ppm	0.1	10000
Tantalum	Ta	ppm	0.1	10000
Terbium	Tb	ppm	0.01	1000
Thorium	Th	ppm	0.05	1000
Thallium	Tl	ppm	0.5	1000
Thulium	Tm	ppm	0.01	1000
Uranium	U	ppm	0.05	1000
Vanadium	V	ppm	5	10000
Tungsten	W	ppm	1	10000
Yttrium	Y	ppm	0.5	10000
Ytterbium	Yb	ppm	0.03	1000
Zinc*	Zn	ppm	5	10000
Zirconium	Zr	ppm	2	10000

**\*Note:** Some base metal oxides and sulfides may not be completely decomposed by the lithium borate fusion. Results for Ag, Co, Cu, Mo, Ni, Pb, and Zn will not likely be quantitative by this method.



## Adding Base Metals – ME-AQ81, ME-4ACD81

**Sample Decomposition:** Aqua Regia (GEO-AR01) or 4-acid (GEO-4ACID)

**Analytical Method:** Inductively Coupled Plasma – Atomic Emission spectroscopy (ICP - AES)

The lithium metaborate fusion is not the preferred method for the determination of base metals. Many sulfides and some metal oxides are only partially decomposed by the borate fusion and some elements such as cadmium and zinc can be volatilized.

Base metals can be reported with ME-MS81 for either an aqua regia digestion (**ME-AQ81**) or a four acid digestion (**ME-4ACD81**). The four acid digestion is preferred when the targets include more resistive mineralization such as that associated with nickel and cobalt.

Element	Symbol	Units	Lower Limit	Upper Limit
Silver	Ag	ppm	0.5	100
Arsenic	As	ppm	5	10000
Cadmium	Cd	ppm	0.5	10000
Cobalt	Co	ppm	1	10000
Copper	Cu	ppm	1	10000
Mercury**	Hg	ppm	1	10000
Molybdenum	Mo	ppm	1	10000
Nickel	Ni	ppm	1	10000
Lead	Pb	ppm	1	10000
Zinc	Zn	ppm	2	10000

\*\*Hg is only offered with the aqua regia digestion.



**Assay Procedure – ME-OG62**  
**Ore Grade Elements by Four Acid Digestion Using  
 Conventional ICP-AES Analysis**

**Sample Decomposition:** HNO<sub>3</sub>-HClO<sub>4</sub>-HF-HCl Digestion (ASY-4A01)  
**Analytical Method:** Inductively Coupled Plasma - Atomic  
 Emission Spectroscopy (ICP - AES)\*

Assays for the evaluation of ores and high-grade materials are optimized for accuracy and precision at high concentrations. Ultra high concentration samples (> 15 -20%) may require the use of methods such as titrimetric and gravimetric analysis, in order to achieve maximum accuracy.

A prepared sample is digested with nitric, perchloric, hydrofluoric, and hydrochloric acids, and then evaporated to incipient dryness. Hydrochloric acid and de-ionized water is added for further digestion, and the sample is heated for an additional allotted time. The sample is cooled to room temperature and transferred to a volumetric flask (100 mL). The resulting solution is diluted to volume with de-ionized water, homogenized and the solution is analyzed by inductively coupled plasma - atomic emission spectroscopy or by atomic absorption spectrometry.

**\*NOTE:** ICP-AES is the default finish technique for ME-OG62. However, under some conditions and at the discretion of the laboratory an AA finish may be substituted. The certificate will clearly reflect which instrument finish was used.

Element	Symbol	Units	Lower Limit	Upper Limit
Silver	Ag	ppm	1	1500
Arsenic	As	%	0.01	30
Bismuth	Bi	%	0.01	30
Cadmium	Cd	%	0.0001	10
Cobalt	Co	%	0.001	20



<b>Element</b>	<b>Symbol</b>	<b>Units</b>	<b>Lower Limit</b>	<b>Upper Limit</b>
Chromium	Cr	%	0.002	30
Copper	Cu	%	0.001	40
Iron	Fe	%	0.01	100
Manganese	Mn	%	0.01	50
Molybdenum	Mo	%	0.001	10
Nickel	Ni	%	0.001	30
Lead	Pb	%	0.001	20
Zinc	Zn	%	0.001	30

**SCHEDULE 6**

**ANALYTICAL PROTOCOL SOILS**



**Sample Preparation Package – PREP-41**  
**Standard Preparation: Dry sample and dry-sieve to –180  
micron**

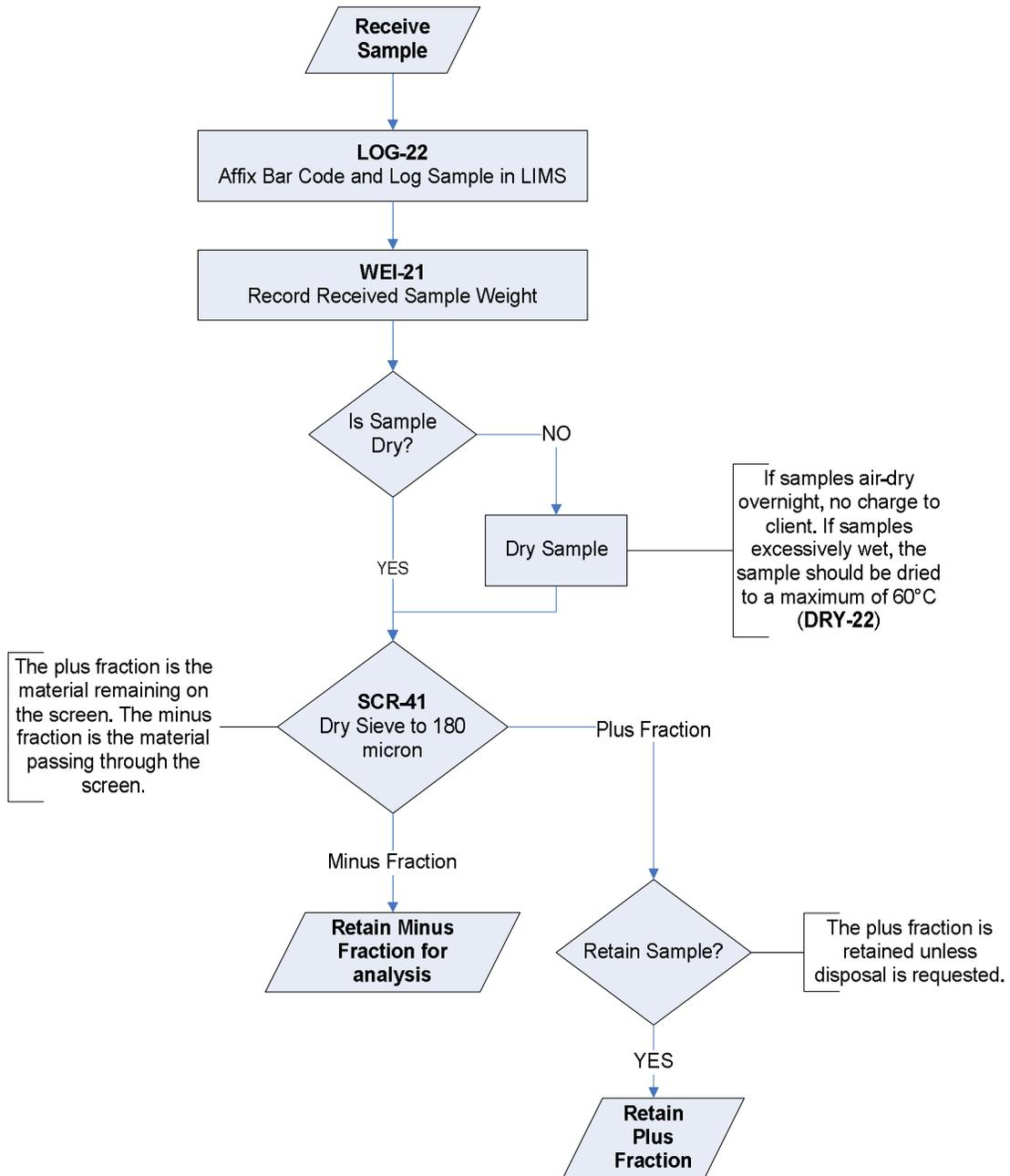
Sample preparation is the most critical step in the entire laboratory operation. The purpose of preparation is to produce a homogeneous analytical sub-sample that is fully representative of the material submitted to the laboratory.

An entire sample is dried and then dry-sieved using a 180 micron (Tyler 80 mesh) screen. The plus fraction is retained unless disposal is requested. This method is appropriate for soil or sediment samples up to 1 kg in weight.

<b>Method Code</b>	<b>Description</b>
LOG-22	Sample is logged in tracking system and a bar code label is attached.
DRY-22	Low temperature drying of excessively wet samples where the oven temperature is not to exceed 60°C. This method is suitable for more soil and sediment samples that are analyzed for volatile elements.
SCR-41	Sample is dry-sieved to – 180 micron and both the plus and minus fractions are retained.



**Sample Preparation Flowchart Package –PREP-41**





**Geochemical Procedure - ME-ICP41  
Trace Level Methods Using Conventional ICP-AES Analysis**

**Sample Decomposition:** Nitric Aqua Regia Digestion (GEO-AR01)  
**Analytical Method:** Inductively Coupled Plasma - Atomic Emission Spectroscopy (ICP - AES)

A prepared sample is digested with aqua regia in a graphite heating block. After cooling, the resulting solution is diluted to 12.5 mL with deionized water, mixed and analyzed by inductively coupled plasma-atomic emission spectrometry. The analytical results are corrected for inter-element spectral interferences.

**NOTE:** In the majority of geological matrices, data reported from an aqua regia leach should be considered as representing only the leachable portion of the particular analyte.

Element	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Silver	Ag	ppm	0.2	100	Ag-OG46
Aluminum	Al	%	0.01	25	
Arsenic	As	ppm	2	10000	
Boron	B	ppm	10	10000	
Barium	Ba	ppm	10	10000	
Beryllium	Be	ppm	0.5	1000	
Bismuth	Bi	ppm	2	10000	
Calcium	Ca	%	0.01	25	
Cadmium	Cd	ppm	0.5	1000	
Cobalt	Co	ppm	1	10000	
Chromium	Cr	ppm	1	10000	
Copper	Cu	ppm	1	10000	Cu-OG46
Iron	Fe	%	0.01	50	



Element	Symbol	Units	Lower Limit	Upper Limit	Default Overlimit Method
Gallium	Ga	ppm	10	10000	
Mercury	Hg	ppm	1	10000	
Potassium	K	%	0.01	10	
Lanthanum	La	ppm	10	10000	
Magnesium	Mg	%	0.01	25	
Manganese	Mn	ppm	5	50000	
Molybdenum	Mo	ppm	1	10000	
Sodium	Na	%	0.01	10	
Nickel	Ni	ppm	1	10000	
Phosphorus	P	ppm	10	10000	
Lead	Pb	ppm	2	10000	Pb-OG46
Sulfur	S	%	0.01	10	
Antimony	Sb	ppm	2	10000	
Scandium	Sc	ppm	1	10000	
Strontium	Sr	ppm	1	10000	
Thorium	Th	ppm	20	10000	
Titanium	Ti	%	0.01	10	
Thallium	Tl	ppm	10	10000	
Uranium	U	ppm	10	10000	
Vanadium	V	ppm	1	10000	
Tungsten	W	ppm	10	10000	
Zinc	Zn	ppm	2	10000	Zn-OG46



Elements listed below are available upon request

<b>Element</b>	<b>Symbol</b>	<b>Units</b>	<b>Lower Limit</b>	<b>Upper Limit</b>	<b>Default Overlimit Method</b>
Cerium	Ce	ppm	10	10000	
Hafnium	Hf	ppm	10	10000	
Indium	In	ppm	10	10000	
Lithium	Li	ppm	10	10000	
Niobium	Nb	ppm	10	10000	
Rubidium	Rb	ppm	10	10000	
Selenium	Se	ppm	10	10000	
Silicon	Si	ppm	10	10000	
Tin	Sn	ppm	10	10000	
Tantalum	Ta	ppm	10	10000	
Tellurium	Te	ppm	10	10000	
Yttrium	Y	ppm	10	10000	
Zirconium	Zr	ppm	5	10000	