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**TECHNICAL REPORT ON THE LEMARE PROPERTY**  
(in compliance with Regulation 43-101 and Form 43-101F1)

**Project location:**

James Bay Region  
Province of Québec, Canada  
(NTS: 32011, 32012 and 32014)  
(UTM 470000E, 5732500N)  
NAD 83, Zone 18

**Prepared for:**

**MONARQUES RESOURCES INC**  
450, rue de la Gare-du-Palais, 1<sup>er</sup> étage  
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**November 11, 2012**

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## 1.0 SUMMARY

InnovExplo Inc ("InnovExplo") was contracted in October 2012 by Jean-Marc Lacoste, president and CEO of Monarques Resources Inc ("Monarques" or "the issuer"), to complete an evaluation of the project and a Technical Report ("the report"), in compliance with Regulation 43-101 and Form 43-101F1, on the Caumont property ("the property") situated in the Nemiscau area of Québec, Canada. The issuer, Monarques Resources Inc, is a Canadian mineral exploration company listed on the TSX Venture Exchange under the symbol MQR. InnovExplo is an independent Mines and Exploration Consulting Firm based in Val-d'Or, Québec.

The author, Bruno Turcotte, MSc, PGeo (OGQ no.453) completed the report and reviewed all available surveys, data and information deemed adequate and reliable. The author, accompanied by Nadia Girard and Martin Lévesque, visited the Lemare property on March 20 and 21, 2012. Nadia Girard and Martin Lévesque are the authors of the previous Technical Report on the Lemare property.

The Lemare property is approximately 65 kilometres east-northeast of the village of Nemaska, Québec, on NTS map sheets 32011, 32012 and 32014. The project is located approximately 450 kilometres north-northeast of the town of Val-d'Or, Québec. The UTM coordinates for the approximate geographic centre of the property are 470000E and 5732500N (NAD 83, Zone 18).

A claims status list was supplied by Jean-Marc Lacoste, president and CEO of Monarques Resources Inc. InnovExplo verified the data using GESTIM, the Québec government's claim management system available from the *Ministère des Ressources naturelles et de la Faune* (MRNFP) through their website at the following address: <http://gestim.mines.gouv.qc.ca>.

The Lemare property is located within the Opinaca Subprovince. This subprovince is dominantly composed of metagraywacke, derived migmatite, and granite. Polydeformed schists occur at the belt margins, whereas the interior portions are metamorphosed to amphibolite and granulite facies. Mineralization in the Opinaca subprovince includes rare-metal occurrences within peraluminous granites and associated pegmatites.

The Lemare property area is underlain by two (2) dominant rock types: biotitic paragneisses belonging to the NE-trending Lac des Montagnes metasedimentary belt, and granitoids/orthogneisses on either side belonging to the Champion Lake and Opatica NE domains (respectively to the northwest and southeast). The Lac des Montagnes belt is up to 5 kilometres wide in the property area, and its northern boundary passes diagonally through the approximate centre of the Lemare property. It consists of paragneisses distinguished by biotite-dominant, biotite-sillimanite, biotite-sillimanite-staurolite and biotite-garnet assemblages, and lesser amounts of amphibolites (amphibole-plagioclase gneisses interpreted as metavolcanics, ±pillows), ultramafic intrusives, iron formations, and quartzite beds. Small granitic/pegmatitic bodies of variable sizes and irregular shapes intrude the

metasedimentary belt, accounting for about 20% by volume. All lithologies are cut by sparse diabase dykes.

A belt of metasedimentary rocks and a granitic/orthogneiss domain underlie the Lemare property, with the contact crossing diagonally through the property from southwest to northeast. The metasedimentary belt reaches a maximum width of about 4 kilometres. The metasedimentary rocks are dominantly biotitic paragneisses containing minerals typical of regional amphibolite metamorphic facies, with lesser amounts of amphibole-plagioclase gneisses (amphibolite) of volcanic origin and ultramafic intrusive bodies of economic interest. The metasedimentary package is also intruded by granites and pegmatites. Late diabase dykes constitute the youngest rocks of the area.

The property is at an early stage of exploration. It demonstrates potential for several deposit types: magmatic nickel-copper-PGE, mafic/ultramafic-hosted chromite (stratiform chromite), Zn-Pb SEDEX, disseminated/replacement gold, and Li-Be-Ta-Cs-Rb deposits associated with peraluminous granitic complexes.

The presence of the Lac Sillimanite showing and the new discovery of the Lac de la Chlorite showing clearly indicate the gold-bearing potential of the Lemare property. These arsenopyrite-bearing gold showings occur within Lac des Montagnes metasedimentary belt, suggesting a potential for gold deposits associated with shear zones. Many parts of this metasedimentary belt remain have yet to be investigated for their gold potential

The mineralized zone at the Lac de la Chlorite showing occurs within a shear zone in metavolcanic rocks. The strongly silicified and chloritized mineralized zone is characterized by highly folded metasedimentary rocks carrying arsenopyrite (5-30%), pyrite, chalcopyrite and tourmaline. If the samples from the stripped areas on these two (2) showings yield positive gold results, InnovExplo recommends drilling.

Monarques has completed a geochemical survey (humus sampling) covering the area between the two (2) gold showings. Samples were taken every 25 metres on lines spaced 100 metres apart. This survey will be used to define areas of auriferous humus associated with each of the showings. A B-horizon soil survey is recommended in the same area, if feasible, in order to detect arsenic responses. This will help determine the most effective type of survey for gold exploration on the property.

The presence of considerable amounts of sulphides at both Lac de la Chlorite and Lac de la Sillimanite indicates that induced polarization would be a useful exploration method in the vicinity of these showings. Contingent upon positive geophysical responses above the showings, the survey could be enlarged to cover their extensions.

Soil geochemistry and induced polarization could be used to test the Lac Voirdye area where results up to 0.543 g/t Au, 11.45 g/t Ag and 1.26% Cu were obtained in

oxidized metasedimentary rocks, as well as the southwest part of the Lemare property where another grab sample returned 0.525 g/t Au, 1.55 g/t Ag and 0.12% Cu.

The magmatic Ni-Cu-PGE potential of the property should not be overlooked. Mafic-ultramafic intrusions in the Nemiscau area are known to contain anomalous concentrations of nickel and copper, such as the multi-kilometre unit on the Lemare and Eloro properties, and constitute promising targets that can be traced by geophysical means (magnetic surveys) for considerable distances. It will be necessary to demonstrate the presence of an even larger mineralized ultramafic intrusion on the Lemare property (either by confirming extensions to the known system or discovering new mineralized intrusions) in order to establish a potentially economic volume of Ni-Cu-PGE mineralization. The author believes this may be possible since there are still several magnetic anomalies to be drill-tested on the property.

Although Monarques has not observed any chromite in outcrop or trenches, mafic/ultramafic-hosted (stratiform) chromite mineralization is still considered a possibility.

Finally, the new discovery of a spodumene pegmatite at the Graab showing (3.1% Li) proves that there is always of the possibility of finding new lithium-bearing pegmatites in the Lemare property area.

The Lemare property hosts the Lac Sillimanite and Lac de la Chlorite gold showings, both of which occur within the Lac des Montagnes metasedimentary belt. More exploration work will be necessary to define the most promising areas in the Lac des Montagnes metasedimentary belt for gold-bearing structures.

Some geological features also demonstrate a potential for Ni-Cu-PGE mineralization. Additional exploration work may reveal new mafic-ultramafic intrusions corresponding to known, but as yet untested, magnetic anomalies.

The author is of the opinion that the Lemare property warrants continued exploration work. A two-phase program is recommended. **Phase 1** would consist of basic compilation work using GIS software to generate a single database identifying Au, Ni-Cu-PGE, Zn-Pb, and Li targets. This information would be used to prepare compilation maps, to advance the interpretation for the property and known mineralization, and to generate diamond drilling targets. A soil and/or humus sampling program should be conducted over the Lemare property. The 2012 humus sampling program could be used to establish soil signatures over known gold occurrences. Conditional upon positive grab sample results for the Lac de la Chlorite and Lac Sillimanite strippings, a drilling program could be planned for both gold showings.

**Phase 2** would consist of follow-up field work on the best Mag, EM, soil and/or humus anomalies. The work would comprise ground geophysics, prospecting, and geological mapping to document new targets in terms of their potential for

mineralization. The information obtained during the field work would be used to further define drilling and/or stripping targets generated in Phase I, and to execute a diamond drilling and/or stripping program. Focus should be placed on the Lac de la Chlorite and Lac Sillimanite showings, the Lac de la Voirdye area, and the locality where sample L943285 was collected.

It will be important to assay all mafic and ultramafic rocks for PGEs because this type of mineralization is not always associated with sulphides.

The QA/QC protocol and analytical procedures should be adapted to all target commodities and mineralization types (i.e., Cu-Ni-PGE in ultramafic rocks, Zn-Pb SEDEX, and shear-hosted gold).

**The cost of Phase 1 is estimated at \$120,000, and Phase 2 at \$1,224,000, for a grand total of \$1,320,000.** The estimated budget for the exploration program is subject to potential incidentals (e.g., no flying hours due to bad weather conditions) and the real cost may thus differ from the estimated cost.

## 2.0 INTRODUCTION AND TERMS OF REFERENCE

InnovExplo Inc ("InnovExplo") was contracted in October 2012 by Jean-Marc Lacoste, president and CEO of Monarques Resources Inc ("Monarques" or "the issuer"), to complete an evaluation of the project and a Technical Report ("the report"), in compliance with Regulation 43-101 and Form 43-101F1, on the Caumont property ("the property") situated in the Nemiscau area of Québec, Canada. The issuer, Monarques Resources Inc, is a Canadian mineral exploration company listed on the TSX Venture Exchange under the symbol MQR. InnovExplo is an independent Mines and Exploration Consulting Firm based in Val-d'Or, Québec.

In 2011, Monarques was created as a spin-off from Nemaska Exploration Inc (now Nemaska Lithium Inc; TSXV: NMX), a lithium exploration and development company. Nemaska Lithium is a major shareholder of Monarques.

InnovExplo has reviewed the data provided by the issuer and/or by its agents. InnovExplo has also reviewed other information sources, such as government databases that handle assessment work and the status of mining titles.

The author, Bruno Turcotte, MSc, PGeo (OGQ no.453) completed the report and reviewed all available surveys, data and information deemed adequate and reliable. The author, accompanied by Nadia Girard and Martin Lévesque, visited the Lemare property on March 20 and 21, 2012. Nadia Girard and Martin Lévesque are the authors of the previous Technical Report on the Lemare property (Lévesque and Girard, 2012).

The author is Qualified and Independent Person as defined by Regulation 43-101. Technical support at InnovExplo was provided by Daniel Turgeon. Venetia Bodycomb of Vee Geoservices performed the linguistic revision.

The author has a good knowledge of mineral deposit exploration models in Archean and Proterozoic terranes. The author has fully researched and documented the conclusions and recommendations made in this report.

The author, by virtue of his technical review of the project's exploration potential, affirms that the work program and recommendations presented herein are compliant with Regulation 43-101 and CIM technical standards.

### 3.0 RELIANCE ON OTHER EXPERTS

The author, Bruno Turcotte, MSc, PGeo (OGQ no.453), a Qualified and Independent Person as defined by Regulation 43-101, was assigned by InnovExplo to study technical documentation, visit the property, and recommend a work program if warranted, as part of its contract with the issuer. The author reviewed the mining titles, their status, any related agreements, and any technical data supplied to him by the issuer (or its agents) or collected from public sources of technical information.

Jean-Marc Lacoste, president and CEO for Monarques Resources Inc, supplied documentation for the Lemare property's mining titles and their status. InnovExplo is not qualified to express a legal opinion with respect to the property titles, current ownership, or possible encumbrance status.

Many of the geological and technical reports covering the property area were prepared prior to the implementation of National Instrument 43-101 in 2001 and Regulation 43-101 in 2005. The authors of such reports appear to have been qualified and the information prepared according to standards that were acceptable to the exploration community at the time. In some cases the data is incomplete or does not fully meet the current requirements of Regulation 43-101, although the author has no reason to believe that any information used in the preparation of the present report is invalid or contains misrepresentations.

The author did not review the data or the QA/QC protocols relating to past work because this was covered in the April 2012 43-101 Technical Report on the Lemare property (Lévesque and Girard, 2012).

The author believes that the information used to prepare the report and its conclusions and recommendations is valid and appropriate considering the status of the project and the purpose for which the report is prepared.

## 4.0 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Location

The Lemare property is approximately 65 kilometres east-northeast of the village of Nemaska, Québec, on NTS map sheets 32011, 32012 and 32014. The project is located approximately 450 kilometres north-northeast of the town of Val-d'Or, Québec (Fig. 4.1). The UTM coordinates for the approximate geographic centre of the property are 470000E and 5732500N (NAD 83, Zone 18).

### 4.2 Mining Titles Status

A claims status list was supplied by Jean-Marc Lacoste, president and CEO of Monarques Resources Inc. InnovExplo verified the data using GESTIM, the Québec government's claim management system available from the *Ministère des Ressources naturelles et de la Faune* (MRNFP) through their website at the following address: <http://gestim.mines.gouv.qc.ca>. A detailed list of mining titles, ownership, and expiry dates is provided in Appendix II.

In May 2008, Nemaska Exploration Inc (now Nemaska Lithium Inc) signed an agreement to acquire a 100% interest in the Lac Arques property in the province of Québec. At the time, Lac Arques was composed of 775 map designated claims. Some of these claims later became part of the Lemare property. This agreement was modified in November 2008. In relation with this agreement, Nemaska Exploration issued 5,000,000 common shares and made payments amounting to \$420,000. Nemaska Exploration was also committed to pay to Alain Champagne, who represents six (6) other people (Jean Lafleur, Guy Bourassa, René Lessard, François Champagne, Thérèse Proulx and Nicole Arpin), a maximum of \$1,000,000 according to the achievement of certain stages of work and results on the property, which are defined as follows:

- a) \$50,000 if and when the Company will have realized at least \$2,500,000 of exploration expenses on the property;
- b) \$150,000 if and when the Company will have realized \$5,000,000 of cumulative exploration expenses on the property;
- c) \$300,000 upon obtaining an independent pre-feasibility study; and
- d) \$500,000 upon obtaining an independent feasibility study confirming the feasibility of production stage of the property.

In the case of commercial production on the Lac Arques property, Nemaska Exploration must pay Alain Champagne (2.4%) and Guy Bourassa (0.6%), a total of 3% NSR on all metals produced from the property. According to the terms of the Lac Arques Purchase and Sale Agreement, Nemaska Exploration could, at any time before the expiry of a 3-month delay after declaration of production, reduce the NSR to 2% by paying an amount of \$1,000,000 in two equal instalments. The first instalment is payable at the date of exercise of the right, and the second, at the latest 90 days from the first payment.

In accordance with the letter of amendment to the Lac Arques Purchase, dated November 12, 2008, Nemaska Exploration acquired 26 additional claims from Alain Champagne for a consideration of \$1,200 representing claiming costs. Such claims are located in the eastern part of the Lac Arques property. Since November 12, 2008, Nemaska Exploration has abandoned 217 map-designated claims.

On August 12, 2009, Nemaska Exploration Inc (now Nemaska Lithium Inc) acquired the Lac Levac property from Golden Goose Resources Inc (Nemaska Lithium press release of August 12, 2009). Some of the Lac Levac property later became part of the Lemare property. Of the 228 claims forming the Lac Levac property at the time of the agreement, 83 had been designated before November 2008 and are thus subject to a 2% NSR (Net Smelter Return) to be paid to Golden Goose Resources, of which 1% can be bought back for an amount of \$1,000,000 in cash within a three-year period following the acquisition. Since August 12, 2009, some claims have been abandoned and new claims designated by Nemaska Exploration (Buisnières, 2010). The royalty does not apply to these new claims. On December 16, 2010, Golden Goose Resources and Kodiak Exploration Ltd completed a business combination between the companies to form a new company, Prodigy Gold Inc (Prodigy Gold press releases of December 16 and December 31, 2010).

In May 2010, Nemaska Exploration added eight (8) new claims to the Lemare property by staking.

In June 2011, Monarques agreed to purchase all rights, titles and interests owned by Nemaska Exploration (now Nemaska Lithium) in the Lac Arques, Lac des Montagnes and Lac Levac properties for a purchase price of \$7,500,000 by issuing an aggregate of 18,750,000 common shares at a price of \$0.40 per common share. At the time, the Bourier property was composed of one (1) block totaling 189 claims covering an area of 8,787.66 ha.

Monarques added four (4) new claims to the Lemare property by staking in August 2011 and another two (2) new claims by staking in October 2011. In November 2012, the current Lemare property consisted of one (1) block totalling 195 claims covering an area of 9,071.4 ha (Fig. 4.2 and 4.3). The Rupert South property, owned by Eloro Resources Ltd, is enclosed within the Lemare property.

### **4.3 Environment**

According to GESTIM, the Lemare property is subject to an exclusion area where exploration is prohibited (Fig. 4.2). This area is designated as part of Hydro-Québec's future hydroelectric installations.

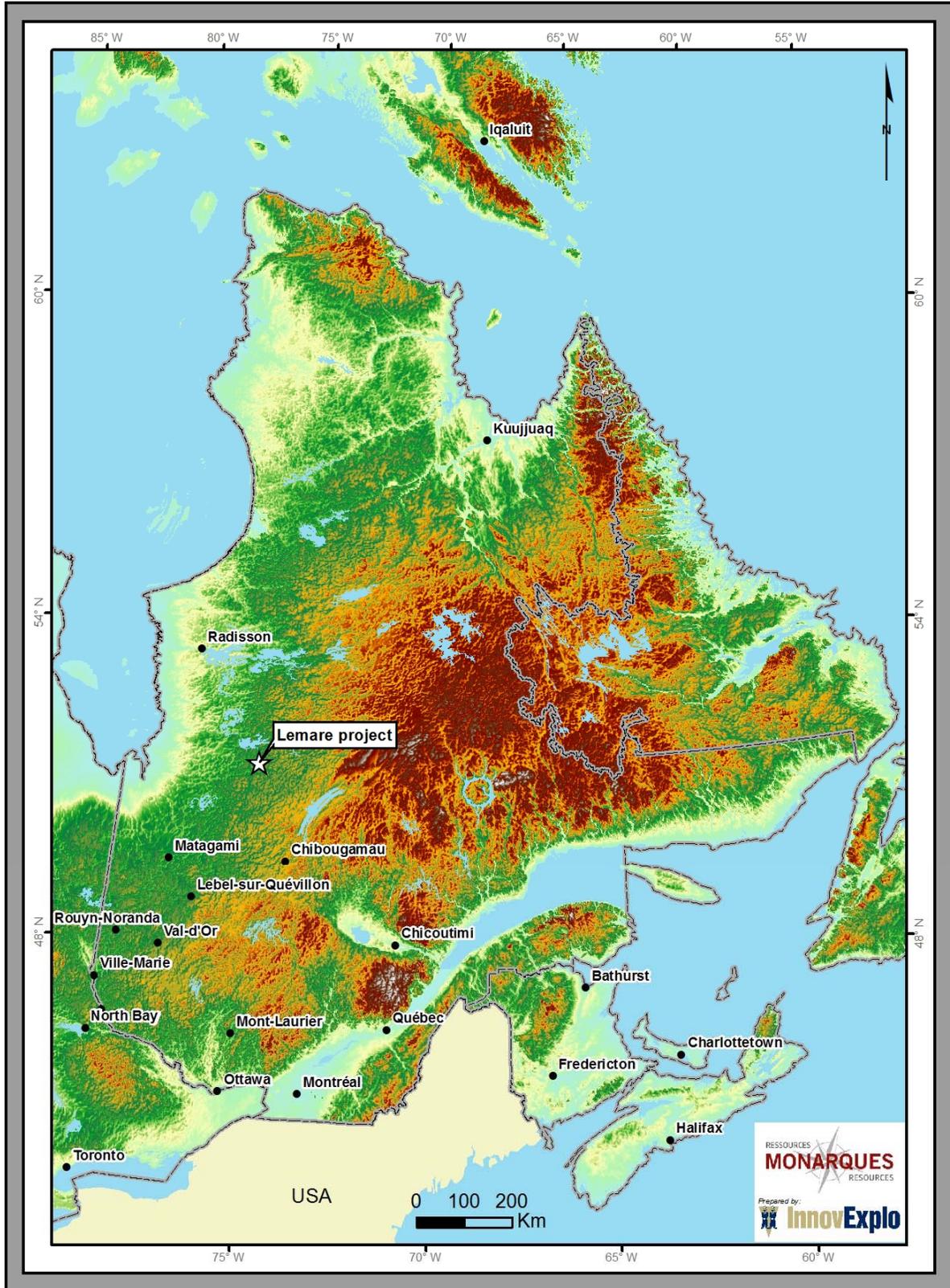


Figure 4.1 – Location of the Lemare Project in the province of Québec





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

The Lemare property lies 285 kilometres north of Chibougamau. Access is afforded by driving along the North Road (Route du Nord), a year-round gravel highway, either north from Chibougamau or east from the James Bay Road, to reach Hydro-Québec's Albanel substation from either direction, and then turning northeast onto Rupert Road, a private gravel road belonging to Hydro-Québec. This road links the Albanel substation to Camp Rupert, which was operated from 2006 to 2010 by the *Société de développement de la Baie James* (SDBJ). Rupert Road runs along the northwest edge of the property and back southward through its northeast corner. Parts of the property are only accessible by helicopter.

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.

There is no mining infrastructure on the Lemare property. However, Hydro-Québec has several facilities in the area of the Lemare property, including the Albanel and Nemiscau electrical substations (Fig. 5.1). The Cree village of Nemaska and the nearby Nemiscau Km 291 truck stop and camp (*Relais Routier Nemiscau*; "Nemiscau Camp" on Fig. 5.1) belonging to the Cree Construction and Development Corporation (CCDC), are respectively located about 55 and 40 kilometres west of the approximate geographic centre of the Lemare property and can be used to house workers and service the property. The Nemiscau airport, about 45 kilometres west of the Lemare property centre, is serviced by Air Creebec and offers charter flights.

The Lemare property is relatively flat (Fig. 5.2), with a maximum difference in elevation of 55 metres. Like much of the surrounding area, the property is covered by a mix of swamp and black spruce forest. Overburden generally varies from 0 to 15 metres thick. There is no permafrost at this latitude.

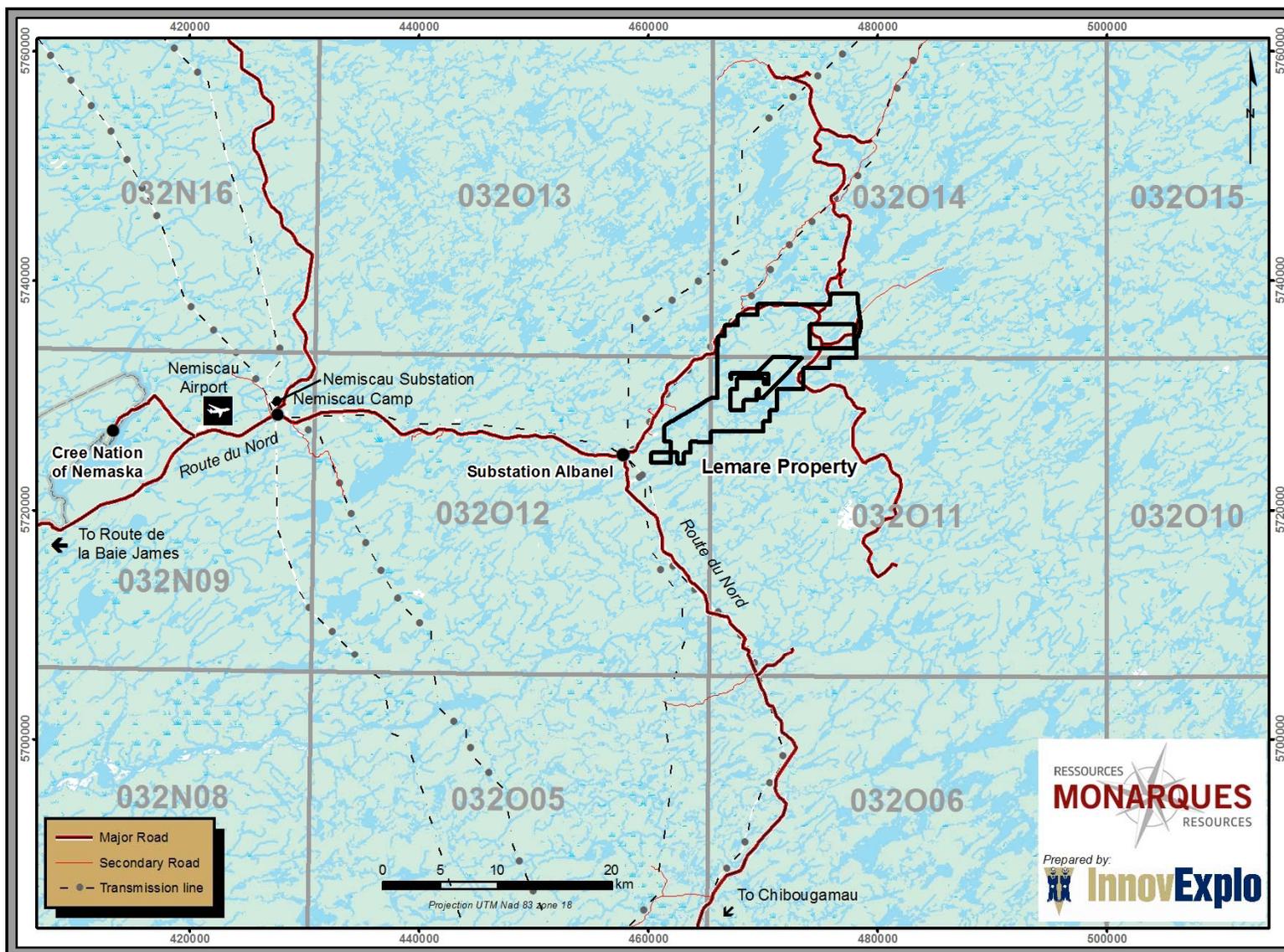


Figure 5.1 – Accessibility and physiography in the Lemare property area



**Figure 5.2 – Photograph illustrating the relatively flat topography of the Lemare property**

## 6.0 HISTORY

Around 1957, prospectors for **Noranda Mines Ltd** mapped out gossan zones and the surrounding granitic, metasedimentary and ultramafic rocks on what is now the Lemare property area (Valiquette, 1975). Noranda Mines Limited carried out an aeromagnetic survey over these places to locate anomalies, revealing several bands of magnetic rocks that were also investigated by the company's prospectors. This prospecting work led to the discovery of the Lac Lemare-Ouest showing. No assays were reported for this showing

In 1962, **Noranda Mines Ltd** carried out the first publicly reported exploration activities in the Lemare property area (Oille, 1962). It consisted of four (4) diamond drill holes (P62-1 to P62-4) for a total of 459 metres. Holes P62-1 and P62-2 were drilled on the Lac Lemare-Ouest showing. No assays were reported. Drill logs indicated amphibolite, pegmatite, gneiss and metasedimentary rocks. In 1963, Noranda Mines Ltd drilled nine (9) additional holes. Four (4) of these were not completed. No assays were reported and the same lithologies were described.

In 1973, **Canex Placer Ventures Ltd** completed geological reconnaissance, rock sampling and soil sampling surveys in the Lac des Plages area (Burns, 1973). One sample of ultramafic rock collected at the south end of the property returned 0.38% Ni.

From 1975 to 1981, the **Société de développement de la Baie James (SDBJ)** completed several regional surveys (geology, geochemistry and geophysics) in the area. In 1975, the SDBJ reported on their lake-bottom and creek-sediment surveys (Otis, 1975), and the subsequent regional airborne magnetic and electromagnetic (Mag-EM) survey (Fortin, 1981). Ground Mag and EM surveys followed up on the results of the airborne survey. In the summer of 1978, the SDBJ carried out a regional nickel and asbestos exploration program (Borduas, 1979) and a lithium exploration program (Otis, 1980) in the Nemiscau area. In 1981, the SDBJ started its collaborative project with UQAT (Lambert, 1981) following the discovery of radioactive water (0.8% U) approximately 10 kilometers south of the property. Finally, in 1982, an exploration geochemistry program (creek-sediment, lake-bottom sediment, till, and soil sampling) was completed in order to determine the best method to detect a chromium deposit (Marchand, 1982).

In 1985, **Westmin Resources Inc** performed geological mapping, soil sampling and VLF-EM reconnaissance (Robinson & Bernier, 1985) in the Lac Sillimanite area. The exploration work led to the discovery of the Lac Sillimanite showing. The Lac Sillimanite showing is characterized by a stratiform arsenopyrite-pyrrhotite-tourmaline-bearing quartzite. The best result was 3.1 /t Au and 12.5% As in a grab sample. In 1987, Westmin flew a DIGHEM survey over the Lac Crochet, Lac Noirs, Lac de la Hutte and Lac Sillimanite areas (McConnell, 1987). Ground Mag and EM surveys were recommended as follow-up (Betz, 1987). In 1988, Westmin completed a six-week field program comprising line cutting, VLF-EM surveys, geological mapping, prospecting and soil sampling (Bernier, 1988). A total of fourteen (14) drill targets were identified from soil geochemistry anomalies, four (4) of which were in the Lac Sillimanite area.

In 1996, **Mines et Exploration Noranda Inc** contracted High-Sense Geophysics Ltd to execute a combined heliborne Mag-EM survey over one of their exploration properties in the Lac Lemare area. Several anomalies were outlined. In 1997, **Sirios Resources Inc** optioned the property from Mines et Exploration Noranda and performed a prospecting and sampling program (Desbiens, 1997). Grab samples collected from the Lac Lemare-Ouest showing returned up to 6.1% Cu and 598 g/t Ag.

In 2006, **Golden Goose Resources Inc** carried out exploration with a heliborne AeroTEM II and magnetic survey executed by Aerodat (Scrivens, 2006). A total of 861 linear kilometres over three (3) different blocks were surveyed in the Lac Lemare property area. In early 2007, Golden Goose contracted Abitibi Geophysics to carry out three (3) ground InfiNiTEM surveys totalling 20.3 linear kilometres on part of the Lac Levac property. Two (2) of the surveys were carried out in an area where exploration work is now prohibited. Nine (9) EM conductors were identified (Malo Lalande, 2007), all showing metallic signatures.

During the summer of 2007, **Eloro Resources Ltd** drilled nineteen (19) holes totaling 2,200.7 metres on their South Rupert property to test the Lac Lemare-Ouest showing (Lavallée, 2009). Three (3) holes intersected quartz-chalcopyrite veins (RS-07-05, RS-07-06 and RS-07-07). Hole RS-07-05 returned the best results with 1.79% Cu and 19.6 g/t Ag over 0.3 m, 1.6% Cu and 18.2 g/t Ag over 0.39 m, and 0.6% Cu and 10.4 g/t Ag over 0.5 m.

In 2008, **Nemaska Exploration Inc** has been carrying out exploration work on its Lac Arques and Lac Levac properties, which it acquired from Golden Goose Resources (Théberge, 2008). Outcrops were detected in the Lemare property area using LANDSAT ETM+ satellite imagery (Moreau, 2008). The purpose was to target the best areas to visit during field exploration. In June 2009, heliborne magnetic, VTEM and gamma-ray spectrometry surveys were flown over the Lac Arques property (Paul and Létourneau, 2009). The surveys yielded 3,295 linear kilometres of EM and magnetic data and 3,115 linear kilometres of spectrometric and magnetic data. Following the recommendations in Paul and Létourneau (2009), geological mapping, prospecting and rock sampling were carried out on the best EM and radiometric anomalies in the area of the Lemare property (Raymond, 2009). The conductors were discovered to be generally associated with concentrations of pyrrhotite, chalcopyrite, pyrite and arsenopyrite, or graphite. The width of the conductors ranged from decimetres to metres, whereas the lateral extensions varied from metres to more than 400 metres for the longest conductors. In the Lac Voirdye area, the associated occurrences of mineralization were found at the contacts between mafic volcanic rocks and quartzite. In the Lac Sillimanite area, mineralization was typically observed as blebs or lenses of sulphide minerals (predominantly arsenopyrite) in biotite-garnet-sillimanite paragneiss.

During the spring of 2010, **Nemaska Exploration** drilled two (2) diamond drill holes (NEM-10-01 and NEM-10-02) totalling 402 metres in order to test superimposed magnetic and EM anomalies (Lalancette et al., 2012a). Hole NEM-10-01 is mainly composed of alternating mafic metavolcanic rocks and ultramafic intrusions (peridotite). The rocks locally contain sulphides in trace amounts to 5%.

Gabbro and amphibolite units were also intercepted. The Ni and Cr results for the ultramafic intrusions show normal to slightly sub-normal concentrations in the peridotites (1,500 ppm Ni and 1,000 to 1,200 ppm Cr). The beginning of hole NEM-10-02 (0 to 165 m) is mainly composed of alternating mafic metavolcanic and ultramafic intrusions (pyroxenite). Pyrite and pyrrhotite are locally observed in pyroxenite (traces to 5%). A graphitic horizon was observed from 96.7 m to 97.5 m and could explain the conductive anomaly. The hole offends in metasedimentary rock and a quartzo-feldspathic intrusion. No significant results were obtained in this hole.

During the summer and fall of 2010, Nemaska Exploration completed a geological mapping, prospecting and soil sampling program on the Lemare property (Buisnières et al., 2011). The program covered magnetic and EM anomalies presented in an advanced airborne geophysical interpretation report covering all previous Nemaska Exploration geophysical surveys (Boivin, 2009). New ultramafic intrusions with a Ni-Cu magmatic sulphide were the target of the work. Rock samples were collected and some analyses yielded anomalous gold and arsenic values. A soil survey was also carried out in the Lac Voirdye area in the southwest part of the property, yielding some anomalous copper values.

In 2011, **Monarques Resources Inc** completed a two(2)-hole drilling program totalling 493.7 metres (LEM-11-01 and LEM-11-02; Lalancette et al., 2012). The geology encountered in holes LEM-11-01 and LEM-11-02 consists mainly of alternating metasedimentary rock, schist, gneiss, quartzite, metavolcanic rocks, and felsic intrusives. Sulphides were locally observed in trace amounts to 5%. Some centimetre-scale semi-massive to massive sulphide horizons were also intersected. Other than some low zinc values, no other significant results were obtained. During the fall of 2011, Monarques contracted Prospectair to conduct a heliborne magnetic and time-domain electromagnetic (TDEM) survey on the west part of the Lemare property (Desaulniers, 2011).

**Table 6.1 – Summary of historical work carried out on the Lemare property**

Year	Company	Work	Results	Reference
1957	Noranda Mines Ltd	<ul style="list-style-type: none"> <li>• Prospecting</li> <li>• Aeromagnetic survey</li> </ul>	<ul style="list-style-type: none"> <li>• Discovery of the Lac Lemare-Ouest showing</li> <li>• No assays reported</li> </ul>	Valiquette, 1964 Desbiens, 1997
1962	Noranda Mines Ltd	<ul style="list-style-type: none"> <li>• 4 DDH (P62-1 to P62-4) totalling 459 m</li> </ul>	<ul style="list-style-type: none"> <li>• No assays reported</li> </ul>	Oille, 1962
1963	Noranda Mines Ltd	<ul style="list-style-type: none"> <li>• 9 DDH (24010 to 24015, and 24056 to 24058) totalling 1,138 m</li> </ul>	<ul style="list-style-type: none"> <li>• No assays reported</li> </ul>	Osborne, 1963
1973	Canex Placer Ventures Ltd	<ul style="list-style-type: none"> <li>• Geological reconnaissance</li> <li>• Rock sampling</li> <li>• Soil sampling</li> </ul>	<ul style="list-style-type: none"> <li>• Ultramafic rock sample returned 0.38% Ni</li> </ul>	Burns, 1973

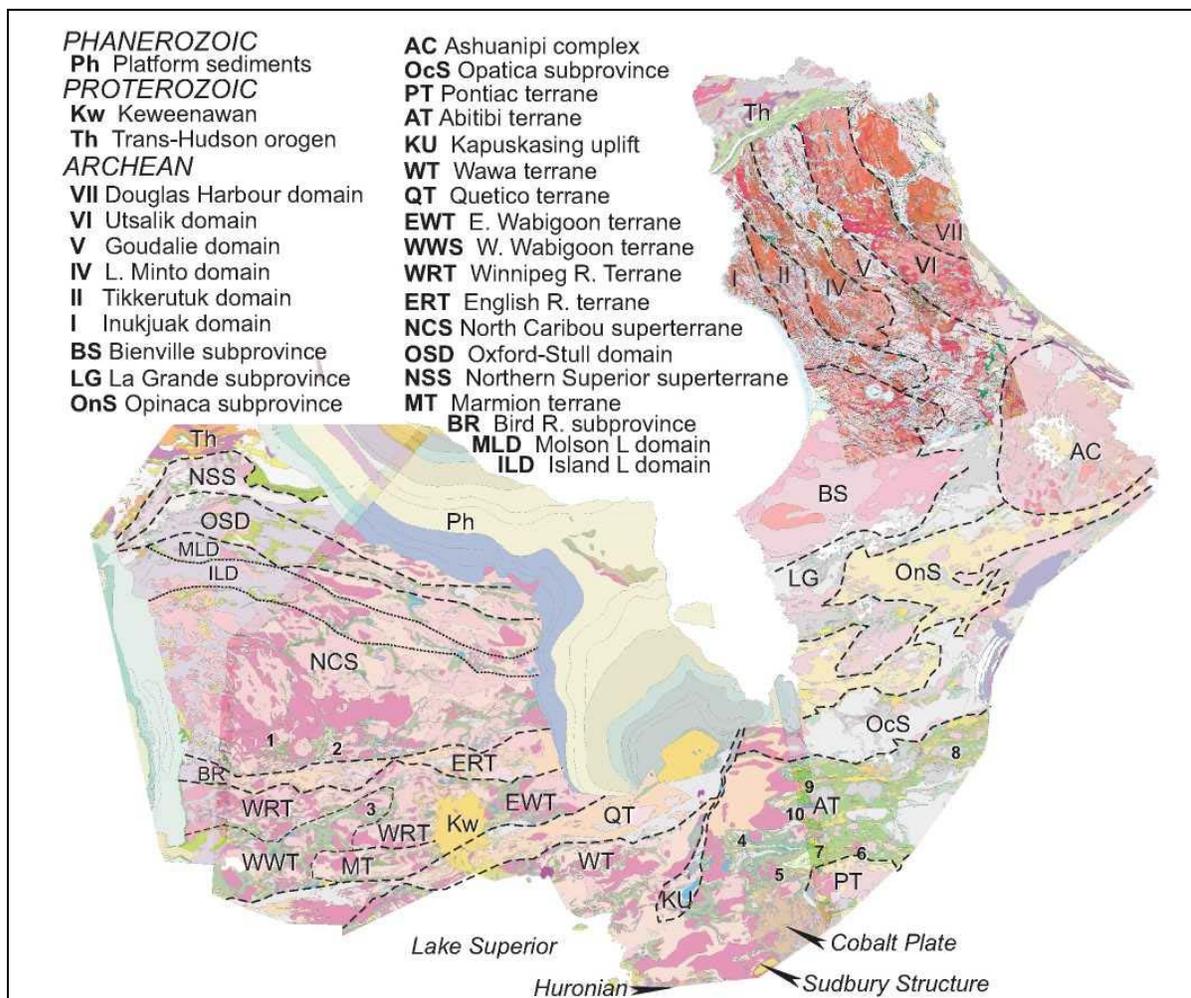
Year	Company	Work	Results	Reference
1975 - 1981	Société de développement de la Baie James (SDBJ)	<ul style="list-style-type: none"> <li>• Lake-bottom and creek-sediment geochemistry</li> <li>• Data compilation of exploration work</li> <li>• Airborne mag and EM survey</li> <li>• Ground Mag and EM survey</li> </ul>	<ul style="list-style-type: none"> <li>• No significant results on Lemare property</li> </ul>	<p>Otis, 1975 Borduas, 1979 Otis, 1980 Fortin, 1981 Lambert, 1981 Marchand, 1982</p>
1985	Westmin Resources Inc	<ul style="list-style-type: none"> <li>• Detailed geological mapping</li> <li>• Soil sampling</li> <li>• Reconnaissance VLF-EM prospecting</li> </ul>	<ul style="list-style-type: none"> <li>• Discovery of Lac Sillimanite showing: up to 3.1 g/t Au and 12.5% As</li> </ul>	Robinson and Bernier, 1985
1987	Westmin Resources Inc	<ul style="list-style-type: none"> <li>• DIGHEM-III survey</li> </ul>	<ul style="list-style-type: none"> <li>• Several anomalies outlined</li> </ul>	<p>Kilty, 1987 McConnell, 1987 Betz, 1987</p>
1988	Westmin Resources Inc	<ul style="list-style-type: none"> <li>• VLF-EM surveys</li> <li>• Geological mapping</li> <li>• Prospecting</li> <li>• Soil sampling</li> </ul>	<ul style="list-style-type: none"> <li>• No significant results</li> </ul>	Bernier, 1988
1996	Mines et Exploration Noranda Inc	<ul style="list-style-type: none"> <li>• Combined heliborne Mag and EM survey</li> </ul>	<ul style="list-style-type: none"> <li>• Several anomalies outlined</li> </ul>	High-Sense Geophysics Limited, 1996
1997	Mines et Exploration Noranda; Sirius Resources Inc	<ul style="list-style-type: none"> <li>• Prospecting</li> <li>• Sampling</li> </ul>	<ul style="list-style-type: none"> <li>• Grab samples from Lac Lemare-Ouest showing: up to 6.1% Cu and 598 g/t Ag</li> </ul>	Desbiens, 1997
2006	Golden Goose Resources Inc	<ul style="list-style-type: none"> <li>• Heli-borne AeroTEM II and Mag survey</li> </ul>	<ul style="list-style-type: none"> <li>• Some anomalies outlined</li> </ul>	Scrivens, 2006
2007	Golden Goose Resources Inc	<ul style="list-style-type: none"> <li>• Ground InfiniTEM surveys</li> </ul>	<ul style="list-style-type: none"> <li>• 9 EM conductors identified</li> </ul>	Malo-Lalande, 2007
2007	Eloro Resources Ltd	<ul style="list-style-type: none"> <li>• 19 DDH (RS-07-01 to RS-07-19) for a total of 2,221 m</li> </ul>	<ul style="list-style-type: none"> <li>• 1.79% Cu and 19.6 g/t Ag over 0.3 m (RS-07-05)</li> </ul>	Lavallée, 2007
2008	Nemaska Exploration Inc	<ul style="list-style-type: none"> <li>• Outcrop detection using LANDSAT ETM+ satellite imagery</li> </ul>	<ul style="list-style-type: none"> <li>• Outcrop areas delineated</li> </ul>	Moreau, 2008
2009	Nemaska Exploration Inc	<ul style="list-style-type: none"> <li>• Heliborne Mag, EM and gamma-ray spectrometry survey</li> </ul>	<ul style="list-style-type: none"> <li>• Some anomalies outlined</li> </ul>	Paul and Letourneau, 2009
2009	Nemaska Exploration Inc	<ul style="list-style-type: none"> <li>• Geological mapping</li> <li>• Prospecting</li> <li>• Rock sampling</li> <li>• Advanced airborne geophysical interpretation</li> </ul>	<ul style="list-style-type: none"> <li>• Many conductors detected by heliborne survey are associated with sulphides</li> </ul>	<p>Raymond, 2009 Boivin, 2009</p>

Year	Company	Work	Results	Reference
2010	Nemaska Exploration Inc	<ul style="list-style-type: none"> <li>• Geological mapping</li> <li>• Prospecting</li> <li>• Rock sampling</li> <li>• Soil sampling</li> <li>• 2 DDH (NEM-10-01 and NEM-10-02) totalling 402 m</li> </ul>	<ul style="list-style-type: none"> <li>• Some anomalous Au and As rock sample values</li> <li>• Some anomalous Cu soil sample values</li> </ul>	Buissières et al., 2011 Lalancette et al., 2012a
2011	Monarques Resources Inc	<ul style="list-style-type: none"> <li>• 2 DDH (LEM-10-01 and LEM-10-02) totalling 402 m</li> <li>• Heliborne Mag and TDEM survey</li> </ul>	<ul style="list-style-type: none"> <li>• Some anomalies outlined</li> </ul>	Lalancette et al., 2012b  Desaulniers, 2011

## 7.0 GEOLOGICAL SETTING AND MINERALIZATION

### 7.1 Regional geological setting

The Archean Superior Province (Fig. 7.1) forms the core of the North American continent and is surrounded by provinces of Paleoproterozoic age to the west, north and east, and Mesoproterozoic age (Grenville province) to the southeast. Tectonic stability has prevailed since approximately 2.6 Ga in large parts of the Superior Province. Proterozoic and younger activity is limited to rifting of the margins, emplacement of numerous mafic dyke swarms (Buchan and Ernst, 2004), compressional reactivation, and large-scale rotation at approximately 1.9 Ga and failed rifting at approximately 1.1 Ga. With the exception of the northwestern and northeastern Superior margins that were pervasively deformed and metamorphosed at 1.9 to 1.8 Ga, the craton has otherwise escaped ductile deformation.



**Figure 7.1 – Mosaic map of the Superior Province showing major tectonic elements (from Percival, 2007). Data sources: Manitoba (1965), Ontario (1992), Thériault (2002), Leclair (2005).**

A first-order feature of the Superior Province is its linear subprovinces of distinctive lithological and structural character, accentuated by subparallel boundary faults (e.g., Card and Ciesielski, 1986). Trends are generally east-west in the south, west-northwest in the northwest, and northwest in the northeast (Fig. 7.1). As presented in the map of Figure 7.1, the term "terrane" is used in the sense of a geological domain with a distinct geological history prior to its amalgamation into the Superior Province during the 2.72 Ga to 2.68 Ga assembly events. A "superterrane" shows evidence for internal amalgamation of terranes prior to the Neoproterozoic assembly. "Domains" are defined as distinct regions within a terrane or superterrane.

The Lemare property is located within the Opinaca Subprovince (Fig. 7.1). This subprovince is dominantly composed of metagraywacke, derived migmatite, and granite. Polydeformed schists occur at the belt margins, whereas the interior portions are metamorphosed to amphibolite and granulite facies (Percival, 2007). Mineralization in the Opinaca subprovince includes rare-metal occurrences within peraluminous granites and associated pegmatites.

## 7.2 Local Geological Setting and Property Geology

The Lemare property area is underlain by two (2) dominant rock types (Fig. 7.2): biotitic paragneisses belonging to the NE-trending Lac des Montagnes metasedimentary belt, and granitoids/orthogneisses on either side belonging to the Champion Lake and Opatica NE domains (respectively to the northwest and southeast; Buissières and Théberge, 2010). The Lac des Montagnes belt is up to 5 kilometres wide in the property area, and its northern boundary passes diagonally through the approximate centre of the Lemare property. It consists of paragneisses distinguished by biotite-dominant, biotite-sillimanite, biotite-sillimanite-staurolite and biotite-garnet assemblages, and lesser amounts of amphibolites (amphibole-plagioclase gneisses interpreted as metavolcanics, ±pillows; Valiquette, 1975), ultramafic intrusives, iron formations, and quartzite beds. Small granitic/pegmatitic bodies of variable sizes and irregular shapes intrude the metasedimentary belt, accounting for about 20% by volume (Buissières and Théberge, 2010). All lithologies are cut by sparse diabase dykes.

The most extensive amphibolite occurrence is a long, narrow band near the northern contact between the Lac des Montagnes metasedimentary belt and the Champion Lake granitic rocks in the northern half of the property (Fig. 7.2). According to Valiquette (1975), the biotite paragneisses contain minerals typical of amphibolite facies regional metamorphism. The rocks are also intensely deformed, although the structural history of the Lemare property remains poorly known due mainly to the scarcity of outcrops. Where observed, bedding is transposed along the dominant subvertical schistosity and mainly defined by thin quartzite beds and metavolcanic interlayers concentrated near the northern edge of the metasedimentary belt. The S0/S1 relationships, together with tops directions determined from pillows in the metavolcanic units, indicate open folds; areas outside the property with better exposure, however, reveal tight to isoclinal folding (Valiquette, 1975). There are few direct indications of faulting in the area (undoubtedly due to the thick cover of glacial debris), although some topographic features suggest the presence of major linear faults, particularly the path of the Nemiscau River and a vertical break along its valley where it intersects another linear valley (Valiquette, 1975).



### 7.3 Mineralization

Five (5) showings are known in the Lemare property area.

The Lac Sillimanite showing in the northeast part of the Lemare property corresponds to a gold and arsenic showing discovered in 1984 by Westmin Resources Inc. The mineralization is hosted in a quartzite containing up to 30% arsenopyrite and small amounts of chalcopyrite, pyrrhotite and tourmaline. The quartzite is in lithologic contact with amphibolitized gneiss and a metasedimentary rock composed of garnet, sillimanite, cordierite, biotite and tremolite. Gold values up to 3.1 g/t Au were reported in Robinson and Bernier (1985).

Noranda Mines Ltd discovered the Lac Lemare-Ouest showing by trenching, sometime between 1957 and 1962 when prospectors were carrying out exploration work for the company. This showing is located on the property belonging to Eloro Resources. Mineralization consists of 1% to 5% pyrite-pyrrhotite, with traces to 3% chalcopyrite, and traces to 3% magnetite. Mineralization is hosted by metasomatic rocks containing anthophyllite-cordierite-biotite-garnet and characterized by a high magnetic response associated with EM conductors identified by an airborne geophysical survey. The mineralized zone can be following for 300 metres. The copper values range from 500 ppm to 6.1% Cu. In 1962, Noranda Mines Ltd drilled two (2) small diamond drill holes on the showing (Oille, 1962). Hole P62-1 passed through a mineralized zone composed of a stockwork of small quartz-chalcopyrite-pyrrhotite veinlets from 504 to 62.5 metres. Disseminated sulphides (pyrite-chalcopyrite-pyrrhotite) were also found within metasomatic rocks (anthophyllite-cordierite) between 69.3 and 83.8 metres. Noranda Mines did not report the assay results.

Exploration work carried out during the summer of 2012 by Monarques Resources Inc led to the discovery of the Lac de la Chlorite showing (Fig. 7.3), a gold-bearing structure less than 2 kilometres west of the Lac de la Sillimanite showing. The best results to date have been 1.645 g/t Au, 0.726 g/t Au and 0.532 g/t Au in grab samples.

Follow-up work on the Lac Sillimanite showing that same year was performed. A grab sample from this gold showing returned 0.887 g/t Au.

Finally, the Graab showing, a new lithium showing, was found in a spodumene-rich pegmatite in the Lac de l'Andalousite area (Fig. 7.4). The Graab showing returned up to 3.1% Li.



**Figure 7.3 – The Lac de la Chlorite gold showing (up to 1.64 g/t Au) consisting of metabasalt carrying up to 15% arsenopyrite**



**Figure 7.4 – The Graab lithium showing (up to 3.1% Li) consisting of spodumene pegmatite**

## 8.0 DEPOSIT TYPE

### 8.1 Sedimentary Exhalative (SEDEX) Deposits

As described by Goodfellow and Lydon (2007), sedimentary exhalative (SEDEX) deposits are typically tabular bodies of Zn, Pb and Ag bound in sphalerite and galena, interbedded with iron sulphides and basinal sedimentary rocks. SEDEX mineralization was deposited on the seafloor by hydrothermal fluids released from sub-seafloor vent complexes into mostly reduced sedimentary basins in continental rifts.

The bulk of the ore is contained in a stratiform sulphide body with a typically high aspect ratio (lateral extent to maximum stratigraphic thickness), usually with an aspect ratio of 20 or more. The most common morphology is therefore represented by sheets and tabular lenses of stratiform sulphides up to a few tens of metres in thickness and more than a kilometre in length (Large, 1983).

Vent-proximal deposits are characterized by four distinct facies: 1) bedded sulphides; 2) vent complex; 3) sulphide stringer zone; and 4) distal hydrothermal sediments. Near the center of the fluid up-flow represented by the stringer zone, the bedded sulphides are characteristically in-filled, veined, and variably replaced by a higher-temperature mineral assemblage, producing a vent complex (Goodfellow et al., 1993). The distal hydrothermal sediment probably represents plume fallout that has been dispersed by bottom currents or, alternatively, clastic sulphides shed from sulphide mounds. Vent distal deposits, however, are typically weakly zoned, well bedded, and conform to basin morphology. There is no evidence of the type of zone refining that accompanies veining, infilling, and replacement of bedded sulphides by typically higher-temperature assemblages. This is what characterizes vent-proximal deposits (Goodfellow et al., 1993).

The bedded facies in both distal and proximal deposits is composed of sulphide minerals, other hydrothermal products such as carbonate, chert, barite and apatite, and non-hydrothermal clastic, chemical and biogenic sedimentary rocks. The dominant sulphide mineral in most deposits is pyrite, although in some deposits, pyrrhotite is predominant. The main economic minerals are sphalerite and galena, although chalcopyrite is an economically important mineral in a few deposits.

Although many SEDEX deposits are closely associated with an underlying hydrothermal feeder zone, hydrothermal alteration has not been well documented and mapped at most deposits. Alteration minerals that have been reported for SEDEX deposits include quartz, muscovite, chlorite, ankerite, siderite, tourmaline, and sulphides. The sulphide content of an alteration zone is typically low, but pyrite, pyrrhotite, galena, sphalerite, chalcopyrite, tetrahedrite, and arsenopyrite may be present. Hydrothermal alteration associated with SEDEX deposits is commonly widespread and extends for hundreds of metres into the pre- and post-ore sedimentary sequence and up to several kilometres laterally from the deposit. The nature and extent of hydrothermal alteration and

mineralization in the feeder zone depends to a large degree on the mineralogy and physical properties of footwall sediments, the temperature and chemical composition of hydrothermal fluids, and hydrostatic pressure or water depth (Goodfellow et al., 1993).

SEDEX deposits occur in intra-cratonic and epicratonic sedimentary basins (Large, 1980). The tectonic settings include intra-cratonic rifts driven by mantle plume, reactivated rifted margins, and far-field back-arc rifting. Most SEDEX deposits formed during periods of tectonism typically manifested by fault reactivation, intrabasin clastic sedimentation, and in many cases magmatism represented by volcanism and/or sill emplacement. Most deposits occur in reduced marine basins that formed during the sag phase of basin history, adjacent to deeply penetrating faults. The ideal basinal architecture for the formation of SEDEX deposits is a continental rift basin with at least 2 to 5 km of coarse-grained permeable clastics and related volcanics and/or volcanoclastics that form the syn-rift phase overlain by an impermeable cap or seal of basinal shales and/or carbonates (Lydon, 1983; Large, 1986).

## 8.2 Disseminated and Replacement Gold Deposits

Disseminated and replacement gold deposits occur in host rocks of both volcanic and sedimentary origin (Poulsen, 1996). The best Archean example of a volcanic-associated deposit is Hemlo (Ontario) in the Superior Province. Sulphide "replacement" orebodies, such as those at Island Mountain, British Columbia and Kretza River, Yukon Territory, are examples of sediment-associated deposits of this type.

Disseminated and replacement gold deposits have both notable similarities and significant differences in their geological settings at the district scale (Poulsen, 1996). In most cases, the deposits occur in linear belts containing a diversity of lithological units with subparallel contacts. Mafic rocks can be regionally important. When they are present and well preserved, the mafic units are interpreted to be volcanic flows. Felsic rocks at these deposits may be ascribed to both volcanic and sedimentary origins. In the Hemlo district, both volcanoclastic rocks and wacke are present.

Intrusions form a significant proportion of the rocks in most of the districts containing disseminated gold deposits (Poulsen, 1996). These take the form of stocks and dykes, ranging from mafic to felsic composition and from pre- to post-tectonic timing.

Regional dynamothermal metamorphism of low to medium grade affected the rocks in all districts containing these deposits (Poulsen, 1996). Deposits can occur in rocks at the transition from greenschist to amphibolite facies. Where rocks of upper greenschist and amphibolite facies are present, the presence of diagnostic minerals, such as cordierite and andalusite, and co-existing sillimanite-kyanite indicates the metamorphism was of low to moderate pressure.

The rocks were penetratively deformed during regional metamorphism, and this has resulted in at least one generation of tectonic fabrics overprinting the main lithological units (Poulsen, 1996). In most cases, a strong foliation, amplified in discrete fault zones, strikes subparallel to the regional lithological trend. Again in most cases, minor folds are contemporaneous with foliation, and the transposition of bedding into parallelism with foliation is an attribute in all known cases.

Disseminated and replacement deposit gold orebodies are commonly stratabound at the scale of a district (Poulsen, 1996). This is attributed to the fact that they occur within, and along strike of, well-defined lithotectonic packages of rocks. Furthermore, they commonly occur at contacts between distinctive lithological units or solely within a particular unit. The lenticular to tabular shape of most orebodies is such that they are geometrically concordant with their host rocks. Individual deposits commonly comprise several subparallel orebodies that are arranged in a stacked fashion or along strike from one to another. The long axes of orebodies are commonly parallel to other linear fabrics in a district.

Ore within these deposits are sulphide-bearing, commonly schistose rocks in which the proportions of sulphides and the nature of the silicate hosts differ from orebody to orebody and from deposit to deposit (Poulsen, 1996). The ore is composed mainly of pyrite, pyrrhotite, arsenopyrite, chalcopyrite, sphalerite and galena. With few exceptions, deposits have low base metal contents (less than one percent combined metal), and gold contents exceed those for silver. Arsenopyrite is a common constituent.

Sericitic alteration is a common feature of most deposits (Poulsen, 1996). The sericite or muscovite and/or biotite in higher grade metamorphic assemblages occur with quartz in mineral assemblages consisting of few phases, and in abundances that preclude formation by metamorphism of an unaltered protolith. Orebodies in volcanic environments are closely associated with zones of potassic (microcline) alteration or silicification enclosed by aluminous alteration (andalusite, pyrophyllite, paragonite, cordierite, chloritoid, and staurolite).

The sulphide contents of many of these deposits are sufficient to produce geophysical responses and, owing to the disseminated nature of the sulphides, induced polarization methods should be the most effective (Poulsen, 1996).

### **8.3 Magmatic Nickel-Copper-PGE Deposits**

A broad group of deposits containing nickel, copper and platinum group elements (PGE) occur as sulphide concentrations associated with a variety of mafic and ultramafic magmatic rocks (Eckstrand et al., 2004; Naldrett, 2004). The magmas originate in the upper mantle and contain small amounts of nickel, copper and PGEs, and variable but minor amounts of sulphur. The magmas ascend through the crust and cool as they encounter cooler crustal rocks. If the original sulphur

content of the magma is sufficient, or if sulphur is added from crustal wall rocks, a separate sulphide liquid forms as droplets disperse throughout the magma. Because the partition coefficients of nickel, copper, PGE and iron favour sulphide liquid over silicate liquid, these elements preferentially transfer into the sulphide droplets from the surrounding magma. These denser sulphide droplets tend to sink toward the base of the magma where they form sulphide concentrations. On further cooling, the sulphide liquid crystallizes to form ore deposits containing these metals.

Two (2) main types are distinguished (Eckstrand and Hulbert, 2007): Ni-Cu sulphide and PGE-dominant. In the first, nickel and copper are the main commodities of economic interest. They occur as sulphide-rich ores associated with differentiated mafic and/or ultramafic sills and stocks, and ultramafic (komatiitic) volcanic flows and sills. The second type, PGE-dominant, is mined principally for PGEs found in sparsely dispersed sulphides in very large to medium-sized, typically mafic/ultramafic layered intrusions.

The mafic and ultramafic magmatic bodies that host Ni-Cu sulphide ores are diverse in form and composition, and can be subdivided into the following four (4) subtypes (Eckstrand and Hulbert, 2007):

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

The PGEs of the PGE-dominant deposit type include Os, Ir, Ru, Rh, Pt and Pd. Platinum and palladium are the most abundant of these and determine the economic value of the ores, although Rh, Ni, Cu, and Au are commonly recovered as well.

PGE-dominant magmatic sulphide ores are associated with mafic/ultramafic intrusions. There are two (2) principal subtypes of the PGE-dominant deposits (Eckstrand and Hulbert, 2007):

- 1- Reef-type or stratiform deposits, which occur in well-layered mafic/ultramafic intrusions (the Merensky Reef and the UG-2 chromitite layer of the Bushveld

Complex, South Africa; the J-M Reef of the Stillwater Complex, Montana; the Main Sulphide Zone in the Great Dyke, Zimbabwe).

- 2- Magmatic breccia type, which occurs in stock-like or layered mafic/ultramafic intrusions (Platreef deposits of the northern Bushveld Complex, South Africa; Lac des Iles and Marathon deposits, Ontario).

The Ni-Cu-PGE occurrences present on the Lemare property belong to the mafic/ultramafic intrusion subtype. Because magmatic Ni-Cu-PGE sulphide deposits are invariably associated with mafic and/or ultramafic magmatic bodies, such bodies constitute a first-order target for exploration. If the ultramafic rocks associated with any of these deposit types have undergone serpentinization, then the secondary magnetite they contain will typically generate a well-defined magnetic response. Low-level aeromagnetic surveys are thus indispensable in the early stages of exploration (Eckstrand and Hulbert, 2007).

Electromagnetic surveys designed to detect conductors should be effective in locating the sulphide-rich deposits (i.e., massive-, breccia-, and matrix-textured sulphides), and IP methods may identify disseminated sulphides, although the presence of serpentinization in the ultramafic host may render the technique ineffective (Eckstrand and Hulbert, 2007).

#### **8.4 Mafic/Ultramafic-Hosted Chromite (Stratiform Chromite)**

Chromite is mined almost exclusively from massive to semi-massive accumulations in ultramafic or mafic igneous rocks (Duke, 1996). Chromite deposits are normally assigned to one (1) of two (2) classes based on deposit geometry, petrological character, and tectonic setting. Stratiform deposits are sheet-like accumulations of chromite that occur in layered ultramafic to mafic igneous intrusions. Podiform deposits are irregular but fundamentally lenticular chromite-rich bodies that occur within Alpine peridotite or ophiolite complexes.

Stratiform chromite deposits occur in large, layered intrusions, which are commonly differentiated into a lower ultramafic zone and an upper mafic zone. The intrusions fall into two (2) broad categories with respect to morphology (Duke, 1996). The first includes essentially tabular bodies emplaced as sill-like intrusions in which the igneous layering is conformable to the floor (e.g., Stillwater Complex, Montana). Bodies of the second category comprise one (1) or more funnel-shaped intrusions in which the layering dips at a shallow angle toward the centre, giving a synclinal cross-section (e.g., Bushveld Complex, South Africa).

The intrusions hosting stratiform chromite deposits occur in a variety of tectonic settings (Duke, 1996). The intrusions can be:

- 1- unmetamorphosed and emplaced in a stable cratonic setting.

- 2- pre-kinematic and occurring at the unconformable contact between an Archean granitic basement and overlying, mainly sedimentary, Proterozoic supracrustal rocks.
- 3- synvolcanic in an Archean greenstone belt setting.

Stratiform ores are made up of massive, net-textured, and disseminated chromite. Chromite is the main ore mineral. Olivine, orthopyroxene, plagioclase and clinopyroxene are the most common associated magmatic minerals. These minerals are subject to alteration, and serpentine, tremolite, chlorite, magnetite, talc and carbonate are common secondary minerals.

Because chromite is a common mineral associated with PGE deposits, geochemical surveys should include Cr as well as the obvious suite consisting of Ni, Cu, Co, Pt and Pd (Eckstrand and Hulbert, 2007).

### **8.5 Li, Be, Ta, Cs and Rb deposits associated with peraluminous granitic complexes**

The following text is translated and slightly modified from Boily and Gosselin (2004).

Occurrences of Li-Be-Ta-Cs-Rb ± Mo ± Nb ± F mineralization are found in Archean granite pegmatite dyke swarms. These dykes intruded metavolcanic or metasedimentary country rocks. The pegmatite dykes surround, and are genetically related to, late to post-tectonic plutonic complexes of peraluminous monzogranite. The peraluminous monzogranites and the associated granite pegmatite dykes are found within metamorphosed greenstone belts (greenschist to amphibolite facies) or belts of highly metamorphosed paragneiss and orthogneiss. The monzogranites crop out along the margins of major deformation zones that delineate structural blocks containing a variety of lithologies.

The dykes hosting the mineralization are generally of potassic granite pegmatite, sodic aplite, albitite, fine-grained or porphyroblastic biotite monzogranite, fine-grained biotite + muscovite ± garnet monzogranite, or monzogranite pegmatite. The rocks associated with these host dykes are intrusives belonging to TTG suites (tonalite-trondjemite-granodiorite), metavolcanics (metabasalt, amphibolite), and biotite schists (metagraywackes, orthogneiss and paragneiss).

In terms of overall form, the deposits constitute either: 1) swarms of homogenous, broadly zoned, steeply dipping granite pegmatite dykes, metres to decametres wide and decametres to kilometres long; or 2) moderately to well differentiated, sometimes metasomatized, pegmatitic masses of variable shapes (mushroom, sill) containing monomineralic zones or layers (e.g., albitite, tantalite, petalite).

The granite pegmatites are emplaced along fractures and joints in granitoids, and they also fill fractures and schistosity planes in the wall rocks. On a larger scale, the late to post-tectonic monzogranite intrusions and their accompanying pegmatite dykes are controlled by major faults and deformation zones delineating structural blocks.

Lithium ore is generally represented by spodumene, petalite, lepidolite, latryphillite-lithiophyllite, amblygonite-montebrazite, and the tantalum ore by colombo-tantalite, wodginite, microlite. Beryllium is derived from beryl, and cesium from pollucite. The gangue consists of albite (cleavelandite), quartz, microcline, muscovite, and garnet (spessartite).

The mineralization in granite pegmatites is essentially of magmatic origin. It was the result of extreme fractional crystallization of a peraluminous (S-type) parent granite enriched in Li, Be, Ta, Cs, Rb and volatile phases ( $H_2O$ , F, and B). The residual magmas, enriched in rare-metals and volatile phases, were expelled along fractures in the country rocks where they underwent differentiation to form mineralogically zoned pegmatite bodies. The orthomagmatic fluids generally precipitated at the end of crystallization, sometimes causing autometasomatism and/or leaching accompanied by Ta mineralization. The expulsion of these fluids into the host rocks led to the creation of an alteration halo enriched in Li, K, F and B (Jahns, 1982; Cerny et al, 1985; Manning and Pichavant, 1985).

## 9.0 EXPLORATION

In the summer of 2012, Monarques carried out prospecting, sampling (237 samples), and a geological survey on the Lemare property. Figure 9.1 presents an overview of the work and sample locations. Monarques personnel were transported to and from the property by helicopter.

The exploration program led to the discovery of a gold-bearing structure (see Monarques press release dated October 18, 2012) located less than 2 kilometres west of the Lac Sillimanite showing. The best assay from this new gold showing, named Lac de la Chlorite, was 1.645 g/t Au in a grab sample. The exploration work on and around the historical Lac Sillimanite showing yielded a grab sample grading 0.887 g/t Au.

Grab samples taken from oxidized metasedimentary rocks in the Lac Voir dye area (Fig. 9.1), 12 km southwest of the Lac de la Chlorite showing, yielded up to 0.543 g/t Au, 11.45 g/t Ag and 1.26% Cu. Another grab sample 7.5 km to the southwest returned values of 0.525 g/t Au, 1.55 g/t Ag and 0.12% Cu.

In 2012, Monarques stripped the Lac de la Chlorite and Lac de la Sillimanite showings from October 9 to October 31 (Monarques press release; October 18, 2012). The stripped area on the Lac de la Chlorite showing, which measures 100 x 10 metres, revealed a mineralized zone about 20 metres long by 1 metre wide. This highly silicified and chloritized shear zone in metamorphosed volcanic rocks contains tourmaline and 5% to 30% arsenopyrite. A total of twelve (12) channels were cut for a total of 59.75 metres and 23 grab samples collected. Results are pending. The stripped area on the Lac de la Sillimanite showing, covering about 600 m<sup>2</sup>, revealed strongly folded and silicified metasedimentary rocks bearing arsenopyrite, pyrite and chalcopyrite. A total of four (4) channels were cut for a total of 30.15 metres and nine (9) samples collected. Results are pending.

Seven (7) trenches spaced 30 metres apart were excavated over the spodumene pegmatite at the Graab showing. The pegmatitic dyke has ranges from 5 to 14 metres wide and is 200 metres long. A total of 43 channels samples were collected. Results are pending.

Monarques also completed a geochemical survey (humus sampling; Fig. 9.2) covering the area between both showings. A total of 1,072 soil samples were collected, taken every 25 metres on lines spaced 100 metres apart. This geochemistry survey should allow Monarques to identify more gold targets.

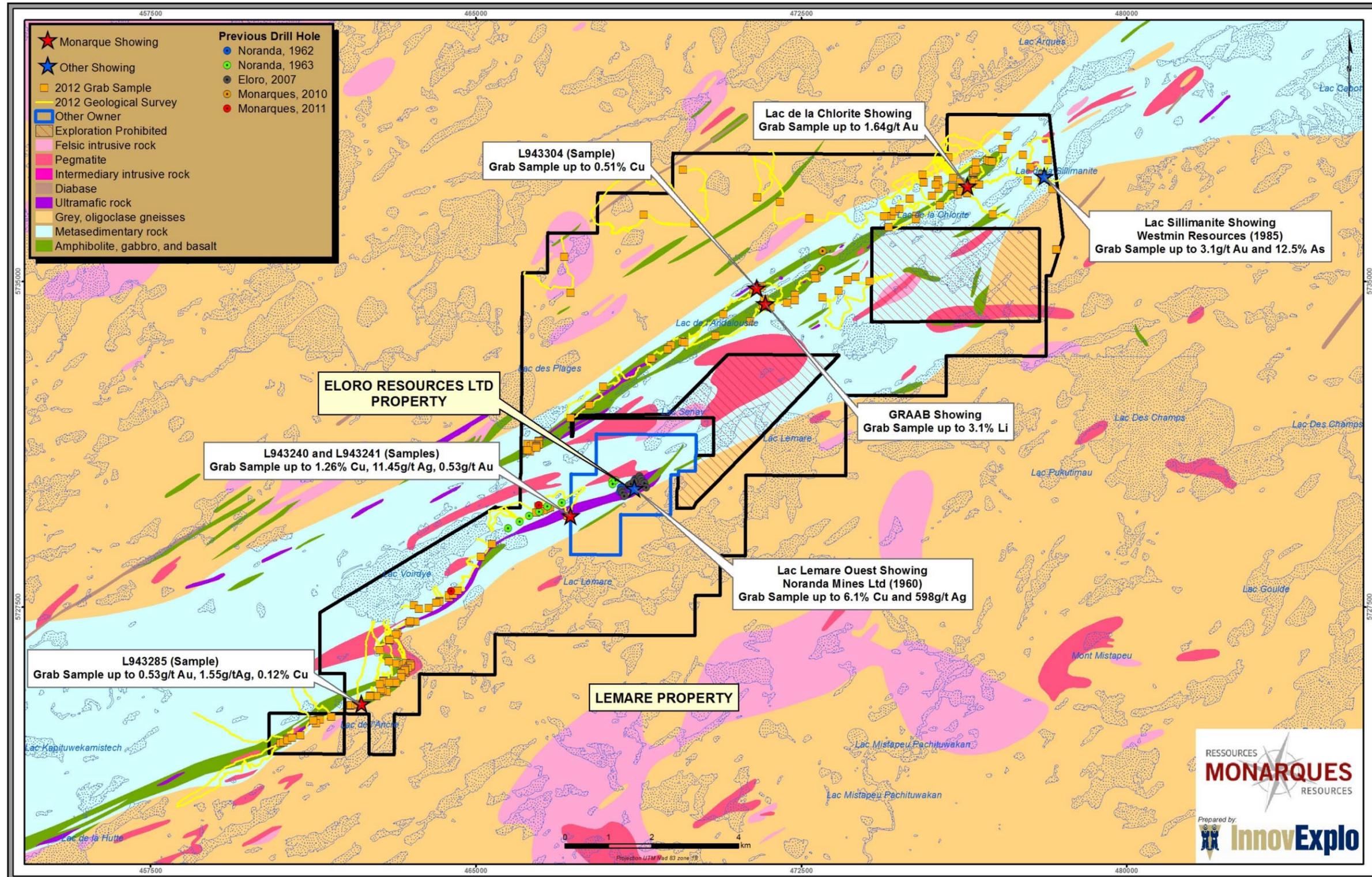


Figure 9.1 – Summary map of Monarques' exploration work and results on the Lemare property during summer 2012.

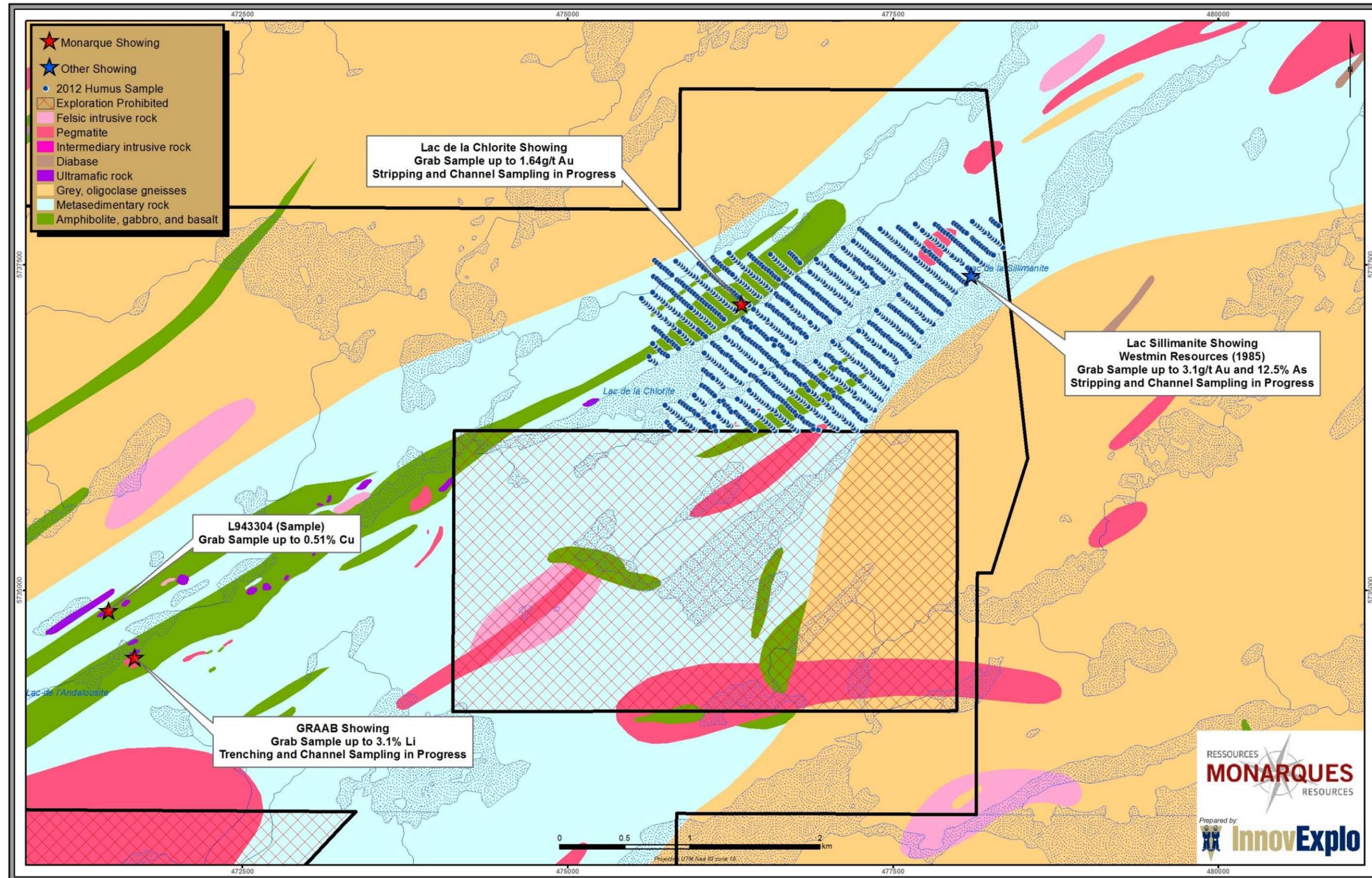


Figure 9.2 – Summary map of work on the Lemare property during fall 2012.

## 10.0 DRILLING

At the time of this report, Monarques had not drilled on the Lemare property in 2012. Previous drilling programs are described in section 6.0 - History.

## 11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

The protocol for grab sampling was established by Monarques personnel. During the author's visit to the core logging facilities at the Nemiscau truck stop and camp, he found no indication of anything in the grab sampling procedures, methods and approach that could have had a negative impact on the reliability of the assay results reported by Monarques.

The following sections describe the established protocols.

### 11.1 Grab Samples

Grab samples were selected in the field based on the recorded Beep Mat signal and/or the presence of sulphides in peridotite, gabbro, amphibolite, basalt or metasedimentary rocks. Samples also included pegmatite and banded iron formations to improve the geological knowledge of the area.

Samples were collected from the bedrock with the aid of either a sledge hammer or chisel and broken into one (1) or more piece or pieces for a total approximate size of 1 dm<sup>3</sup>. Each sample was labelled and bagged, and the field location of the sample clearly marked using flagging tape to facilitate re-localization at a future date. A representative (witness) sample was also collected at the same location and identified with the same sample number as the original. The date, GPS coordinates, sample number, sample description and analytical method were noted in the field sample note book and later transferred to a digital database.

Batches of grab samples were sent to the ALS Chemex facilities in Val-d'Or. There was no predetermined number of samples for each batch shipped. For QA/QC purposes, duplicates, silicate blanks and certified standards were added to the sample batches. Field duplicates were prepared directly in the field and involved splitting the original sample into two (2) equal portions. For every 100 samples shipped, the numbers ending in the following digits were assigned to the QA/QC samples:

- 13 or 63: standard (CRM)
- 29 or 79: silicate blank
- 41 or 91: duplicate of preceding sample

The field blank used for the program is a sample of siliceous rock from the Sitec mine that has been tested by different laboratories. The field blanks were submitted as regular samples, blind to the laboratory, to detect contamination during preparation.

**Table 11.1 – Proposed percentages of QA/QC per 100 samples shipped**

Per 100 samples (equivalent to 2-sample booklets)		
Rock	94	Percentage
Duplicate	2	2.1%
Blank	2	2.1%
Standard	2	2.1%
<b>Total</b>		<b>6.4%</b>

### 11.1.1 Blank

Two (2) blanks are inserted for every 100 samples shipped, yielding the percentages shown in Table 11.1. During the 2012 exploration program, five (5) blanks were assayed at the ALS Chemex laboratory. Monarques' internal quality control protocol stipulated that if the result for any blank suggested Au, Ag, Cu, Ni, Co, Cr, Pt or Pd contamination, the entire batch should be re-analyzed. InnovExplo implemented a cut-off for the base metals at 100 times the detection limit (e.g., 20 ppm Cu, 20 ppm Ni, 10 ppm Co, and 100 ppm Cr); for precious metals, the cut-off was set at 10 times (e.g., 0.1 ppm Au and 0.1 ppm Ag). For the 2012 exploration program, all results for blanks were below or very near the detection limits, as shown in Table 11.2.

**Table 11.2 – Blanks from the 2012 exploration program**

Detection Limit		0.001	0.01	0.2	0.2	0.1	1
Sample	Certificate	Au (ppm)	Ag (ppm)	Cu (ppm)	Ni (ppm)	Co (ppm)	Cr (ppm)
L943129	VO12176509	0.001	0.01	2.1	2.3	0.4	14
L943179	VO12176509	0.002	0.01	2.1	2.0	0.4	11
L943229	VO12198681	0.002	0.01	1.6	1.7	0.3	9
L943279	VO12198681	0.003	0.01	3.4	1.8	0.4	7
L943329	VO12198681	-0.001	0.01	3.1	2.5	0.5	9

### 11.1.2 Certified Reference Material (standard)

Two (2) samples of a certified reference material (CRM) were inserted for every 100 samples. The CRM used was OREAS 13b from Ore Research & Exploration Pty Ltd in Australia. The certified values of gold, copper, nickel, platinum and palladium are: 211 ppb Au, 2,327 ppm Cu, 2,247 ppm Ni, 197 ppb Pt, and 131 ppb Pd (Table 11.3).

**Table 11.3 – Certified values for standard OREAS 13b**

	Certified Value	3SD	Lower Limit	Upper Limit
Au (ppb)	211	39	172	250
Cu (ppm)	2,327	144	2,183	2,471
Ni (ppm)	2,247	465	1,782	2,712
Pt (ppb)	197	39	158	236
Pd (ppb)	131	27	104	158

Monarques' internal control protocol stipulates that if any standard yields Au, Cu, Ni, Pt and Pd values above or below thrice the standard deviation provided by Ore Research and Exploration (lower or upper limit in Table 11.4), then the entire batch should be re-analyzed.

Five (5) standards were assayed during Monarques' 2012 exploration program. Values obtained throughout the program fell between of the lower and upper limits, except for the copper values of samples L943163 and L943313, which are slightly high (Table 11.4). It was not necessary to re-analyze any of the batches.

**Table 11.4 – Standard OREAS 13b used in the 2012 exploration program**

Sample	Certificate	Au (ppm)	Cu (ppm)	Ni (ppm)	Pt (ppm)	Pd (ppm)
L943113	VO12176509	0.202	2340	2190	NA	NA
L943163	VO12176509	0.205	2560	2310	NA	NA
L943213	VO12198681	0.214	2430	2230	NA	NA
L943263	VO12198681	0.218	2460	2250	NA	NA
L943313	VO12198681	0.202	2510	2290	NA	NA

Note: NA = not analyzed

### 11.1.3 Field Duplicate

The results for field duplicates can be used to determine total precision (i.e., reproducibility) of the sample analysis process, from sampling through to sample preparation. When used in conjunction with other sample preparation duplicates, the incremental loss of precision can be determined for each of the various stages of the sampling, preparation and assaying process. For the field duplicate increment, this can indicate whether loss of precision can be attributed to initial sample size.

The original and duplicate results were tabulated and an x-y graph created. The original data was plotted along the x-axis and the duplicate results along the y-axis. A regression line characterizing the distribution of the data was plotted. The slope of the regression line (y) was calculated along with the correlation coefficient (R). For the 2012 exploration program, ALS Chemex assayed a total of three (3) grab sample duplicates. Correlation plots were only generated for the copper results. No correlations were prepared for gold, platinum or palladium because the results are very close to the detection limits.

The calculated slopes for Cu (almost 1;  $y \approx x$ ) indicate there is no bias between the original sample and the duplicate (Table 11.5). The correlation coefficient is close to unity, which is considered good.

**Table 11.5 – Correlation coefficient (R) and regression slope (y) for grab sample duplicates**

	Correlation coefficient (R)	Slope (y)
Cu	0.90	0.85

## 11.2 Sample Preparation and Analyzes

All samples received at the ALS-Chemex laboratory are subject to the same sample preparation. The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70% passing a 2 mm screen (Tyler 9 mesh, US Std. No. 10). A split of up to 250 g is taken and pulverized to better than 85% passing a 75 micron screen (Tyler 200 mesh, US Std. No. 200).

**Table 11.6 – Sample preparation at the ALS-Chemex Laboratory corresponding to ALS code PREP-31**

Method Code	Description
LOG-22	Sample is logged in tracking system and a bar code label is attached.
DRY-21	Drying of excessively wet samples in drying ovens. This is the default procedure for most rock chip and drill samples.
CRU-31	Fine crushing of rock chip and drill samples to better than 70 % of the sample passing 2 mm.
SPLIT-21	Split sample using riffle splitter.
PUL-31	A sample split of up to 250 g is pulverized to better than 85% of sample passing 75 microns.

All samples were assayed by ultra-trace-level methods (51 elements) using Inductively Coupled Plasma–Atomic Emission Spectroscopy (ICP-AES) and Inductively Coupled Plasma–Mass Spectrometry (ICP-MS) (code ALS: ME-MS41). The protocol is to digest a prepared sample (0.50 g) with aqua regia in a graphite heating block. After cooling, the resulting solution is diluted with deionized water, mixed and analyzed by ICP-AES. Following this analysis, the results are reviewed for high concentrations of bismuth, mercury, molybdenum, silver and tungsten and diluted accordingly. Samples are then analyzed by ICP-MS for the remaining suite of elements. The analytical results are corrected for inter-element spectral interferences.

The majority of the samples were assayed for gold by ICP-MS or Atomic Absorption Spectrometry (AAS) (ALS code: Au-TL43). The protocol is to digest a finely pulverized sample (25 to 50 g) in aqua regia. This acid mixture generates nascent chlorine and nitrosyl chloride, which will dissolve free gold and gold compounds such as calaverite, AuTe<sub>2</sub>. The dissolved gold is complexed and extracted with Kerosene/DBS and determined by graphite furnace AAS. Alternatively, gold is determined by ICP-MS directly from the digestion liquor. This method allows for the simple and economical addition of extra elements by running the digestion liquor through the ICP-AES or ICP-MS.

Some samples were also assayed for Au, Pt and Pd using fire assay fusion with ICP-AES finish (ALS code: PGM-ICP23). The protocol is to fuse a prepared sample (30 g) with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required, in quart it with 6 mg of gold-free silver, and then cupel it to yield a precious metal bead. The bead is digested in 0.5 mL dilute nitric acid in the microwave oven, and 0.5 mL of concentrated hydrochloric acid is then added and the bead 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 ICP-AES against matrix matched standards.

If the assay result obtained by the ME-MS41 analytical method is higher than 10,000 ppm for Ni and Cu, the sample is assayed by the ME-OG46 method of aqua regia digestion with ICP-AES finish. A prepared sample is digested in 75% aqua regia for 120 minutes. After cooling, the resulting solution is diluted to volume (100 mL) with de-ionized water, mixed and then analyzed by ICP-AES or by atomic absorption spectrometry (AAS).

Lithium analyses were performed using the Grade Lithium Four-acid Digestion with ICP-AES method (ALS Chemex code: Li-OG63). The Li-OG63 analytical method uses 4 g of pulp material and returns a lower detection limit of 0.01% Li.

Beryllium analyses were performed using the Grade Beryllium Four-acid Digestion with ICP-AES method (ALS Chemex code: ME-ICP61). The ME-ICP61 analytical method uses 0.25 g of pulp material and returns a lower detection limit of 0.5 ppm Be.

## 12.0 DATA VERIFICATION

On March 20 and 21, 2012, the author visited the Property accompanied by engineering geologist Maude Lévesque-Michaud, Jr. Eng., and laborer Jean-Pierre D'Ambroise, both from Monarques, as well as geologist-in-training Tafadzwa Gomwe of InnovExplo, geologists Martin Lévesque, P. Geo., and Nadia Girard, geologist-in-training, of Axor Group Consulting Firm, and consulting geologist Genevieve Boudrias, P. Geo. The aim of the visit was to prepare four (4) technical reports for four (4) different Monarques properties: Caumont, Lac Lemare, Valiquette, and Bourier.

The site visit included a visit of the Monarques office and their installations located at Nemiscau Rest-Stop Km 291, and a trip by snowmobile to examine the Nemaska Lithium core shack on the Whabouchi property to the east, where drill core from the Lemare, Valiquette and Bourier projects is kept. The author flew over all four (4) properties (Caumont, Lac Lemare, Valiquette, and Bourier) in an airplane on March 21, 2012.

The sampling procedures used by Monarques personnel appear to be fundamentally reliable and suitable, as does the database provided to the author. Exploration data were digitally recorded and reported in a GIS database. The quality assurance and quality control program implemented by Monarques is comprehensive.

The author validated the analytical data in the Monarques database using the values in the ALS Chemex certificates of analysis. The validation consisted of verifying all grab sample results for Li, Au, Cu, Ni, Pt and Pd as reported by Monarques in 2012 for the Caumont Project. No errors were noted during the validation.

During data verification, the author found no indication of anything in the exploration work or analytical data that could have negatively affected the reliability of the assay results reported by Monarques.

### **13.0 MINERAL PROCESSING AND METALLURGICAL TESTING**

Mineral processing and metallurgical testing have not yet been performed for samples from the Lemare property.

### **14.0 MINERAL RESOURCE ESTIMATES**

Mineral resources have not been outlined on the Lemare property.

### **15.0 MINERAL RESERVE ESTIMATES**

Mineral reserves have not been outlined on the Lemare property.

### **16.0 MINING METHODS**

Mining methods have not been evaluated for the Lemare property.

### **17.0 RECOVERY METHODS**

Recovery methods have not been tested on samples from the Lemare property.

### **18.0 PROJECT INFRASTRUCTURE**

Project infrastructure has not been evaluated for the Lemare property.

### **19.0 MARKET STUDIES AND CONTRACTS**

No market studies have been prepared for the Lemare property. No contracts have been issued for the Lemare property.

## **20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT**

No environmental studies have commenced on the Lemare property.

Permitting requirements have not been established for the Lemare property.

The Lemare property is on Category II land covered by the James Bay and Northern Québec Agreement (*La Convention de la Baie James et du Nord québécois*) signed in 1975. This agreement sets out a number of provisions respecting land rights and uses, environmental and social protection, economic development, and financial compensation, among others. Under the provision for the environment, the agreement provides for an advisory committee to counsel the government on this policy. The agreement also established a system of environmental assessment for new development projects, to be overseen by both the Québec government and Native communities.

There is no written agreement between the local Nemaska Cree community and Monarques Resources Inc, although the company is aware of the responsibilities to which it must adhere. The Cree community is consulted each year and the plans of the company are made clear before any exploration or drilling activity on the property.

## **21.0 CAPITAL AND OPERATING COSTS**

Capital and operating costs have not been calculated for the Lemare property.

## **22.0 ECONOMIC ANALYSIS**

No economic analysis has been prepared for the Lemare property.

## 23.0 ADJACENT PROPERTIES

The two (2) most significant properties in the Lemare property area are the advanced-stage Nisk property owned by Monarques Resources Inc, which hosts the Nisk-1 Ni-Cu-Co-PGE deposit, and the Whabouchi property owned by Nemaska Lithium Inc, which hosts the Whabouchi lithium deposit.

The mineralized zone of the Nisk-1 deposit on Monarques' Nisk property is hosted by an ultramafic sill in a paragneiss sequence (Trudel, 2009). The sill strikes N65°E and dips steeply (75° to 85°) to the NW. The sill is a composite, consisting of at least two(2) separate intrusive phases: an unmineralized grey serpentized peridotite and a mineralized black serpentized peridotite carrying Ni-Cu-Co-Fe sulphides. The sulphide layer lies within the black serpentine body, near its base, on the northwest side. Sulphide mineralization varies from massive to disseminated, consisting primarily of pyrrhotite with lesser quantities of pentlandite, chalcopyrite and pyrite. According to Trudel (2009), the deposit model is magmatic sulphide accumulation at the base of an ultramafic sill. A Mineral Resource Estimate and Technical Report were prepared for the Nisk-1 deposit in compliance with Regulation 43-101 and Form 43-101F1 (Trudel, 2009). The Nisk-1 mineral resource estimate is presented in Table 23.1.

**Table 23.1 – Mineral Resource Estimate for the Nisk-1 deposit owned by Monarques Resources Inc (Trudel, 2009)**

	Tonnes	%Ni	%Cu	%Co	g/t Pd	G/t Pt
Measured Resources	1,255,000	1.09	0.56	0.07	1.11	0.20
Indicated Resources	783,000	1.00	0.53	0.06	0.91	0.29
Inferred Resources	1,053,000	0.81	0.32	0.06	1.06	0.5

Note: Cut-off grade was established at 0.4% Ni

Nemaska Lithium's Whabouchi deposit is a spodumene pegmatite in the centre of the Whabouchi property. It comprises a series of subparallel and generally subvertical pegmatites with an overall width of up to 130 metres (Laferrière et al., 2011). The mineralized pegmatite swarm extends 1.3 kilometres along strike in a generally NE-SW orientation, and reaches a depth of more than 500 metres below surface. Lithium occurs mainly in spodumene, with lesser amounts in petalite and lithium-bearing muscovite accessory minerals. A Mineral Resource Estimate and Technical Report was prepared for the Whabouchi lithium deposit in compliance with Regulation 43-101 and Form 43-101F1 (Laferrière et al., 2011). The Whabouchi resource estimate is presented in Table 23.2.

**Table 23.2 – Mineral Resource Estimate for the Whabouchi deposit of Nemaska Lithium Inc (Laferrière et al., 2011)**

	Tonnes	%Li <sub>2</sub> O
Measured Resources	11,294,000	1.58
Indicated Resources	13,785,000	1.50
Inferred Resources	4,401,000	1.50

Note: Cut-off grade was established at 0.4% Li<sub>2</sub>O

In addition to the Nisk property, Monarques owns nine (9) other properties in the Lemare property area that were the subject of exploration work in 2012. Four(4) of these with projects beyond the grass-roots stage are described below.

The Duval property hosts several gold showings in addition to the Lac des Montagnes chrome showing. Exploration work by Nemaska Exploration (now Nemaska Lithium) revealed that the Duval gold showings are located in a zone of altered pyroxenite carrying disseminated to semi-massive sulphides (Théberge, 2011a). The mineralization is found within a package of altered and sheared pyroxenite and gabbro varying in thickness from 40 to 70 metres. The zones strike N045° with a SE dip. The best results obtained in grab samples were 18.4 g/t Au, 115 g/t Ag, 0.006 g/t Pt, 0.57 g/t Pd, 0.46% As, 6.09% Cu and 1.22% Ni (Théberge, 2011a).

The Valiquette property hosts the Valiquette showing (Turcotte, 2012a). The showing consists of a band of magnetic massive sulphides 3 metres wide by 20 metres long, within a sheared ultramafic intrusion. The highest grades reported by Atkins (1988) were 1.58% Cu over 0.3 metre, 1.24% nickel over 0.3 metre, 2,121 ppb Pd over 0.3 metre and 429 ppb Pt over 0.5 metre.

The Bourier property is at an early stage of exploration and some parts are more at the grass-roots stage of exploration. This Monarques property demonstrates potential for SEDEX zinc-copper deposits (Turcotte, 2012b). The area is characterized by metasedimentary rocks, granites and pegmatites. Mineralization is typically semi-massive to massive sulphides composed of pyrrhotite, pyrite and chalcopyrite. Sphalerite, along with thin layers of hydrozincite, is also present within the sulphide assemblage. Magnetite and banded iron formations occur within the area. The drill program targeted a Mag and EM anomaly and confirmed the presence of a SEDEX-type zinc and silver zone. Holes BOU-11-03 (2.2 ppm Ag over 4 m) and BOU-11-09 (1% Zn over 1 m) yielded the anomalous results. Mineralization was intercepted at a vertical depth of 100 m and the data indicates it is open to the east and west. This demonstrates that the Mag and EM anomalies may be close to surface and that these sites should be further explored through soil, grab and channel sampling.

The Caumont property hosts the historical Montagne copper-nickel showing (Fig. 23.1). The showing appears to represent the same mineralized zone encountered in historical diamond drill hole B-1-1 drilled by Canex Placer Ventures Ltd (Hilgendorf, 1975). Monarques reported up to 1.07% Cu, 0.4% Ni, and 0.5 g/t Pd in a grab sample of amphibolite with massive sulphide composed mainly of pyrrhotite with 5% chalcopyrite (Boudrias, 2012). The best composite channel sample assayed an average of 0.63% Cu, 0.43% Ni, 0.6 g/t Pd over 2.5 metres.

Elsewhere, Tucana Lithium Corp owns an exploration property located between the Nisk and Whabouchi properties, and parts of the property are adjacent to the east end of Monarques' Valiquette property. To date, no significant mineralized zones have been discovered on the property (Th  berge, 2011b).

Eloro Resources Ltd owns the Rupert South property, which is completely enclosed within Monarques' Lemare property. The Rupert property returned many copper and silver values in grab samples from outcrops, with recently reported grades of 6.02% Cu (sample no. 929364), 3.24% Cu (no. 929365), and 1.88% Cu (no. 929363). The samples were taken from a historical copper showing (Lac Lemare-Ouest) containing up to 10% sulphides, mainly chalcopyrite and pyrite. The host rock is well-sheared sillimanite-biotite-garnet paragneiss. The information above was taken from the Eloro Resources website.

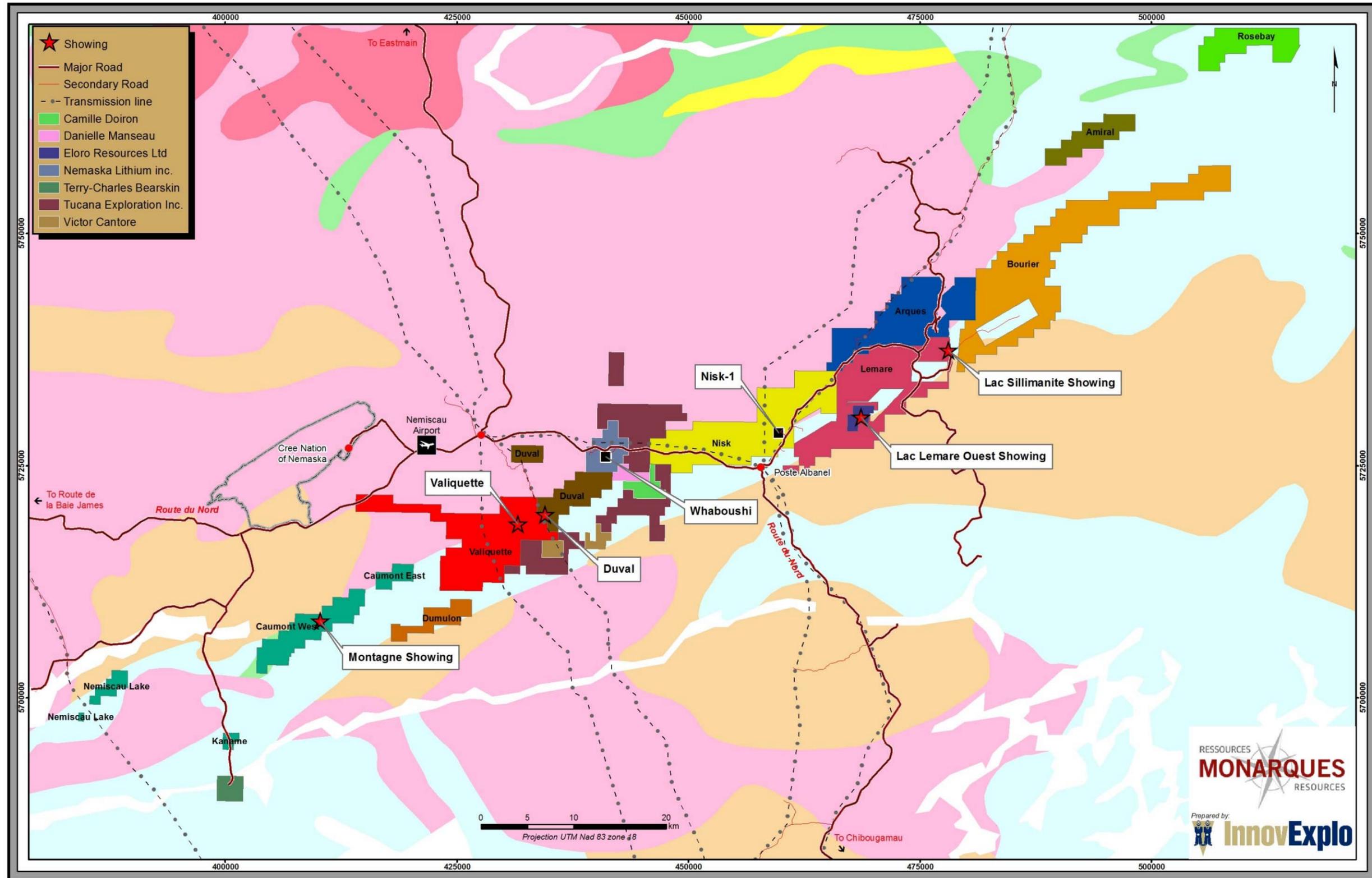


Figure 23.1 – Properties in the vicinity of the Lemare property

## **24.0 OTHER RELEVANT DATA AND INFORMATION**

No other relevant data or information is provided in this technical report.

## 25.0 INTERPRETATION AND CONCLUSIONS

A belt of metasedimentary rocks and a granitic/orthogneiss domain underlie the Lemare property, with the contact crossing diagonally through the property from southwest to northeast. The metasedimentary belt reaches a maximum width of about 4 kilometres. The metasedimentary rocks are dominantly biotitic paragneisses containing minerals typical of regional amphibolite metamorphic facies, with lesser amounts of amphibole-plagioclase gneisses (amphibolite) of volcanic origin and ultramafic intrusive bodies of economic interest. The metasedimentary package is also intruded by granites and pegmatites. Late diabase dykes constitute the youngest rocks of the area.

The property is at an early stage of exploration. It demonstrates potential for several deposit types: magmatic nickel-copper-PGE, mafic/ultramafic-hosted chromite (stratiform chromite), Zn-Pb SEDEX, disseminated/replacement gold, and Li-Be-Ta-Cs-Rb deposits associated with peraluminous granitic complexes.

The presence of the Lac Sillimanite showing and the new discovery of the Lac de la Chlorite showing clearly indicate the gold-bearing potential of the Lemare property. These arsenopyrite-bearing gold showings occur within Lac des Montagnes metasedimentary belt, suggesting a potential for gold deposits associated with shear zones. Many parts of this metasedimentary belt remain have yet to be investigated for their gold potential

The mineralized zone at the Lac de la Chlorite showing occurs within a shear zone in metavolcanic rocks. The strongly silicified and chloritized mineralized zone is characterized by highly folded metasedimentary rocks carrying arsenopyrite (5-30%), pyrite, chalcopyrite and tourmaline. If the samples from the stripped areas on these two (2) showings yield positive gold results, InnovExplo recommends drilling.

Monarques has completed a geochemical survey (humus sampling) covering the area between the two (2) gold showings. Samples were taken every 25 metres on lines spaced 100 metres apart. This survey will be used to define areas of auriferous humus associated with each of the showings. A B-horizon soil survey is recommended in the same area, if feasible, in order to detect arsenic responses. This will help determine the most effective type of survey for gold exploration on the property.

The presence of considerable amounts of sulphides at both Lac de la Chlorite and Lac Sillimanite indicates that induced polarization would be a useful exploration method in the vicinity of these showings. Contingent upon positive geophysical responses above the showings, the survey could be enlarged to cover their extensions.

Soil geochemistry and induced polarization could be used to test the Lac Voir dye area where results up to 0.543 g/t Au, 11.45 g/t Ag and 1.26% Cu were obtained in oxidized metasedimentary rocks, as well as the southwest part of the Lemare

property where another grab sample returned 0.525 g/t Au, 1.55 g/t Ag and 0.12% Cu.

The magmatic Ni-Cu-PGE potential of the property should not be overlooked. Mafic-ultramafic intrusions in the Nemiscau area are known to contain anomalous concentrations of nickel and copper, such as the multi-kilometre unit on the Lemare and Eloro properties, and constitute promising targets that can be traced by geophysical means (magnetic surveys) for considerable distances. It will be necessary to demonstrate the presence of an even larger mineralized ultramafic intrusion on the Lemare property (either by confirming extensions to the known system or discovering new mineralized intrusions) in order to establish a potentially economic volume of Ni-Cu-PGE mineralization. The author believes this may be possible since there are still several magnetic anomalies to be drill-tested on the property.

Although Monarques has not observed any chromite in outcrop or trenches, mafic/ultramafic-hosted (stratiform) chromite mineralization is still considered a possibility.

Finally, the new discovery of a spodumene pegmatite at the Graab showing (3.1% Li) proves that there is always of the possibility of finding new lithium-bearing pegmatites in the Lemare property area.

## 26.0 RECOMMENDATIONS

The Lemare property hosts the Lac Sillimanite and Lac de la Chlorite gold showings, both of which occur within the Lac des Montagnes metasedimentary belt. More exploration work will be necessary to define the most promising areas in the Lac des Montagnes metasedimentary belt for gold-bearing structures.

Some geological features also demonstrate a potential for Ni-Cu-PGE mineralization. Additional exploration work may reveal new mafic-ultramafic intrusions corresponding to known, but as yet untested, magnetic anomalies (Fig. 26.1).

The author is of the opinion that the Lemare property warrants continued exploration work. A two-phase program is recommended. **Phase 1** would consist of basic compilation work using GIS software to generate a single database identifying Au, Ni-Cu-PGE, Zn-Pb, and Li targets. This information would be used to prepare compilation maps, to advance the interpretation for the property and known mineralization, and to generate diamond drilling targets. A soil and/or humus sampling program should be conducted over the Lemare property. The 2012 humus sampling program could be used to establish soil signatures over known gold occurrences. Conditional upon positive grab sample results for the Lac de la Chlorite and Lac Sillimanite strippings, a drilling program could be planned for both gold showings.

**Phase 2** would consist of follow-up field work on the best Mag, EM, soil and/or humus anomalies (Fig. 26.1). The work would comprise ground geophysics, prospecting, and geological mapping to document new targets in terms of their potential for mineralization. The information obtained during the field work would be used to further define drilling and/or stripping targets generated in Phase I, and to execute a diamond drilling and/or stripping program. Focus should be placed on the Lac de la Chlorite and Lac Sillimanite showings, the Lac de la Voir dye area, and the locality where sample L943285 was collected.

It will be important to assay all mafic and ultramafic rocks for PGEs because this type of mineralization is not always associated with sulphides.

The QA/QC protocol and analytical procedures should be adapted to all target commodities and mineralization types (i.e., Cu-Ni-PGE in ultramafic rocks, Zn-Pb SEDEX, and shear-hosted gold).

**The cost of Phase 1 is estimated at \$120,000, and Phase 2 at \$1,224,000, for a grand total of \$1,320,000.** The recommended program is described below and the cost estimates presented in Table 26.1. The estimated budget for the exploration program is subject to potential incidentals (e.g., no flying hours due to bad weather conditions) and the real cost may thus differ from the estimated cost.

**Table 26.1 – Phases 1 and 2 – Lemare exploration program**

<b>PHASE 1</b>	<b>Phase 1 – Property-scale compilation</b>	<b>Estimated cost \$CAN</b>
<b>Compilation and geology</b>	GIS (MapInfo or ArcGIS) compilation of all geographic and geoscience information available on the project (lakes, outcrops, samples [rock, soil, till, stream, lake-sediment], geochemistry, geophysics, diamond drill holes). All information will be recorded using a single coordinate system (UTM, NAD 83, zone 18). The compilation will be used for target area selection.	\$100 000
	Contingencies (20%)	\$20 000
<b>Phase 1 Total</b>		<b>\$120 000</b>
<b>PHASE 2</b>	<b>Phase 2 - Detailed exploration work for Gold, SEDEX Pb-Zn, Ni-Cu-PGE, and Lithium</b>	
<b>Ground geophysics</b>	Field-based follow-up on the best airborne anomalies	\$80 000
	Mobilization/demobilization	\$15 000
	Camp site, lodging and accommodation for geophysics team	\$15 000
	Contingencies (20%)	\$22 000
<b>Field geology and prospecting</b>	One-month period of field work on property (geology and prospecting). Add details to geology map, characterize lithological units, and locate all mafic and ultramafic intrusions in area. Whole-rock geochemistry program and assay program for all mineralized rocks. Complementary soil, till and stream-sediment sampling when possible.	\$150 000
	Mobilization/demobilization	\$10 000
	Camp site, lodging and accommodation for geology team	\$75 000
	Contingencies (20%)	\$47 000
<b>Geology and target selection</b>	Integration of new geophysical results and revised interpretation of the area. Target area selection for field work.	\$50 000
	Contingencies (20%)	\$10 000
<b>Trenching</b>	Trenching follow-up on new targets generated by GIS compilation and airborne/ground geophysics.	\$50 000
	Mobilization/demobilization	\$25 000
	Camp site, lodging and accommodation	\$25 000
	Contingencies (20%)	\$20 000
<b>Diamond drilling</b>	Drilling follow-up on new targets generated by GIS compilation and airborne/ground geophysics (2,000 m @ \$400/m).	\$400 000
	Mobilization/demobilization	\$50 000
	Camp site, lodging and accommodation	\$75 000
	Contingencies (20%)	\$105 000
<b>Phase 2 Total</b>		<b>\$1 224 000</b>



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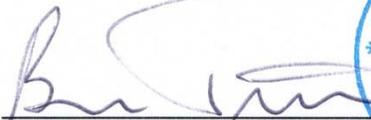
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## 28.0 SIGNATURE PAGE

**TECHNICAL REPORT ON THE  
LEMARE PROPERTY**  
(According to Regulation 43-101 and Form 43-101F1)

Prepared for

**MONARQUES RESOURCES INC.**  
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Signed at Val-d'Or on November 11, 2012

## 29.0 CERTIFICATE OF AUTHOR

I, Bruno Turcotte, P.Geol. (OGQ no. 453) do hereby certify that:

1. I am a Consulting Geologist of InnovExplo Inc at 560, 3<sup>e</sup> Avenue, Val-d'Or, Québec, Canada, J9P 1S4.
2. I graduated with a Bachelor of Geology degree from Université Laval in Québec City in 1995. In addition, I obtained a Master's in Earth Sciences degree from Université Laval in Québec City in 1999.
3. I am a member of the Ordre des Géologues du Québec (OGQ, no. 453).
4. I have worked as a geologist for a total of 17 years since my graduation from university. My exploration expertise has been acquired with Noranda Exploration Inc, Breakwater Resources Ltd, South-Malartic Exploration Inc, and Richmond Mines Inc. My mining expertise was acquired on the Croinor pre-production project and at the Beaufor mine. I have been a consulting geologist for InnovExplo Inc since March 2007.
5. I have read the definition of "qualified person" set out in Regulation 43-101 (formerly "NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in Regulation 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of Regulation 43-101.
6. I am responsible for the preparation of the technical report titled "Technical Report on the Lemare Property (according to Regulation 43-101 and 43-101F1)" dated November 11, 2012 (the "Technical Report"). I visited the Lemare property on March 20 and 21, 2012.
7. I have not had any prior involvement with the property that is the subject of the Technical Report.
8. I am not aware of any material fact or material change with respect to the subject matter of this Technical Report that is not reflected in this report, the omission to disclose which would make the Technical Report misleading.
9. I am independent of the issuer applying all of the tests in section 1.5 of Regulation 43-101.
10. I have read Regulation 43-101 respecting standards of disclosure for mineral projects and Form 43-101F1, and the Technical Report has been prepared in compliance with that regulation and form.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority, and any publication by them of the Technical Report for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public.<sup>1</sup>

Signed this 11<sup>th</sup> day of November 2012 at Val-d'Or.



Bruno Turcotte, M.Sc., P.Geol. (OGQ no.453)



<sup>1</sup> If an issuer is using this certificate to accompany a technical report that it will file only with the exchange, then the exchange recommends that this paragraph is included in the certificate.

## **APPENDIX I UNITS, CONVERSION FACTORS, ABBREVIATIONS**

## Units

Units in this report are metric unless otherwise specified. Precious metal content is reported in grams of metal per metric ton (g/t Au or Ag), unless otherwise stated. Tonnage figures are dry metric tons ("tonnes") unless otherwise stated. Ounces are troy ounces.

## Abbreviations

°C	degrees Celsius	oz	troy ounces
g	grams	avdp	avoirdupois pound
ha	hectares	oz/t	ounces per short ton
kg	kilograms	g/t	grams per metric ton
km	kilometres	ppb	parts per billion
masl	metres above sea level	ppm	parts per million
mm	millimetres	cps	counts per second
'	feet	st	short ton
\$ or \$CAN	Canadian dollars	t	metric ton (tonne)

## Conversion factors for measurements

Imperial Unit	Multiplied by	Metric Unit
1 inch	25.4	mm
1 foot	0.3048	m
1 acre	0.405	ha
1 ounce (troy)	31.10348	g
1 pound (avdp)	0.454	kg
1 ton (short)	0.907	t
1 ounce (troy) / ton (short)	34.2857	g/t

## **APPENDIX II DETAILED LIST OF MINING TITLES**







NTS	TITLE NUMBER	AREA (ha)	MINING TITLE TYPE	STATUS	DATE OF STAKING	EXPIRY DATE	OWNERSHIP	ROYALTY
32014	2160610	53.31	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160611	53.31	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160612	53.31	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160613	44.51	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160614	44.71	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160615	44.91	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160616	45.11	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160617	45.3	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160618	45.48	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160619	47.67	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160621	14.23	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160625	14.48	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32014	2160626	23.64	Designated Cells	Active	June 11, 2008	June 10, 2014	Monarques Resources Inc. 100%	3% NSR
32012	2119927	53.4	Designated Cells	Active	August 19, 2011	August 30, 2013	Monarques Resources Inc. 100%	No Royalty
32012	2119928	53.4	Designated Cells	Active	August 19, 2011	August 30, 2013	Monarques Resources Inc. 100%	No Royalty
32012	2119929	53.39	Designated Cells	Active	August 19, 2011	August 30, 2013	Monarques Resources Inc. 100%	No Royalty
32012	2119930	53.39	Designated Cells	Active	August 19, 2011	August 30, 2013	Monarques Resources Inc. 100%	No Royalty
32012	2317957	25.01	Designated Cells	Active	October 14, 2011	October 13, 2013	Monarques Resources Inc. 100%	No Royalty
32012	2317958	45.15	Designated Cells	Active	October 14, 2011	October 13, 2013	Monarques Resources Inc. 100%	No Royalty
32011	2234278	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty
32011	2234279	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty
32011	2234280	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty
32011	2234281	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty
32011	2234282	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty
32011	2234283	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty
32011	2234284	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty
32011	2234285	53.38	Designated Cells	Active	May 18, 2010	May 17, 2014	Monarques Resources Inc. 100%	No Royalty